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European Journal of Cardiovascular Nursing

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APRIL 2016 VOLUME 15 (1S) ABSTRACT BOOK

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Welcome address

The Council on Cardiovascular Nursing and Allied Professions (CCNAP) of the European Society of Cardiology and the Hellenic Society of Cardiovascular Nursing (HSCN) are delighted to welcome you to EuroHeartCare 2016 in Athens.

The EuroHeartCare congress provides opportunities for cardiovascular nurses and allied professionals from all around the world to come together and discuss innovations in practice, education and to enhance your knowledge and skills in cardiovascular care.

Over the two days of scientific sessions, you will hear the latest updates on acute cardiac practice, heart failure, prevention, psychosocial and behaviour issues. You will have the opportunity to participate in oral moderated poster, poster abstract presentations and share your research or clinical projects. The programme also offers opportunities to develop practical skills, learn about important issues in practice and education, exchange ideas, and hear from experts.

We are overjoyed that EuroHeartCare has been able to come to Greece. Athens is the historical capital of Europe, with sites that include many pillars of western history, from the Acropolis to the Temple of Olympian Zeus, as well as treasures in the National Archaeological Museum. In the two centuries since it became the capital of the modern Greek state, it has become an attractive modern metropolis with unrivalled charm. It is in many ways the birthplace of classical Greece and therefore of western civilization.

We thank you very much for attending this conference which we hope you find fulfilling and will make you want to join us every year!

Catriona Jennings
Chairperson of the ESC Council on Cardiovascular Nursing and Allied Professions (CCNAP)

Lucas Stasinos
Chairperson of the Hellenic Society of Cardiovascular Nursing (HSCN)
Grader acknowledgment

The Scientific Programme Committee gratefully acknowledges the assistance of the following experts who served as Abstract Graders. Our experts graded the abstracts anonymously. The author’s names and details were not known at any point in time during the grading process.

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Kletsiou, E (Athens-GR)  Van Deyk, K (Leuven-BE)
Koeberich, S (Waldkirch-DE)
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Moderated Poster 1
Friday, 15 April 2016

P1

Evaluation of a coping effectiveness training intervention in patients with chronic heart failure - a randomized controlled trial

C Nahlen Bose,1 H Persson,2 G Bjorling,1 G Ljunggren,3 ML Elfstrom4 and F Saboonchi5
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Background: Patients with chronic heart failure (CHF) have poorer health-related quality of life (HRQoL) and depression and anxiety are more prevalent compared to other conditions. Emotional distress is a predictor for mortality and rehospitalization, yet psychosocial factors are infrequently treated and cared for.

Aim: To evaluate a nurse-led Coping Effectiveness Training (CET) group intervention for patients with CHF. It was hypothesized that CET would increase: emotional well-being (primary outcome), HRQoL (secondary outcome) and improve clinical outcomes (tertiary outcome). Furthermore, changes in illness perception and coping as mediators of the intervention effect were examined.

Methods: Participants were randomized to either control group (CG, n=51) receiving standard health care or CET intervention group (IG, n=52). The theory and manual based CET intervention consisted of seven weekly group meetings where the participants trained coping skills and discussed experiences with other people living with CHF. The following patient reported outcome measures were used pre and post-intervention, after 6 weeks, 6 and 12 months: Positive and Negative Affect Schedule (PANAS), Hospital Anxiety and Depression Scale (HADS), RAND 36, Brief Illness Perception Questionnaire (B-IPQ), Brief COPE and ENRICHD Social Support Inventory (ESSI). Time to death and hospitalizations were measured during the entire follow-up (median 35 months, interquartile range 11 months). The primary and secondary outcomes were analysed with ANCOVA.

Results: No significant improvements for emotional well-being and HRQoL in the IG compared to the CG were found although a consistent pattern of better average mean scores were shown in the IG. After excluding patients with clinical anxiety and depression at baseline the IG had significantly lower NA (p = .022). There were no significant differences regarding cardiovascular events between the groups (HR 0.58 [0.29-1.18]). The IG had better sense of control over the illness (p = .036) in the short-term.

Conclusion: CET intervention, applied for the first time to patients with CHF, was found to increase sense of control over the illness in the short-term. Psychosocial support programs, such as CET, for patients with CHF is currently lacking evidence for implementing in clinical practice. However, the results provide a basis for future studies with a modified CET intervention design and increased study size.

P2

To telemonitoring or not to telemonitor: that is the question. Underlying thoughts from nurses and physicians in Japan and Sweden

N Kato,1 P Johansson,1 I Okada,2 K Kinugawa,3 A Stromberg4 and T Jaarsma1
1Linkoping University, Department of Social and Welfare Studies, Linkoping, Sweden 2The University of Tokyo, Department of Therapeutic Strategy for Heart Failure, Tokyo, Japan 3University of Toyama, The 2nd Department of Internal Medicine, Toyama, Japan 4Linkoping University, Department of Medical and Health Sciences, Linkoping, Sweden

Background: Non-invasive telemonitoring of heart failure (HF) patients is increasingly addressed in research. However, there is no consensus regarding which patient can or cannot be a candidate for non-invasive HF telemonitoring.
Purpose: The purpose of this study was to explore the perception of healthcare professionals on reasons for not giving telemonitoring to a HF patient.

Methods: A cross-sectional survey of non-invasive HF telemonitoring was performed in Japan and Sweden between November 2013 and May 2014. A total of 378 Japanese (120 cardiologists, 258 nurses) and 120 Swedish (39 cardiologists, 81 nurses) healthcare professionals from 165 Japanese and 61 Swedish hospitals/clinics nationwide (210 in Japan, 98 in Sweden approached) participated in the study. To explore the perception of healthcare providers to withhold telemonitoring, we asked nurses and physicians working with HF patients an open-ended question: “what kind of HF patients would never give telemonitoring?” To analyse data, we used content analysis. Very few differences in the reasons not for giving telemonitoring were found between Sweden and Japan, therefore data were summarized as one result.

Results: Data were categorised in five domains describing reasons not for giving telemonitoring to HF patients: A) physical reasons (including non HF-related and HF-related physical problems, e.g., multiple diseases, end-stage HF, and unstable HF); B) psychological reasons (e.g., depression, dementia, and delirium); C) person-related reasons (e.g., lack of self-care, need of personal contacts, and not building a trusting relationship); D) socioeconomic reasons (e.g., living alone, patients on welfare, and language problems; E) IT-skills related reasons (e.g., poor skill of a computer, cannot use internet at home, and distrust in internet).

Conclusions: There are multidimensional reasons explaining why health care professionals might not implement telemonitoring for patients with HF. Some reasons seemed conflicting or were not based on evidence or experience. Further research and improvement of equipment are necessary to build more evidence that can be used to form a consensus for the best candidates of HF telemonitoring as well as for the widespread application of this system.

P3

Participation in the care encounter among patients with heart failure receiving home-care

L Nasstrom, J Martensson, E Idvall and A Stromberg

Department of Medical and Health Sciences, Linköping University, Linköping, Sweden 1School of Health and Welfare, Jönköping University, Jönköping, Sweden 2Department of Care Science, Malmö University, Malmö, Sweden 3Department of Medical and Health Sciences, and Department of Cardiology, Linköping University, Linköping, Sweden

Background: Heart failure is a common chronic condition that affects patients’ life situation and puts high demands on self-care and patient participation. Patients often need advanced care due to deterioration of their heart failure symptoms, and one option for care is home-care.

Purpose: To analyse data, we used content analysis. Very few differences in the reasons not for giving telemonitoring were found between Sweden and Japan, therefore data were summarized as one result.

Results: Data were categorised in five domains describing reasons not for giving telemonitoring to HF patients:

A) physical reasons (including non HF-related and HF-related physical problems, e.g., multiple diseases, end-stage HF, and unstable HF);
B) psychological reasons (e.g., depression, dementia, and delirium);
C) person-related reasons (e.g., lack of self-care, need of personal contacts, and not building a trusting relationship);
D) socioeconomic reasons (e.g., living alone, patients on welfare, and language problems);
E) IT-skills related reasons (e.g., poor skill of a computer, cannot use internet at home, and distrust in internet).

Conclusions: There are multidimensional reasons explaining why health care professionals might not implement telemonitoring for patients with HF. Some reasons seemed conflicting or were not based on evidence or experience. Further research and improvement of equipment are necessary to build more evidence that can be used to form a consensus for the best candidates of HF telemonitoring as well as for the widespread application of this system.

P4

Assessment of cognitive function in patients with heart failure

RR Ciftcioglu, Z Tulek, B Bilgic and IH Gurvit

Ankara Education and Research Hospital, Cardiovascular Surgery (during the study), Ankara, Turkey 2Istanbul University, Florence Nightingale School of Nursing, Istanbul, Turkey 3Istanbul University Istanbul Medical Faculty, Neurology, Istanbul, Turkey

Purpose: The aim of this study was to identify and describe participation in care encounters during home visits in heart failure home-care.

Methods: This study had a qualitative design. Seventeen patients diagnosed with heart failure and ten registered nurses participated. The patients received structured heart failure home-care from one out of three home-care units in Sweden. Patients gave written informed consent and nurses gave verbal informed consent. Data from nineteen home visits was collected through observations and documented by video-recordings. The verbal communication in these video-recordings was transcribed verbatim and complemented with non-verbal communication. Data was analysed using qualitative content analysis, and the video-recordings and transcribed material was analysed in parallel.

Results: Two themes with three and four categories respectively were identified (i) Participation in the care encounter is made possible by interaction, including exchange of care-related information, care-related reasoning, and collaboration, and (ii) Participation in the care encounter is made possible by an enabling approach, including the patient expresses their own wishes and shows an active interest, and the nurse is committed and invites to a dialogue. These two themes are related to each other, but separated by content. Together, they constitute participation in the home-care encounter. Both themes were represented in all observed care encounters, but the extent and depth of each category varied.

Conclusion: The heart failure home-care context showed good potential for patient participation as the care encounters were categorised by interaction with mutual influence and an enabling approach reflected in both patients and nurses. The findings could be used for further develop home-care for patients with heart failure. It is important that care is organised and planned so that there is enough space for both parties during the encounter.
case-control study consisted of 55 heart failure patients and 61 age, gender and education-matched healthy controls (totally 116). The patients were involved if they had a diagnosis of heart failure at least for 6 months, their health status was stable for last 1 month and their age was above 50. The sample was assessed by Addenbrooke Cognitive Examination-Revised, a brief cognitive test that assesses five cognitive domains, attention/orientation, memory, verbal fluency, language and visuospatial abilities. Also an Interview form and Hospital Anxiety and Depression Scale were used for data collection.

**Results:** The mean age of the patients was 64.0 and duration of the diagnosis was 45.5 months. Sixty-three percent of the patients had a mild heart failure (New York Heart Association Class I-II), their ejection fraction was %41.47. There was no difference between patients and controls in terms of sociodemographic variables such as age, gender or education, which may impact cognitive function. All domains and total cognitive test scores of the two groups were found to be significantly different. Mean scores of ACER-total was 75.55±8.53 for heart failure group and 88.20±6.87 for healthy controls (t=−8.826, p=0.0001). Compared to the healthy controls, heart failure group had worse scores in all dimensions of the cognitive test. When analysis were done in the patient group significant associations were obtained between cognitive function and sociodemographic, clinical and daily life factors.

**Conclusions:** This study revealed impaired cognitive function in patients with heart failure, even in early stages. The results suggests assessment of cognitive function in outpatient clinics by short, easy to administer tests which do not require special competence.

**Methodology:** a total of 200 patients with confirmed heart failure who attended the outpatient HF clinic of a University Hospital were enrolled in the study. Written consent, medical history, clinical and laboratory tests and telephone follow up at 3 months were obtained. The predictive value of the questionnaires was checked by the Kaplan Meier survival curve and statistical significance by Log Rank control.

**Results:** The sample included 111 patients with ischemic heart failure and 89 patients with dilated heart failure (n=200), 85% were male and 15% were women with an average age of 64.29 years. According to the NYHA classification, most patients (50.8%) were classified as stage III and 25.7% as stage II. Mortality was 31.40%. The quality of life of the sample was low, according to the MLHFQ total score (60.58±25.74) and KCCQ total score (40.75±22.58). There were significant differences of both questionnaires scores between survivors and non survivors (Kansas Overall p=0.005, Kansas Clinical p=0.011, MLHFQ total p=0.006, MLHFQ Physical p=0.001 except MLHFQ Emotional Dimension score p=0.078). According to Kaplan Meier survival test, both KCCQ and the MLHFQ can be considered predictors of mortality and risk factors. There was a significant correlation between the stage of heart failure (NYHA) with total scores of KCCQ (p<0.000) and MLHFQ (p<0.001) and all the subscores as well.

**Conclusions:** KCCQ and MLWHFQ demonstrated adequate prognostic value for the survival of HF patients. Poor health status measured by MLHFQ and KCCQ was associated with increased risk, lower survival and worse prognosis. Both questionnaires also seem to demonstrate great sensitivity to clinical changes.

**P6**

Prognostic value of the specific quality of life assessment questionnaires KCCQ & MLHFQ in patients with heart failure

M Thodi,1 T Katsoulas,2 E Stylianaki,3 M Dendrinou,1 S Katsanos1 and J Parissis1

1University General Hospital Attikon, 2nd Department of Cardiology, Athens, Greece
2University of Athens, Faculty of Nursing, Athens, Greece
3Nikea General Hospital, Athens, Greece

**Introduction:** Heart failure (HF) is a clinical syndrome that can be the outcome of most heart diseases and significantly affects health-related quality of life. Among the HF-specific questionnaires, Minnesota living with Heart Failure Questionnaire (MLHFQ) and Kansas City Cardiomyopathy Questionnaire (KCCQ) seem to be the most highly rated instruments with adequate metric properties. Purpose of the study was to investigate the prognostic value of the two specific questionnaires MLHFQ and KCCQ for survival and explore their correlations with clinical parameters.

**Methodology:** a total of 200 patients with confirmed heart failure who attended the outpatient HF clinic of a University Hospital were enrolled in the study. Written consent, medical history, clinical and laboratory tests and telephone follow up at 3 months were obtained. The predictive value of the questionnaires was checked by the Kaplan Meier survival curve and statistical significance by Log Rank control.

**Results:** The sample included 111 patients with ischemic heart failure and 89 patients with dilated heart failure (n=200), 85% were male and 15% were women with an average age of 64.29 years. According to the NYHA classification, most patients (50.8%) were classified as stage III and 25.7% as stage II. Mortality was 31.40%. The quality of life of the sample was low, according to the MLHFQ total score (60.58±25.74) and KCCQ total score (40.75±22.58). There were significant differences of both questionnaires scores between survivors and non survivors (Kansas Overall p=0.005, Kansas Clinical p=0.011, MLHFQ total p=0.006, MLHFQ Physical p=0.001 except MLHFQ Emotional Dimension score p=0.078). According to Kaplan Meier survival test, both KCCQ and the MLHFQ can be considered predictors of mortality and risk factors. There was a significant correlation between the stage of heart failure (NYHA) with total scores of KCCQ (p<0.000) and MLHFQ (p<0.001) and all the subscores as well.

**Conclusions:** KCCQ and MLWHFQ demonstrated adequate prognostic value for the survival of HF patients. Poor health status measured by MLHFQ and KCCQ was associated with increased risk, lower survival and worse prognosis. Both questionnaires also seem to demonstrate great sensitivity to clinical changes.

**P7**

The validation of a verbal dyspnea rating scale in AHF patients

D Loizou,1 E Lambrinou,2 D Kourouzidou,2 N Christoforou4 and P Christofi4

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3Famagusta General Hospital, Intensive Care Unit, Famagusta, Cyprus
4Limassol General Hospital, Intensive Care Unit, Limassol, Cyprus

**Introduction:** A quick, easy and reliable way to evaluate clinical symptoms is assessment scales. Up to this day and despite the severity of this issue, no studies, that focus on assessment tools that measure symptoms of AHF patients; have taken place in the research field.

**Aim:** The aim of this study is to methodologically validate a verbal dyspnea rating scale in AHF patients. Moreover, the correlation between dyspnea, pain and fatigue of the patient has been investigated as well as the correlation of dyspnea with clinical features such as: respiratory rate (RR), oxygen saturation (SpO2), heart rate (HR) and
blood pressure [(BP) (systolic blood pressure –SBP- and diastolic blood pressure –DBP-)].

**Method/Design:** Sample collection took place in two public hospitals in Cyprus. A sample of patients with AHF was obtained during their visit to the Emergency Department. Validity was investigated by assessing the correlations of the scale with objective parameters of breathlessness. The same procedure was followed thirty minutes later by measuring the objective parameters and reassessing the verbal scale. Spearman correlation coefficient were calculated to determine the relationship between objective and subjective breathlessness measurements.

**Results:** For a total study population of 150 patients with AHF the verbal analogue breathlessness ratings correlate with RR (r=0.52, p<0.0001), SpO2(r=-0.70, p<0.0001), HR (r=0.51, p<0.0001), SBP (r=0.59, p<0.0001) and DBP(r=0.57,p<0.0001) in the initial assessment. In thirty minutes of reassessing, breathlessness was also found to be significantly correlated to RR (r=0.39, p<0.0001), SpO2 (r=-0.45, p<0.0001), HR (r=0.49, p<0.0001), SBP (r=0.46, p<0.0001) and DBP(r=0.29, p<0.0001). The analogue scales of pain and fatigue showed significant correlation with the objective parameters, with the majority correlating at levels between r=0.28, p<0.001 and r=0.64, p<0.001. The analogue scales of dyspnoea and fatigue also have shown a significant rate of correlation (r=0.80, p<0.0001). This correlation remains strong and evident (r=0.85, p<0.001) even after thirty minutes, in the reassessment stage.

**Conclusions:** A verbal numerical dyspnoea assessment scale is a valid measurement tool of breathlessness in the E.D and can therefore offer a useful and deep knowledge of a symptom that under different circumstances cannot be measured.

**Introduction:** Heart failure (HF) is the most common cause of hospitalization in patients over the age of 65 High hospital readmission rates for heart failure persist despite the major advances in management of chronic HF. The aim of this study was to assess the influence of frailty and sociodemographic and clinical factors on the number of hospital readmissions in elderly patients with chronic heart failure.

**Materials and Method:** The study included 330 patients (148 female and 182 male) (mean age 72.1; SD±7.9 years): 148 women (44.9%) and 182 men (55.1%) with a diagnosis of chronic heart failure in the NYHA functional class I (5.8%), II (48.5%), III (40.3%), IV (5.4%). The criterion of hospital readmissions was 3 or more hospitalizations during one year. The patients were divided into two groups, according to the number of their hospitalizations, group I – rare hospitalizations (up to 2 per year), group II – frequent hospitalizations (3 or more). The two groups did not differ in terms of age. The considered factors affecting the frequency of hospitalizations included: age, gender, the NYHA functional class, the left ventricle ejection fraction (EF), comorbidities (diabetes, hypertension) and the Tilburg Frailty Indicator (TFI) to assess for frailty.

**Results:** The studied group of patients demonstrated the existence of statistically significant positive correlation (rs = +0.181, p < 0.05) between the number of hospital readmissions and frailty. In the analysis of univariate logistic regression, the significant factors affecting rehospitalization were: the NYHA functional class (rs = +0,306, p<0,001), left ventricular ejection fraction (rs=-0.156, p = 0.004), overall frailty (rs= +0,197; p<0,001), physical components of frailty (rs=+0,152, p = 0,006), and the social components of frailty (rs = + 0,189, p = 0,001). The multivariate analysis showed that the NYHA functional class (β= +0,194, p<0,011) and social components of frailty of the TFI (β= +0,167, p = 0,002) were the only independent factors.

**Conclusions:** NYHA functional class and social components of frailty (which include living alone, getting not enough support from other people) of the TFI were the only factors prove to be independent predictors of frequent hospital readmissions among elderly patients suffering from chronic heart failure.
Oral abstract session
Friday, 15 April 2016

Principal results of the EUROASPIRE IV survey of CVD prevention and diabetes. Lifestyle, risk factor and therapeutic management in patients at high risk of developing CVD from 14 European regions.

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Purpose: The EUROASPIRE IV survey conducted in primary care investigated lifestyle and risk factor management in patients at high CV risk prescribed blood pressure (BP), lipid lowering and/or diabetes therapies. It provides an audit of guideline implementation for prevention of CVD in general practice (GP).

Methods: Patients ≥ 18 and <80 years of age in selected areas across 14 European countries prescribed BP, lipid lowering and diabetes therapies were identified consecutively and retrospectively from GP records and invited for interview and measurement of weight, waist, blood pressure, lipid profile and HbA1c. Current self reported smoking status was validated by breath CO > 10ppm. Data collection was based on a review of medical notes and a prospective interview and examination at least six months but not more than 3 years after the initiation of therapies.

Results: 4579 patients (57.8% females) were interviewed (participation rate 68.3%). Overall smoking prevalence was 17% and higher in younger patients (23% < 60 years and 10% ≥ 60 years) although 42% reported an intention to quit. 61% reported little or no physical activity weekly. 44% were obese (BMI ≥ 30 kg/m2) and 64% centrally obese (waist circumference ≥ 102 cm in men or ≥ 88 cm in women). 54% not using and 44% using anti-hypertensive drug (AH) therapies had BP ≥ 140/90 mm Hg (≥ 140/80 mmHg in people with diabetes mellitus). 33% using and 11% not using lipid modifying therapies had an LDL-C of < 2.5 mmol/L. 59% of patients with self reported diabetes had an HbA1c of <7% (53mmols/mol) and 41% < 6.5% (48mmols/mol). Only one quarter of those with previously known diabetes were aware of their HbA1c level and target. Previously undiagnosed diabetes was present in 20% of patients. 30% had an anxiety score of ≥ 8 and 23% a depression score of ≥ 8. Perception of absolute 10 year risk was rated very high in 35% of these high risk patients. 44% perceived their risk to be the same as people of the same age and gender as themselves.

Conclusion: The CV risk profile of these high CVD risk patients in GP was poor and awareness of risk unrealistic in many. GP requires resources and multidisciplinary expertise to manage total risk in their high CVD risk patients.

Health economics evaluation of a preventive cardiology programme in Ireland

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1National Institute of Preventive Cardiology, Galway, Ireland 2National University of Ireland, School of Medicine, Galway, Ireland 3Croí West of Ireland Cardiac Foundation, Galway, Ireland 4Imperial College London, London, United Kingdom

Introduction: Croí, a registered Irish heart and stroke charity, has developed nationally recognised expertise in cardiovascular disease (CVD) prevention, through the delivery of the European Society of Cardiology (ESC) endorsed MyAction Programme. Launched in 2009, this community-based integrated primary and secondary prevention model has now reached over 1,100 individuals and is considered a national exemplar in preventive care. Given the current economic climate, is imperative that public sector organisations are also able to demonstrate their value for money.

Objectives: An independent health economic analysis was carried out to assess the costs and benefits, and estimate the net benefits of the Croí MyAction programme when compared to usual care.

Methods: The economic model drew on the clinical effectiveness data from the 617 participants with 1-year follow up data. To model was informed by the high retention rates at 1 year follow-up (86%) and utilised the following clinical outcome data: Smoking quit rate of 51%; 4.5 Unit increase in the Mediterranean Diet Score; Physical activity targets from 13% to 52%; Increase in blood pressure to target from 55% to 74%, with a mean reduction of 8.6mmHg (systolic) and 3.7mmHg (diastolic); and achievement of cholesterol targets from 39% to 70%, with a mean reduction in Total Cholesterol of 0.73mmol/L and LDL Cholesterol of 0.62mmol/L. Usual care was modelled on brief intervention and general practitioner consultation.

Results: Every €1 invested in Croí MyAction generates on average €8 in benefits. The benefits generated by the programme over the lifetime of an individual is €7,784 per person or €4.8m for the whole cohort. Of the €4.8m in benefits generated, €817,356 was in health cost savings. The economic case for Croí MyAction is stronger for secondary prevention, where benefits exceed costs both in the short and long term. Whilst there is still a compelling case in primary prevention the benefits are realised more longer term. The incremental cost effectiveness ratio (ICER) for Croí MyAction is highly dominant.
Conclusion: By adopting Croí MyAction over usual care there is both an improvement in life-years gained and a reduction in costs. This rigorous analysis provides a strong economic case for applying this protocol-driven, outcome focussed and integrated approach to managing atherosclerosis as a “single family of diseases” more widely.

Assessing the efficacy of nurse led approach to guideline implementation - outcomes from a 5 year community based cardiovascular disease prevention programme.

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Background: With global trends of type-2 diabetes and cardiovascular disease on the increase it is imperative that new models of care to address this challenge are developed.

Table 1. Change in Clinical Outcomes betw.

<table>
<thead>
<tr>
<th></th>
<th>Patients IA (n=390)</th>
<th>Patients 1-yr (n=390)</th>
<th>Partners IA (n=185)</th>
<th>Partners 1-yr (n=185)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mean BMI (kg/m²)</td>
<td>33.3</td>
<td>32.1 (p&lt;0.001)</td>
<td>29.8</td>
<td>29 (p&lt;0.001)</td>
</tr>
<tr>
<td>Mean Mediterranean Diet Score'</td>
<td>4.0</td>
<td>8.5 (p&lt;0.001)</td>
<td>4.3</td>
<td>8.9 (p&lt;0.001)</td>
</tr>
<tr>
<td>% Achieving physical targets (⩾30mins times per week)</td>
<td>13.3</td>
<td>51.9 (p&lt;0.001)</td>
<td>24.4</td>
<td>52.9 (p&lt;0.001)</td>
</tr>
<tr>
<td>% of Current smokers</td>
<td>14.2</td>
<td>7.7 (p&lt;0.001)</td>
<td>4.3</td>
<td>3.2 (p=0.50)</td>
</tr>
<tr>
<td>% Cholesterol to target (TC &lt;5mmol/L &amp; LDL &lt;3mmol/L)</td>
<td>39</td>
<td>71 (p&lt;0.001)</td>
<td>36</td>
<td>58 (p&lt;0.001)</td>
</tr>
<tr>
<td>% Blood Pressure to target(&lt;140/90mmHg for high risk individuals &amp; &lt;130/80mmHg for coronary/diabetes)</td>
<td>54.7</td>
<td>72.9 (p&lt;0.001)</td>
<td>73.6</td>
<td>86.3 (P&lt;0.001)</td>
</tr>
<tr>
<td>% Glucose to target in patients with diabetes</td>
<td>17.8</td>
<td>41.1 (p&lt;0.001)</td>
<td>15.4</td>
<td>30.8 (p=0.50)</td>
</tr>
</tbody>
</table>

IA, Initial Assessment; 1-yr, 1 year BMI, body mass index; BP, blood pressure; TC, total cholesterol; LDL, low-density lipoprotein.

Secondary prevention in Jordan is underdeveloped and requires urgent improvement to meet the guidelines

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Purpose: CHD is a major health problem in Jordan and the leading cause of death, but little is known about the current provision and perceptions of Jordanian health care professionals’ towards secondary prevention (SP)
strategies. This study is designed to evaluate risk factors, explore the current provision of SP and health professionals’ perceptions of SP for patients treated for established CHD in Jordan.

**Method:** A mixed methods repeated measures research design was used. 180 patients were recruited from 3 interventional hospitals after: acute myocardial infarction (AMI) treated medically; Percutaneous Coronary Intervention (PCI); and coronary artery bypass graft (CABG); then followed up 6 months later. The European guidelines on CHD prevention 2012 were used to compare against recommended targets. Semi-structured interviews with a purposive sample of 20 doctors and nurses from the 3 hospitals explored their perceptions of SP strategies.

**Results:** Of the 180 patients at discharge, 77% were obese or overweight, 59% were smokers, 59% had low levels of physical activity, 51% had elevated LDL, 58% had not controlled blood glucose and, 11% had not controlled blood pressure. Of the 169 patients at follow up 75% were obese or overweight, 47% continued to smoke, 41% had low levels of physical activity, 64% had not controlled blood glucose and 25% had not controlled blood pressure. Recording of risk factor measurement at follow up was insufficient to evaluate achievement of therapeutic targets. Recording of risk factor history and current status was incomplete. There was no cardiac rehabilitation, smoking cessation or secondary prevention available post discharge. The majority received brief physician advice about medications (72%) and smoking (49%). The use of prophylactic drug therapies was as follows: Aspirin 92%, lipid lowering drug 88%, beta-blockers 78%, ACE inhibitors 52% and statin 88%.

Interviews confirmed that while health professionals expressed the importance of secondary prevention, multiple barriers existed. They were generally unsatisfied with current SP provision and wanted to improve it, but identified particular training and other issues that need to be addressed in order to achieve this.

**Conclusion:** These findings confirm that despite extremely high prevalence of risk factors in this population, the provision of SP is poor and obstacles to its development are widespread. SP of CHD in Jordan requires urgent improvement and the contribution of nurses’ to prevention should be enhanced to provide an effective, convenient and culturally sensitive SP services.

**Introduction:** Peripheral arterial disease (PAD) treatment ranges from home exercise to invasive revascularization. There is no ‘gold’ standard and treatment should align with patients’ preferences. However, the degree to which patients with PAD prefer to be involved in treatment decisions and their actual involvement is unknown.

**Purpose:** To describe the role preferences and congruence of actual involvement of patients in the treatment decision process for their PAD treatment.

**Methods:** Patients were drawn from PORTRAIT, an international prospective registry of patients with new or exacerbated claudication symptoms, between 6/11 through 10/15 from 17 PAD specialty clinics. During PAD evaluation, patients were interviewed to assess role preferences for decision-making and 3-month follow-up elicited patient recall of their involvement in treatment decisions. Level of actual involvement was compared between those preferring shared/autonomous and passive roles by chi-square test.

**Results:** Among 1142 patients (mean age=68 years ± 9; male= 56%; white= 69%), 56% preferred shared or autonomous decision-making at baseline. Assessment 3-months later (follow-up ongoing; n=936 82%) showed that among patients expressing a preference for shared/autonomous decision-making higher proportions of actual involvement in the PAD decision-making were reported as compared with those preferring passive roles (66% vs. 53%, p<0.001). However, despite the fact that some preferred shared/autonomous roles, it was reported that the doctor only (15%) or mostly the doctor (19%) made the actual treatment decision (Figure).

**Conclusions:** This study found mainly congruence in that the majority of PAD patients reported they had been actually engaged to the level of their preference, though room for improvement exists.

**Role of peripheral arterial disease patient in shared decision-making: congruence of preference with actual involvement**
Preferences for shared decision-making in patients with peripheral arterial disease: a comparison between US and Dutch patients from the PORTRAIT study

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Background: There is no ‘gold-standard’ peripheral arterial disease (PAD) treatment for patients with mild to severe claudication. Various PAD treatments are available and associated with different benefits and risks. The choice of treatment should therefore be sensitive to patients’ preferences and supported by shared-decision making.

Purpose: It is unknown, however, to what degree patients with claudication want to be involved in the medical decision process for their PAD treatment and whether preferences for PAD treatment differ between US and Dutch patients.

Methods: The PORTRAIT study enrolled 688 patients in the US and 368 patients in the Netherlands with new or an exacerbation of claudication symptoms between June 2011 and September 2015 from 16 PAD specialty clinics. Upon PAD evaluation, patients were interviewed to assess preferences for shared decision-making using the Preferences for Shared Decision Making Scale. Decision-making roles were compared between countries using Chi-Square tests.

Results: The majority of patients in the US preferred a shared or autonomous role (n=481, 69.9%), whereas in the Netherlands, the majority preferred a passive role (n=248, 67.4%) (p<0.0001, Figure).

Conclusion: The majority of American patients presenting with claudication prefer to have a say in their PAD treatment choice, whereas Dutch patients prefer that their treating physician chooses their PAD treatment. Future work needs to examine the reasons as to why patients adopt a more passive role in the decision-making process for PAD treatment and find ways to increase their level of engagement in the PAD treatment decision-making process.

Decision-Making Roles By Country

Assessing the relationship between knowledge and compliance with medical advice in heart failure

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Introduction: Demographic changes and the dynamic development of medical science have contributed to the increase in the number of patients with chronic heart failure (HF), often referred for cardiac revascularization surgery. Clinical guidelines recommend that patients participate in the therapeutic process by following detailed medical advice to optimize treatment and prevent complications. Therefore, the patient’s knowledge and skills constitute valuable indicators of capability for self-control and self-care in HF.

Purpose: Assessing the relationship between knowledge and compliance with medical advice in HF. Assessing the influence of age and sex on these variables.

Material and methods: The study included 100 patients (50 female, 50 male, mean age: 68.01±5.56) scheduled for coronary artery bypass graft surgery in the Cardiac Surgery Clinic in Wroclaw. To obtain research material, the authors used a socio-demographic questionnaire and two standardized research instruments: the Dutch Heart Failure Knowledge Scale and the Revised Heart Failure Compliance Scale. Data was collected before the surgery and in the two weeks following the surgery. Correlations and differences at p<0.05 were considered statistically significant.

Results: Mean score in the HF knowledge scale was higher after the surgery (M±SD=10.5±2 points) than before (M±SD=8±8 points). Correlation analyses showed that the older the patients were, the lower was their level of knowledge on HF, both before (r=–0.40; p<0.001) and after the surgery (r=–0.37; p<0.001). The older the patients were, the better they complied with medical advice for HF, both before (r=0.24; p=0.017) and after the surgery (r=0.27; p=0.007). Men had better knowledge on the illness than women (p=0.007). Women complied better with medical advice, both before (p=0.049) and after the surgery (p=0.001). The more the patients knew about HF, the worse they complied with medical advice, both before (r=–0.35; p<0.001) and after the surgery (r=–0.38; p<0.001).

Conclusions: 1. The authors observed a negative influence of age on HF knowledge and a positive influence of age on compliance. 2. Men have better knowledge on HF than women, but show worse compliance. 3. Knowledge on the illness affects compliance in HF.
Cognitive function and adherence to anticoagulation treatment in patients with atrial fibrillation

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2Specialist Hospital. T. Marciniak, Wroclaw, Poland 3T. Marciniak Hospital - Department of Cardiology, Wroclaw, Poland

Background: Measures to facilitate patient medication adherence should be regarded as an integral part of the comprehensive care of patients with Atrial Fibrillation (AF), receiving oral anticoagulation (OAC). Patients with AF are usually elderly and may suffer from cognitive dysfunction. Impaired cognition has a significant impact on patients’ ability to manage their medicines.

Aim: The study was conducted to investigate whether cognitive impairment affects the level of adherence to anticoagulation treatment in AF patients.

Method: The study involved a group of 111 AF patients (including 55 women), aged 53-93 (mean 73.5, SD=8.3), who were receiving oral anticoagulation treatment (17.1% – new oral anticoagulants, 82.9% – oral anticoagulants). The cognitive function of all patients was assessed using the Mini-Mental State Examination (MMSE). Patients with the MMSE score <23 were defined as cognitively impaired. The level of adherence was assessed by the Morisky Medication Scale (MMAS-8). Scores on the MMAS-8 range from 0 to 8, with scores >6 reflecting low adherence, 6 to <8 – medium adherence, and 8 – high adherence.

Results: Some 46.9% of the AF patients showed poor adherence to oral anticoagulation treatment (OAC), 18.8% – moderate adherence and 33.3% – high adherence. Patients with lower adherence were older than those with moderate and high adherence (76.6±8.7 vs. 71.3±6.4 vs. 71.1±6.7 respectively) and scored low on the MMSE, which indicated cognitive disorders including dementia (MMSE=22.3±4.2). Patients with moderate and high adherence levels obtained correct MMES test results (27.5±1.7 and 27.5±3.6). The Spearman rank correlation analysis demonstrated that older age (rs=−0.372) and higher MMSE scores (rs=0.717) were associated with worse adherence to oral anticoagulation treatment (OAC). In multivariate regression analysis, a significant independent predictor of the adherence level was the state of cognitive function (b=1.139).

Conclusion: In AF patients using oral antycoagulation, the MMSE score <23 is an independent determinant of worse adherence to treatment prescription. Aside from the assessment of cognitive function, lower adherence is related to the age of patients. This finding should be taken into account when making decisions concerning the use of oral anticoagulants in AF patients.

Differences in symptom presentation in MI patients by age

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Background: Patients with MI need to present as soon as possible after symptom onset to optimise prognosis and reduce morbidity. Many factors have been shown to influence pre-hospital delay. Recent studies have shown that age is not as significant a factor as previously, however observations indicate otherwise.

Purpose: The aim of this study is to explore the factors that may contribute to pre-hospital delay in aged patients presenting with an MI.

Methods: This cross-sectional study is a secondary analysis of a multi-site RCT study examining the impact of an educational intervention on pre-hospital delay time study. MI patients were recruited prior to discharge, completed a detailed questionnaire about their presentation and clinical details were verified with patient’s case notes. Patient consent was taken. Pre-hospital delay time skewed and therefore transformed for analysis. Pre-hospital delay times was analysed using t-tests and determination of factors contributing to pre-hospital delay time were analysed using logistic regression.

Results: 824 MI patients were recruited, 57% were <65, 78% were male and 43 % had a STEMI compared to a non STEMI. The median pre-hospital delay time for MI patients aged <65 and >65 was 2.57 and 3.74 hours respectively, this was a significant difference (p<0.001). A logistic regression model finally examining 15 typical and atypical symptoms and presentations features between the age groups was significant (χ² =61.33, p<0.001). Seven factors were singularly significantly in this model. The presenting features that were singularly significantly associated with the >65 age group were: less sweating, less stomach symptoms, less chest pain, less chest pressure, less left arm pain, less severe symptoms. In addition more patients in the >65 age group phoned their general
practitioner. Phoning the general practitioner had the highest beta value (2.026), highest impact on delay time.

Conclusions: Pre–hospital delay time was higher in MI patients >65. This study observed that this may be due to differences in symptoms and behaviours known to impact pre-hospital delay. Increased awareness that older patients may present with less severe, less typical symptoms and promoting patients to access the 999/112 services rather than their GP in the face of unresolved MI symptoms is essential to improve prognosis in this cohort.

P34

The effectiveness of the heart score in reducing health costs by predicting coronary artery disease and avoiding hospital admissions


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Background/Introduction: The challenge in the emergency department is to not only to identify high risk patients but also to identify patients who can be safely discharged home. The HEART score predicts the short-term incidence of major adverse cardiac events, dividing patients with chest pain in three risk categories, by assigning zero, one, or two points — towards an atypical patient history, ECG anomalies, the patient’s age, any risk factors present, and elevated Troponin. Chest pain risk stratification in the emergency department is critical not only to proper management of the patients with acute coronary syndrome, but to avoid unnecessary admissions and reduce cost.

Purpose: To describe the population with chest pain, to characterize the subgroup of low-risk patients and to assess the prognostic value of HEART score in avoiding patients’ hospitalizations and reducing cost.

Methods: Retrospective observational study including patients admitted to the hospital after initial assessment in the emergency department with chest pain as the presenting symptom. All the patients followed the diagnostic algorithm of coronary pain.

Results: There were enrolled 131 patients (65.4% males with mean age 64±13.6 years) who admitted in the hospital with chest pain. The mean HEART Score of all patients was 4.7±2 with 35 patients (26.7%) to have low risk score 0–3, 74 (56.5%) with score 4–6 and 22 (16.8%) with high risk score ≥7. 66.4% of the total sample had no findings as an outcome, and the rest 33.6% had coronary artery disease. Between the 3 score categories there was a statistical significant difference regarding the outcome (p=0.000).

Duration of the hospitalization was also positively correlated with the HEART Score (p<0.000 r=0.371). The low-risk patients group were discharged after a 2±1 days of hospitalization with 40% of the patients after no other intervention but clinical assessment, the 48.6% after a stress test and 11.4% after a PCI. Only 2 out of 35 patients in this group had coronary artery disease, meaning that it was safe to avoid hospitalization in 94.3% of the patients. Direct cost of 1 day hospitalization according to National Healthcare System DRG’s, that could be saved, was 310 €/patient (total 10230 €), while, comparatively, stress test in outpatient clinics would be 22 €/patient (726 €), 14 times less.

Conclusions: The HEART score may be a useful tool for evaluation of patients with chest pain and identify a low-risk group in which admission and further investigations may not be necessary in order to reduce cost, decrease the days in hospital and increase the quality of care.

P35

Developing patient centred care for patients undergoing TAVI with minimal sedation

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Introduction: Trans-catheter Aortic Valve Implantation (TAVI) has brought hope to many older patients but remains a high-risk procedure. To reduce risk and detect complications early many TAVI centres across Europe choose conscious sedation over general anaesthesia for transfemoral TAVI procedures. Many centres tend towards deep sedation, while others, including this centre, use little or no anxiolytic or opioid drugs. This brings special nursing considerations to an elderly population.

The aim was to evaluate patients’ experience of TAVI with minimal sedation, using a structured interview to determine if person centred outcomes were achieved. The interview comprised open and closed questions relating to dignity and satisfaction and visual analogue scales for pain and comfort. Data were collated one day post procedure from a consecutive sample of 28/33 patients undergoing TAVI over a 3 month period.

Results indicate that all patients were aware of procedural risks with 53% being frightened of these. Pain was reported by 89% of patients with most occurring during TAVI sheath insertion or removal. Low dose anxiolytic or opioid drugs were given to 57% of patients but 89% would have accepted sedation if offered. Whilst 74% of patients reported being comfortable during the procedure, 8 cited chronic arthritic pain as a main cause of discomfort. Ten patients reported feeling unwell, 8 cited this was
at the time of valve deployment. Communication was important, with 36% feeling comforted by conversations with staff and 39% reassured by the skills of the team. All patients appreciated efforts to maintain their modesty, but 4 patients felt uncomfortable being exposed for cleaning, 3 felt the cleaning solution was too cold and a further 6 reported the room as being cold. While only 1 patient was catheterised for the procedure, 3 patients wanted to be catheterised, 2 reported incontinence and 3 reported having a full bladder.

Conclusions: These older, frail patients have specific holistic needs that should be identified by formalised pre-assessment that includes anxiety assessment, chronic pain scores and psychological assessment. Pain levels are high and a prophylactic, assessment-based approach to pain management should replace the current reactionary approach. Simple changes such as increasing room temperature, warming and limiting fluids may improve patients’ comfort and achieve more person centred care.

Patients knowledge on warfarin treatment

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3Haukeland University Hospital, Centre for Clinical Research, Bergen, Norway

Introduction: Warfarin is highly efficacious for preventing thromboembolic disorders. Previous studies have shown lack of knowledge on warfarin treatment among cardiovascular nurses as well as patients. However, good patients' knowledge on warfarin treatment is important to avoid drug-related complications.

Purpose: To assess patients’ knowledge on warfarin treatment and determine factors associated with poor level of knowledge.

Methods: In April 2013, a postal questionnaire was sent to 1445 patients with aortic stenosis, treated conservatively (n=245) or having undergone AVR (n=1191) during 2000-2012 at a university hospital. In addition to socio-demographic variables, the Anticoagulation Knowledge Assessment (AKA) was used to assess patients’ knowledge. The AKA comprise questions on medication, medication administration, diet- and medication interactions, side effects, informing health care providers, procedures and laboratory monitoring.

Results: Overall, 1048 (73%) patients responded and among these 404 (39%) used warfarin. Mean (SD) age of patients on warfarin was 68 (14) years, 283 (70%) were men and 376 (93%) had undergone AVR. Indications for oral anticoagulation were: mechanical valve in 256 (63%), atrial fibrillation in 95 (24%), other reasons in 27 (7%) and unknown in 26 (6%).

Of 28 questions, mean (SD) correct answers were 18 (6) and median (range) 20 (0-27). Ninety-five (22%) answered less than half of the question correctly, while 100 (25%) had more than 22 correct answers. Questions with least correct answers included medication- and diet interactions and in which situation they should contact a physician. A linear regression analysis revealed that increased age was associated with decreasing correct answers (p < 0.001), while gender, education level or New York Heart Association classification had no significant association.

Conclusions: To optimise anticoagulation treatment, patients on warfarin need more education, especially regarding warfarin or food- and medication interactions. Patients’ lack of knowledge on warfarin treatment is a predictor of nonadherence and can compromise patient safety.
However, the age of the patients working ranged from 23 to 77 years. Fewer participants in the rehabilitation group (38%) worked before ICD implantation compared to the usual care group (56%) (p=0.029). After one year 33% and 49% of participants in the rehabilitation and usual care groups were working (p=0.109). Being over 61 years old was associated with not working 1 year after ICD implantation (OR 0.2). Primary prevention ICD indication predicted working after 1 year (OR 4.0).

Conclusions: A total of 19% of patients stopped working after ICD implantation. Age under 60 years old and having primary prevention ICD indication was associated with working 1 year after ICD implantation.

Table 1. Predictors of working 1 year after ICD.

<table>
<thead>
<tr>
<th>Predictor</th>
<th>OR (95% CI)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female vs. male</td>
<td>0.8 (0.3-2.3)</td>
</tr>
<tr>
<td>Age (≥61 vs. ≤60 years)</td>
<td>0.3 (0.1-0.6)*</td>
</tr>
<tr>
<td>Primary vs. secondary ICD indication</td>
<td>4.0 (1.7-9.3)*</td>
</tr>
<tr>
<td>Not married vs. married</td>
<td>0.8 (0.3-2.0)</td>
</tr>
</tbody>
</table>

(1) Logistic regression model of working 1 year after ICD implantation yes (n=49) or no (n=73) adjusted for gender, age, ICD indication and civil status.* Significance level set at 0.05.

Background: Patient-reported outcomes such as quality of life, anxiety and depression play a significant role in morbidity and mortality in cardiac patients. This is the first study to include an unselected national population of cardiac patients across diagnostic groups.

Purpose: To investigate diagnostic differences in patient-reported outcomes at hospital discharge.

Methods: During one year all patients discharged from a national heart centre were invited to fill out a questionnaire at hospital discharge. The questionnaire included questions about quality of life (SF-12 and HeartQoL) and anxiety and depression (Hospital Anxiety and Depression Scale). Questionnaire data was combined with national registers to obtain information on admission and diagnose. Non-parametric tests were used for group comparisons.

Results: A total of 14,040 patients across 7 diagnostic groups answered the questionnaire (response rate 51%). Mean age was 64.6 (SD 14.2), 64% males and 59% married. Responders vs. non-responders were comparable as to age, gender and diagnostic profile. Statistically significant differences were found between diagnostic groups in all scores. Patients with heart failure and heart valve disease reported the lowest scores on PCS (37.19 (SD 10.35), 38.65 (SD 10.11)), MCS (46.39 (SD 11.66), 47.15 (SD 11.61)) and HeartQoL global score (1.44 (SD 0.76), 1.50 (SD 0.74)). Anxiety and depression was indicated in 24% and 15% of all patients. Anxiety was most prevalent in patients with congenital heart disease (26%) and depression most common in heart failure patients (19%).

Conclusion: The results indicate that specific efforts should be targeted patients with heart failure and heart valve disease. Prevention efforts concerning mental health should be an option targeted all cardiac patients.
"The nights were terrible; sleeping was a problem all the time"; Octogenarians experience with sleep and delirium after aortic valve therapy

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Introduction: Improved surgical and interventions techniques have made it possible to perform aortic valve therapy in octogenarian patients with severe aortic stenosis (AS). Delirium is a common and serious complication after Surgical Aortic Valve Replacement (SAVR) and Transcatheter Aortic Valve Implantation (TAVI) in the elderly, characterized by reduced awareness, change in consciousness, disturbance in logical thinking and hallucinations. The impact that delirium has on patients’ sleep experience is scarcely studied.

Purpose: To explore and describe how octogenarian patients with severe AS experience sleep when undergoing delirium after aortic valve therapy.

Methods: This was a phenomenological study including patients aged 80+, who were able to understand and speak Norwegian, were cognitive well-functioning according to the Mini Mental State Examination (MMSE), and had undergone postoperative delirium as assessed for five post-operative days with the Confusion Assessment Method (CAM). Five women and five men between 81-88 years participated in the study. Six of them were treated with SAVR and four with TAVI. In-depth interviews were conducted in the patients’ home or at a tertiary hospital six to twelve months after SAVR or TAVI. The interviews were transcribed verbatim, and analyzed according to Giorgi’s phenomenological method.

Findings: Several of the octogenarians who had undergone delirium, experienced evenings and nighttime as a particularly vulnerable time after SAVR or TAVI. At nighttime they felt more in control of their situation, more able to orientate and less anxious. Delirium during the night was described as a continuous nightmare of horrifying dreams. This made them feel uncomfortable, and it highly influenced their experience of restorative sleep. Unpleasant feelings like anxiety and panic seem to appear more frequently in the evenings, influencing their ability to fall asleep. Waking up in the middle of the night often resulted in a state of chaos, making them confused about time of day, place and what had happened to them. This often led them into a vicious circle that was difficult to break out from. These nightly deliriums seem to last for a long period of time, for some during the entire hospital stay, resulting in decreased self-reported quality of sleep.

Conclusion: This study has shown that evenings and nighttime can be a particularly vulnerable time for octogenarian patients. Post-operative delirium can cause disturbance in the patients sleep pattern and influence on their restorative sleep for a long period of time after SAVR or TAVI.
Clinical case session
Friday, 15 April 2016

The 'unspoken' ethical challenges behind implantable cardioverter defibrillator deactivation

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Introduction: A 66 year old lady, called “Brenda” suffered ST elevation myocardial infarction 2012 with severe left ventricular dysfunction. Cardiac Resynchronisation therapy and ICD (CRT-D) was implanted following a cardiac arrest, with little opportunity for education on device functionality. Brenda remained highly symptomatic with NYHA III heart failure (HF) symptoms and stage 3 renal impairment, necessitating frequent hospitalisations. She was declined cardiac transplantation because of her weight (BMI 42).

Problem and solution: Brenda described herself as a “burden” due to diminished mobility and increased physical and emotional reliance on family and healthcare professionals. Aware of treatment limitations and current palliative intent, Brenda’s coping strategy was to avoid discussing prognosis or future plans. Ethically “truth telling” within healthcare is an absolute right, however literature asserts many HF patients exhibit denial, wanting to maintain optimism and listen to only “desirable” parts of the truth. Brenda’s family were kept updated and believed she should be “protected” from distressing information. The clinical team bound by professional codes, provided care considered as in her ‘best interests’. Brenda was assessed at every opportunity for an indication of readiness to discuss end-of-life issues including deactivation. Unfortunately she was re-admitted with decompensated HF and one shock, her condition deemed irreversible. Deactivation was discussed with her family, the device was deactivated and Brenda died in ICU a few days later.

Practical challenges: Brenda held unrealistic expectations of the therapeutic value of the ICD at the end-of-life, as a result of her limited knowledge. Guidelines recommend patients are informed about deactivation, however the optimal time to introduce discussions remains uncertain. Earlier open and honest dialogues between Brenda and the clinical team may have facilitated development of a more adaptive coping mechanism. Family involvement in such discussions would have improved their understanding of Brenda’s wishes and provision of greater support. The consequences of Brenda’s decision to keep her device active resulted in her death in ICU rather than peacefully at home.

Conclusion & Implications for clinical practice: Pre-implantation advice regarding deactivation is contentious in practice despite guideline recommendations. Patients have unique information needs and coping styles which may be counter-intuitive to ‘truth-telling’. Patient autonomy and shared decision-making at the end-of-life regarding the status of the device should be promoted.

The patient qualified for transcatheter aortic valve implantation (TAVI) - challenge for the multidisciplinary team/heart team

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Introduction: 52-year-old man with a complex heart defect: severe aortic stenosis, cardiomyopathy, significantly impaired left ventricular systolic function was admitted for an urgent TAVI procedure. Comorbidities: Arterial hypertension, type 2 diabetes, status post three ischemic strokes, atherosclerosis of the carotid arteries. The patient had consulted with multiple cardiac surgery centers, but due to the high surgical risk was disqualified from traditional cardiac surgery. The Heart Team made their decision based on the ESC guidelines. At admission, the patient showed significantly impaired exercise tolerance, lowered mood and poor motivation to participate in the therapeutic process. Before the procedure, a nurse evaluated the phenotype of frailty and quality of life.

Post-operative period: Following the procedure, respiratory and circulatory parameters were strictly monitored. Furthermore, conservative therapy was administered. The patient underwent intensive physical rehabilitation. Multidisciplinary education was introduced to prepare patient and his family for proper self-care. They were educated on the importance and principles of regular physical activity and nutrition in appropriate chronic diseases. They were informed about the importance of regular blood pressure, glucose and body weight checks. The possible alarming symptoms requiring medical attention were described. The patient and his family were guaranteed round-the-clock availability for phone consultation in case of any questions or alarming symptoms. The patient was referred for cardiac rehabilitation to continue comprehensive treatment in a health resort setting, and scheduled for regular follow-up visits in a cardiac clinic. Before discharge, a quality of life evaluation and frailty were performed. Improvements were observed in the
subjective quality of life, particularly in terms of physical functioning, and in the objective test result.

Questions: Who is included in the HeartTeam? What role does the HeartTeam play in care for a TAVI patient?

Conclusion: The HeartTeam is often understood as a team of physicians who make the decision to use TAVI, but its role should not be limited only to the pre-operative decision-making process. The team should guarantee the continuity of care and ensure that the comprehensive treatment plan is fully carried out. As shown in the above case, a patient with indications for TAVI requires an individual approach, adjusted to their specific needs. Therefore, a close cooperation is necessary between all members of the therapeutic team, to ensure optimization therapy and quality of life.

Management of a young adult with ventricular arrhythmias

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An 18 year old male presented with a several week history of reduced exercise tolerance and exertional dyspnoea following a minor choryzal illness. Clinical examination revealed bibasal crackles, elevated venous pressures, gallop rhythm and mitral regurgitant murmur. Electrocardiogram showed sinus rhythm with poor R wave progression with low amplitude QRS complexes. Echocardiography revealed a dilated left ventricle with severely impaired biventricular function and moderate functional tricuspid and mitral regurgitation. Investigations showed a microcytic anaemia, elevated prothrombin time, significantly elevated NT-BNP and dyslipidaemia. A diagnosis of DCM was made and he was commenced on bisoprolol, ramipril and spironolactone and clinical improvement was seen to NHYA II.

Cardiomyopathy in the young adult should be thoroughly investigated. Clues to the aetiology should be sought. Although a choryzal illness might suggest a viral aetiology, a microcytic anemia should raise suspicion of malabsorption syndromes. Iron deficiency was confirmed and initial celiac tTG antibody screen negative. Absolute IgA deficiency was recognised and subsequent anti endomyseal antibody screen was positive. Testing confirmed severe vitamin D deficiency. Defective GI vitamin K synthesis was also suspected as a cause of the elevated prothrombin time. Subsequent testing confirmed isolated factor VII deficiency, previously unreported in this setting. Under factor VII cover, duodenal biopsies onfirmed celiac disease.

Our patient had long runs of non sustained ventricular tachycardia on monitoring. Celiac disease as well as vitamin D deficiency are both associated with DCM with a number of reports claiming near or complete resolution of cardiomyopathy with dietary adjustment and mineral supplementation. Our patient was also emotionally disturbed by his new diagnosis and was not psychologically ready to accept an implanted device. In this setting and with a potentially increased risk of bleeding complications we opted for a wearable external defibrillator for 6 months. This would also allow repeat cardiac MRI without implantable device interaction. 6 months later we implanted a transvenous defibrillator (under Factor VII cover) due to ongoing severe LV dysfunction and non-sustained ventricular tachycardia. Little is known about cardiac changes in celiac disease and vitamin D deficiency, let alone the persistence of these changes after dietary change. Villous atrophy is known to persist for up to 2 years beyond resolution of symptoms and may give insight into the duration in which to expect improvement

The way to a man’s heart is through his stomach- a case of swallow syncope

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1St James Hospital, Falls and Blackout Unit, Dublin, Ireland

A 66 year old man was referred to the Falls and Blackout Unit with two episodes of syncope. Both episodes occurred seated whilst drinking beverages. Twenty seconds prior he feels like he is “fighting with my swallow”. This frequently occurs while swallowing and are associated with dizzy symptoms. A witness account confirms that he appeared to be staring, dropped his head forward, no colour change, no jerking, “like as if he had nodded off”. His past medical history includes hypertension. Previous coronary angiography showed mild calcification of the left anterior descending artery, medically managed. He has an unremarkable family history. His physical examination, bloods, electrocardiogram, echocardiogram, dobutamine echocardiogram, active stand, carotid sinus massage, OGD and colonoscopy are all normal.

Based on history he had a working diagnosis of swallow syncope, which is a vagally mediated syncope induced by swallowing. We proceeded to a Tilt Test which was normal, followed by an upright swallow test. He was asked to swallow water at which point he went into a 2:1 AVB for 3 seconds then 2.2 seconds of asystole followed by AVB associated with dizziness. We confirmed that during real time episodes the response was similar. Figure 1 shows symptom rhythm correlation on an external event monitor.
He had a pacemaker implanted and has had no further episodes. Swallow syncope has been identified in patients with organic or functional disorders of the heart or oesophagus such as diverticula, hiatal hernia, cancer, stricture and spasms. Reported cases in the literature have been associated with myocardial infarction, rheumatic carditis, aortic aneurysm and lung cancer. Therefore it is essential to evaluate the oesophageal and cardiac structures of patients with swallow syncope.

**Figure 1. Heart block during swallowing**

Nowadays, people can expect to live into their 80s and they are a part of an unusual revolution in longevity that is changing the treatment and perception of quality of life (QoL). The cardiac patients are a group which is getting older and requires multidisciplinary care. An 86-year-old female was admitted to hospital presenting with acute coronary syndrome-ST elevation myocardial infarction (diagnosis according to ESC Guidelines) with comorbidities: hypertension, diabetes, heart attacks, heart failure-NYHA class III, ejection fraction of 40%. The treatment and health care plan management presented to the patient and her family was a performance of coronary angiography (a plain old balloon angioplasty), monitoring vital functions, drug therapy, diagnostic tests and motivating to participate in a therapeutic process. The physical rehabilitation was undergone and there was no recurrence of cardiac symptoms. Our cardiovascular care of the oldest-old woman took place within the context of her multidimensional health condition. She had a mild cognitive impairment with accompanying symptoms of depression and anxiety. We assessed the frailty syndrome, using Tilburg Frailty Indicator, as it has multidimensional view on physical, psychological, social functioning. It confirmed that the patient was frail and had decreased in QoL (evaluated by MacNew Questionnaire) with a worse outcome in physical and psychological domains. She has also experienced some geriatric condition: mobility difficulty, incontinence, vision and hearing problems, dizziness, sleep problems with limitations in activities of daily living. To complement the care plan we conducted education, adjusted to current needs, in order to strengthen participation in self-care at home and offered a psychological support. We paid attention to regularly monitor vital functions and discussed the importance of compliance and adherence. It was a great experience to see both the patient and her family having a huge willingness and engagement to cooperate and taking active part in a therapeutic process. On a 14th day, as the health condition stabilized, she was discharged.

**Issues:** #Do multidisciplinary teams, next to clinical goals, consider the improvement of a multidimensional condition in the oldest-old? #Why is a multidimensional care plan important in the oldest-old?

The oldest-old patients get more diverse the older they get. The chronological age is not a determinant to stop a multidisciplinary care. It is still worth taking the challenge to care for oldest-old patients to achieve the idea of complex care for a cardiac and frail person.

A 29-year-old man presented to the emergency department with progressive weakness over the past 3 days. The patient admitted to recent methamphetamine use, but denied prior cardiac history. On physical examination vital signs were notable for a pulse of 96 beats/ min, blood pressure of 100/60 mmHg and respiratory rate of 26 breaths/ min. His chest examination was clear to auscultation and heart sounds were normal. The initial 12-lead electrocardiogram (ECG) demonstrated a regular, markedly widened QRS complex with a sine-wave configuration and undiscernible P waves (Figure 1). This ECG findings consistent with the sinoventricular rhythm that is a hallmark of severe hyperkalemia. The suspicion of hyperkalemia was confirmed by a serum potassium level of 9.2 mEq/L, and an arterial blood gas revealed a significant metabolic acidosis. The patient was diagnosed with metamphetamine-induced acute renal failure (creatinine 20.2 mEq/L) and was stabilized with calcium chloride, bicarbonate, insulin/glucose therapy, followed by emergency hemodialysis.

The described rhythm is termed sinoventricular conduction and represents sinus rhythm, with the sinus impulse being
transmitted via intra-atrial conduction tissue to the AV node and thence to the ventricles. This rhythm should not be mistaken with intraventricular conduction defects or ventricular tachycardia. Despite transmission of the sinus impulse through the atria, the atrial muscle fails to depolarize because of the hyperkalemia. Because atrial depolarization does not occur, P waves are not inscribed on the surface ECG. This presentation demonstrated that early recognition of hyperkalemia-induced electrocardiographic sine wave and sinoventricular conduction can provide clues to diagnosis and is essential to successful treatment and generalized edema. Treatment strategies included maintaining adequate preload, administering vasoactive infusion to improve cardiac contractility and performing interventions in order to reduce systemic and pulmonary resistance. On postoperative day 4, sternal closure was performed and trials for ventilator weaning started. During weaning, episodes of ventricular tachycardia appeared. Interventions included antiarrhythmic agents, atrial pacing, active cooling, adequate sedation and muscle relaxation as well as replacing electrolyte levels. On postoperative day 10, the neonate was extubated and supported with CPAP due to respiratory failure. Respiratory monitoring was essential in order to avoid the reintubation. On postoperative day 17 chylothorax was diagnosed, diet was changed accordingly and octreotide infusion was enacted. Moreover, nursing interventions were focused on epidemiological vigilance, surgical wound monitoring, reviewing laboratory exams and use of aseptic and sterile techniques for procedures.

Conclusions: Postoperative care focuses on anticipating potentially deleterious events and instituting a proactive approach in managing patients. Standardized nursing terminologies can support clinical reasoning and decision-making processes used for quality patient care.
**Poster session 1**  
**Friday, 15 April 2016**

### Heart Failure

**P53**  

**Vitamin d deficiency and cardiobronchial asthma**  
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**Background**—Many patients they represent difficulty in breathing on effort or rest, peripheral edema, lung congestion with decreased pulmonary functions and Cardiac functions Right ventricle & Left ventricle, especially Right ventricle called as Cardiobronchial asthma.

**Aims & Objectives**—To study the correlation between serum vitamin D values in uncontrolled cardiobronchial asthma and to evidential improvement in control of cardiobronchial asthma (CB Asthma) after vitamin D supplementation and correlate it with lung & heart function.

**Methods**—serum vitamin D levels were assessed in 102 patients of cardiobronchial asthma in duration of 2 years (2012-2014) and we found very low level of vitamin D (average level was 12 U ng/ml) in 49 non-smoker patients of difficult to treat CB Asthma between 19-64 years of age who were uncontrolled even after courses of steroids, diuretics and ACE inhibitors and other optimised medical therapy for comorbid conditions like Allergic rhinitis, GERD, Diabetes and Hypertension. these patients were treated with calcium and Vitamin D supplementation for 12 weeks and after were re-evaluated with repeat vitamin D levels, Pulmonary function test by spirometry and Cardiac functions by 2D Echocardiography.

**Results**—All 49 patients showed significant improvements in Right and Left ventricular function, LVEF increased (21±8%) and decreased Pulmonary systolic pressure (29±10%) and improves spirometry results like FEV raised (25±7%) and peak flow rate variability with significant p value (< 0.05). 19 out of 49 patients (38.7%) also revealed modest level of vitamin D levels.

**Conclusion**—This study showed a strong correlation between vitamin D deficiency and difficult to manage Cardiobronchial Asthma and good cardiopulmonary outcome after supplementation of Vitamin D.

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**P54**  

**Percutaneous mitral valvuloplasty with balt single balloon. Survival and event-free survival in long-term follow-up**  
I P Borges,¹ ECS Peixoto,¹ RTS Peixoto,¹ RTS Peixoto,¹ AAB Aragao¹ and VF Marcolla¹  
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**Objective**—To evaluate the long-term follow-up (FU) of mitral balloon valvuloplasty (MBV) with Balt single balloon (BSB) technique and to determine independent predictors of survival (IPS) and event-free survival (EFS).

**Method**—From 1987 to 2013, 526 procedures of MBV were performed, 404 (77.1%) with BSB. There were 256 procedures with long-term FU. Balloon diameter: 25 mm in 5 procedures, 30 mm in 251; mean dilatation area: 7.02±0.30
mean age: 38.0±12.6 (13 to 83) years, 222 (86.7%) female gender, 215 (84.0%) sinus rhythm, echo score (ES) 7.2±1.5 (4 to 14) points and echo mitral valve area (MVA) pre-MBV 0.93±0.21 cm². Mean pre and post-MVA (Gorlin): 0.90±0.20 and 2.02±0.37 cm², respectively (p<0.001). Success (MVA ≥ 1.5 cm²): 241 (94.1%) procedures. Three (1.2%) patients began the FU with severe mitral regurgitation (SMR). At the end of FU 119 (46.5%) patients were in NYHA functional class I; II: 70 (27.3%); III: 53 (20.7%); IV: 3 (1.2%); 11 (4.3%) deaths; 11 (4.3%) deaths; 17 (8.2%) patients with SMR; 20 (4.7%) were submitted to a new MBV; 27 (10.5%) to mitral valve surgery. IPS: ES ≤ 8 points (p<0.001, HR 0.116, 95% IC 0.035-0.384), age ≤ 50 years old (p<0.001, HR 0.203, 95% IC 0.059-0.693); no mitral valve surgery in the FU (p<0.004, HR 0.170, 95% IC 0.050-0.571). EFS: no prior commissurotomy (p<0.002, HR 0.318, 95% IC 0.151-0.667); female gender (p=0.036, HR 0.466, 95% IC 0.229-0.951); MVA post-MBV ≥ 1.50 cm² (p<0.001, HR 0.466, 95% IC 0.884-28.457).

Conclusions: Success: 94% of procedures. At the end of FU 4.3% of mortality. IPS: ES ≤ 8 points, age ≤ 50 years old; no mitral valve surgery in the FU. Independent predictors of EFS: no prior commissurotomy; female gender; MVA post-MBV ≥ 1.50 cm².

P56

Patients and caregivers symptoms of depressive symptoms mediate the relationship between perceived control and well-being.

M Liljeroos, A Stromberg and M Chung

Aim: To examine whether the relationship between perceived control and well-being (i.e., mental and physical) was mediated by depressive symptoms in patients with heart failure (HF) and their spouses.

Methods: 132 patients with HF and 132 spouses, (patients 75% males, aged 71 years and spouses 75% females, aged 69 years) completed questionnaires, Beck Depression Inventor for depressive symptoms, Control Attitude Scale for perceived control, and Short-Form 36 Health Survey for physical and mental well-being.

A series of linear regression was used to examine the mediator effect of depressive symptoms in the relationship between perceived control and outcomes (i.e. mental or physical well-being) by applying Baron and Kenny’s mediation method.

Results: In patients, we found a significant mediator effect of depressive symptoms in the relationship between perceived control and mental well-being (Sobels z-score= 3.67 P= .000). Depressive symptoms were also a significant mediator in the relationship between perceived control and physical well-being in patients (Sobels z-score= 2.69 P= .007).

Although spouses perceived control predicted their depressive symptoms (sβ = −.196, P = .021), the strong relationship was weaken when depressive symptoms were entered with perceived control in the prediction of mental well-being. However, Sobel test indicated significant mediator effect (p=.026).

Depressive symptoms did not predict spouses’ physical well-being.

Conclusion: Significant mediator effect of depressive symptoms in the relationship between perceived control and mental and physical well-being was seen in patients. In spouses, the mediator effect of depressive symptoms in the relationship between perceived control and mental well-being was slightly weaker. Assessing both patients and spouses depressive symptoms in clinical practice can identify persons in risk for impaired well-being. Further research on assessment of, and interventions targeting, depressive symptoms in dyads affected with heart failure is warranted.

P57

Using co-design to develop communication interventions in heart failure care

A-L Hjelmfors, AS Stromberg, MF Friedrichsen, AS Sandgren, JM Martensson and TJ Jaarsma

Aim: To examine whether the relationship between perceived control and well-being (i.e., mental and physical)
in patients, family members and health care professionals. There is a need to develop communication interventions which are in accordance with the future users’ needs and preferences to increase usability.

**Purpose:** To develop interventions to improve communication between patients, family members and health care professionals about prognosis and end-of-life care in HF care.

**Methods:** A co-design approach including patients, family members, and health care professional as constructive participants in the design process. Two workshops were conducted including patients, family members, nurses and a physician working in HF care or palliative care. The patients (n=9, NYHA I-III) had a mean age of 75 years and the family members (n=2) had a mean age of 70 years. The professionals (1 physician and 7 nurses) had a mean age of 50 years. During the first workshop, the participants worked on detailing problems on communication about prognosis and end-of-life care, brainstormed ideas to resolve these problems and voted for the ideas that could make the biggest differences for improving communication. During the second workshop the two ideas that got the most votes in the first workshop were further developed. The researchers led the workshops, took field-notes and audio recordings.

**Results:** All participants were active in discussing and creating ideas for improvements of communication during the workshops. Two main ideas was developed; first a question prompt list for patients and family members which they could use as a support to initiate a discussion about prognosis and end-of-life care when visiting a physician/nurse. Secondly, a communication education for health care professionals about prognosis and end-of-life care was suggested. In the second workshop, the participants brainstormed useful questions that could be included in the question prompt list and were later on asked to present their ideas to the other participants for confirmation and discussing of the wording etc. The same procedure was made to detail the content and the structure of the communication education for health care professionals.

**Conclusions:** Patients, family members and health care professionals are interested and engaged co-designers who could provide useful insights when developing new interventions in HF care. The two prototypes, the question prompt list and the communication education developed in this study will later on be tested for usability and feasibility in a randomized controlled pilot study.

**The effectiveness of individualized approach to the development of more precisely physical rehabilitation program**

**Purpose:** to estimate efficiency of individualized approach to the development of more precisely physical rehabilitation program in HF patients with III FC.

**Methods:** We evaluated 48 hospitalized patients 40-68 years old, mean age 55±1.8, 33 men, with HF NYHA class III, ejection fraction (LVEF) 37,8±0,3%. All patients performed a symptom-limited cardiopulmonary exercise test (CPET) on a treadmill with gas exchange system “Oxycon Pro” (Jaeger, Germany) initially and after 6 months. We measured oxygen uptake at lactate threshold (VO2LT), pH-threshold (VO2pH-T) and at exercise peak (VO2peak). The cubital venous catheter was installed in all subjects before exercise test. Blood samples were taken at baseline and at 1-minute intervals during test. PH, lactate and HCO3- concentration were estimated using analyzer i-STAT, cartridge CG4 (Abbot, USA). LT and pH-T were determined by changes in pH and lactate level. 48 patients were divided into two groups: 38 patients of main group (MG), who underwent physical rehabilitation program (PRP) based on lactate threshold and pH-threshold, that characterized the biological reserves of adaptation to physical activity; and 10 HF patients control group (CG), who performed usual PRP. HF patients in both groups were matched in age, sex, LVEF and BMI. Results: At the study beginning CPET

**Results:** VO2LT, VO2pH-T and VO2peak were similar in MG and CG, 8,7 of +/- 0,5, 11,0±0,8, 13,5±0,9 ml/min/kg and 8.9 ± 0.9, 11,5±1,3, 13,6±1,2 ml/min/kg, respectively (pVO2LMG-CG =0,08, pVO2PH-MG-CG =0,07, pVO2peakMG-CG =0,09). First tree month patients of MG were trained 40 minutes every day on treadmill with exercise intensity that was observed at LT, every month after control CPET exercise intensity was increased gradually. Other tree month patients of MG were trained 35 minutes every day on treadmill with exercise intensity that was observed between LT and pH-T, every month after control CPET exercise intensity was increased gradually. Patients of CG were made training walking at 40% of VO2peak three times a week. After 6 months VO2LT, VO2pH-T and VO2peak were better in MG than in CG: 10.1 of +/- 0.6, 12,8±0,5, 16,7±1,1 ml/min/kg and 9.3 ± 1.0, 12,1±1,1, 14,6±1,2 ml/min/kg, respectively (pVO2LMG-CG<0,01, pVO2PH-MG-CG<0,05, pVO2peak MG-CG<0,01).

**Conclusions:** physical rehabilitation program, calculated based on individualized approach of exercise physiological stages, improves the biological reserves of adaptation to physical activity and exercise capacity in HF patients with III NYHA class more than usual PRP.
Short-term changes in self-reported health and quality of life in octogenarians after transcatheter aortic valve implantation

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Background: Severe, symptomatic aortic stenosis (AS), with its cardinal symptoms of angina, dyspnoea and syncope, influences patients’ quality of life (QoL) and impairs physical and emotional functioning. It is of importance to identify the impact transcatheter aortic valve implantation (TAVI) has in a short-term perspective.

Aims: To determine changes in self-reported health and QoL in octogenarians one month after TAVI.

Methods: A prospective cohort study was conducted on consecutively enrolled octogenarians with severe AS undergoing TAVI (N = 65). Self-reported health and QoL were recorded at baseline and one month later using the generic Short Form Health 12 (SF-12).

Results: Mean age was 85±3, 37% were males and 54% were living alone. One month after TAVI, there were significant changes in all SF-12 domains, except social functioning and role emotional. The Physical Component Summary increased significantly from baseline to 30 days (30.6–34.7; P = 0.02), but the Mental Component Summary did not (46.9–50.0; P = 0.13).

Conclusion: Octogenarians reported improved physical health and QoL in a short-term perspective after TAVI. However, no significant improvement in mental health was identified.
**P61**

**Do patients value personalised medicine: results of a pilot study**

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**Background:** Recent developments in healthcare biogenetics are changing the way professionals make decisions about the best treatment for each patient. Advances in pharmacogenetics and the discovery of target biomarkers in myocardial dysfunction have strengthened this potential for a more personalised approach to heart failure management. Heart failure patients present with similar clinical signs and symptoms yet treatment now depends on the underlying cause. Patient involvement in these treatment decisions is the cornerstone of health policy. Novel therapies may offer benefit for different heart failure aetiologies. However, supporting informed patients to make treatment decisions based on therapeutic response is clinically challenging. There is limited knowledge about how patients view personalised medicine and shared decision-making and the extent to which it may influence their treatment decisions.

**Purpose:** This study explores patients' decision-making processes in their heart failure management.

**Method:** A qualitative study using semi-structured interviews. These data were analysed using thematic analysis.

**Results:** 6 patients with a mean age of 73 years, 2 (33%) male and 5 (83%) symptomatic on mild exertion (NYHA III). Three key themes were identified: Information sourcing; patient demographics; understanding of treatment.

Patients’ decisions about their heart failure management were influenced by the effect of treatment on the quality of life of their friends. They were not influenced by the advice of professionals. 67% (n=4) perceived older age to be a discriminate factor in professionals’ decision making. 67% (n=4) described the cause of their heart failure. No patient described how their heart failure management was influenced by its aetiology.

**Conclusion:** This small pilot study shows that patients have limited understanding of personalised medicine. Their expectations for specific heart failure treatment are influenced by the knowledge and understanding they gain from friends. To produce better patient outcomes patient education should be tailored to an individual’s disease and treatment needs. More time is needed for professionals to develop their knowledge and understanding of the patient. In today’s health service government targets, financial restrictions and staff shortages already overburden professionals. Clinical pathways should therefore be adapted to provide decision-support. A larger cohort is required to confirm these provisional findings.

**P62**

**Health status in patients with advanced heart failure: the role of illness uncertainty**

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**Background:** Heart failure is one of the critical illnesses characterized by recurrent symptoms, hospital readmissions and deterioration in health status creating uncertainty about symptoms, treatment procedures and future. There’s no enough evidence as to whether uncertainty affects the health status of heart failure patients or not.

**Purpose:** To determine the role of illness uncertainty on health status in patients with advanced HF.

**Methods:** This study is a descriptive cross-sectional study. This study was conducted at a heart hospital in Istanbul, Turkey. The research population was composed of 296 patients. Mishel’s Uncertainty in Illness Scale-Community Form (MUIS-C) and The Kansas City Cardiomyopathy Questionnaire were used for data collection.

**Results:** In this study, uncertainty experienced related to individual health perception, dyspnea, edema and restriction of activity have shown statistically significant findings on the measurements of health status measured by Kansas City Cardiomyopathy Questionnaire.

**Conclusions:** The most clear results of this study were found that the level of uncertainty associated with the illness of the individual is shaped by individual health perception and symptom pattern, particularly. The uncertainty experienced about these two situations in patients with heart failure primarily was a key parameter affecting social and physical dimensions of health.

**P63**

**Living with chronic heart failure: the meaning of hope**

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**Background:** Chronic heart failure (HF) is a complex syndrome that causes progressive deterioration in the state of health and has a large impact on the well-being and lives of patients. The continually changing circumstances and vital threat that accompanies HF results in some patients having the need to attain hope, an important aspect that will help them to carry on with their lives.
Purpose: Explain the origin and meaning of hope in patients with HF.

Methods: A phenomenological-hermeneutic study was performed in a specialized HF unit. A sample of 20 adult patients with HF in phase NYHA II-IV was included. Individual conversational interviews were carried out focusing on the meaning of living with HF.

Results: When speaking of their personal experiences of living with HF, the patients have identified hope as a key aspect in their lives. Those that have hope claim that this is what gives them strength to carry on with their lives. Those who have not experienced hope have stated that they yearn for it. Of the patients who lack hope, some express the fact that they never had any and others admit that they lost it due to the situation they are now living. The patients with hope tell the story of how this feeling helps them to continue to live through their different vital stages, to accept their condition, as well as to find meaning to their situation and face changes that occur. In addition, different sources of hope have been identified. For some individuals, the origin of hope lies in a “virtue” or “strength” that they themselves have cultivated and nurtured; for others, it is a “gift” from God and there are still others who attribute it to their closest circumstances and environments.

Conclusions: This study has demonstrated that hope is essential in the lives of patients with HF. It has also shown that hope can come and go depending on their personal circumstances and environments. Likewise, it appears that the person who has hope can better confront the setbacks of the illness and more easily adapt to changes that occur; this person will have a more positive view on life, even when the future is uncertain. Given the large impact that hope has on the meaning of living with HF, it is essential that more in-depth studies be carried out so as to give us a better understanding of this phenomenon, thereby enabling us to design specific interventions that can promote this feeling in patients.

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Circulating thrombospondine-2 in patients with moderate-to-severe ischemic-induced chronic heart failure

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Chronic heart failure (CHF) is remained a leading cause of morbidity and mortality. Thrombospondin-2 (TSP-2) is an important extracellular matrix component that influences the function of vascular smooth muscle cells, endothelial cells, fibroblasts and inflammatory cells, as well as it modulates endothelial cells and myocytes survival with important implications for CHF evolution.

The objective: To evaluate the predictive value of circulating TSP-2 for cumulative survival in patients with ischemic chronic heart failure (CHF) due to coronary artery disease.

Methods: The study evolved 188 patients aged 42 to 63 years with ischemic (n=154) and non-ischemic (n=34) symptomatic moderate-to-severe CHF, and also 44 patients with stable angiographically proven coronary artery disease (CAD). All the patients have given their written informed consent for participation in the study. Observation period was up to 3 years. We analysed cumulative survival related to CHF, and additionally all-cause mortality was examined.

The results: During a median follow-up of 2.18 years, 21 participants with ischemic CHF were died and CHF-related death was defined in 18 patients of this cohort. Additionally, 106 subjects with ischemic CHF were hospitalized repetitively due to advance CHF. Eleven subjects with non-ischemic CHF were admitted in the hospital due to advance CHF and 9 subjects were died due to CHF-related reasons. Only three patients with CAD without CHF were died due to myocardial infarction within observation period. Four new cases of ischemic CHF were found in the CAD subjects. Medians of circulating levels of TSP-2 in survived and died patient cohort were 0.63 ng/ml (95% CI = 0.55-0.64 ng/ml) and 1.03 ng/ml (95% CI = 0.97-1.07 ng/ml) (p<0.001). Circulating TSP-2 independently predicted all-cause mortality (OR = 1.27; 95% CI = 1.08–1.59; P = 0.002), CHF-related death (OR = 1.16; 95% CI 1.02–1.50; P < 0.001), and also CHF-related re-admission (OR = 1.12; 95% CI = 1.07 – 1.25; P<0.001) within 3 years of observation period. A stepwise model selection method demonstrated that left ventriculat ejection fraction, diabetes and multi-vessel lesion of coronary arteries added to combination of TSP-2 and NT-pro-brain natriuretic peptide do not offer any additional information to discriminate between survived and died patients with CHF.

Conclusion: we found that among patients with ischemic-induced symptomatic CHF increased circulating TSP-2 associates with increased 3-year CHF-related death, all-cause mortality, and risk for recurrent admission.

P65

Evaluation of health related quality of life and depression in relation to clinical, neurohumoral, echocardiographic and hemodynamic parameters in pulmonary hypertension
Pulmonary Hypertension (PH) is a severe disease influencing the quality of life. In this study we assessed the quality of life and depression scale in relation to clinical, neurohumoral, echo and hemodynamic measures in patients(pts) with PH.

The study group comprised 50 pts with PH (F35,M15, age 43.8±14.8 yrs). Groups were: IPAH 13 pts, APAH-CTD 5 pts, APAH-CHD 26 pts, group 2 PH 2 pts, group 3 PH 2 pts; group 4 PH 2 pts and group 5 PH 1 pt. Health-related quality of life (HRQL) was assessed using the Short-Form 36 Health Survey (SF-36) and the depression severity was assessed using the Short-Form 36 Health Survey (SF-36) and the depression severity was assessed using the form of Beck Depression Inventory (BDI). Clinical assessment including WHO FC, 6MWD, BNP and echo was also performed simultaneously with SF-36 and BDI. The SF-36 includes 4 domains reflecting the impact of disease on physical component (PC) of the patients life (Physical Component Score (PCS), Physical Function (PF), Role Physical (RF), Bodily Pain (BP), General Health (GH)) and the remaining domains reflect the impairment on mental status; Mental Component Score (MCS): Mental Health (MH), Role Emotional (RE), Social Function (SF), and Vitality (VT). Eisenmenger pts showed a lower BDI (p<0.04) and better PF and RF scores (p<0.025, p<0.026). Younger age related with a better PCS, PF and RF (r=-0.34, p=0.015, r=-0.47, p=0.0004, respectively). A longer periods of Bosentan monotherapy related to a better PF and RF (r=0.29, p=0.04 and r=0.39, p=0.005) whereas combinations showed negative correlation with MCS and PCS and positive correlation with BDI (p<0.05). Only BNP showed a significant correlation with MCS (r=-0.64, p=0.002), PCS (r=-0.57, p=0.002) and BDI (r=-0.71, p=0.0001). 6MWD at the time of SF-36 and BDI questionnaire correlated with MCS, VT, SF, PCS, P-Fand DBI (r=0.36, p=0.01, r=0.35, p=0.013, r=0.41, p<0.0001, r=0.51, p<0.0001, r=0.67, p<0.0001 and r=-0.43, p=0.0001). FC showed a negative correlation with PC related domains like PCS, PF, RF (r=-0.37, r=-0.42, r=-0.40, p<0.01 for all), and Mental health related RE (r=-0.29, p=0.04). Pericardial effusion was associated with a lower PF score and a higher BDI (p<0.05).

Conclusions: Younger PH pts had a limited physical impairment, and lower WHO FC and longer 6MWD were associated with lower BDI scores and less impairment in physical and mental domains of HRQL. Eisenmenger etiology and pericardial effusion related to BDI and physical functions
Factors affecting rehospitalization in elderly patients with chronic heart failure

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Introduction: Heart failure (HF) is the leading reason for hospitalization with a high readmission rate among elderly people. The rate of rehospitalizations among elderly patients still remains high, despite of numerous achievements in available therapies.

Purpose: The aim of this work is the evaluation of the influence of sociodemographic and clinical factors as well as of self-care on the rehospitalization rate in elderly patients with chronic heart failure.

Materials and Methods: The study included 210 patients (mean age 71.7 ± 8.6 years): 96 women (45.7%) and 114 men (54.3%) with a diagnosis of chronic heart failure in the NYHA functional class I (5.7%), II (55.2%), III (36.7%), IV (2.4%). The accepted criterion of rehospitalization was 3 or more hospitalizations during one year. The patients were divided into two groups, according to the number of their hospitalizations, group I – rare hospitalizations (up to 2 per year), group II – frequent hospitalizations (3 or more). The considered factors affecting the frequency of hospitalizations included: age, gender, the NYHA functional class, the left ventricle ejection fraction (EF), comorbidities and the patients’ self-care evaluated basing on the European Heart Failure Self-Care Behaviour Scale (EHFScB Scale).

Results: The studied group of patients demonstrated the existence of statistically insignificant negative correlation (rS = -0.160) between the number of hospitalizations and the self-care scale (p > 0.05). In the analysis of univariate logistic regression, the significant factors affecting rehospitalization are: female gender (β = +0.561, p= 0.056), the NYHA functional class (β = +1.023, p<0.001) and the left ventricle ejection fraction EF (β = -0.026, p=0.097). The multivariate analysis showed that female gender and NYHA functional class were the only independent factors.

Conclusions: Female gender and the NYHA functional class prove to be independent predictors of frequent hospitalizations among elderly patients suffering from chronic heart failure.

A first case of percutaneous closure of a tricuspid paravalvular leak (pvl) in Sri Lanka

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Introduction: Paravalvular leak is a well-known complication of valve replacement. It affects 5 to 17% of post-surgical patients & tricuspid PVLs are rare. Most cases of PVLs are small with little clinical significance. However large PVLs may present with symptoms of heart failure, hemolysis and infective endocarditis. Transthoracic(TTE) and real time 3D transesophageal echocardiography(TEE) imaging are key for diagnosis as well as evaluating the defect size, shape and the surrounding tissue. Surgical repair has been the standard treatment in most cases, but re-do surgery is associated with high morbidity & mortality and may not be successful because of underlying tissue friability, inflammation and annular calcification. Therefore, in most cases, less invasive approach of initial percutaneous closure is acceptable treatment method. We describe a case of large tricuspid PVL that was successfully occluded using a transcatheter approach.

Case report: A 35 year old lady with Ebstein anomaly had total correction with tricuspid valve(TV) replacement 12 years back. She recurrently admits with the symptoms of heart failure since 2011. TTE & TEE revealed significant PVL. Re-operation was deemed to be very high risk and hence determination to do the procedure using transcatheter techniques was chosen. A 6F multipurpose diagnostic catheter was passed into the RV through bio prosthetic TV and ventriculogram showed large PVL in the antero posterior position. A straight tipped Terumo wire was advanced into the RV through PVL & 6F multipurpose catheter was advanced through the defect. Subsequently Terumo wire was exchanged with a super stiff Amplatzer guide wire. Proper sizing of PVL was made by using 2D & 3D TEE, right ventriculogram & using an Amplatzer compliant sizing balloon which revealed the final size of 18mm defect. The 9F Amplatzer delivery system was placed into the right ventricle. 20mm post-infarct muscular VSD device placed across the PVL. After confirmation of the position by TEE and fluroscopically, the device was released across the defect.
Discussion & conclusion: This patient had refractory heart failure due to significant TV PVL & had excellent results following closure. The choice of PIVSD was based upon large size of the defect & that the TV ring was not well formed. We wanted to ensure that the device would astride the prosthetic valve ring and the tricuspid valve annulus. This was accomplished with PIVSD device as the discs are 10 m larger than the waist. Patient’s symptom was completely settled and her exercise tolerance showed marked improvement in 3 month follow-up.

P70

The role of the nurse in current heart failure care in Belgium

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Background: Due to ageing and improved medical techniques, chronic diseases become more prevalent. In Flanders, a part of Belgium, it is estimated that 64.075 people over 50 years suffer from HF. This sub-study is part of the INTERACT-in-HF study (Improving kNowldege To Efficaciously RAise level of Contemporary Treatment in Heart Failure). The aim of this sub-study is to describe the role of the nurses in HF-care.

Methods: A qualitative design. Patients and physicians participated in in-depth interviews to identify different processes in HF care. The interviews took place in patients’ homes and at the practices of the participating General Practitioners (GP). Physicians were included after presenting the research design at their quality circle meeting or at their practice. Participating GP’s were asked to select - at random - three patients fulfilling the following criteria: presenting symptoms of HF or being diagnosed for HF and able to have an interview in Dutch. After obtaining informed consent, 11 general practitioners (GP’s) and 23 patients were interviewed.

Results: Preliminary results show that most patients have multi-pathology, which leads to polypharmacy. In general, patients visited their cardiologist once or twice a year; all of them contacted their GP at least once a month. GP’s play an important role in coordinating care for patients with HF. All participating GP’s greatly valued the cooperation with nurses in the care of their patients, and good interdisciplinary communication is seen as very important. Most patients were supported by home care nurses or lived in a nursing home. Support of patients existed of support in daily personal care or providing medication. Patients and GP’s highlighted the importance of the different roles that nurses play in care of patients with HF. Nurses were identified as essential for follow-up of diagnosis and treatment. They are the first to detect signs of deterioration and to support patients and their family. In addition, nurses play an important role in supporting GP’s during consultation of elderly patients with HF. They prepare the general consultation through the nursing consultation, which results in more GP consultation time per patient.

Discussion: Although GP’s play an important key role in care for HF-patients, the role and tasks of nurses cannot be underestimated. Nurses play a crucial role in the treatment process of HF-patients. Beside supporting patients and family, they take responsibility in monitoring follow-up and enable GP’s in their coordinating role. Neither patients nor GP’s mentioned about the role of the nurse as educator.

P71

Specialist heart nurses treating patients in their own home; an offer to patients with progressive heart disease

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Background: Patients with severe heart failure often have several co-morbidities. Due to social, physical or psychological problems, they may cancel their appointment in the heart failure clinic and are thus at risk of not getting the optimal treatment or acute hospitalisation. To implement a service with outgoing treatment from hospital it is necessary to place the responsibility for the patients’ treatment and care between the professional caregivers, because patient with heart failure in the terminal phase often needs different expertise.

Purpose: The aim of this project is to describe an intervention where patients with progressive heart failure unable to travel to the heart failure clinic can be offered care at home by specialist nurses from the heart failure clinic.

Methods: The design is experimental, pilot-testing the preliminarily described intervention. The project is interdisciplinary and involves managers from the primary and secondary sectors, doctors and nurses. Pilot testing will last eight weeks in November-December 2015 and will consist of 4-6 visits pr week and four telephone consultations.

Criteria for participants will be clearly defined prior to the pilot.

Data will consist of:

The specialist nurses: Register use of time, collaborators, initiated treatment, organizational data

Write reflections concerning choice of actions in a log book.
The patients: Fill in a questionnaire containing demographic and socio-economic factors, symptoms, information about home treatment and perception of their own illness using the Brief Illness Perception Questionnaire.

The project nurses: Field observations to explore how nursing professional clinical judgment and treatment influence in patient’s condition.

Data analysis: Registrations and questionnaire data will be analysed quantitatively to clarify the organizational set up, numbers of patients, responsibility of treatment, costs, whether patients were positive towards this offer and if the offer relieved patients’ suffering.

Data from observations and nurses’ log notes will be analysed qualitatively using a phenomenological method.

Results: We expect to include 25 - 30 patients.

Data analysis of the pilot test will be in January and February 2016; results will form the basis for a description of the final intervention.

Perspectives: We expect that the intervention with an outgoing team of specialist nurses will be a permanent offer to patients with progressive heart failure in the Department of Cardiology at Aarhus University Hospital.

P72

Knowledge of the roy adaptation model, coping, and cultural characteristics of patients with heart failure and impact on adaptation to the condition

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Nursing models are the frameworks or paradigms of the science of nursing that adress the person, environment, health and nursing paradigm. Understanding how people adapt and how this differs by cultural characteristics can lead to developing interventions that promote better patient participation in their care. This research included theory-based analysis related to the Roy adaptation model and Leninger’s cultural care theory. The purpose of the research is to explore beliefs, behaviors and adaptive strategies of patients with heart failure from the American culture, using in depth interviews. The research design was a descriptive qualitative method and all interviews with 6 patients was done by in-person interviews. According to the results of this study, four main themes were created that related to the knowledge of the Roy Adaptation Model, coping, and cultural characteristics of patients with heart failure and impact on adaptation to the condition, such as Physiological Condition, Social Support, Psychological Condition, Rol Fonction as well as twenty five sub-themes related to these main themes. The results of the study will be helpful in developing interventions to improve patient coping behaviors in different cultures.

Table 1. RAM and Leininger’s Sunrise Model.

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<th>Physiologic mode</th>
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Main Themes

P73

Rate dependent bundle branch block and mechanical dyssynchrony leads heart failure and beneficial effect of cardiac resynchronization therapy

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Background:- CRT (Cardiac Resynchronisation Therapy) has been approved benificially in heart failure patients with refratory optimised medical therapy on based of many studies. The guidelines have shown CRT is indicated in NYHA class III-IV, QRS >150 ms, LBBB (Left bundle branch block) to improve heart functions, ventricular remodelling and clinical symptoms.

Purpose-comparison of stress induced mechanical dyssynchrony between rate dependent LBBB and RBBB (Right
bundle branch block) and beneficial role of CRT to improve LV function and reduce mortality.

**Method:** Patients presenting dyspnea on exertion NYHA class I-II to III-IV by stress test, normal QRS to rate dependent LBBB or RBBB by Stress test or Dubutamine Stress Echo were studied. CRT on cardiac function were assessed by Cath study, Echo and MRI (Magnetic Resonance Imaging).

**Result:** 12 months observational study done on stress induced rate dependent LBBB and RBBB with worsening dyssynchrony and poor LV function were treated with CRT. Results have shown improved LV function in rate dependent LBBB patients (31±6 %) v/s RBBB patients (4.5±4%) with P value <0.04. and reduce mortality among rate dependent LBBB with CRT v/s without CRT (5% v/s 20 %) and another side mortality difference between rate dependent RBBB with CRT and without CRT were not found significantly.

**Conclusion:** Stress induced rate dependent LBBB with mechanical dyssynchrony leads to heart failure is benefitted by CRT than Rate dependent RBBB.

**Education and behavioural aspects**

**P76**

**Doctor google.es: adequacy and suitability of usually available for cardiovascular health information webpages in Spanish language**


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**Background:** Today many patients attending cardiovascular services have a lot of information about their illness process obtained from websites of questionable reliability.

**Purpose:** To assess the adequacy and suitability of cardiovascular websites commonly available in Spanish.

**Method:** The instrument Adequacy Assessment and comprehensibility of Materials- Health Education (SAM + CAM) validated, was modified for ease of use, to evaluate 76 webpages, with several categories easy to score: content, literacy demands, graphics, design / typography, learning stimulation and motivation. The percentages were interpreted as: bad (0% -39%), suitable (40% - 69%) or higher (70% -100%).

**Discussion:** Nearly half the websites tested, that cardiovascular patients found readily on the Internet, were insufficient or inadequate to obtain patients information. Most materials have assessed reading level too high, indicating improve ease of use and comprehensibility for most readers. Healthcare professionals should be more aware of what patients read and be able to recommend suitable sites, participating in the development of new material from the web, using visual elements and organization of information to facilitate understanding and learning motivation, motivate to learn when they believe are feasible tasks and behaviors. Being nurses, the professionals closest to the patient, and with sufficient knowledge, we are the cornerstone order to use this useful tool adequately.

**P77**

**Living with a green ligh in the bedroom; remote monitoring of patients with implantable cardioverter defibrillator**

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**Background:** Implantable Cardioverter Defibrillator (ICD) treatment and Home Monitoring (HM) have reduced mortality remarkably in the past two decades for cardiac patients. HM has furthermore reduced in-clinic visits for patients. However little is known about how ICD-recipients experience HM technology and cope with challenges.
Purpose: The aim of this study was to explore how ICD-recipients managed everyday life with HM technology.

Methods: Interviews with 11 ICD-recipients were held and participants were recruited from patient lists at our ICD clinic. Interviews were conducted in private homes using a semi-structured interview guide. Data analysis was inspired by Ricoeur using three comprising levels; naïve reading, structured analysis and critical interpretation and discussion. The study was conducted in compliance with the principles of the Declaration of Helsinki.

Results: Our study revealed how the participants were living with their HM and in particular we identified that the green power LED light on the HM played a significant role. We found that participants attributed different values or interpretations to the green light. Somewhat surprisingly, some participants were comforted by the green light as they were reminded that someone was looking after them. Others became annoyed as they constantly were reminded that they were subordinated the hospital system and thus reminded of their illness. Few of the participants experienced sleep problems, as the HM would light up the bedroom and they were afraid to cover the monitor. Quite surprisingly, some participants were highly concerned if the HM could monitor increased physical activity and if this could be interpreted as sexual activity. In summary, the HM and the green power light played a surprisingly significant role when our participants were living with HM.

Conclusion: HM and the green power light introduced sleep and surveillance problems for some, sexual issues, and increased awareness of the illness for others. If health professionals are not aware of these facts they cannot address the difference in how the patients experience HM. Nursing care for ICD-recipients with HM can be improved by empowering and educating ICD-recipients e.g. at the ward, or in the ICD clinic. This study contributes new knowledge on how HM is perceived in the homes and how nursing care can improve the perception of HM in patients’ lives.

Psychometric properties of the polish version of the eight-item morisky medication adherence scale used in the survey of hypertensive adults

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Background: Low adherence to pharmacological treatments is one of the factors associated with poor blood pressure control. The literature describes attempts at formulating and creating a tool that will be helpful in estimating the level of patients’ adherence to treatment prescribed. Nevertheless, it is unknown whether questionnaires meet the minimum requirements for validity and reliability.

Objective: To translate the structured self-report eight-item Morisky Medication Adherence Scale (MMAS-8) into Polish and examine the psychometric properties of the Polish version of this scale used in the survey of hypertensive patients.

Methods: The study was designed as a cross-sectional survey conducted in outpatient Non-Public Health Care Centre in Wroclaw between January and July 2015. After a standard “forward–backward” procedure to translate the MMAS-8 into Polish, the questionnaire was given to 160 patients with hypertension. Reliability was tested using a measure of internal consistency (Cronbach’s alpha), and test–retest reliability. Three levels of adherence were considered based on the following scores: 0 to <6 (low), 6 to <8 (medium), 8 (high).

Results: In both surveys the questionnaires were fully completed by 110 participants. The mean age of the respondents was 60.7 years (SD = 12.6 years). Women constituted 54.6%. The mean number of prescribed antihypertensives per patient was 2.6 (SD = 3.26). The mean score for the medication adherence scale was 6.42 (SD =2.0). Moderate internal consistency was observed (Cronbach’s alpha = 0.81), and test–retest reliability was satisfactory (Spearman’s 0.461 – 0.905, p < 0.001). The analysis of the results obtained by means of the survey conducted twice with the same subjects demonstrated good repeatability (Cohen’s Kappa 0.61). A group with high levels of adherence included more patients with controlled blood pressure than a group with low levels of adherence (33.3% vs. 19.1%, chi-square = 0.87, p = 0.648).

Conclusions: Psychometric evaluation of the Polish version of the MMAS-8 shows that it is a reliable and valid measure to detect patients at risk of non-adherence. The MMAS-8 could be used in routine care to provide information about medication-taking behaviour of hypertensive patients.

Clarifying patients’ values for benefits and harms of initiating implantable defibrillators - easier said than done

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**Introduction:** Sudden cardiac death (SCD) is a leading cause of cardiovascular death worldwide. Implantable cardioverter defibrillators (ICD) offer patients deemed at high risk for SCD, a treatment option to prevent sudden death. Despite life-saving benefits, ICDs are not without risks. The decision to receive an ICD may be complex given the need to weigh the benefits and risks. Patient decision aids (PtDA) are an effective intervention to support informed, values-based decisions. Although value clarification methods are a feature of PtDAs, little is known about patients’ experiences with using them in the PtDA.

**Purpose:** This qualitative study aimed to explore how patients’ experiences with clarifying their personal value associated with the benefits and risks of an ICD as a treatment option.

**Methods:** This descriptive qualitative study was conducted within a pilot randomized controlled trial where ICD candidates received a PtDA or usual care. Sixteen patients who consented in the trial agreed to be interviewed. Purposeful sampling was employed in the sub-study to ensure balance of gender and group assignment. Semi-structured interviews were completed with 10 men and 6 women, aged 47 to 87 years. Interviews were transcribed verbatim. Thematic analysis was conducted using NVIVO software. Preliminary themes were agreed upon by two investigators.

**Results:** Patients in both groups had difficulty expressing how they clarified their values in terms of ICD benefits and risks. When they did, patients emphasized ICD benefits outweighing risks in this decision. What mattered most to patients were living for family, extending life and peace of mind. Patients viewed expert medical opinion and trusted institutions as reassurance against possible risks associated with the ICD. Compared to other medical procedures (e.g. orthopaedic surgery), they discuss that an intervention for the heart was worth possible risks associated with ICDs.

**Conclusion:** Common health discourse often references “patients’ values and preferences” as an integral component of patient-centred care, evidence informed decision making, and a recommended component of a PtDA. Yet, a potential disconnect exists between intent and practice. While health professionals may communicate an intention to elicit patients’ values, in practice, eliciting these values is not as straightforward as it sounds.

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**Introduction:** A 12-lead electrocardiogram (ECG), the most readily obtainable diagnostic tool can provide valuable information in the early interpretation of arrhythmias and identification of conduction disturbances of the heart rhythm. However, previous research had revealed a significant deficit of knowledge in the ability of health care professionals in interpretation of an ECG.

**Purpose:** of this study was to determine the level of knowledge among cardiovascular healthcare professionals in interpretation of a 12-lead ECG in a cohort defined in 2009 and to identify the impact of an intensive educational program.

**Methods:** A selfanswered anonymous questionnaire was developed by an expert group with two rounds of Delphi methodology for the purpose of the study. The questionnaire consisted of 2 sections (1) socio-demographics data and (2) interpretation of 12-lead ECG. Response alternatives in section two were multiple choice and true/false questions (total=10 questions). The test was distributed to a randomly selected group (A) and an intervention group (B), who received 3 intensive educational seminars focused on ECG recording and interpretation, in conjunction with case-study scenarios.

**Results:** 138 nurses were enrolled in group A and 62 in group B, with similar demographic characteristics regarding sex (67% and 60% females), age (37±8 and 32±8), experience (11.28±8 and 7.7±8 years) and educational background (100% higher education). The demographic data were also comparable within the cohort. The test’s mean total score of correct answers was 5.5±2.68 and remains unchanged to 5.5±2, supporting that standard continuing professional education had no effect on the level of knowledge through the timeline. Meanwhile, for the intervention group the total score was 7±2.25, and the difference between the means of two groups was statistically significant (p=0.000). The total score of the two groups had no correlations with any of the demographic characteristics such as age, years of experience, educational background, occupation and working department.

**Conclusions:** The findings of the current study revealed several deficiencies in ECG interpretation among healthcare professional and standard education does not seem efficient. In contrary, a frequent and repetitive educational program can be effective.

**P81**

**How much do health care professionals know about the ECG? Evaluation of the impact of educational seminars in a cohort**

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**Living with heart failure: improvement and safety in nursing care**


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Introduction: Heart failure (HF) is an important public health problem (morbidity / mortality) and one of the most common causes of hospitalization. It is essential to promote health education so that patients change their lifestyle, next to drug treatment, are essential to maintaining the patients stability. OBJECTIVE: To assess the impact of an Individualized Nursing Care Program (INCP) specific for these cardiac patients.

Method: We performs a quantitative, prospective, longitudinal study. The samples were 135 patients (HF nursing consultation). We apply INCP since the first visit, identifying nursing diagnoses for further evaluation (monitoring along 18 months). Were developed Health Education (H.E.) sessions, semiannual frequency and telephone follow-up demand with the nurse. As specific tools we used Treatment Adherence, Self-Care and Quality of Life validated questionnaires.

Results: Self-Care Test (a lower score higher selfcare): basal 30 ± 9.5 vs 25.4 ± 8.7; p = 0.000.
Minnesota Test: Shows tendency of statistical significance, clearly expressing basal improvement 36.7 ± 22.1 vs 33.5 ± 22; p = 0.09.
Morisky Test (a higher score greater adherence to treatment), highly significant: basal 4.7 ± 1.5 vs 5.8 ± 0.6; p = 0.3.
Relative to the nursing diagnoses we evaluated the patient’s first visit after an initial assessment and after the nursing intervention to make a comparative. Main nursing diagnoses were found:
Intolerance to activity (00092), improved 80% vs 40% after our intervention. Nutritional imbalance by excess (00001), 80% on first visit vs 40% in the latter. Nutritional imbalance default (00002), from 20% to 15%. Excess fluid volume (00026) 40% to 20% after intervention. Ineffective management individual therapeutic regimen (00078) 70% vs 20%. Anxiety (00146) rose from 90% to 30% after nursing intervention, showing greater assimilation of their illness.

Conclusions: The application of Individualized Nursing Care Programs in Heart Failure patients demonstrates significant improvement and increased safety when managing care. It is very notable increase in the level of knowledge of their disease, improves the acquisition of heart-healthy habits, self-care and especially greater adherence to treatment, showing great improvement in the quality of life of these patients during the study period.

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Lifestyle changes. Meticulous information improves cardiovascular risk in low grade hypertensive patients

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Background/Introduction: Only a small fraction of hypertensive patients suffers from hypertension alone. The majority of patients present overlapping risk factors and thus, assessment of total cardiovascular risk is imperative in order to improve their prognosis. According current guidelines, in high normal hypertension only life style changes are suggested while in grade I hypertensive patients, drug treatment should be considered after lifestyle changes. Risk models are used in order to identify patients who are at high risk for cardiovascular disease and benefit through preventive interventions. The aim of the study was to calculate total cardiovascular risk of enrollees based on the Greek model of SCORE (Hellenic Score) and the change in their risk after a short - term appropriate intervention (lifestyle modification).

Purpose: The aim of the study was the recognition of the total cardiovascular risk based on the Greek model SCORE (Hellenic Score) and the change in the risk after a short- term appropriate medical intervention or not (lifestyle modification).

Methods: In this study, of 212 patients with high normal or grade I hypertension were prospectively enrolled, without documented cardiovascular disease (CVD). The data were collected according to: gender, age, height, weight, smoking habits, blood pressure, total cholesterol, HDL-C, LDL-C.
Patients were randomly allocated in 2 groups. The 1st group (105 patients) was provided detailed information regarding the benefits of lifestyle changes while in the 2nd group (107 patients), only brief information regarding lifestyle changes was given. In both groups, drug treatment was administrated if necessary. The total cardiovascular risk was calculated in two phases, before and after the intervention.

Results: Subjects’ mean age was 54±12 years. Subjects who were given detailed information regarding the benefits of lifestyle changes showed a greater reduction in systolic blood pressure (from 134 mmHg to 126 mmHg p<0.0001), total cholesterol (from 207 mg/dl to 194 mg/dl p<0.0001), LDL cholesterol (from 126 mg/dl to 115 mg/dl p<0.0001) and improved also the risk score (from 3.41 to 2.92 p<0.05) and relative score (from 2.81 to 1.77 p<0.0001). Those results were not associated with the drugs used (p=ns).

Conclusions: Patients with high normal or grade I hypertension may have increased risk for CVD. Detailed information regarding lifestyle changes can improve CVD risk in those subjects and therefore improve prognosis independently from the drug regimen used.

P84

In-service trainning in CPR: lessons learned
P85

Theoretical and practical training of students from high school to care for cardiac arrest: a prospective study

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Cardiovascular diseases are the leading cause of death in the world, sudden cardiac arrest is a major contributor to this index. Training reduces the ignorance and fear, increasing safety to recognize that the victim is not breathing properly, so as to trigger the help and start CPR as soon as possible.

Objective: To apply a theoretical-practical training of vocational public high school, to work correctly, quickly and safely before a cardiopulmonary arrest, resuscitation maneuvers running efficiently, in order to save lives.

Methods: This study was designed as a prospective investigation in all of 1800 students of vocational public high school, between 2012 and 2015. The program of theoretical and practical training lasts 2 hours. Each student attends a lecture with video on the subject for 30 minutes after 30 minutes of classroom practice. Then, using practical training mannequin, which are assessed through a performance checklist. A questionnaire was distributed before the start of training to see if the student had prior knowledge about a rescue in the event of cardiac arrest.

Results: More than 50% did not have any knowledge about the subject. This evaluation showed that after 2 hours of training and analyzed the performance checklists: 85% knew how to perform the procedures call for help effectively, 30% were able to recognize the absence of breathing, 35% positioned themselves and began of chest compressions recommended form.

Conclusion: Students from that school are represented by 90% of adolescents when trained are able to act in the scene of a cardiac arrest, multiply the knowledge to family and community and save lives. However, according to the international recommendations of retraining as an ideal that does not exceed two years.

P86

To be or not to be tilted- improved care for patients with vasovagal syncope tendencies

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Purpose: Patients with tendency to faint without cause, have previously been offered examinations including a tilt table test (TTT). At Aalborg University Hospital we have noticed that patients experience discomfort in various extent during the test. After completing TTT patients are sent home with advice on how to prevent fainting. We would like to examine if patients with syncope will benefit sufficiently from a focused conversation with emphasis on knowledge of specific physiological needs, knowledge of the body’s signals and reactions, in order to prevent future syncope, without the strenuous TTT.
As a starting point we wanted to identify the variety of physical discomfort experienced in connection to TTT in order to verify our assumption. Subsequently we wanted to test, if a detailed and educational conversation was sufficient to prevent and remedy tendency to syncope in a period of six months after the conversation.

**Methods:** The project was divided into two studies. The first study included 73 patients in a quantitative survey, monitoring how patients responded physically during the TTT. The second study tested educational conversation as an alternative to TTT, with focus on the out of hospital patients’ experience of syncope in a case study. 70 patients received education on physiology of the body, antisyncope instructions, and advice on coping mechanisms. All patients were invited to a followed-up six months after.

**Results:** 95.9% had physical discomfort during the TTT, ranging from sweating, dizziness, nausea, and altered vision. The onset of discomfort varied. Within the first 5 minutes, 26 (35.6%) patients experienced symptoms. The majority of the patients, who participated in the follow-up, had not had any syncope during the last six month. Some had experienced near syncope due to their vasovagal syncope tendency or personal problems and a few had had syncope incidents.

**Conclusion:** Our studies suggest that educational conversation can replace TTT in case of clinical suspicion of vasovagal syncope. With an educational conversation the patients have sufficient knowledge to prevent tendency to syncope and the patients avoid the discomfort of a TTT with no evident consequence. The majority (83%) of the patients increased their awareness towards the signals of the body as well as how to use the advice correctly. We noticed that all our advice was used to a greater or lesser extent. This implicates that changing current practice is beneficial for the patients, the staff resources, and the economy.

**P87**

The education of patients taking anticoagulants

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**Introduction:** Several factors influence the clinical response of patients receiving coumarin drugs, such as comorbidities, while taking other medication, alcohol use, diet and compliance and overall knowledge of the anticoagulant therapy.

**Purpose:** The purpose of the study are to evaluate the level of knowledge of patients and to investigate the factors associated with the level of knowledge to patients on coumarin anticoagulants.

**Method:** 505 patients was analyzed, (measurement of INR-International Normalized Ratio). The questionnaire used knowledge Evaluation in anticoagulation. Used the statistical program Statistical Package for Social Sciences (SPSS) v.17.

**Results:** The internal consistency check of the questionnaire was Cronbach’s alpha = 0.703. The majority of patients were male (63.7%) and the age of the sample was 68.1 ± 12.9 years. The knowledge score in the sample averages 10.1 (SD ± 3.1). Only 4% patients had excellent knowledge (72% correct answers). They found significant correlation between the level of knowledge and age (Spearman’s rho, p =0.012, r = -0.6), gender (t-test, p = 0.005), and educational level (Spearman’s rho, p <0.001, r = 0.3).

**Conclusion:** The level of knowledge about the use of coumarin anticoagulants appear to be particularly low

**Arrhythmias**

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Patients treated with catheter ablation for atrial fibrillation or atrial flutter experience high levels of anxiety and depression, results from a nationwide survey

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**Introduction:** An increasing number of patients with atrial fibrillation (AF) or atrial flutter (AFL) receive catheter ablation. Evidence shows that quality of life is increased after an ablation, but other aspects of patient’s mental health after ablation is not explored.

**Objective:** To explore levels of anxiety and depression among patients treated for AF or AFL with ablation.

**Methods:** Participants in this nationwide cross-sectional study were persons ≥18 years old who had been hospitalised for ablation for AF or AFL between January and June 2011. Patients were identified in the Danish National Patient Register (n=714). The questionnaire was mailed in December 2011 (n=627). The survey included the Hospital Anxiety and Depression Scale (HADS) to measure anxiety and depression levels.

**Results:** The questionnaire was answered by 462 patients (74%). After 6-12 months 19% of patients were anxious and 13% depressed (Table 1).

**Discussion:** Compared to patients treated with an ICD (1) or patients with heart valve replacement (2), patients treated for AF or AFL scored higher on HADS-A and patients treated for AFL scored higher on HADS-D (Table 1).
Table 1.

<table>
<thead>
<tr>
<th></th>
<th>HADS-A mean (SD)</th>
<th>HADS-D mean (SD)</th>
<th>HADS-A ≥8 proportion (%)</th>
<th>HADS-D ≥8 proportion (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>AF patients</td>
<td>4.30 (3.94)</td>
<td>2.81 (3.12)</td>
<td>18</td>
<td>11</td>
</tr>
<tr>
<td>AFL patients</td>
<td>4.10 (4.01)</td>
<td>3.10 (3.67)</td>
<td>19</td>
<td>15</td>
</tr>
<tr>
<td>AF and AFL patients</td>
<td>4.23 (3.96)</td>
<td>2.91 (3.33)</td>
<td>19</td>
<td>13</td>
</tr>
<tr>
<td>ICD patients (1)</td>
<td></td>
<td></td>
<td>14</td>
<td>14</td>
</tr>
<tr>
<td>Heart valve replacement</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>patients (2)</td>
<td></td>
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</table>

Anxiety and depression among patients with AF, AFL and the entire population, and compared to patients treated with an ICD and after heart valve replacement.

Conclusions: Patients treated for AFL report high levels of anxiety and depression following treatment. It is important for health care professionals when seeing the patients for follow up after ablation for AF or AFL to be aware that the prevalence of anxiety and depression are high.


Octo-nonagenerians outlook on life and death when living with an implantable cardioverter defibrillator. A cross-sectional study

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Background: Despite the increasingly high rate of implantation of cardioverter defibrillators (ICD) in elderly patients, data describing the life-situation in octo-nonagenerians are scarce. There is also a class I recommendation for ICD deactivation discussions to occur between physicians and patients. Few studies have reported the older patient’s perspective on the timing of ICD deactivation discussions and their preferences on deactivation nearing end-of-life.

Objective: To describe octo-nonagenerics’ different outlook on life and death.

Methods: Cross-sectional study with 229 patients (mean age 82.0, 88% male) completed standardized measures of health, psychological distress, and experiences, attitudes and knowledge of end-of-life issues, on one occasion.

Time since implantation was 5.5±4.2 years, 32% had experienced battery replacement. The majority (72%) had received their ICD for secondary prevention, usually in the context of heart failure.

Results: The vast majority rated their general experiences as ICD-recipients as “good” or “very good” (97%). The corresponding percentage for their general health experience was 53%, with a EuroQol VAS score of 67±18 and a mean index of 0.783. In total, 11% reported symptoms of depression, 15% anxiety, 26% had ICD-related concerns, and 32% described a low perceived control in life. The vast majority (87%) had not had a discussion with their clinician about what ICD deactivation and turning off defibrillating shocks would involve, and just 7% had told their family member their wishes about deactivation when nearing end-of-life. Six patients had considered deactivation in the future. Many of the patients (40%) stated that they never wanted to discuss deactivation in the matter of what. The vast majority stated that even if no shock therapy had been delivered (76%) they would like to replace the ICD battery when it has reached the end-of-service indicator. The majority of patients also reported wanting to replace the battery even when they reached a very advanced age at that time (69%). A majority of patients (55%) also desired battery replacement even if seriously ill in a life-threatening disease. One third of patients (34%) did not want the ICD deactivated even if a terminal illness like cancer developed.
**Background:** In the COPE-ICD trial 196 patients with first time ICD implantation were randomized to comprehensive cardiac rehabilitation or usual care. The intervention consisted of exercise training and a psycho-educational intervention. A secondary outcome was number of sick days related to ICD implantation.

**Purpose:** The objectives were to explore (i) number of sick days among patients employed at the time of ICD implantation, (ii) differences in number of sick days between rehabilitation and usual care group and (iii) predictors of sick leave.

**Methods:** Twelve months after ICD implantation patients answered a questionnaire regarding their ability to work and sick leave in relation to ICD implantation. Number of sick days was log transformed to achieve normal distribution. The difference was determined using Student’s T-test. Predictors of number of sick days were tested using linear regression among participants employed before ICD implantation adjusted for gender, age, ICD indication and civil status.

**Results:** The questionnaire was answered by 138 patients (70%). Of those, 65 (46%) worked before ICD implantation and their mean number of sick days was 33.8 during the first year (SD 58.3). The mean number of sick days was 28.5 (SD 45.5) and 37.1 (SD 66.0) in the rehabilitation and usual care group, respectively (p=0.977). Patients with secondary ICD indication and patients who were married had more sick days than patients with primary indication and patients who were not married.

**Conclusions:** After first time ICD implantation participants had a mean of 33.8 sick days within the first year. No difference was found between groups. Predictors of number of sick days were secondary ICD indication and being married.

Table 1. Predictors of number of sick days.

<table>
<thead>
<tr>
<th>Predictor</th>
<th>β</th>
<th>(95% CI)</th>
</tr>
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<tbody>
<tr>
<td>Female vs. male</td>
<td>0.1</td>
<td>(-0.4;0.6)</td>
</tr>
<tr>
<td>Age (≥61 vs. ≤60 years)</td>
<td>-0.2</td>
<td>(-0.7;0.2)</td>
</tr>
<tr>
<td>Primary vs. secondary ICD indication</td>
<td>0.4</td>
<td>(0.04;0.8)*</td>
</tr>
<tr>
<td>Not married vs. married</td>
<td>-0.5</td>
<td>(-1.0;-0.1)*</td>
</tr>
</tbody>
</table>

(1) Linear regression model adjusted for gender, age, ICD indication and civil status among patients who worked before ICD implantation.

* Significance level set at 0.05.

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**P92**

**Prenatal genetic testing in long QT syndrome**

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**Background:** A young couple, John and Jane (not their real names), were seen urgently in the inherited cardiac conditions (ICC) clinic. John is a carrier of a pathogenic mutation in the KCNQ1 gene; which causes Long QT Syndrome (LQTS). LQTS is a genetic condition which can cause fatal arrhythmias. John is well and taking beta-blockers. Jane was surprised to find out that she is pregnant and they are worried about their offspring inheriting this genetic condition. As LQTS is an autosomal dominant condition, the risk to the fetus is 50%. Prenatal genetic testing can determine if a fetus is a carrier of this condition.

After thorough genetic counseling, Jane decides to have a prenatal genetic test with a view to terminate a carrier fetus. John respects Jane’s decision but prefers to continue with the pregnancy and test at birth. He felt that the termination of a carrier fetus was akin to rejecting him. A relative of John, who also has LQTS, confided these same thoughts to the clinicians. The fetus was found to be a carrier and was terminated shortly after the results. It was a difficult time for the couple and John’s family and they received support from the ICC team all throughout the process.

**Problems identified & Management:** Several psychosocial issues were identified in this case:

1. The shock and surprise of an unexpected pregnancy and the fear and anxiety of having an affected child
2. Information needed on LQTS including inheritance pattern, variability of symptoms and management
3. Decisions regarding testing and termination needs to be made within a short period of time
4. Conflicting points of view of the couple and potential family conflict due to feelings of rejection

To support the couple and their family, recommended guidelines for genetic counseling were adhered to including thorough discussion of all aspects of LQTS, prenatal testing and ongoing support post-test. Non-directiveness was the overall ethos for counseling and adequate time and access to the team was given at all stages. Confidentiality was maintained for other family members’ concerns and the clinical team supported them individually.

**Conclusion & Clinical implications:** This case highlights the complex psychosocial challenges of patients, their families and clinicians with prenatal genetic testing in ICCs. An established specialised service is key to providing the needs of couples facing this situation.

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**Multidisciplinary outpatient clinic for patients with atrial fibrillation-experienced from patient perspective**

**P93**
Introduction: Studies indicate that patients with atrial fibrillation have a lower QoL compared to patients with other heart diseases. They meet some kind of neglect from the health society and some delay in treatment and care initiation. The interdisciplinary AF-outpatient clinic at Odense University Hospital, Denmark, was established in March 2012, and has in order to qualify patient treatment and care.

Purpose: The aim of the current project is to evaluate the clinic. The study has following questions:
- How do patient and relatives experience consultations in the AF-clinic? (Phase I)
- How do QoL develop over time? (Phase II)
- What economic consequences can be derived from the AF-clinic? (Phase III)

Methods: The first research question (Phase I) includes 14 patients and has been answered by fieldwork and interviews. Afterwards, the ongoing Phase II includes 150 patients who reply the same questionnaire three times over a period of one year. Phase III will be answered through register-based research.

Results: This abstract describes results from Phase I. The patients were unsure what was going to happen during consultations and they have almost no information from GP about AF. The information at the first consultation by the physician was overwhelmingly, and thereby difficult for the patients to be involved in decision-making and to remember afterwards. Several of the patients expressed that they were afraid of dying before the first consultation and were calm knowing it was not going to happen because of AF, but they did not talk about their fear during the consultations - neither by physician nor by nurse. In the following consultations with nurses, focus was on living with and consequences of AF. For some patients, it was a surprise that the following consultations were by nurses. Relatives, when present, were only rarely involved.

Conclusions: The results indicated the importance of more precise patient information about and introduction to the outpatient consultations. Furthermore, disease and treatment information needed to be qualified involving patient perspectives focusing on how they experience AF and how they handle their situation. Moreover, relatives should be involved in the consultations in a more active way.

Introduction: Patients undergoing surgery for the implant of electronic devices, such as pacemakers (PM) or Internal Automatic Defibrillators (IAD) can present complications like surgical site infection, skin reddening, pain and/or discomfort during the dressing changes. All these complications can increase the duration of the hospitalization, the healthcare costs and could alter the patient’s welfare.

Aims: 1. Evaluating the rate of complications in the surgical site and in patient’s comfort after applying a post-operative dressing with Hydrofiber
2. Assessing the rate of dressing changes needed until suture removal, comparing these data with those obtained with the traditional healing wound with sterile gauze and antiseptic solution

Methodology: A prospective evaluation of 328 patients with an implant device (306 PM and 22 IAD) was performed, all of them with a dressing with Hydrofiber after the implantation.

Results: All the patients who were treated with the Hydrofiber dressing kept its structure integral, perfectly adapted to the wound bed. The perilesional skin remained undamaged in all cases, without showing signs of infection, redness or blisters. In just 15 cases was needed the dressing change and the wound healing before the suture removal. 7 patients was a haematoma in the area of the implant. The absence of pain, comfort and the facility of application and removal was valued positively by 95.8% of the patients.

Conclusions: It was observed that the use of a postsurgical Hydrofiber dressing promotes the healing of surgical wounds in patients whom have been implanted a cardiac electronic device. The number of dressing changes was significantly reduced compared with the traditional treatment performed, which implies a reduction in the number of nursing visits and healthcare savings.

Hydrofiber dressing
**Active fixation leads vs passive fixation pacemaker leads, a two sided story of high sensitive cardiac troponine I elevation**

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**Introduction:** Various researchers in the past have proved myocardial damage occurrence due to tranvenous pacemaker leads implantation not only using a histological approach but also by cardiac marker release assessment post pacemaker implantation.

**Purpose:** Our department tested the hypothesis that for a given diameter of leads, different fixation methods would cause cardiac troponine release of different extent.

**Method:** As it is known from previous studies troponin release reach it’s peak at hour 6 post-implantation. High sensitive cardiac troponine I release was measured before and at hours 6 and 24 post-procedure to 71 patients who underwent elective pacemaker transvenous implantation. Patients received either passively fixed electrodes or actively fixed electrodes. Patients who presented with acute coronary syndrome clinical findings or any other cardiac or non-cardiac condition prone to troponine elevation due to causes other than pacemaker implantation were excluded. As myocardial damage was considered a raise of serum myocardial troponine above the 99th % of the upper normal value. The method used for high sensitive cardiac Troponine I levels assessment was chemiluminescent dye immunoassays.

**Results:** All patients who received passive fixation leads presented troponine elevation at 6h post implantation which was significantly higher compared to that of patients who received active fixation leads. CTnI serum levels at 6 h post-implantation were also significantly higher in patients who received passive fixation leads and this hold true for both patients with a single ventricular lead and those with atrioventricular pacing. Troponin levels increased from <0.04 to a median of 0.11, IQR: 0.07-0.17, Range: 0.04-1 at 6 hours (p<0.0001 from baseline). All troponin measurements at hour 24 were significantly lower than those at hour 6 but still higher than baseline.

**Discussion:** In contrast to what it was anticipated, high sensitive troponine release was significantly higher to patients who received passive fixation leads compared to those with active fixation leads. In the upcoming era of leadless pacemaker implantation, the knowledge that a foreign body “screwed” in the endocardium with the use of a spiral actually causes less myocardial damage than a passively fixed one with the use of tines, must be taken into account.

**Tako-Tsubo syndrome in pregnant women. Alleatory study in Barcelona**

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**Introduction:** Tako- Tsubo syndrome as a coronary syndrome can compromise the heart function and give a lot of problems to any health woman. Taking in mind the pregnancy, this syndrome can produce lethal results.

**Aim:** Determine the mortal consequences to the mother and the baby/foetus in a group of patients with the diagnose of Tako-Tsubo syndrome.

**Methods and results:** Our study was a prospective clinical trial involving 50 pregnant women in our hospital and other from Spain. The diagnostic was realized by heart catheterization, the typical findings, echo-cardiography Doppler study and ECG- monitoring. With studied the all- cause hospitalizations, risk factors and treatment. We followed for an average of 12 months. Interactions between age and the following clinical outcomes were examined. The stage of pregnancy had an important roll in our study. We considered the time heart rate control comparing with other studies in health pregnant women. We found a high rate death possibility for women and babies/foetus.

All these findings could be explained by an increase of the systolic dysfunction and the high level of hormones during this period. The arrhythmias were an important part of our study, because many of patients can present accessory pathways and the great quantity of tachycardia sinusal and auricular.

**Conclusions:** Tako-Tsubo syndrome must be considered as an important pathological process leading to death not only to the mother but the foetus also, and provoking ventricular arrhythmias or AV blocked. The cardiologist must take in mind that pregnant woman has an increased level of arrhythmias no lethal, but the dilatation of the chambers can also produce malignant alterations.

The correct use of beta-blockers depending of the pregnancy stage can play an important role in treatment.

**Table 1. Basic clinical characteristics.**

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
<th>Valor P</th>
</tr>
</thead>
<tbody>
<tr>
<td>VAi&lt; 50ml (n=36)</td>
<td>VAi&gt;50ml (n=14)</td>
<td></td>
</tr>
<tr>
<td>Age (years)</td>
<td>45±12</td>
<td>49±16,8</td>
</tr>
<tr>
<td>Sex (M/W)</td>
<td>12/27</td>
<td>15/5,3</td>
</tr>
<tr>
<td>CMI (Kg/m2)</td>
<td>26±6,4</td>
<td>29,4±6,5</td>
</tr>
<tr>
<td>CS (m2)</td>
<td>2,10±0,8</td>
<td>1,97±0,18</td>
</tr>
</tbody>
</table>

Continued
Table 1. Continued

<table>
<thead>
<tr>
<th>Group 1</th>
<th>Group 2</th>
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</tr>
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<tbody>
<tr>
<td>VAI&lt;50ml (n=36)</td>
<td>VAI&gt;50ml (n=14)</td>
<td></td>
</tr>
<tr>
<td>SBP (mmHg)</td>
<td>150±15</td>
<td>145±26</td>
</tr>
<tr>
<td>DBP (mmHg)</td>
<td>68±9</td>
<td>65±15</td>
</tr>
<tr>
<td>LVMi (G/m2)</td>
<td>70±21</td>
<td>110±29</td>
</tr>
<tr>
<td>E/A</td>
<td>0.87±1,08</td>
<td>0.69±0.43</td>
</tr>
<tr>
<td>A (m/s)</td>
<td>0.56±0.21</td>
<td>0.87±0.21</td>
</tr>
<tr>
<td>BB (%)</td>
<td>47</td>
<td>60</td>
</tr>
<tr>
<td>RAI/ARA (%)</td>
<td>66</td>
<td>59</td>
</tr>
<tr>
<td>Diuretics (%)</td>
<td>24</td>
<td>31</td>
</tr>
</tbody>
</table>

Meaning: CS: corporal volume; SBP: systolic blood pressure; DBP: diastolic blood pressure; CMI: corporal mass index; BB: beta- blockers; AIN/RAI: Renin-angiotensin inhibitors, receptors antagonist A.

Acute cardiac care

P100

The three-year follow-up quality of life of patients with acute coronary syndrome after percutaneous coronary intervention: gender differences

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Background: Percutaneous coronary interventions (PCI) is a recognized treatment method for symptomatic ischemic heart disease. Despite the fact that numerous studies describe the influence of the PCI on the quality of life (QoL) of patients after acute coronary syndrome (ACS), only few of them assess the follow-up QoL in relation to gender. The aims of this study were to analyze the dynamics of QoL changes after 36 months from the PCI depending on gender, and identify baseline predictors of the follow-up QoL of patients hospitalized for ACS and subjected to PCI.

Material: The study included 137 patients with ACS who underwent PCI. The patients were divided into women (n=67) and men (n=70). The QoL was assessed using the Short Form 36 (SF-36) Health Survey (the 6-month baseline and the 36-month follow-up). The effects of sociodemographic and clinical factors on the physical component (PCS) and the mental component (MCS) were evaluated.

Results: The group of women scored lower on the PCS and the MCS than the group of men both at the baseline and the follow-up observation. However, the differences were not statistically significant, except for the PCS at baseline (40.1 vs. 48.2; p<0.001). The analysis of the dynamics of changes in physical and mental functioning demonstrated a statistically significant favorable trend in both groups. In univariate analysis lower scores for the follow-up QoL in the PCS were obtained by patients older than 60 years (rho=-0.329) and those unemployed (pension) (rho=-0.252). Significant negative contributors to the lower QoL in the MCS were: professional inactivity (pension) (rho=-0.216) and diabetes (rho=-0.215). Higher QoL scores on the PCS and the MCS were associated with professional activity (rho=0.342 and rho=0.244). In multivariate analysis, a statistically significant independent predictor of a lower long-term QoL in the PCS was age (β=-0.333).

Conclusions: Women with ACS had lower QoL than men, however both groups analyzed in the study showed an upward trend in the QoL level after 36 months from PCI. A statistically significant independent predictor of the lower follow-up QoL in the PCS was age > 60 years.

P101

Burnout among nurses in cardiac intensive care units

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Introduction: The term burnout refers to the syndrome that develops in response to chronic emotional stress and it is characterized by a feeling of dissatisfaction and passive and depersonalized attitude towards others.

Purpose: To investigate and compare the level of burnout among nurses in three intensive care units (Cardiac intensive care unit CCU, Cardiothoracic ICU, Pediatric & congenital ICU) at the same Hospital.

Method: The sample of the study was 170 ICU registered nurses. For the data collection, the Maslach (Maslach Burnout Inventory, MBI) questionnaire, and a questionnaire for the Personnel Satisfaction were used. For the statistical analysis the statistical package SPSS-15 and the statistical tests and t-test, x2 - test, Pearson’s Correlation, Post Hoc Test and ANOVA were used. The statistical significance level set at p <0.05.

Results: From the 126 ICU nurses studied, female were, 73.8%. The burnout was at moderate levels in all three dimensions. Emotional exhaustion was found to be correlated to age, p = 0.031, experience, p = 0.011 and time in the current position, p = 0.031. Nurses working in shifts showed higher rates of total exhaustion p <0.001 while the number of night shifts found to correlated to emotional exhaustion, p = 0.010. The type of ICU also appeared to
post infarction arrest with normal coronaries and delayed heart failure

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Case description: A 43 year old male patient came to the ER with acute severe chest pain that has started since 3 hours. He is current heavy smoker but has no diabetes or hypertension. He is married and have 3 children.

Clinical data: Upon arrival, his blood pressure was 90/60 mmHg, pulse was 103 beats/min and regular and temperature was 37.7°C. His ECG showed extensive anterior STEMI. He started to vomit and his conscious level started to be disturbed.

Management: He was rapidly transferred to CCU until the primary PCI team becomes ready. During his transfer he became shocked and rapidly arrested. CPR started and the patient was monitored and ventilated just upon arrival to CCU. His rhythm was VF, therefore DC shock was administered and resuscitation was continued. The patient regained sinus rhythm but was still unconscious, ventilated and shocked. Troponin I was 6 and INR was 3. The primary PCI team has arrived within 15 minutes. However, due to their started experience in that period especially in cases required intra-procedural IABP and ventilation, and due to the long distance to the nearest experienced center, they decided to conserve the patient. They decided not to apply thrombolytic therapy due to elevated INR and the doubt about his cerebral condition in this coma state. The patient received inotropes, antiplatelet and fluids. 2 days later, the patient was stabilized, weaned of ventilation and regained his consciousness. His echocardiography revealed wall motion abnormalities with preserved systolic function. We decided to do coronary angiography. Surprisingly, the coronaries were completely normal apart from non-significant proximal LAD lesion. The patient was discharged home on full anti-ischemic treatment.

Follow-up: One month later, the patient developed heart failure. Follow-up echocardiography revealed ischemic cardiomyopathy with ejection fraction of 42% and LV apical thrombus.

We added warfarin targeting INR to 2, as well as small dose of diuretics. The patient became stable and is doing well without any other hospital admissions during 2 years of follow-up.

Possible explanation: Spontaneous lysis occurred that should be the cause of recovery of the shocked patient. However, the pathologic infarction process progressed due to delayed spontaneous opening of infarction related artery. This could explain the delayed progression of cardiomyopathy.
**Conclusion & Clinical implication:** Rapid resuscitation and patient care can yield good results. Primary PCI should be applied as possible to avoid post infarction complications and save systolic function. Follow-up is mandatory.

**P104**

Out of hospital resuscitation and myocardial infarction patient: when things go wrong, there is a multidisciplinary team

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**Introduction:** Coronary artery disease is a multifactory syndrome for which both prevention and rehabilitation play a crucial role in patient’s survival and quality of life. We present a case of survival after out of hospital resuscitation due to myocardial infarction and the multidisciplinary approach for the improvement of quality of life.

**Case description:** 36-years-old male patient with known history of Coronary Artery Disease from previous coronary angiography, but with no compliance to medications due to social reasons. Almost a year after his first diagnosis, he suffered a heart attack and collapsed while working and CPR guidelines were immediately performed by a doctor who happened to be present during the incident. At the admission to the ER the ECG had restored to sinus rhythm and indicating STEMI (severe inferior MI). Immediate primary angioplasty was performed placing two stents unblocking the Right Coronary Artery, with good angiographic result, and an IABP was placed.

As soon as he gained consciousness, a number of serious neurological symptoms occurred. Brain scanning and EEG revealed mild dysfunctions of the brain due to reduced supplement of oxygen at the episode of the heart attack. Additionally, due to weaning delay from mechanical ventilation a tracheotomy was performed. In-hospital infection of multi-resistant bacteria (akinetobacter, klebsiella), pressure ulcers (cocyx, heels), increased mobility capacity despite every day respiratory physiotherapy and kinesiotherapy and doubtful level of consciousness was the clinical presentation when discharged to the Cardiology DPT. With respect to the family’s will for no rehabilitation centre the multidisciplinary team, including doctors, nurses, physiotherapists, dieticians, managed to remove the tracheotomy, to heal the ulcers, establish communication, retain sufficient nutritional level and improve mobility skills. Ultimately, the patient was discharged from the hospital sitting on a wheel chair.

**P106**

Are interventions to promote self-management in acute coronary syndrome and type 2 diabetes effective? a systematic review

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**Background:** The prevalence of T2D among individuals with an Acute Coronary Syndrome (ACS) is high and both conditions share similar risk factors, combined interventions to promote self-management behaviours would be logical and urgently needed. Identifying features of successful interventions will inform future integrated self-management programmes.

**Aim:** To evaluate the evidence on the effectiveness of existing interventions to promote self-management behaviour for patients presenting with ACS and T2D in secondary care settings and following discharge.

**Methods:** A review of randomised controlled trails published between 2005-2014, was conducted in the following databases: Ovid Medline, PubMed, CINAHL Plus, PsycInfo, Cochrane Library and AMED. The search was performed using the terms of “Type 2 Diabetes”, “Acute Coronary Syndrome” and “Self-management Intervention” combined.

**Results:** Of the 4275 studies that were retrieved, only 4 studies met the inclusion criteria and were analysed. Interventional group subjects, in some studies, demonstrated a significant improvement in level of knowledge, self-efficacy, HbA1c, BP and fasting glucose test. The results indicate that providing educational sessions supported by a number of multimedia and telecommunication technologies were marginally and partially successful in promoting self-management behaviours for patients with diabetes and cardiac problems and implementation of these combined interventions immediately during a patient’s hospitalisation and following discharge was feasible. However, included studies generally suffered from several threats to internal validity that may compromise the conclusions drawn from included interventions.

**Conclusion:** There was no conclusive evidence to support effectiveness of combined interventions to promote self-management behaviour for patient with T2D and ACS. High quality, well conducted and sufficiently powered studies are required.
P107

Cardiac arrest in the cath lab, teamwork is the key to success. A case study

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A 65 years old hypertensive, diabetic and dyslipidaemic female, was admitted to proceed with coronary angiography, suffering from angina, with a positive SPECT imaging showing ischemia of the middle and apical segments of septal, anterior and posterior LV myocardium. The patient underwent a coronary angiography from the left radial artery, with 5F JL3.5 and JR 4, revealing subtotal occlusion of the middle Left Anterior Descending (LAD) artery and of the first Obtuse Marginal (OM1). Right Coronary artery was non-diseased. A 2 vessel PCI had been proposed. Due to severe left radial spasm and subclavian tortuosity, and patient’s wish, PCI was scheduled 3 days later by femoral approach. Left femoral artery had been chosen due to right iliac and femoral stenosis. A 6 French guiding catheter XB 3.5 had coaxially intubated Left Main (LM). A BMW wire was advanced to the distal LAD. Direct stenting using a 3x28 stent was deployed with a good angiographic result. After wiring the Circumflex (LCx) and OM1 with the same guidewire, and predilating the lesion with a 2x12 balloon a 3x 12 stent was deployed.

After the stent dilatation the patient went to cardiac arrest with pulseless electric activity. CPR and ACLS were performed by the nurses, and the patient was promptly intubated. Angiographic runs revealed no dissection but in situ thrombosis of LM, LAD and LCx along with severe ostial spasm. Under CPR, a second wire was advanced to the distal LAD and mechanical thrombectomy of both vessels had been undertaken. Intracoronary tirofiban was administered. The persistence of severe spasm impeding the flow, led to the decision to inflate balloons from LM to the proximal LAD &LCx at low pressures, followed by kissing balloon, resulting to restoration of the spasm and TIMI III flow under CPR. The patient’s spontaneous circulation returned soon and no further significant lesion to the LM or proximal LAD or Cx had been identified, leading to the decision not to proceed to any stenting at this time. The total time to ROSC was 28 minutes.

The patient was promptly transferred to the CCU under continuous inotropic (Dobutamine) and vasopressor (Noradrenaline) support and systemic Hypothermia was induced. An Echo showed a LVEF of 60% with no RWMA. She was weaned 3 days later, with minimal residual neurological defects, which completely subsided till her discharge 2 weeks later. Prompt initiation of pre – defined CPR protocols in the cath lab by the nursing staff, leaving the interventional team restoring the underlying coronary complication is the only approach to warrant the best outcomes.

P108

Knowledge, attitudes and beliefs of patients with ACS on early seeking for treatment in Cyprus

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Introduction: The knowledge, attitudes and beliefs of patients to the acute coronary syndrome (ACS), are important predictors of delay in seeking treatment.

Aim: The purpose of this study was to assess the knowledge, attitudes and beliefs of patients with ACS on early seeking for treatment.

Methods: it is a descriptive study. The sample of the study was 260 patients with ACS, admitted into the cardiology department of two General Hospitals of the country. For the selection of the group of patients randomly convenience sample was used. The Greek version of acute coronary syndrome response index (Gr-ACSRI) (Fassia 2015) was used for the collection data.

Results: High levels of knowledge of patients for the identification of symptoms of ACS was found to be 66 %. A percentage of 98.8 % of patients had high awareness of symptoms such as “chest pain”, and 96.9 % as “heaviness / burning”. Less than 50 % of the sample correctly recognized the symptom of “sore jaw” and “neck pain”. Only family history appears to increase the attitudes levels (Cohen’s d⩾0.2, p = 0.0001). Higher level of education is associated with higher scores of attitudes towards the ACS (Cohen’s d⩾0.2, p <0.05). Previous history is associated with higher scores of attitudes (Cohen’s d⩾0.2, p = 0.001). History affects the relationship knowledge - beliefs (Cohen’s d⩾0.2, p <0.035).

I Conclusions: The knowledge levels of the patients were found to be low. The highest levels of knowledge have been associated with better attitudes and beliefs. Educational seminars and programmes for informing patients for signs and symptoms of ACS should be applied.

Prognostic value of the thrombolysis in myocardial infarction risk index in non ST segment elevation myocardial infarction patients

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Introduction: The Thrombolysis In Myocardial Infarction risk index (TRI) is a simple metric using baseline age, systolic blood pressure, and heart rate to predict early mortality in patients with ST-segment elevation myocardial infarction (STEMI) (Lancet 2001). The value of the TRI in predicting mortality among patients with non-ST-segment elevation myocardial infarction (NSTEMI) is not well known.

Purpose: evaluate the TRI to characterize the risk of death at 6 months among patients with NSTEMI.

Methods: A prospective observational study was conducted over two years. Patients were eligible for inclusion if the diagnosis of NSTEMI was made (based on anamnestic, clinical, electrocardiographic and biological criteria). The demographics, co-morbidities, clinical and biological data and in-hospital procedures were collected. The TRI was calculated using the equation: [heart rate * (age/10)^2]/systolic blood pressure. The prognosis was based on the evaluation of mortality at 6 months. Receiver-operating characteristic curves and tables were created to establish the optimal cut-off values for this risk score.

Results: Inclusion of 192 patients. Mean age was 63 ± 10 years. Sex ratio = 1.49. Comorbidities n(%): hypertension 121(63), diabetes 96(50), dyslipidemia 57(30), smokers 51(27), known coronary artery disease 67(35).

The overall mortality at 6 months was 8%. The median TIMI risk score (25th, 75th percentile) was 3 (2, 4). When compared to survivors patients, non survivors patients were older (mean 74 vs. 62, p<0.001), had higher rates of hypertension (93% vs. 60%, p=0.01) and had higher median TRI (39 vs. 23, p<0.001).

There was a graded relationship between the TRI and mortality at 6 months in patients with NSTEMI with a cut-off at 30 (p<0.001). The index showed good discrimination with an Area under the curve at 0.86. The sensitivity, specificity, positive predictive value, negative predictive value and the positive likelihood ratio were 66%, 96%, 22%, 96% and 16.5 respectively.

Conclusion: There is a graded relationship between TRI and 6 months mortality in patients with NSTEMI. This simple risk index provides important information about mortality in patients across the spectrum of myocardial infarction: STEMI and NSTEMI. Identification of NSTEMI patients who are at high risk mortality may provide clinicians with important information for better management and treatment.

A rarest case of actinomycosis induced pericardial & pleural effusion

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Background- Actinomycosis is caused by Actinomyces sp., Gram positive, anaerobic or microaerobes colonize the human mouth, GIT and genital tracts. It represent as cervicofacial following dental focus of infection, pelvic actinomycosis in women with an intrauterine device, and rarely cardio-pulmonary actinomycosis in smokers may mimic tuberculosis & malignancy.

Method- Bacterial cultures and pathology are the diagnostic tools, but particular conditions are required get the correct diagnosis. Prolonged cultures in anaerobic conditions are necessary to identify the bacterium and typical microscopic findings include necrosis with yellowish sulfur granules and filamentous fungal-like pathogens.

Clinical case- 27 yrs old male smoker presented with right lower chest pain, shortness of breath & fever last 6 days. O/E dental caries, right chest bulging with diminished breath sounds, leukocytosis, normal ECG, Chest X-Ray - right sided pleural effusion and bilateral opacity & pericardial effusion and confirmed by CT chest. Initially he was suspected as tuberculosis or malignancy based on pleural fluid but ruled out for same due to normal range of ADA & gama-interferon or cytology. finally he was diagnosed as actinomycosis israelii on based of culture. As per antibiotic sensitivity he was treated with imipenum + cilastin inj for 2 wks & support of pericardial & pleural drain followed by oral amoxycilin-clav for 3 wks & other supportives. No surgical interventions were required. After 5 wks follow-up he recoverd clinically & radiologically.

Conclusion- actinomycosis require prolonged high doses of penicillin G or amoxicillin and other sensitives. physician should consider the rarest possibility of cardiopulmonary actinomycosis. Early diagnosis will reduce the hospital stay or mortality.

Chest Xray and CT chest
P111

DM 2, HGA1 or HOMA index - whether they are a better predictors of coronary artery disease and its extensiveness compared to standard risk factors

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Aims: Evaluation of patients with diabetes mellitus type 2 (DM2), HgA1c, HOMA-IR and standard risk factors for CAD (smoking, heredity, hyperlipoproteinemia, arterial hypertension (HTA)), who were sent to a tertiary center for invasive cardiology diagnostics, in assessing the existence of coronary artery disease (CAD) and its extensiveness.

Method: Patients at high suspicion of CAD were evaluated on the basis of laboratory and clinical parameters. After invasive cardiology, diagnostics are divided into a group that do not have/have CAD and is graded in relation to the number of diseased vessels, the one-, two-, three-, four- and more-vessel disease.

Results: The study included 837 patients (60±8year), 76.9% were male. Evaluation of the individual risk factors have shown that HOMA-IR (p=0.761; p=0.415), HgA1c (p=0.208; p=0.345), hereditary (p=0.171 vs. p=0.346), hyperlipidemia (p=0.140; p=0.346), hypertension (p=0.101; p=0.101) had no significant correlation, while DM2 (P=0.0001; P=0.0001), smoking (p=0.002; p=0.0001) had a significant positive correlation with the existence of CAD and its extensiveness. Multivariate analysis of individual risk factors, including clinical and laboratory parameters, showed that only DM2 and smoking are significantly important in predicting CAD.

Conclusion: In our study, after appropriate therapeutic approach, which significantly reduced the number of risk factors, DM2 and smoking were point out, as the only important parameters in assessing the CAD and its extensiveness.

P112

It can happen to you

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Introduction: Nursing is a hazardous occupation especially for those working in labs coming up against radiation among other things.

Case description: The following case involves a male patient 45 years old without previous medical or family history and no risk factors. He has been working in the catheterization lab for the past 20 years and was specialized in the field of arrhythmia. During a typical day at work, and after having participated as circulating nurse in 2 percutaneous Coronary Interventions on patients admitted with Acute Myocardial Infarction, the nurse, who turned into patient, experienced dizziness accompanied with mild dyspnea and low levels of blood pressure. The ECG performed by his colleagues suggested normal sinus rhythm with 34 bpm, therefore he was hospitalized in close monitoring in the open cardiological unit. During the first 24 hours of hospitalization, as he was asleep a sense of dysphoria woke him up, due to sinus bradycardia with 34 bpm and pauses lasting more than 5 seconds. He was immediately transferred to Critical Care where a temporary pacemaker was placed. According to guidelines, coronary angiography was performed, no occlusions were revealed and with pauses continuing until the next day the implantation of pacemaker took place. Further investigation and diagnostic tests were clear with no findings. The patient ultimately discharged without any further complications. Follow up instructions after the implantation was the easiest part of his hospitalization, since he already knew them well.

Conclusions: purpose of this paper is to discuss the differential diagnosis to a healthcare professional who has no other reason, but stress, to develop excessive bradycardia in need of intervention. The recognition of the occupational stress factor as an important determinant of health status is important and the symptom experience during the working time may be more serious than they appear.

P113

Acute care nurses attitudes toward family presence during cardiopulmonary resuscitation in the Kingdom of Saudi Arabia

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Introduction: With the rise of family centered care, family involvement into healthcare decisions has increased and stringent visitation policies have relaxed, to the extent that family presence at bedside during invasive procedures and resuscitation (CPR) is now provided by some healthcare organizations. As such policies have become common practice in many countries, this study sought to explore the attitude of acute care nurses in the Kingdom of Saudi Arabia (KSA) toward family presence during cardiopulmonary resuscitation to enhance our understanding the potential consequences of implementing such policies.

Methods: A sample 192 acute care nurses were recruited using convenient sampling. Instruments used were Demographic Data Form, and the Family Presence Support Staff Assessment tool (FPSSAT).
**Results:** Results indicated that nurses had a positive attitude about family presence. Several answers emerged from the open ended question data. Major concerns of nurses were the safety of patients and patient families, performance anxiety, emotional effects on families, and the endangerment of misplacing their abilities while caring for patients.

**Conclusions:** More research is needed on family presence during CPR in Saudi Arabia. Besides surveying healthcare providers, the attitudes of patients and families should be studied.

**Psycho-social**

**PI116**

**Guided Internet-delivered cognitive behavioural therapy in patients with non-cardiac chest pain: a pilot randomized controlled study**

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**Background:** Patients with recurrent episodes of non-cardiac chest pain (NCCP) suffer from cardiac anxiety as they misinterpret the pain as being cardiac-related and avoid physical activity that they think could threaten their life. This could lead to increased healthcare utilization and costs. These patients might benefit from help and support to evaluate the perception and management of their chest pain.

**Objective:** To test the feasibility of a short guided Internet-delivered cognitive behavioural intervention and the effects on chest pain, cardiac anxiety, fear of body sensations and depressive symptoms in patients with NCCP compared to usual care.

**Methods:** A pilot randomized controlled study was conducted. Fifteen patients, 9 men and 6 women between the age of 22 and 76 (median age of 66 years, q1-q3 57-73) were randomly assigned to either intervention (n=7) or control (n=8) group. Patients had recurrent NCCP and suffered from cardiac anxiety or fear of body sensations. The intervention consisted of a 4-session guided Internet-delivered cognitive behavioural therapy program containing psychoeducation, exposure to physical activity, and relaxation. The control group received usual care. All patients completed a web-based questionnaire on socio-demographic variables, chest pain frequency, cardiac anxiety, fear of body sensations, and depressive symptoms.

**Results:** Five out of the 7 patients in the intervention group completed all sessions as planned and two completed only parts of the program. The program was perceived as user-friendly with comprehensible language, adequate and varied content, and manageable homework assignments. The patients were engaged in the program for about 45-60 minutes per day and about 22 minutes therapist time was required to guide, support and give feedback to each patient throughout the program. Participating in the program empowered and motivated many of the patients to be active and complete the program. In general, patients in both the intervention and control groups improved with regard to chest pain frequency, cardiac anxiety, fear of body sensations, and depressive symptoms, but there were no significant differences between the groups.

**Conclusions:** A short guided Internet-delivered cognitive behavioural therapy program was feasible. Patients in both the intervention and control groups improved with regard to chest pain frequency, cardiac anxiety, fear of body sensations, and depressive symptoms, but no significant differences were found between the groups. Patients should be followed-up for longer periods to measure the long-term effects of the intervention.
Health-related quality of life after on-pump and off-pump coronary bypass surgery: five-year outcome
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Background: Off-pump coronary bypass surgery (OPCAB) has achieved similar short-term outcomes compared to on-pump coronary bypass grafting (CABG). However, OPCAB surgery demands maximized technical proficiency operating on a moving field and concern remains about its overall benefit. The aim of this prospective study was to compare long-term quality of life (QoL) after OPCAB and CABG surgery.

Methods: Disease-specific QoL was evaluated at baseline and at one and five years after surgery with the MacNew Questionnaire in patients allocated to myocardial revascularization with either CABG (n=42) or OPCAB (n=60) surgery. Of 102 participants, 4 had died within one year; of the 98 survivors, all responded [100%; 58 OPCAB and 40 CABG].

Results: Baseline sociodemographic and clinical characteristics were balanced between respondents in the two treatment groups. Scores for physical, emotional and social function as well as quality of life improved significantly for both treatment groups at one year and five years. At one-year follow-up QoL scores for both groups did not differ significantly for all dimensions evaluated. After a mean follow-up of 60±8 months, physical domain (6.05±0.14 vs 6.39±0.19; p<0.0001) and emotional domain (6.58±0.17 vs 6.77±0.19; p<0.0001) were significantly better after OPCAB than CABG surgery. CABG patients were significantly impaired in global quality of life (6.36±0.11 vs 6.62±0.13; p<0.0001) than OPCAB patients, as well as in the social aspect of quality of life (6.37±0.12 vs 6.65±0.19; p<0.0001).

Conclusions: Short-term disease-specific health status improved similarly in OPCAB and CABG groups, whereas long-term QoL was better after OPCAB than CABG surgery.

Predisposing factors of persistent symptoms of depression and anxiety among patients with acute coronary syndrome

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Background: Depression and anxiety are highly prevalent in patients with acute coronary syndrome (ACS) contributing to poor health outcomes such as mortality and re-hospitalization. Several studies have also demonstrated a relationship between depression and anxiety and cardiac events in patients with ACS. However, substantial morbidities arise from those patients who persistently suffer from these disorders. Purpose: The primary objective of this study was to determine the predisposing factors of persistent symptoms of depression and anxiety among patients with ACS.

Method: A total of 1199 patients participated from five hospitals in Dublin, Ireland. Logistic regression analyses were used to determine the predisposing factors of persistent symptoms of depression and anxiety. Predisposing factors included age, gender, body mass index, education level, marital status, smoking history, and diabetes history, history of coronary bypass graft (CABG), stroke, or ACS, baseline knowledge, attitudes and beliefs. We also controlled for baseline anxiety when investigating persistent depression and for baseline depression when investigating persistent anxiety. Patients who been depressed or anxious at baseline and three months follow-up were considered to have persistent depression or anxiety.

Results: Older age (β 0.98; 95% CI: 0.96 – 1.00; p = 0.040), female gender (β 1.99; 95% CI: 1.30 – 3.05; p = 0.002), history of CABG (β 2.10; 95% CI: 1.18 – 3.71; p = 0.011), history of non ST elevation myocardial infarction compared to other ACS (β 1.78; 95% CI: 1.04 – 3.06; p = 0.037), and baseline anxiety (β 1.40; 95% CI: 1.14 – 1.56; p <0.001) were significant predictors of persistent depression. Furthermore, older age (β 0.98; 95% CI: 0.96 – 1.00; p = 0.030), female gender (β 1.98; 95% CI: 1.22 – 3.20; p = 0.005), and baseline depression (β 1.24; 95% CI: 1.14 – 1.36; p <0.001) were significant predictors of persistent anxiety.

Conclusion: Health care providers need to take into consideration the predisposing factors of persistent depression and anxiety to pre-intervene and prevent morbidities associated with these disorders.

Younger patients’ experience of living with mechanical cardiac support

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Congestive heart failure is increasing in younger patients aged 18-44 years. Life-threatening heart failure may occur and a heart-transplantation can be needed. Treatment with mechanical circulatory support (MCS) may be necessary for the patient to survive until the transplantation. Previous research has briefly described how younger patients react with shock and difficulties in adapting to their pre-modified body and self-image, but some adapting to the changed life situation nevertheless occurs gradually. Perceived self-efficacy plays a crucial role in how to handle stress reactions. Knowledge about what treatment with MCS means for younger patients is limited.

**Aim:** To describe the younger patients’ experiences of living with MCS with focus on self-efficacy.

**Method:** An interview study with qualitative approach. A pilot study with three interviews was conducted to test the feasibility of the method. The informants had been treated with mechanical heart pump, Excor® and they had been transplanted several months earlier when the interview took place. The ages of the informants were between 21-36 years. The interview took place within one year after the heart transplantation. They were treated and lived with Excor® 6-9 months before being transplanted. Data was analyzed using qualitative content analysis.

**Results:** Three main themes and associated subthemes were identified: To suddenly find yourself in an altered reality’s describes an experience of a foreign body, a lost empowerment and the need to mourn their broken hearts. Finding the strength to fight for your life describes how informants were struggling to become confident with the technology and coping to suffer through, as well as how they felt hope and confidence. Needs for overcome loneliness and to regain control of the situation are also important. Getting strength from your surroundings describes the support from the environment and the importance to rest from the disease but also how informants suffered when they treated with incomprehension.

**Conclusion:** Caregivers should be aware of the different phases patients living with MCS undergo, so they can sensitively support patients’ to increase the probability of regain control over the situation. By strengthening patients’ self-efficacy, patients can experience their changed reality as manageable and controllable, with increased well-being as a result.

**Background:** As a result of extended life expectancy the prevalence of cognitive impairment (CI) is still progressive. Furthermore, it is associated with reduced quality of life (QoL), especially in cardiovascular patients, including acute coronary syndrome (ACS). It can be notice that CI affects many aspects of biopsychosocial functioning of elderly patients with ACS.

**Purpose:** To assess the prevalence and factors related to CI and QoL among the elderly patients with ACS.

**Methods:** 100 patients aged >65 y/o, hospitalized for ACS (defined by presently approved criteria), who gave informed consent to participate were administered: the MacNew Questionnaire (MNQ) to assess QoL and the Mini-Mental State Examination (MMSE) – a screening test to measure cognitive function, at discharge.

**Results:** The mean (SD) age of patients was 76 (8) y/o (52% were men) with ACS who underwent: percutaneous coronary intervention (PCI) 72%, conservative therapy 18%, surgical revascularization 10%. The average value of points of MMSE was 23.9 (SD=4.2) and 44% with CI (MMSE<24). The result of MNQ was 4.4 (SD=0.8), where women had lower QoL than men (4.32 vs 5.13; p<0.001). Correlation analysis showed that the younger the patients were, the higher level of QoL (r=-0.24; p=0.019) and the lower degree of CI (r=-0.46; p<0.001) they had. Additionally, positive correlations were demonstrated between higher MMSE score and higher MNQ emotional and global domains (r=0.35; p<0.001 and r=0.30; p=0.002, respectively). Certain socio-demographic and clinical factors had positively affect QoL or CI, as: married (4.97±1.06; p=0.029; 24.80±4.29; p=0.037), education (rS=0.38, p<0.001), hypertension (rS= -0.22; p=0.027), PCI (24.49±3.98; p=0.039). The multiple regression model, where predictors were the domains of QoL and the dependent variable was the general level of CI, was found to be statistically significant: F(1,98) = 13.40; p<0.001. It explained 11.1% of the observed variance of the dependent variable (adjusted R-square = 0.111). Regression analysis showed that emotional domain was an important predictor of the dependent variable: the overall level of CI. Beta coefficient value (0.347) indicates that based on the higher value this domain can provide a higher general level of CI.

**Conclusion:** Cognitive impairment has the influence on Quality of Life in the elderly patients with ACS. The screening of CI in elderly patients with ACS should be recommended because it will contribute to the identification of those who are in need of biopsychosocial intervention or implementation of preventive strategies.
The effects of psycho-social intervention on treatment expectations and satisfaction among the family members in ICU

L Tsiprun and L Yancovich

Abstract

Families of patients in the ICU endure great stress. Despite the critical illness of a loved one, they must continue to work, pay bills, and fulfill other obligations. Increasingly, they also are asked to make important treatment decisions, including whether it is appropriate to withhold or withdraw life-sustaining treatment (Abbott et al, 2001).

Today there is a systematic routine for guidance of patients and their family members. There are written and computerized resources designed to facilitate the patients and their families. However, for some members of the families, these tools are insufficient to cope with hospitalization and serious illness of their loved one. Therefore a special project that includes Psycho-Social Intervention for family members of patients in ICU was established. The intervention is based on a model by M. Drory (2001) that is adjusted to the hospital conditions. The intervention is carried out as part of the group sessions guided by a nurse. The project is followed by interventional research in an attempt to check the impact of the Psycho-Social Intervention on the family’s treatment expectations and satisfaction in ICU. Treatment expectations examined by Credibility/expectancy questionnaire (Grant et al. 2000) and Satisfaction questionnaire for the assessment of family satisfaction in the Intensive Care Unit –FS-ICU-24 (Wall et al. 2007). During the period from November 2014 to May 2015, 53 family members took part in the research. The results of the study found a statistically significant increase in scores of treatment expectations and satisfaction after Psycho-Social Intervention. However, the study found no significant change in decision-making process satisfaction after the intervention. Also the study found a positive significant correlation between treatment expectations and treatment satisfaction in all phases of the research. The findings make it possible to recommend the Intervention as a tool to improve family’s treatment expectations and satisfaction in ICU. It’s important to note that the research is continuing and the number of participants is expected to rise.

Personality characteristics and quality of life in patients with chronic coronary artery disease in the context of patient-centered approach to health care

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Background: The competences of a nurse could be used to not only assist therapy but also in training patients on how to manage the disease, motivating and supporting them in changing their life styles and coping with stress and anxiety. So far, these aspects of health care have not been sufficiently developed in Bulgaria.

The purpose of this study was: to examine certain personality characteristics and the quality of life of persons with chronic coronary artery disease, and to identify the obstacles at individual and organizational levels that hinder the application of a patient-centered approach to health care.

Methods: The study sample included 146 patients with chronic coronary artery disease. The following assessment tools were used: EQ-5D-3L questionnaire for identification of the quality of life; DS-14 scale for identification of individual characteristics; a questionnaire for identification of the level of anxiety. A focus group study was conducted with the participation of nurses to discuss obstacles relating to the application of a patient-centered approach in health care.

Results: The results from the EQ-5D questionnaire revealed issues of more than half of the respondents: pain/discomfort 75.4%, mobility 67.1%, difficulties with daily routine 52.1% and anxiety in 60.3%. Significant differences were discovered between the quality of life and the distribution of patients by age: mobility (p<0,001, \( \chi^2=14,05 \)); self-care (p=0,001, \( \chi^2=18,52 \)); usual activities (p=0,001, \( \chi^2=20,66 \)); pain/discomfort (p=0,004, \( \chi^2=17,16 \)); anxiety (p=0,001, \( \chi^2=15,10 \)). Mean results of dimensions defining type D personality in the studied patients: negative affectivity (12,44±6,68), social inhibition (10,26±5,86). Significant differences were found between quality of life in the three studied fields and type D personality: self-care (p=0,001, \( \chi^2=13,36 \)); pain/discomfort (p<0,001, \( \chi^2=16,19 \)); anxiety (p<0,001, \( \chi^2=16,72 \)). The discussion in the focus group led to the following conclusions: the training of patients with chronic diseases is limited, there are no multidisciplinary teams for complex treatment, and nurses play a minimal role in this process.

Conclusion: The quality of health care is related to obtaining information about the disease, further training on handling difficulties in daily routine, and support to patients in adapting to the disease. The impact of personality characteristics and of the psycho-emotional status is often overlooked by medical specialists.

Quality of life in patients with congestive heart failure

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**Introduction:** The traditional objective goal in the treatment of congestive heart failure is to relieve symptoms, improve prognosis, maximize functional ability in daily life and generally to achieve good quality of life, within the specific limits imposed by the situation of health. The assessment of quality of life is a relatively new scientific tool to evaluate effectiveness of treatment strategies and the course of the disease.

**Aim:** To assess quality of life in patients with congestive heart failure.

**Methods:** The sample study included 60 patients with congestive heart failure, who were treated in clinical departments of public hospitals. The data were collected by using the self-completed questionnaire “Minnesota Living with Heart Failure Questionnaire”, (M.L.H.F). Analysis of data was performed using the SPSS 13 statistical package.

**Results:** From the 60 patients studied with congestive heart failure, percentage of 66.7% was men and 39.3% women. Statistic analysis of data revealed that participants of older age evaluated more negatively the physical and emotional dimensions of the disease on their quality of life. Unmarried participants, evaluated more negatively the quality of their life compared to married, as well as the participants of basic education compared to those of secondary or higher/university education. Regarding the severity of the disease, participants of Ν.Υ.Η.ΑΙ functional class significantly differed to those of Ν.Υ.Η.ΑΙΙ and Ν.Υ.Η.ΑΙΙΙ and IV.

**Conclusions:** Quality of life of patients with congestive heart failure is influenced by demographic and clinical features. These factors must be seriously taken into account at the planning of treatment schedules.

**Biological markers of sleep disorders as one of the risk factors of cardiovascular diseases**

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**Objective:** to study the association polymorphism- G308A gene tumor necrosis factor TNF-a and sleep disorders in the open population of men aged 25-64 metropolis of Western Siberia.

**Methods:** This work is made using a material III screening as part of the WHO program “MONICA-psychosocial” representative sample of men 25-64 years of open population of Siberia, made in 1994 (n = 657 men, mean age - 44, 3 ± 0,4 years, The response - 82.1%). To assess the level of sleep questionnaire was used, which is filled with the subjects themselves. It was suggested that the question of how do you sleep? Possible answers: “very good”, “good”, “fair”, “poor” and “very bad”. Genotyping of the studied polymorphism-G308A gene tumor necrosis factor TNF-a was conducted in the laboratory of molecular genetic studies of Internal Medicine SB RAMS (Head. Lab., MD Maximov V). Statistical analysis was performed using the software package “SPSS-11.5”.

**Results:** The level of sleep disorders in the male population aged 25-64 was as follows: 48.3%: assessment of sleep “satisfactory” - 39.6%, “bad” - 7.6%, “very bad” - 1.1%. Genotype G / G gene TNF-α occurs in 79.1% of individuals, genotype A / G - in 19% of cases and genotype A / A at - 1.9% of men. Among genotype G / G gene TNF-α, as compared to all other genotypes carriers much more common sleep evaluation “good” (98.3%). In contrast, among the carriers of heterozygous genotype A / G gene TNF-α, as compared with carriers of all other genotypes, often dream was “satisfactory” (30%) than “good” (15.2%).

**Conclusion:** The significant association was found between the level of sleep disorders and certain polymorphism - G308A gene tumor necrosis factor TNF-a.

**Prevention and rehabilitation from knowledge to practice**

**Impact of encounters with healthcare professionals on perceived ability to return to work in people on sick leave due to heart failure**

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**Background:** Heart failure limits everyday life which implies a risk for long-term sick leave Work fulfills important psychosocial needs for people’s identity, social roles and social status. Thus, being unable to work due to failing health can lead to stigmatization and social exclusion. Previous studies have shown that encounters between healthcare professionals and sick-listed people are significant for perceived ability to return to work. However, knowledge about factors associated with return to work in relation to heart failure is scarce.
**Purpose:** The aim of the present study was to investigate associations between experiences of positive and negative encounters with healthcare professionals, and the encounters’ impact on the perceived ability to return to work in a population of people on sick leave due to heart failure.

**Methods:** This was a Swedish population study with a cross-sectional design. A total of 590 individuals (men 70.2%, age 23 to 67 mean 58.2, median 60.0, SD = 6.8) responded to a questionnaire (response rate 45.8%). The respondents were asked to answer to what extent they agreed or disagreed to different statements about positive and negative encounters. They were also asked to answer questions about their perceptions about how positive and negative encounters, respectively, had affected their ability to return to work. Correlations between variables were investigated using the Spearman bivariate analysis. For variables with significant correlations, logistic regression analyses were conducted.

**Results:** Almost half of the respondents (n=255; 43.2%) agreed that their perceived ability to return to work was facilitated by positive encounters with healthcare professionals while 34 (5.8%) agreed that negative encounters with healthcare professionals had impeded their perceived ability to return to work. The positive encounter “Believed in my ability to work” had significant highest odds ratio with being facilitated back to work.

**Conclusion(s):** The nature of heart failure implies difficulties to remain active in working life. Work is generally positive for peoples’ health and well-being. Healthcare professionals can support heart failure patients’ return to work by showing that they believe in their ability to go back to work.

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**Depression amongst cardiovascular patients in the Middle-East: The impact of sex, age and socioeconomic factors**

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**Background:** Depression is associated with cardiovascular diseases. Early detection and intervention for depression among cardiovascular (CV) patients can reduce morbidity and mortality rates. Understanding sex, age and socioeconomic differences is necessary to adequately address the complex nature of depression as co-morbidity among Arab CV patients in the Middle East.

**Purpose:** To evaluate the prevalence of depression and to investigate the association between sex, age, socioeconomic factors and depression among Arab cardiovascular patients.

**Methods:** Using an Arabic demographic questionnaire and the Arabic version of the Beck Depression Inventory 2nd Edition, a cross-sectional survey was conducted with 1000 Arab cardiovascular patients in Qatar (response rate 98%; 69% males and 31% females). χ² tests were applied to test for associations between sex, age, and socioeconomic factors and dependent variable (clinical classification of BDI-II scores - i.e. Normal ≤10, Mild 11-16, Depressed ≥17). All statistical tests were two-sided with significance established at an α of 0.05.

**Results:** 80% of the patients had no depressive symptoms, 20% of the patients suffered ‘mild mood disturbance’ and clinical depression. Almost twice as many females (28%) than males (17%) were assessed having depression. Chi-square tests indicated that sex, age and socioeconomic factors such as nationality, marital status, monthly income, employment, occupation, financial stress and support were significantly related to depression (p<0.001 for all).

**Conclusion:** Routine systematic screening for depression is recommended for all CV patients, especially for patients of working age groups, unemployed and female. Although the State of Qatar has the world’s fastest growing economy (19.4% in 2010) and the highest gross domestic product (GDP) per capita due to its abundant oil and natural gas revenues and health care services in Qatar are heavily subsidized, socioeconomic factors influence male and female CV patients’ mental health differently, thus their CV conditions and outcomes. To effectively manage depression among Arab CV patients, health care providers should be aware and integrate socioeconomic status, gender, and age differences approach into their clinical practice.

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**2D Speckle tracking confirms normal myocardial function in renal transplant recipients submitted to a physical exercise program**

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**Purpose:** Left ventricular (LV) function is normally improved after renal transplant, but cardiovascular mortality remains elevated. No data is available about the possible influence of...
a regular moderate physical activity in myocardial function after a period of moderate of physical activity programme. The study aims to verify the information by traditional and not traditional echocardiographic parameters.

**Methods:** From a large cohort of subjects submitted to an exercise as prescription program, a group of 20 renal transplant recipients have been studied since January 2013. At the beginning of the study, after 6 months of exercise and at 12 months of the protocol, they underwent to echo evaluation (ESAOTE My-Lab), Cardiopulmonary Test (CPET), ECG, skin fold, bioimpedance analysis and stress test for the lower and upper limbs. At the end of the study, by the Esaote XStrain dedicated software, the deformation parameters were also calculated.

**Results:** All the echocardiographic parameters maintain the normal values during the exercise as prescription program. EF increased significantly (from 63.38±4 to 67.30±5.9 with p<0.05); the anaerobic threshold improves from 14.48±6.3 to 20.24±3.7 (p<0.05) with good stress tolerance estimated by CR10 scale; the weight decreases significantly (70.06 Kg to 65.03 Kg) as for skin folds at pectoral level (p<0.002). Particularly the Longitudinal Strain values were within the normal and validated range at the end of the study (-17.95% ±-4.28), with respect of the normal and validated values. The Lo Strain values of the segmental walls of the LV chamber at basal level (-14.46±5,55;−12,08±5,21) and at apical level (−22.8±4,08;−26.89±-7,02) were also normal. A significant difference of the values between basal and apical segments, was found.

**Conclusions:** Physical training plays a role in preserving cardiovascular performance in post renal transplantation. Echocardiography, particularly deformation parameters demonstrate, in addition to the standard parameters, the positive impact of regular mixed exercise.

**Impact of level of knowledge on compliance of heart disease patients with medication**

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**Introduction:** Many patients with ischaemic heart disease do not succeed to approach the goal of their therapy, especially due to their inability to adequately comply with their prescribed medication. The coexistence of many risk factors increases the number of prescribed medications and the level of knowledge of those factors can influence the way of which patients with coronary heart disease deal with the medical guidelines.

**Aim:** of this study is to explore the level of knowledge of risk factors and the compliance with medication and the attainment of therapeutic goals.

**Method:** A non-experimental descriptive correlational study with personal interviews was conducted. The participants answered a short questionnaire on general knowledge questions and a short interview, after an informed consent.

**Results:** The sample of this study included 70 male and 10 female participants who had undergone PTCA or CABG, with mean age 66.91 (range 42-85) years. The awareness of risk factors and general knowledge varied on the participants’ individual health condition and personal characteristics. Specifically, patients with diabetes where more aware of the role of hyperlipidemias (p=0.029), of diabetes mellitus (p<0.001) and exercise (p=0.006), where patients with dyslipidemia had general awareness of the role of obesity (p=0.010) and dyslipidemia (p<0.001). The awareness of stress as a risk factor had a statistically significant positive co-relation to patients that had a positive family history (p=0.023) and also to younger patients (p=0.017). The participants’ gender and educational level had no effect on the understanding of the disease or the life changes needed. The highest compliance was to the adjustment-modification of lipids/ cholesterol at a percentage of 68.8% of the patients, followed by the compliance with more exercise (38.8%), reducing stress (36.3%) and stop smoking (36.3%). The lowest compliance was achieved in glycemic control in diabetics (15%). Known risk factors such as diabetes, dyslipidemia, hypertension did not affect the compliance rate, with the exception of diabetics complying with exercise guidelines (p=0.025) and smokers regarding dietary modifications (p=0.049).

**Conclusion:** The compliance with medical treatment after an ischaemic heart episode is a complex, multifactorial problem, affected by the understanding of risk factors and the need for life changes, while ongoing education and follow up of the patient needs to focus on risk factors with a high compliance rate such as dyslipidemia and hypertension, as well as on low compliance ones, such as diabetes and stress.

**Level of knowledge among cardiac health care professionals regarding sexual counseling of post-MI patients in three tertiary care hospitals in Pakistan**

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**Introduction:** Many MI patients in three tertiary care hospitals in Pakistan do not succeed to approach the goal of their therapy, especially due to their inability to adequately comply with their prescribed medication. The coexistence of many risk factors increases the number of prescribed medications and the level of knowledge of those factors can influence the way of which patients with coronary heart disease deal with the medical guidelines.
**Introduction:** Health care professionals’ (HCPs) role in providing sexual counseling is essential in many chronic diseases, including Myocardial Infarction (MI). It is increasingly recognized that sexual counseling is an essential component for HCPs to address, in order to provide holistic care to the patients. Despite the widely acknowledged significance of HCPs’ role in providing sexual counseling to post MI patients, this sensitive area has often remained neglected in practice and research.

**Purpose:** To measure the level of knowledge among cardiac HCPs regarding sexual counseling of post-MI patients. The study also aimed to explore the level of knowledge amongst physicians and nurses, between male and female HCPs, between experienced and novice HCPs, and between those working in private and government hospitals.

**Design:** Descriptive cross-sectional study.

**Method:** This study was conducted among 225 health care professionals at 3 tertiary care hospitals of a large metropolitan city of Pakistan. Knowledge was measured using a revised version of the questionnaire adopted from Ozdemir and Akdemir (2008) study.

**Result:** The findings revealed that the mean total knowledge score for sexual counseling of post MI patients was significantly higher among physicians than among nurses. The level of knowledge among HCPs working in private health care settings was higher than those working in the government setting.

**Conclusion:** The mean level of knowledge regarding post-MI sexual counseling is higher among physicians than nurses, and both the groups have different knowledge scores on study specific questions. The findings of the current study may be of value for other studies on the same subject. With respect to Pakistan, this was a baseline study and may provide insights for designing interventional or qualitative studies in the future.

**Dexmedetomidine and Risperidone for the reduction of delirium after cardiac surgery: systematic review**

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**Background/Introduction:** Cardiac surgery is associated with a high risk of cardiovascular and other complications that lead to increased mortality and healthcare costs. Delirium is a common complication after cardiac surgery and may be partly related to the systemic inflammatory response triggered by the surgery and the use of cardiopulmonary bypass.

**Purpose:** The current systematic review aims to indicate the evidence on the use of dexmedetomidine and risperidone for the reduction of the incidence of delirium after cardiac surgery.

**Methods:** The research was conducted through electronic database research up to October 2015. Randomized controlled trials relevant to the use of dexmedetomidine and risperidone used for the reduction of delirium after cardiac surgery were selected, with selection criteria studies with concern to adults and published in English.

**Results:** Six studies were finally included in the current systematic review, four relevant to the use of dexmedetomidine and two relevant to risperidone for the reduction of delirium. Postoperative use of dexmedetomidine as sedative agent after cardiac valve surgery leads to lower incidence of delirium compared to the use of propofol or midazolam. However, when dexmedetomidine was administered in continuous infusion for short-term sedation after cardiovascular surgery did not reduce the incidence of postoperative delirium but limited its duration compared to propofol or morphine infusion. Moreover, perioperative dexmedetomidine use was associated with decreased incidence of postoperative delirium in patients undergoing cardiac surgery. A single dose of risperidone soon after cardiac surgery with cardiopulmonary bypass reduced the incidence of postoperative delirium and it was also associated with significantly lower incidence of delirium when administered to elderly patients who experienced subsyndromal delirium after on-pump cardiac surgery.

**Conclusion:** Although the postoperative administration of dexmedetomidine does not reduce the incidence of delirium after cardiac surgery, it limits its duration. A decrease in postoperative delirium incidence is achieved when dexmedetomidine is administered perioperatively. Risperidone has positive effects on postoperative delirium reduction.

**Effectiveness of an exercise-based physiotherapy programme on exercise capacity after an acute coronary syndrome**

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**Background/Introduction:** Cardiac surgery is associated with a high risk of cardiovascular and other complications that lead to increased mortality and healthcare costs. Delirium is a common complication after cardiac surgery and may be partly related to the systemic inflammatory response triggered by the surgery and the use of cardiopulmonary bypass.
Background: Physiotherapy programmes based on exercise activities are commonly used in order to treat patients with cardiac diseases. Nevertheless, the impact of exercise-based physiotherapy programmes on exercise capacity of old people with acute coronary syndrome (ACS) is underinvestigated.

Purpose: The aim of this study was to evaluate whether an exercise-based physiotherapy programme (EBPP) for old patients with ACS can help to improve exercise capacity.

Methods: A prospective cohort study of 90 patients admitted to a tertiary hospital for acute coronary syndrome was conducted. The study population had a mean age of 69.2±4.9 years. Most of patients were men (75.5%). Informed consent was required to all patients. Participants were randomly allocated to a control group (CG, n=45) or to an EBPP (n=45). EBPP included aerobic exercises at moderate intensity during one hour, including a warm-up and a calm-down, at the rate of one session a week. Exercise capacity was measured by the Incremental Shuttle Walking Test (ISWT) at week 0 and at week 24. Differences by group were assessed by Student’s t-test and significance level was set at 0.05.

Results: All patients completed the training sessions without any adverse event. At the beginning, there were no statistically differences between CG and EBPP (374.96±199.564 meters [m] vs. 333.56±145.120 m, respectively, p=0.264). However, at the end of treatment, exercise capacity significantly improved in EBPP compared to CG (501.11±194.214 m vs. 338.18±174.779 m, respectively, p=0.000).

Conclusions: According to our results, this exercise-based physiotherapy programme reflects an improvement of exercise capacity in old patients with ACS and therefore may be widely used in this group of patients.

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the analysis of chronic wound occurrence among patients during stage II rehabilitation and their influence on the rehabilitation process

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Infections related to surgical procedures however possible to avoid are the most common complications. Depending on the type of the surgical procedure, wound cleaness and operation field cleaness the infections occur with various frequency.

The hospitalization time which is getting shorter, especially after cardiac procedures, increasing age of patients related to coexisting illnesses gradually increase the existence of infected wounds among patients treated in rehabilitation hospitals.

Aim: The aim of the study was to determine types of wounds, length of the treatment and their influence on the rehabilitation process.

Methods: retrospective analysis of medical files of patient hospitalized in Upper Silesian Rehabilitation Center “Repty” in Poland, I-st Cardiac Rehabilitation Unit with respect to treatment methods used to cure chronic wounds and factors influencing wounds treatment.

Results: In the year 2014 on I-st Cardiac Rehabilitation Unit chronic wounds occurred in 294 patients. 14 cases were related to PCI intervention, 174 to CABG, 41 to valve implantation, 11 to valve implantation and CABG. In 54 cases the chronic wounds were not related to previous surgical procedures. Patient were aged 35 to 90 years old. The examined group consisted of 92 women and 202 men. 82 patients had wounds on upper limbs, 34 patients had wounds related to sternotomy and lower limb wound, 151 patients wounds after sternotomy, 27 patients other types of wounds i.e. bedsores on buttocks or heels. The time of wound treatment varied between 6 and 40 days, median of 12 days. All of the wounds were successfully treated. 154 wounds were subject to surgical consultation. 93 patients were treated for diabetes.

Summary: Taking into consideration the frequency of operation field infections and severe health related results for patients an observation of infection risks is conducted with special focus on modifiable risk factors involved. The literature analysis allows to formulate conclusions stating, that common source of infection is related to patients own physiological flora i.e. bacteria inhabiting patients skin. Possible actions to minimize infection risks include shorter hospitalizations and preventive eradication of MRSA from patient mucous membrane, a number of hygienic procedures before the surgical procedures and intensified preventive care.

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The impaired immune pattern of circulating microparticles in patients with diabetes mellitus with asymptomatic atherosclerosis

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Background: Accelerating atherosclerosis in type 2 diabetes mellitus (T2DM) patients may relate to imbalance between pattern of micro particles (MPs), which are frequently involved in repair of vasculature, tissue injury, inflammation and thrombosis.
The aim of the study: to investigate the pattern of circulating MPs in T2DM patients with asymptomatic atherosclerosis.

Methods: a total of 103 patients with T2DM (54 subjects without documented coronary atherosclerosis and 49 patients with angiographic evidence of asymptomatic coronary atherosclerosis) who were underwent a contrast-enhanced multi spiral computer tomography angiography and 35 healthy volunteers were enrolled in the study. To determine circulating biomarkers, blood samples were collected at baseline. MPs were labeled and characterized by flow cytometry.

Results: There were no significant differences between healthy volunteers and T2DM patients in circulating numbers of MPs labeled as CD41a+, CD64+, CD144+, CD144+/CD31+, Annexin V+, CD144+/annexin V+, and CD144+/CD31+/annexin V+. However, lower number of MPs with immune phenotypes CD62E+, C105E+ and higher numbers of CD31+/annexin V+ MPs were reported in T2DM patients when compared with healthy volunteers. Therefore, we found an increased level of circulating CD41a+ MPs, CD144+/CD31+ MPs, CD31+/annexin V+ MPs, and decreased level of CD62E+ MPs in T2DM patients with asymptomatic coronary atherosclerosis in comparison with those who had no asymptomatic atherosclerosis. Using multivariate log regression analysis, BMI (odds ratio [OR] = 1.04, P = 0.001), LDL-C (OR = 1.05, P = 0.046), hs-CRP (OR = 1.07, P = 0.044), osteoprotegerin (OR = 1.07, P = 0.026), CD62E+ MPs (OR = 1.07, P = 0.001) and CD31+/annexin V+ MPs (OR = 1.12, P = 0.003) were determined independent predictive factors of asymptomatic atherosclerosis in T2DM patients.

Conclusion: circulating levels of MP originated from apoptotic endothelial cell-derived were significantly increased in diabetic patients as compared with normal subjects, but level of activated endothelial cell-derived MPs was lower than in healthy volunteers. Among T2DM patients an increased level of CD31+/annexin V+ MPs and decreased CD62E+ MPs were significantly associated with asymptomatic atherosclerosis.

Introduction: Higher knowledge levels were found to be associated with better attitudes and beliefs, indicating the complex relationship between all three components.

Aim: to assess the psychometric properties of the Greek version of Acute Coronary Response Index (ACSRI) in Greek - Cypriot population. The ACSRI assesses the knowledge, attitudes and beliefs toward the early response to the acute coronary syndrome (ACS).

Methods: It is a methodological survey assessing the psychometric properties of the Greek version of the ACSRI in a Greek-Cypriot population. They participated 260 patients after an ACS who have been hospitalized in two big General Hospitals in Nicosia. Validity and reliability were assessed.

Results: Confirmatory factor analysis (CFA) did not revealed the proposed theoretical structure. A second CFA for two factors raised two factors (common symptoms and other symptoms) with good fit [X2(df)=273.39(186), p<0.0001, RMSEA=0.042[0.030-0.052], TLI=0.91, NFI=0.87, CFI=0.92, GFI=0.92, AGFI=0.91]. Loadings ranged from 0.32 – 0.85 for the “common symptoms” and 0.28 – 0.77 for “other symptoms” of the ACS. The two factors were highly correlated between them (0.731). Cronbach’s alpha for the whole scale was found to be equal to 0.79, α=0.72 for the “common symptoms”, and α= 0.59 for the other symptoms. For the attitudes (5 sentences) was found to be α=0.77, and α=0.72 for the beliefs (7 sentences). Spearman coefficient for was found to be 0.9, 0.7 and 0.7, respectively (p<0.001).

Conclusions: The Greek version of ACSRI can been used in Greek-Cypriot population after ACS.

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**The greek version of acute coronary syndrome response index (ACSRI)**

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Introduction: The Greek version of Acute Coronary Response Index in Greek - Cypriot population. The ACSRI assesses the knowledge, attitudes and beliefs toward the early response to the acute coronary syndrome (ACS).

Aim: to assess the psychometric properties of the Greek version of acute coronary response index (ACSRI) in Greek - Cypriot population. They participated 260 patients after an ACS who have been hospitalized in two big General Hospitals in Nicosia. Validity and reliability were assessed.

Results: Confirmatory factor analysis (CFA) did not revealed the proposed theoretical structure. A second CFA for two factors raised two factors (common symptoms and other symptoms) with good fit [X2(df)=273.39(186), p<0.0001, RMSEA=0.042[0.030-0.052], TLI=0.91, NFI=0.87, CFI=0.92, GFI=0.92, AGFI=0.91]. Loadings ranged from 0.32 – 0.85 for the “common symptoms” and 0.28 – 0.77 for “other symptoms” of the ACS. The two factors were highly correlated between them (0.731). Cronbach’s alpha for the whole scale was found to be equal to 0.79, α=0.72 for the “common symptoms”, and α= 0.59 for the other symptoms. For the attitudes (5 sentences) was found to be α=0.77, and α=0.72 for the beliefs (7 sentences). Spearman coefficient for was found to be 0.9, 0.7 and 0.7, respectively (p<0.001).

Conclusions: The Greek version of ACSRI can been used in Greek-Cypriot population after ACS.

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**Sudden and unexpected death in pregnancy.**

**Hormonal level a risk factor. Accessory pathways.**

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Introduction: “Sudden cardiac death is an important public health problem in Europe, America and in the most important sports Clubs, but it is poorly understood and understudied, especially in pregnant women”. Even today, when we have major progress in detection, prevention, and treatment, coronary artery disease remains the leading cause of death in the world. More than half of all coronary deaths are sudden and unexpected, occurring within 5 hours of the onset of symptoms and usually outside the hospital.

The 26-year follow-up date from the Framingham Heart Study demonstrated that women of all ages have an excess risk over men of death caused by myocardial infarction,
with overall case-fatality rates of 32% for women versus 27% for men.

In the Framingham cohort, women had a lower incidence of sudden coronary death than men, but in two thirds of women who died suddenly, sudden cardiac death was the first clinical manifestation of coronary heart disease. The absence of typical premonitory symptoms of coronary heart disease in women probably denied them the benefit of closer periodic electrocardiographic surveillance and preventive medical treatment.

This is a particular problem in women, in whom the risk of coronary artery disease and sudden death is lower than in men and in whom the index of suspicion of serious cardiovascular pathology remains low.

**Methods and Results:** We enrolled 100 pregnant women and realized a complete cardiologic control before pregnancy and compared with the results of other studies related to sudden death in pregnant women.

Was performed beside echo-cardiography Doppler, treadmill ergometry, holter – ECG, clinical analyses and SPECT and patients with high risk of ischeamic heart disease.

In 45% of pregnant women was detected a high number of ventricular extra-beats, no observed before pregnancy. Echo-doppler study revealed 85% of systolic dysfunction with FE between 45 and 55%. Level hormones have two sides: one is protecting, other is stimulator of ventricular dysfunction.

The 12% (8) of the group presented a severe systolic dysfunction with FE 39-47%.

In 2 cases we founded monomorfy no sustained ventricular tachycardia without collapse and other symptomatic.

5% presented ventricular begeminisme and 7% supraventricular tachycardia with a large number of atrial beats.

In conclusions, despite the prevention, control and treatment sudden and unexpected death in both cases is a reality and we most try to identify the possible causes.

A physical exploration with treadmill and echo cardiology Doppler examinations is not enough in actual days.

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**Cardiovascular risk screening of female adolescents students from vocational high school: a cross sectional study**

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**Background:** Coronary heart disease (CHD) may be clinically different in women when compared to men and, consequently, being underdiagnosed and undertreated. Worldwide, heart disease and stroke are the leading cause of death in female gender with 8.6 million deaths per year, as mentioned by literature. The presence of risk factors in childhood and adolescence has been configured with a strong predictor of cardiovascular disease in adulthood.

**Methods:** This study aims to investigate the entire group of female adolescents from a vocational public high school. Observational and cross-sectional study of cardiovascular and stroke risk factors prevalence in all of female teenager population through an one-minute and anonymous questionnaire with 30 closed questions on self-knowledge of risk factors and cardiovascular health. The survey was performed with questions of fast answers, like yes or no, about age, stress level, tobacco smoke, hypertension, dyslipidemia, physical inactivity, obesity, diabetes and family history of CHD. Period: between 05/08/2014 and 10/11/2014. A positive answer or the lack of knowledge are equivalent to a point. Those adolescents who have had two or more positive answers or the lack of knowledge of any item were encouraged to complete the risk assessment in a healthcare unit as they were considered to be in a high risk group. The study population consisted of three hundred young women, 82% adolescents aged between 15 and 17 years.

**Results:** Tobacco use was found in 9% of this group; hypertension in 3.5%; 36% have already measured cholesterolemia (7% with >200 mg/dl, 59% and 87% did not know the blood level of total and HDL cholesterol, respectively); 76% have already measured glycemia (79% denied being diabetic and 30% unaware their condition); there were 20% of family history of CHD and stroke; 59% did not know the body mass index (BMI), after it was calculated 71% with BMI ≤25, 21% >25 and ≤30, 8% >30; 72% physical inactivity; 92% denied preview CHD. It was established that 97% of the interviewed adolescents obtained ≥2 positive answer or the lack of any item. It was observed that most of them used to visit the gynecologist 98%) but in contrast only 2% did it to a cardiologist. About three quarters of the interviewed female teenagers demonstrated high cardiovascular risk factors prevalence by achieving ≥2 positive answers or ignoring the answer of any of the question and high stress level activity.

**Conclusion:** They must be warned and encouraged to complete their risk assessment in a healthcare unit.

**P139**

**Adverse events in the cardiac rehabilitation department as part of the evaluation of the quality of medical care**

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Background/Introduction: The needs, the increase in awareness and expectations of patients regarding health benefits, means that the maintenance and development of therapeutic entities depends largely on the quality offered by them. Recording the adverse events and drawing meaningful conclusions from their analysis is one of the criteria for assessing the quality of medical care in the hospital accreditation programme and treated as a requirement in hospitals which have quality certificates. Presentation of concrete figures and the use of quantitative accreditation indicators provide much greater importance than collecting opinion or a declaration based on self-assessment. Patient safety is a fundamental dimension of the quality of care and is an integral part of the system to improve patient care and is therefore covered by the standards of accreditation in the Hospital Accreditation Programme in Poland.

Purpose: Presentation of the most common hazards in the form of the adverse activities in patient care and indicating solutions for reducing the risk of their occurrence.

Methods: The study was conducted at the Upper Silesian Rehabilitation Centre of “REPTY” in Tarnowskie Gory. The adverse event card was used in the study, which relates to the identification and registration of adverse events. For the analysis, documents collected in the years 2011 - 2014 of events used and monitored are among others: drug-related therapeutic gymnastics (kinesiotherapy) associated with physiotherapy surgery, associated with the activities of nursing, associated with the diagnostic activities, Intravenous infection of vascular placenta, fall of the patient, stumbling, tilting with accompanying trauma, other.

Results: In 2011-2014, ...patients were hospitalized in the cardiac rehabilitation wards, in 2011, 20 patients suffered a fall, in 2012 - 14 patients, 2013 - 18 patients, 2015 - 16 patients, and falls accounted for 95% of all adverse events.

Conclusion(s): The studies show the scale of the problem, which is the incidence of the adverse events among hospitalized patients, the area where most of the adverse events observed were falls of patients. In order to minimize the risk of adverse events, it is appropriate to include subject matter for the prevention of adverse events for patients and to recognize critical situations, in the planned training for medical staff.

PI41

Obesity related to vasoactive peptides disturbance in hypertensive patients

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Obesity is largely due to the hypertension development and progression in association with target-organ damage remodeling and vasoconstrictor tone enhancing. The data concerning the ratio of vasoactive peptides in hypertensive obese patients remains to be controversial.

The aim of the study was to evaluate serum levels of endothelin-1 (ET-1), alpha calcitonin-gene-related peptide (CGRP) and their ratio in hypertensive obese patients.

Materials and methods: A case-case control study was performed which included 120 high-risk hypertensive patients aged 58±4 yrs. The subjects were divided into lean hypertensive (lean-HT), overweight hypertensive (OW-HT) and overweight hypertensive (OB-HT) with body mass index ≥30 kg/m2. The levels of the vasoactive peptides were determined by ELISA method in all patients after wash-out period. Serum ET-1 concentration has been determined using Biomedica kits (Austria), Peninsula kits (USA) were using for determining CGRP values.

Results: Both ET-1 and CGRP values had been showed the tendency to increase in OW-HT compared with lean-HT group. In OB-HT group the highest levels of ET-1 and CGRP were registered. Although the ET-1/CGRP ratio was significantly (on 15%, on 22%; p<0,05) lower in OW-HT than in lean-HT and OB-HT groups respectively. The OB-HT had been showed maximal ET-1/CGRP ratio compared with other groups as well as the significant association between vasoactive peptide ratio and decreased vascular function was observed.

Conclusion: Overweight in high-risk hypertensives is associated with predominance of vasodilation peptides while obesity has been correlated with strong vasoconstrictor tone and decreased vascular function. It is preferably to determine ET-1/CGRP ratio for assessing the vasoactive peptides disturbance in relation to vascular function.

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Removing percutaneous endocardial leads

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Introduction: The number of implants cardiac lead wires increases, so the need to remove a percentage of them is greater. Some cables must be removed because they have been damaged, other because infections and other because new wires must be used which cannot be implemented to remove the old. After the implantation of an electrode portion endovascular undergoes a process of endothelialization in the contact areas of the electrode with the vascular wall or endocardial adhesions are created to be the main obstacle to effective and safe removal of
chronic implants. Infection of the devices is a serious, even lethal complication, can be limited to a local infection in the generator pocket subcutaneous or submuscular or subcutaneous route of cable, but in some cases the infection can also affect the way the device or intravascular and eventually affect the heart valves causing endocarditis. The extraction of a percutaneous cardiac stimulation device, is not free of complications. Thus arises a wide range of products, achieving great success while minimizing risk to the patient, this has meant an increase in extraction electrodes indications previously abandoned in the vascular territory.

Objectives: To collaborate in the art to ensure the effectiveness and safety of extraction electrodes heart leads with percutaneous techniques and provide the patient an environment of tranquility, comfort, confidence and safety.

Material and Methods: Extraction of the electrodes depending on each case is used a method or another having a wide range of extraction products for the purpose. Comprises Lead Extraction system:

- Sheath mechanical dilator Evolution
- Evolution Shortie
- Retention Liberator stylet
- Extend cable Bulldog
- Handle full Needle Eye Snare

In 2015, our service have done 22 withdrawals heart percutaneously cables: 20 infection, damage to one cable and one switch to compatible devices RM. 6 women, 16 men, with mean age 61.

Results: -21 extractions were successful.
-1 split the cable and withdrew through the femoral with Handle full Needle Eye Snare, but anyway all the surgeries were successful and the patients end up well.

Conclusions: In our study this technique has been effective, but is not without complications. The performance of nursing in the extraction of cardiac stimulation devices is essential, and all the information and training appropriate to achieve the success of the technique, thus minimizing the risk and increasing the safety of the patient.
Objective: To identify the cardiovascular heart disease and stroke risk factors prevalence in female employees group who work for state government.

Methods: Observational and cross-sectional study of cardiovascular and stroke risk factors prevalence in female employee population through an one-minute and anonymous questionnaire with 30 closed questions on self-knowledge of risk factors and cardiovascular health. The survey was performed with questions of fast answers, like yes or no, about age, stress level, tobacco smoke, hypertension, dyslipidemia, physical inactivity, obesity, diabetes and family history of CHD. Period: between 05/05/2015 and 05/08/2015. A positive answer or the lack of knowledge are equivalent to a point. Those women who have had two or more positive answers or the lack of knowledge of any item were encouraged to complete the risk assessment in a healthcare unit as they were considered to be in a high risk group. The study population consisted of two hundred women. The age ranged from 25 to 74 years old.

Results: Tobacco use was found in 16% of this group; hypertension in 13% (lack of knowledge in 3%); 95% have already measured cholesterolemia (22% with >200 mg/dl, 25% and 63% did not know the blood level of total and HDL cholesterol, respectively); 88% have already measured glyceremia (83% denied being diabetic and 14% unaware their condition); there were 28% of family history of CHD and stroke; 59% did not know the body mass index (BMI), after it was calculated 60% with BMI <25, 17% >25 and <=30, 23% >30; 36% physical inactivity; 94% denied preview CHD. It was established that 75% of the interviewed women obtained ≥2 positive answer or the lack of any item. It was observed that most of them used to visit the gynecologist 98%) but in contrast only 33% did it to a cardiologist. About three quarters of the interviewed female teenagers demonstrated high cardiovascular risk factors prevalence by achieving ≥2 positive answers or ignoring the answer of any of the question and high stress factors prevalence by achieving ≥2 positive answers or ignoring the answer of any of the question and high stress level activity.

Conclusion: They must be warned and encouraged to complete their risk assessment in a healthcare unit.

Service development and innovation

PI47

Developing an evidence base for core nursing standards for patients post primary Percutaneous Coronary Intervention

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PPCI is the reperfusion treatment of choice for patients with acute ST-elevation myocardial infarction (Steg et al 2012; Windecker et al 2014). Acute cardiac or coronary care units (CCU) are recommended for patients post pPCI, with highly trained and skilled nurses providing close monitoring and rapid response to acute changes (Steg et al. 2012). However, evidence-based guidelines for nursing care in this patient group seem very limited (24-hours of ECG monitoring, condition-dependent mobilisation, aiming for discharge at <72-hours Steg et al. 2012). In the absence of national guidelines, a benchmarking exercise was undertaken to help inform practice development.

Purpose: To establish whether national consensus existed regarding nursing care standards for stable patients immediately post pPCI through a national benchmarking exercise.

Method: A benchmarking tool was devised and piloted. Enquiry areas included: general service provision information (acute beds available, staffing levels, training requirements for staff, additional roles undertaken); specific care activities (e.g. ECG monitoring, fluid balance, mobility restrictions); discharge times from the cardiac unit and discharge home (in hours). PPCI centres were identified across England, Wales and Scotland from British Cardiac Interventional Society (2014) data. 30 of 117 centres providing 24-hour PPCI services were contacted randomly by telephone.

Results: 17/30 centres agreed to share current practice. Table 1 summarises results. Considerable variation was demonstrated between centres. Most noticeable were length of stay on CCU, time to mobilisation, nurse:patient ratios and overall length of stay (48-120 hours). No link was identified between these variables and volume of pPCIs. Specialist Registrar doctors decided when patients could ‘step down’ to ward beds in all centres, not nurses. Many centres discharged patients home from CCU due to high demands on ward beds.

Conclusions: From this benchmarking exercise, little consensus was found regarding the timeline of specific nursing standards and interventions for post pPCI patients, with significant variation in practice nationally. Practice seemed to be based on local tradition or individual consultant preference rather than evidence of effectiveness or safety. Discharging patients home from high-care areas suggests these are not being utilised effectively for patients of appropriate acuity. Whilst limited by the methodology, findings warrant further formal assessment with a view to replicating internationally. Results could be used to inform core care standards to guide practice.

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Starting the conversation about palliative care for heart failure in long term care: development of a HF-specific advance care planning resource

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Background: In Canada, approximately 20% of persons residing in long-term care (LTC) are living with heart failure (HF). HF profoundly impacts quality of life for these frail elderly patients who are at high risk of dying. Although LTC patients with advanced HF and their families would benefit from a disease-specific palliative approach to care and early Advance Care Planning (ACP) with health professionals, no targeted knowledge translation (KT) interventions currently exist that address HF issues in this context. As part of a larger study to develop a sustainable palliative approach to HF care in LTC settings, we developed an engagement strategy using educational ACP resources for HF patients and their families to support communication with health professionals.

Purpose: The purpose of this KT intervention was to develop an educational HF-specific pamphlet for LTC patients with advanced HF and their families to promote ACP and communication related to end-of-life issues.

Methods: The development of the Palliative Approach for Advanced HF in LTC pamphlet was guided by the Knowledge to Action framework. We reviewed literature and selected publicly available online resources through critical appraisal and recommendations by HF specialists. A simple, paper-based pamphlet was developed through iterative consultation from the research team, specialists in HF and palliative care, and frontline LTC staff from 4 LTC homes in Ontario, Canada. An evidence informed approach was used to adapt current HF knowledge into a format best suited for an older adult audience and LTC context. Prior to piloting, the pamphlet was assessed for readability with the Flesch-Kincaid, Gunning-Fog and SMOG instruments.

Results: Based on 3 measures, the overall average readability was a grade 7.1 level. Initial reviews of the Palliative Approach for Advanced HF in LTC pamphlet was guided by the Knowledge to Action framework. We reviewed literature and selected publicly available online resources through critical appraisal and recommendations by HF specialists. A simple, paper-based pamphlet was developed through iterative consultation from the research team, specialists in HF and palliative care, and frontline LTC staff from 4 LTC homes in Ontario, Canada. An evidence informed approach was used to adapt current HF knowledge into a format best suited for an older adult audience and LTC context. Prior to piloting, the pamphlet was assessed for readability with the Flesch-Kincaid, Gunning-Fog and SMOG instruments.

Conclusion: The Palliative Approach to Advanced HF in LTC pamphlet is a simple evidence informed tool that may encourage patients and family to initiate ACP discussions in the illness trajectory. The pamphlet will be piloted and evaluated for clinical utility as part of a series of interventions aimed at promoting a palliative approach in LTC.

Endocarditis, IMPARTS (Integrating Mental and Physical Healthcare: Research, Training and Services) and value based healthcare

- Endocarditis is commonly referred to as the 'Cinderella' of cardiac disease because it is often ignored despite causing long hospitalisations and costing the NHS millions of pounds, with each stay costing an average of £40,000.
- In order to examine the care received by patients with endocarditis two projects were utilised: one called 'Value-Based Healthcare’ and another titled 'IMPARTS’ (Integrating Mental and Physical healthcare: Research, Training and Services).
- VBHC is based on the principle of providing the best possible healthcare utilising the same or less resources.
- The ultimate aim was to improve the patient experience, reduce length of stay and reduce inpatient mortality and rehospitalisations.
- The overall goal of IMPARTS is to improve mental healthcare provision within medical settings. Patients with endocarditis can suffer with low mood and the IMPARTS package for physical healthcare settings supports clinical teams in providing timely, tailored, evidence-based care to such vulnerable groups.
- The project funded an endocarditis specialist nurse.
- Data has demonstrated a reduction in length of stay (36 days down to 30.5 days), reduction in inpatient mortality (20% to 8%) and an improved patient experience involving a cohesive, multidisciplinary team approach to patient care.

Community pharmaceutical care program-tool for accelerated/malignant hypertension prevention: analysis from a retrospective cohort study on south Indian sub-population.

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Introduction: Accelerated/Malignant hypertension (AMH) is a hypertensive emergency, clinically defined by the European society of Hypertension/European society of cardiology (ESH/ESC) as the presence of high BP (180/110 mmHg) associated with target organ damage (TOD) [retina, kidney, heart or brain]. There are no Indian studies
reported on need for healthcare policy framework on A/MH prevention contributing to Cardio-vascular morbidity.

**Purpose:** To evaluate the treatment outcomes in hypertensive patients diagnosed with A/MH.

**Methodology:** Treatment outcomes were analysed for hypertensive cohort patients admitted with essential HTN or hypertensive retinopathy during 2010-2014 with ICD – 10 codes (I.10 and H 35) reported to our 2500 bedded tertiary care teaching hospital. The study patients were non-diabetic and without any other co-morbid illness aged > 40 years. Blood pressure (BP) control was evaluated by documented past history and in-hospital medication.

**Results:** Of the documented 480 in-patients diagnosed with essential HTN or hypertensive retinopathy, 37 (7.7%) fit Grade III HTN (ESH/ESC 2013) and/or were diagnosed as A/MH. Male predominance was observed with 62.2%. The Mean Systolic Pressure on admission was found to be 192(±21.6) mmHg and on discharge it was found to be 142(±14.1) mmHg. Out of 37 patients, 37.8% were continued with the same medication after in-patient admission i.e. Amlodipine containing antihypertensive regimen. 13.5% patients were switched to another agent and 13.5% patients were newly diagnosed and treated. 32.4% patients past medication history were unknown. Overall, amlodipine containing antihypertensive regimen were either freshly started or resumed from their medication history in 86.4% patients.

**Conclusion:** Optimum BP control in-hospital was achieved when previous medications were resumed. Though amlodipine containing dual and triple antihypertensives is in the Essential Medicine list of India 2011, our findings though from a single center, implicate various contentious issues attributable to overall poor health outcomes. Adequately previously reported factors include medication non-adherence, non-availability, affordability, lack of patient education and absence of a comprehensive pharmaceutical care program in the community or in public healthcare centers persisting in Indian healthcare systems. A legislated community health policy comprising a multidisciplinary healthcare team seems to be glaring need. Community pharmacist’s role in hypertension management in preventive cardiology hasn’t been explored much as a cost – effective alternative.
Moderated Poster 3
Saturday, 16 April 2016

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Changes in risk factor profile of patients attending cardiac rehabilitation over the last 10 years

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Introduction: Times have moved on. Although the overall structure of cardiac rehabilitation remains fundamentally the same, the detail of the programme and eligibility criteria has changed in response to research and patient needs over the last 10 years.

Purpose: The aim of this study was to examine the differences in profile of patients attending cardiac rehabilitation over the last two years and approximately 10 years ago.

Methods: This observational comparative study design examined data from 267 patients who attended cardiac rehabilitation approximately 10 years ago and 335 patients who attended cardiac rehabilitation in 2014-2015 in the same hospital site. Data was extracted from case notes. Patients in the recent cohort whose primary diagnosis/treatment were heart failure or ICD were excluded from the analysis.

Results: The following profile differences emerged when comparing the profile of the earlier and recent cohort: 70%:72% attended, 17%:19% did not complete, age 61.38±10.24: 62.95±11.45, female 29%:22%, family history 59%:33%, hypertension 48%:52%, smoking 10%:10%, obesity 42%:57%, physical inactivity 23%:45%, diabetes 11%:19%, NSTEMI 12%:10%, STEMI 12%:19%, PTCA only 41%:46% CABG 18%:17%. These results indicate some interesting trends. The more recent cohort has a higher risk factor profile. They were more likely to be older, male and have a history of hypertension. In line with the worrying health trends across the world, they were in addition more likely to be obese, physical inactive and diabetic. Other differences between the cohorts indicated changes in treatment and eligibility criteria over this time frame, these were indicated by older patients and more PTCA only patients attending in the more recent cohort.

Conclusion: The profile of patients attending cardiac rehabilitation has changed in the last 10 years with the recent profile presenting with a higher risk profile. While further research and analysis is required to determine if these trends are significant and widespread, these findings indicate that we may need to re-examine the cardiac rehabilitation programme details to insure we are meeting these changed profile needs.

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Do illness perceptions in people with coronary artery disease vary by age and gender? A systematic review

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Background: Illness perception is referred to a patient’s beliefs about their illness. Previous studies show some discrepancies particularly on the effect of age and gender on the specific dimension of patients’ illness perception among patients diagnosed with Coronary Artery Disease (CAD). Further understanding of these differences will enable professionals to better understand any association between illness perception and these variables and provide more specific education and intervention for particular groups of patients.

Objective: To systematically review published literature examining the differences in illness perception between males and females and across a variety of age groups among patient diagnosed with CAD.

Methods: systematic review of published literature matching the inclusion criteria was conducted by searching four key databases (CINAHL, Medline, PsycINFO, and web of science). The inclusion criteria were; quantitative, peer reviewed and published in English language studies that examined differences illness perception based on age or/and gender among patients diagnosed with CAD. Quality control check was conducted for the studies included in the review.

Results: 14 studies included met the inclusion criteria of the review. A narrative synthesis of the results revealed that both gender and age are important factors to determine illness perception among patients diagnosed with CAD. The results revealed consistent findings among patients of that younger had significant higher perception of illness related to their behaviour and stress as causes of their illness, higher illness consequences, and perception of illness chronicity compared to older participants. In addition, the study found that female participants placed significantly higher emphasis on psychological factors as causes of their illness and had lower emphasis on their health related behaviour as causes of their illness, and higher perception of chronicity of their illness compared to male participants.
**Conclusion:** The result of this study shows that illness perception varies in age and gender across patients diagnosed with CAD. These differences should be taken into consideration particularly when providing health education and cardiac rehabilitation, as causal attribution, timeline, and consequences factors are shown to be important in determining different psychological and behavioural outcomes among patients diagnosed with CAD. Further research is recommended investigating the difference in illness perception based on other demographical variables.

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**The needs of information of cardiac surgery patients and their family before discharge**

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**Introduction:** The hospital discharge planning of a cardiac patient provides an opportunity to both himself and to his family, to deal with any problems, real or potential, which often occur in the postoperative period, in order to ensure the safe return of the patient at home. Providing high quality information regarding the discharge increases the satisfaction of the care provided, and enhances patients and their families to cope better after hospital discharge.

**Purpose:** The main purpose of this study is to investigate the information needs of patients undergoing cardiac surgery and their families, before the hospital discharge.

**Methods:** This is a descriptive comparative and correlational study in cardiac surgery patients and their family. The sample of the study included 132 patients who underwent a cardiac surgery in the two biggest Cardiac Surgery Centres in the country and 132 relatives of the patients. Data collection was done using the Cardiac Surgery Patient Discharge Questionnaire and the Cardiac Surgery Discharge Questionnaire for Families. The two questionnaires were translated and validated into the Greek language using the Cronbach’s a coefficient and by performing a confirmatory factor analysis. For independent variables of two parameters, the one-way ANOVA was applied.

**Results:** Both questionnaires showed adequate reliability rates (Patients’ questionnaire, Pearson correlation= 0.9, p = 0.000, Cronbach’s a> 0.6 -. The relatives’ questionnaire, Pearson correlation> 0.6, p <0.005). Comparison between the patients and their relatives showed that the need to provide discharge information is more important for the relatives rather than the patients (p <0.05). In the patients’ group there were some differences regarding the comparison between the genders. Women seemed to believe that the information regarding emotions and follow up is important (p = 0.000). Age is another factor that influences patients’ needs for information. Patients under the age of 60 seem to have a greater need for information on physical activity (p = 0.000).

**Conclusions:** The data results of this study revealed important information about the discharge information needs of patients who undergo cardiac surgery and their families. Providing discharge information appears to be more important to the family than the patients themselves.
predicted by strong perception in personal control (β: 2.66, 95%CI: 1.28-4.04), timeline (β: -1.85, 95%CI: 0.8-2.88) and illness coherence (β: 2.12, 95%CI:0.35-3.90). Medication adherence was also predicted by perception of personal control and treatment control. Adherence to low fat diet regimens was only predicted by perception of illness coherence (OR: 12, 95%CI:1.04-1.33). Finally, the majority of patients thought the cause of their heart problem was related to CHD risk factors such as obesity and high fatty meals.

**Conclusion:** Patients’ illness beliefs are candidates for a psycho-educational intervention that is targeted at improved disease management practices and better adherence to recommended healthy behaviours.

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**The association of persistent symptoms of depression and anxiety with recurrent acute coronary syndrome events: a prospective observational study**

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**Background:** Depression and anxiety are common disorders in patients with acute coronary syndrome (ACS). Commonly anxiety and depression are measured at a baseline point only. Purpose: to examine whether co-morbid and persistent symptoms of depression and anxiety are associated with a second ACS event among patient who were previously hospitalized with ACS.

**Method:** A total of 1162 patients participated from five hospitals in Dublin, Ireland. Hierarchical Cox regression analyses were used to determine whether co-morbid persistent symptoms of depression and anxiety predicted a second ACS event. Patients were divided into the following four groups: 1) patients who had neither persistent depression nor persistent anxiety (n=880); 2) patients who had persistent depression (n=74); 3) patients who had persistent anxiety (n=47); and 4) patients who had co-morbid persistent depression and anxiety (n=56).

**Results:** Persistent depression only (HR 2.27; 95% CI: 1.35 – 3.81; p = 0.002), and co-morbid persistent depression and anxiety (HR 2.03; 95% CI: 1.03 – 3.98; p = 0.040) were the significant predictors of a second ACS event. Secondary education level compared to primary educational level (HR 0.63; 95% CI: 0.43 – 0.93; p = 0.020) and college or more education level compared to primary educational level (HR 0.47; 95% CI: 0.27 – 0.84; p = 0.011) were the only variables that were also significant predictor of a second event. Another hierarchical Cox regression was run with baseline depression and anxiety. None of the four depressions and anxiety variables was significant predictors of ACS second event.

**Conclusion:** To improve health outcomes with ACS, attention must be paid by healthcare providers to the assessment and management of persistent depression particularly when it is co-morbid with anxiety.

**Survival persistent anxiety & dep**

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**Telephone follow-up for elective patients undergoing percutaneous coronary intervention in day hospital: A randomized trial**

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**Background:** Same-day discharge of elective patients undergoing percutaneous coronary intervention (PCI) may influence self-management related to medical treatment, participation in rehabilitation and beneficial lifestyle changes. The purpose of this study was to investigate if telephone follow-up impacted positively on patients’ self-management post PCI.

**Methods:** A randomized trial with the allocation rate 1:1. The intervention group was contacted by a nurse 2-4 days after discharge and a standardized telephone consultation was conducted to support self-management. A structured follow-up telephone interview was performed one month after discharge in both the intervention and control group. All patients received a structured questionnaire at baseline and follow-up. Primary outcomes were medical adherence to anticoagulant treatment and participation in rehabilitation.
Results: We consecutively included 297 elective patients undergoing PCI (mean age 65 [±0.55], 228 males [77%]). The results did not show any significant differences between the control and intervention groups concerning medical adherence (94% versus 96%, p=0.620) and participation rate in rehabilitation (p=0.140). According to risk modification, there were no differences concerning smoking cessation or healthy dietary behavior between the two groups. Physical activity level increased in the intervention group (p=0.043). The in-hospital readmission rate was borderline significantly lower in the intervention group compared to the control group (8% versus 16%, p=0.048). The number of contacts to general practitioner was significantly lower in the intervention group (29% versus 42%, p=0.020).

Conclusions: The intervention did not influence patients’ self-management related to medical adherence, participation in rehabilitation, beneficial lifestyle changes related to dietary and smoking cessation. However, the intervention group tended to increase the degree of physical activity. Furthermore, telephone follow-up may positively influence readmission and reduce the number of contacts to general practitioner. Further investigations in this area are needed.

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Cardiac rehabilitation: evaluation of an innovative E Learning solution

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Background: The aim of cardiac rehabilitation (CR) is to promote secondary prevention in coronary heart disease. Despite increased flexibility within programmes there are still many reasons and barriers why patients do not attend or complete a formal CR programme. Recent research has showed that the development and implementation of CR online learning is a valuable alternative for face-to face programmes.

Aim: The aim of this initiative was to develop, implement and evaluate an E-Learning CR programme.

Methods: The Multidisciplinary team (MDT) secured funding the project. Each member of the MDT initially developed and scripted their individual module based on the modules currently delivered in the formal Phase III CR. These modules were then recorded, edited and refined in consultation with the commercial design team over a 12 month period using meetings, Tele links, document reviews and then tested by the MDT. The e-programme was launched and a pilot study was undertaken using an online evaluation/survey. It was offered to patients eligible for Phase III CR but not available to attend. In preparation for the e-programme the patients met with a MDT member and had a walking shuttle test done. An exercise plan was discussed with them and incorporated into the e-programme. The e-programme was made up of 6 modules, one module scheduled to be completed per week. Each module consisted of an oral presentation, a quiz, at least one activity, web links for further information and a survey. In addition, there was at least one weekly email or phone call planned between a member of the MDT and the patient.

Results: In the initial pilot period, 8 people took up this offer of utilising the e-programme and 5 completed the surveys. All said they used the e-programme in response to e-mails. From the survey, 80% found the videos and 40% found the quizzes and activities very engaging, 100% understood the information given.

Conclusions: This e-programme offers a novel, flexible, patient centred way of delivery of CR. Following on from the pilot several adaptations to improve the programme and its outcomes. More user testing needs to be carried out. The system needs to be adapted, firstly to be able to generate patient based individual progress reports, secondly to facilitate some degree of interactive monitoring and lastly to get abetter understanding of what patients want. There are also plans to extend the e-programme and incorporate it into the structured Phase III CR so as to expand the options on offer to the cardiac patient.

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Cardiac nurses level of knowledge and clinical practice regarding antihypertensive therapy in hospitalized patients

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Introduction: Arterial Hypertension is a common health problem, usually treated with alterations of risk factors and medications, for which nurses have to make clinical decisions in in-patients management. Even though many studies focus on nurses’ level of knowledge, little is known about everyday clinical practice for these patients.

Aim: The aim of this research study was the investigation of the clinical practice and the level of knowledge of cardiovascular nurses in the management of in-patients with arterial hypertension.

Methods: A non-experimental descriptive correlational study was conducted with the participation of a randomly
selected sample of nurses (n=126) working in cardiovascular settings in Attika. For knowledge and practice evaluation a 25 item structured questionnaire was used specially designed for the need of the study. Data analysis was done by the statistical package SPSS 18.0 (SPSS Inc., Chicago IL) and statistical level of significance was α=0.05.

Results: The sample of the study consisted of 126 nurses, 18.3% male and 81.7% female, with mean age 35.71±6 years. The mean total score of the correct answers was 16.26±2.44, with range between 9-21, as none of the participants accomplished to score more than 21 correct answers. Total score of correct answers was correlated with the level of education (r=0.277 p=0.002), while no significant correlation was found with the years of clinical experience (r=−0.032 p=0.718), clinical experience in the current setting (r=−0.161 p=0.078) and post-graduate education (r=−0.062 p=0.491).

Significant contradiction was found between knowledge and clinical practice, as the participants stated that they follow practices even though they indicated them as wrong, while male nurses tend to be more autonomous regarding their clinical practice and nurses with long term working experience tend to pay more attention in precautions before delivering the medication therapy. Highest knowledge deficit was found in the 3 questions regarding pharmacokinetics of the hypertensive oral tablets, with only 12.3%, 22.3% and 16.2% correct answers irrespectively.

Conclusions: The study showed that even though cardiovascular nurses are sensitive in the management of inpatients with arterial hypertension and the implementation of good practices, they have knowledge deficit regarding the antihypertensive treatment and medication. Therefore further education and informative interventions are needed.
**Oral abstract session - Doctoral Students**  
**Saturday, 16 April 2016**

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**The effect of educational intervention on adherence of patients with hypertension to antihypertensive therapy**

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**Background:** High blood pressure is among the most serious cardiovascular risk factors involved in the appearance of coronary artery disease, strokes and kidney failure. The major obstacle in the management of hypertension is the insufficient adherence of patients to antihypertensive therapy.

**Purpose:** The aim of the study was to evaluate the effect of educational intervention on adherence of patients with hypertension to antihypertensive therapy.

**Methods:** It was an experimental study, involved 225 hypertensive patients randomly selected to participate in a nursing educational intervention (n=113) or to receive usual care (n=112) in a General Hospital, from September 2012 to September 2014. The intervention consisted of one session of education regarding the management of hypertension supported by a nurse and by the use of an informative booklet. Data were collected 5 times, one during the first visit of patients in Hypertension Unit and four in post-experimental period at 3, 6, 9 and 12 months after the first visit. The assessment of adherence was performed by the use of three scales (Hill-Bone, Morisky and A-14), while for the assessment of factors affecting adherence were used the BMQ-12-General, PSM-5, HK-LS, BDI and SF-12. The statistical analysis was performed by the use of the statistical program STATA 11.0. The level of statistical significance was set at 0.05.

**Results:** 225 patients completed the study. The mean age of the intervention group was 67.5 years (SD=11.7), while for the control group was 68.1 (SD=12.1). The intervention group was found to have statistically significant improvement to adherence in antihypertensive medication after intervention, and the effect was maintained throughout the follow-up with significant overall change in score from baseline to end point (p<0.01). Also, the intervention was connected with improvement of knowledge about hypertension, reduction of misconceptions about medications and reduction of depressive symptoms (p<0.01). It is remarkable that the higher improvement of was observed in the first post-experimental measurement compared to the last one. In addition, it was observed a positive correlation between adherence and better knowledge for hypertension, reduction of cholesterol, better relationship between patient and health care provider and between patient and care giver (p<0.01). Improvement in adherence was not found to be associated with better quality of life (p>0.05).

**Conclusion:** Education is emerged as an important nursing intervention so as to improve adherence therapeutic regimen in patients with hypertension.

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**Management of implantable cardioverter defibrillators in advanced heart failure: An exploratory study of patients', carers' and healthcare professionals' perspectives.**

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**Background:** The ICD is cornerstone in the treatment of life-threatening arrhythmias, although dying patients may be receiving multiple futile shocks. Expert guideline recommendations regarding deactivation are not implemented in practise and ICD deactivation is rarely discussed. This limits patients’ and carers’ knowledge and choice at end-of-life.

**Aim:** To explore perspectives of patients, carers and professionals regarding ICD deactivation and to examine the impact these have on clinical judgements about end-of-life management.

**Methods:** Sequential exploratory mixed methods design incorporating two phases. Phase One: Data from a systematic review of literature, case studies and retrospective case note review were synthesised and used to generate 9 variables. Phase Two: Variables were randomly manipulated and embedded within vignettes of a factorial survey disseminated to UK and Irish professionals.

**Results:** Phase One data confirmed pre-implantation information on ICD’s functionality and possible deactivation was inadequate. Patients’ and professionals’ held a positive perception of the ICD and were reluctant to discuss deactivation until death was imminent. Most patients wanted involvement in critical discussions, although agreed the decision concerning deactivation should be made by their cardiologist, without burdening family. Carers’ were kept uninformed unless the patient became cognitively impaired. Phase Two: 534 vignettes
were completed by 89 professionals (22 Cardiologists, 57 Nurses, 10 Clinical Physiologists). Nurses were more likely to favour a pre-implantation discussion than cardiologists, although all groups agreed the subject of deactivation should be broached when death was imminent. Clinical indicators of heart failure severity (NYHA IV) and diagnosis of bowel cancer increased the likelihood of this discussion. All groups felt deactivation was warranted when the patient experienced multiple shocks, however data from Phase One found no evidence of this occurring. Professionals in post for at least six years were most confident in clinical decision-making.

Conclusions: These data highlight missed opportunities to involve patients in shared decision-making, with the majority of professionals reluctant to discuss deactivation. Lack of pre-implantation information compromised patients’ knowledge and restricted informed decision-making to last days of life. Professionals’ relied on their intuitive judgement rather than evidence-based guidance. Data extends the factorial survey methodology and provides direction to improve end-of-life care for patients with an ICD.

Primary percutaneous coronary intervention patient experiences of cardiac rehabilitation

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Purpose: Less than 53% of Primary Percutaneous Coronary Intervention (PPCI) patients attend cardiac rehabilitation (CR) program despite the known benefits to cardiac patients. Few changes have been made to the CR program to accommodate PPCI since its wide scale introduction in the UK despite a now younger cohort. The CR requirements of PPCI patients is under explored. This study investigated attendance at CR and explored the experiences of PPCI patients who attended CR.

Methods: A mix methods study (n=202) investigated attendance at and experiences of CR for PPCI patients who were and were not readmitted (due to potential ischaemic heart disease (p-IHD) symptoms) within six months of STEMI. Quantitative data included number of participants (readmission vs no-readmission groups) attending CR. Qualitative interviews on one occasion explored the re-admission groups experiences of CR; sampling was purposive, data collection and data analysis occurred concurrently. Data was organised using Framework analysis. Constant comparative analysis based on deduction and induction identified themes and sub-themes.

Results: 35.1% (13/37) of readmission and 56.8% (92/162) of non-readmission group attended CR fully; 25 participants (14 men, 27-79 years) were interviewed. Themes identified mixed experiences of attendance at CR, 1) CR led to increased confidence and fitness and helpful information for some attendees, 2) younger men reported that they believed CR was for older people and the exercises were too easy, 3) participants believed the programme to be too physically orientated and, 4) insufficient stress management and symptom regulation education included.

Conclusion: Adaptations to CR programme with increased flexibility of the service may meet the individual needs of more PPCI patients. Additional focus on symptom management and stress reduction with greater education around what exercises are safe and beneficial may all increase up-take of the service by this group.

Fluid restriction predicts thirst distress in patients with heart failure

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Background: Patients with heart failure (HF) are most likely to have temporal thirst, but once thirst occurs there is a risk that thirst emerges again at later times. Previous studies have demonstrated that having fluid restriction, more depressive symptoms and being male measured at one time only are associated with thirst. However, the knowledge is limited about what factors are associated with thirst over a period of time.

Purpose: To describe changes in thirst over time of patients after admission with worsening HF and determine important predictors of thirst.

Methods: A total of 30 patients who were admitted due to worsening HF (mean age 81±7 years, 54% men, mean LVEF 37%) were followed at discharge, two and four weeks after they discharged. They completed assessments of thirst intensity with a visual analogue scale (VAS, 0-100 mm), thirst distress with the Thirst Distress Scale for patients with HF (score 9-45), and feeling depressive (Likert scale, 1-5). Clinical data was obtained from medical charts. The latent growth modeling (LGM) was performed to investigate the response on thirst of variables with significant correlation with thirst intensity and thirst distress at discharge.

Results: The median (inter quartile range) thirst intensity and thirst distress were at admission 39 (14-59) mm, 22
(17-28) scores; discharge 36 (22-53), 21 (15-26); two-weeks 42 (17-51), 18 (13-28); four-weeks 34 (18-57), 20 (12-26). Slightly more patients decreased thirst intensity for each follow-up than increased (n=15 vs. 12; 16 vs. 9; 13 vs. 12). For those who increased, thirst was significantly higher at two weeks (50 [39-65] mm vs. 23 [6-49] P=.017) and at four weeks (53 [33-72] vs. 28 [4-40] P=.005). Thirst distress was higher in those who increased at two weeks (26 [18-29] scores vs. 14 [11-18], P=.004). The LGM showed that time was not a predictor of increased thirst in patients with HF. However, thirst distress was significantly higher for those who had fluid restriction compared to those with no fluid restriction (P<.013), and among women compared with men (P=.047) during the study period. Moreover, thirst intensity was higher for patients who felt depressed compared with those who did not feel depressed (P<.023).

Conclusions: Nurses should target patients who increase thirst and identify the source of increased thirst. Time did not have a negative influence on thirst, but having fluid restriction, feeling depressive and being woman are important predictors for increased thirst in patients with HF.

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Can delirium predict patients’ physical function 1 and 6 months after aortic valve treatment

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Background: Delirium is an acute change in attention and cognition often present in elderly patients after cardiac surgery. The onset of delirium following surgical aortic valve replacement (SAVR) can lead to reduced performance in activities of daily living (ADL) and instrumental activities of daily living (IADL). Little is known about the predictive value of delirium after the novel and less invasive transcatheter aortic valve implantation (TAVI).

Purpose: To determine the predictive effect of delirium on ADL and IADL function 1 and 6 months after TAVI or SAVR.

Methods: This is a prospective cohort study of octogenarians patients (N=143) in a tertiary university hospital. Inclusion criteria: ≥80 years, severe aortic stenosis and elective TAVI/SAVR. Exclusion criteria: Inability to speak Norwegian or declined consent to participate. The Confusion Assessment Method was used from the 1st to the 5th postoperative day to identify delirium. ADL and IADL function was assessed with Barthel Index and Nottingham Instrumental Activities of Daily Living Index at baseline, 1-month and 6-month follow-up. The predictive effect of delirium in ADL and IADL function was established with longitudinal regression analyses.

Results: The majority (57%) of patients was female, and 46% received TAVI. Patients in the TAVI group were older (85 vs. 82 years-old, p<0.001), had more comorbidities (2.5 vs.1.8, p=0.001) and higher logistic EuroSCORE I (19.6 vs. 9.4, p<0.001). Baseline IADL scores were lower in patients treated with TAVI (50.7 vs. 57.2, p=0.001) but no differences in ADL scores were identified between patient groups (18.8 vs. 19, p=0.37). TAVI patients with delirium had lower ADL and IADL scores at 1-month follow-up (both p<0.003), but they had returned to baseline levels after 6 months (p>0.06). Regression analyses established that delirium following TAVI predicted lower ADL and IADL at 1- but not at 6-month follow-up. One and 6 months after SAVR, ADL scores for patients with/without delirium were not significantly different to baseline (p>0.05). Lower IADL scores at 1-month follow-up (p<0.02) were identified after SAVR regardless delirium. However, IADL scores returned to baseline levels 6 months after SAVR. The regression models showed no predictive power of delirium at 6 months.

Conclusions: Delirium appears to be followed by lower ADL and IADL scores at 1-month follow-up after TAVI and SAVR. However, it does not seem to confer long-term reductions in ADL or IADL function.

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High readmission rates and mental distress after infective endocarditis - results from the national population-based copenheart ie survey

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Background/Introduction: Infective endocarditis (IE) is a serious disease requiring lengthy hospitalization and comprehensive treatment regimens. The knowledge about patients’ recovery after treatment is limited.
Purpose: After discharge for IE; (i) to describe mortality, readmissions, self-reported physical and mental health and rehabilitation participation up to 1 year post-discharge, and (ii) to examine the association between self-reported health and readmission.

Methods: A nationwide population-based survey with registry data linkage was used. All adults treated for IE in Denmark January - June 2011 (n=285) were included and followed in the Danish national patient registry and the Danish civil registration registry for 12 months. Eligible individuals (n=209) were invited to a questionnaire survey (responders n=122 (58%), including the following instruments; SF-36, EQ-5D, HeartQoL, Hospital Anxiety Depression Scale (HADS), the Multidimensional Fatigue Inventory (MFI-20) and questions on physical activity and rehabilitation participation. Responses were compared with those of an age- and sex-matched reference population. Mortality and readmission data were obtained from registries.

Results: Patients treated for IE had a cumulative mortality of 18% one year post-discharge (cumulatively 33% including in-hospital mortality) and 65% had at least one readmission of which 82% were acute and 14% with relapse of IE. Patients had lower self-reported physical and mental health compared to the reference population (Physical component scale of SF-36, mean (SD): 42.2 (11.1) vs. 47.1 (12.1), p=0.0004, Mental Component Scale of SF-36: 50.1 (11.7) vs. 53.8 (9.2), p=0.006) and more were sedentary (29 vs. 15%). A substantial proportion had clinical signs of anxiety (25% HADS-A >8) and depression (22% HADS-D >8). Poor self-reported health, including anxiety and depression, was strongly associated with readmission, particularly in scores reflecting physically related health. More than half of patients (59%) had not participated in cardiac rehabilitation and readmission was associated with non-participation.

Conclusions: After discharge for treatment of IE, mortality and readmission rates were high and self-reported physical and mental health poor. Readmission was associated with poor self-reported health and possibly lack of rehabilitation. These findings warrant changes in in-hospital and post-discharge management to improve outcomes in patients with IE.

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Continuity of care after percutaneous coronary interventions: the patient perspective across primary and secondary care settings

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Stress, cognitive appraisal, coping, and event free survival in heart failure patients

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Introduction: There are many unexplored psychosocial factors that also likely contribute to poor prognosis in heart
failure (HF) patients such as stress, cognitive appraisal, and coping.

**Purpose**: A model of HF patients’ response to the stressor of HF is proposed (see Figure 1), and our objective was to test the relationships in this model.

**Methods**: A total of 88 HF patients participated. Stress was measured using the brief Perceived Stress Scale, cognitive by the brief version of the Cognitive Appraisal Health Scale, and coping by the Brief COPE scale. Cox regression analyses were used to determine if coping style or cognitive appraisal type predicted event-free survival. Linear and multiple regressions were used to determine the association among the variables.

**Results**: Stress level was significantly associated with harm and loss cognitive appraisal ($r = -0.342, p = 0.005$) and avoidant emotional coping ($r = -0.342, p = 0.005$). Harm and loss cognitive appraisal was significantly associated with avoidant emotional coping ($r = -0.433, p < 0.001$). Threat cognitive appraisal was also significantly associated with avoidant emotional coping ($r = -0.372, p = 0.002$). Linear and cox regression showed that harm loss cognitive appraisal was a significant predictor of avoidant emotional coping ($\beta = -0.28; 95\% \text{ CI: } -0.21 - 0.02; p = 0.02$) and event free survival (HR = 0.53; 95\% CI: 0.23 - 1.02; $p = 0.05$). Finally avoidant emotional coping (HR = 3.23; 95\% CI: 1.14 - 9.16; $p = 0.03$) was a significant predictor of event free survival among HF patients in the unadjusted model.

**Conclusions**: Cognitive and behavioral therapy may be useful among HF patients who negatively appraise the stress of HF as such appraisal leads to negative coping strategies that are associated with worse event-free survival.
Exploring partners’ perspectives on participation in heart failure home-care - a mixed method design

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Introduction: Previous research has shown that partners and other family members are involved in the care for patients with heart failure, and have an important role regarding outcomes in chronic illness. This involvement included support, both emotionally and practically, and partners often contributed to self-care activities. Partners quality of life may be negatively affected when caring for a person with heart failure, and worse mental health have also been reported. Partners have described both positive and negative experiences of involvement in care, but there is a lack of knowledge of how partners of patients with heart failure view participation in care when the patients receive home-care.

Purpose: The aim of this study was to gain a broader understanding of the partners’ perspectives on participation in the care for patients with heart failure receiving structured home-care.

Methods: A convergent parallel mixed method design was applied with data from interviews analysed with qualitative content analysis, and questionnaires statistically analysed (n=15). Initially results were analysed separately and thereafter merged in a final interpretation with regard to whether they were comparable and convergent, expanded the understanding, or were inconsistent.

Results: Partners scored that they were satisfied with most aspects of participation, information and contact. Qualitative findings revealed four different aspects of participation; adapting to the caring needs and illness trajectory, coping with caregiving demands, interacting with health care providers, and need for knowledge to comprehend the situation. Combining the two datasets showed both confirmatory results that were convergent and also gave expanded knowledge that broaden the understanding of partner participation in this context.

Conclusions: The results revealed different levels of partner participation, with most partners being satisfied with their participation in care, but some partners expressed a fear of demands to come in the future. Heart failure home-care included good opportunities for both participation and contact during home visits, necessary to meet partners’ ongoing need for information to comprehend the situation.

Gender differences regarding in-hospital sleep-wake pattern in octogenarians during the early postoperative phase after aortic valve therapy

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Introduction: Octogenarians are particularly vulnerable to sleep disturbances in the early postoperative phase after aortic valve therapy, resulting in increased daytime sleep and decreased mobilization. Few studies have focused on gender differences regarding sleep-wake pattern and self-assessed sleep in octogenarians going through aortic valve therapy.

Purpose: To investigate gender differences regarding in-hospital sleep and wake pattern in the early postoperative phase after aortic valve therapy.

Methods: A prospective cohort study of octogenarian patients in a tertiary university hospital. Inclusion criteria were 80+ years, having severe aortic stenosis and accepted for surgical or transcatheter aortic valve therapy. Actigraphy was used to identify the sleep-wake pattern for the first five postoperative nights. Minimal Insomnia Symptom Scale (MISs) and Sleep Sufficient Index (SSI) were used to measure the self-reported insomnia and sleep at baseline and daily for the first five postoperative nights.

Results: In the 143 participants (age 83 years, SD 2.7) 57% were women. According to actigraphy, women slept significantly more during both the first (mean 392, SD 79.6 minutes vs mean 334, SD 116 minutes, P=.002) and the fifth postoperative night (mean 366, SD 102 minutes vs mean 334, SD 116 minutes, P=.036) than men. Moreover, women had more daytime sleep than men the first (mean 655, SD 170.7 minutes vs mean 646, SD 148.8
minutes, \(P=.001\)) and the fourth postoperative day (mean 514, SD 161 minutes vs mean 505, SD 163 minutes, \(P=.001\)). For self-reported sleep, women reported less sleep than men, but there were no significant differences. The most dominant insomnia symptom among women the first night was problems maintaining sleep and the fifth night they had problems initiating sleep.

**Conclusion:** There are gender differences regarding sleep-wake pattern in octogenarians measured by actigraphy in the early postoperative phase after aortic valve therapy. Women slept more both at night and day, whereas men perceived to sleep more than women.

**P195**

**Do patients and caregivers perceived control impact depression and well-being in patients with heart failure and partners?**

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**Aim:** To examine whether the physical and emotional well-being of patients with heart failure and their spouses could be associated by their own and the partners perceived control over the patient disease and depressive symptoms.

**Methods:** A total of 155 patient-spouse dyads (patients 75% males, aged 71 years and spouses 75% females, aged 69 years) completed questionnaires, Beck Depression Inventor for depressive symptoms, Control Attitude Scale for perceived control and Short-Form 36 Health Survey for physical and emotional well-being. Dyadic data were analyzed using multilevel the Actor-Partner Interdependence Model regression.

**Results:** Individual’s perceived control and depressive symptoms were significantly associated with their own physical and emotional well-being. Patients’ high level of perceived control was associated with their spouse’s low levels of depressive symptoms and high level of emotional well-being and vice versa for spouses. However, individual’s depressive symptoms was not associated with their spouse’s emotional well-being, and spouse’s own perceived control was not associated with their own depressive symptoms. Individuals influence their own physical well-being in both patients and spouses, indicating those with more depressive symptoms had a poorer physical health.

**Conclusion:** In interdependent relationship between patients and spouses, individual’s perceived control influenced their partner’s depressive symptoms and emotional well-being. Designing interventions to improve outcomes of the dyads, should consider improving both members’ perceived control. More research into the relationship between perceived control and health is needed to help inform the design of interventions targeting patients and caregiving spouses.

**P196**

**Survival in HFP EF vs HFr EF patients after beta-blocker titration: New insights from the CIBIS-ELD trial**

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**Background:** Heart failure is a leading cause of morbidity and mortality worldwide. Roughly half of these patients have preserved ejection fraction (HFP EF), while the other half has reduced ejection fraction (HFr EF). In HFP EF patients, guidelines recommend management of tachycardia, symptoms and comorbidities but provide no disease-specific drug regimen. Beta-blockers (BB) seem to be outstanding candidates, since they lower heart rate (HR), reduce afterload, improve ventricular filling and coronary blood flow, decrease myocardial oxygen demand, decrease pro-inflammatory cytokines and prevent sudden cardiac death.
**Purpose:** To compare the effects of BB on all-cause mortality in HFrEF vs HFpEF.

**Methods:** In the CIBIS-ELD trial, elderly HF patients (≥ 65 years) were randomized to receive either bisoprolol or carvedilol. The BB dose was doubled every two weeks up to the target or maximum tolerated dose. First follow-up was performed after 12 weeks and the long-term follow-up after 4 years. This pre-defined analysis compared HFrEF and HFpEF patients with regards to treatment-related adverse events and all-cause mortality during the 4 year follow-up period, according to HR achieved at the end of 12 weeks.

**Results:** Out of 876 patients included in this analysis, 250 had HFpEF and 626 HFrEF. HFpEF patients were more frequently female, less often in higher NYHA classes, had higher systolic blood pressure and lower HR. More HFpEF patients experienced adverse events (79% vs 58%, p<0.001), regardless of agent. Bradycardia (20% vs 11%), dizziness (15% vs 4%) and fatigue (18% vs 4%) occurred more frequently in HFpEF patients (all p<0.001). The differences remained significant even when adjusting for baseline HR, BB pre-treatment, age, BMI and NYHA class (p<0.001). Overall, long-term survival was better in HFpEF patients. HFrEF patients with HR<64 bpm had a significantly better long term survival when compared to HR>64 bpm (p=0.006). Statistical significance was not shown in regards to better long term survival between HFpEF patients with HR<64bpm and HR>64bpm (p=0.17), but a trend towards improvement of mortality in HR<64bpm subgroup was observed.

**Conclusions:** HFrEF patients with lower HR had significantly better long-term survival. At the same time, even though statistical significance was not shown in the HFpEF group, an evident trend towards the improvement of mortality was observed. Therefore, it seems that placebo controlled trials of longer duration are urgently needed to better understand the effects of BB therapy on clinically meaningful endpoints such as morbidity and mortality.

**P197**

**Frailty in heart failure: prevalence and factors associated in elderly patients hospitalized in Santiago, Chile**

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Frailty is a geriatric syndrome characterized by a progressive impairment in the subjects ability to respond to environmental stress. Frailty is more commonly found in heart failure (HF) patients than in general population and it is an independent predictor of rehospitalization, emergency room visits and death.

**Aim:** To estimate the prevalence of frailty in patients diagnosed with decompensate HF in four hospitals in Santiago, Chile.

**Method:** Cross-sectional study. Subjects aged 60 or older consecutively admitted for decompensate HF to the study centers between August 2014 - March 2015 were included. Frailty was defined by the presence of three or more of the following criteria: unintended weight loss, muscular weakness, presence depression symptoms (exhaustion), reduced gait speed and low physical activity. Independent variables were tested for association using simple logistic regression. Variables associated with frailty (p<0.05) were included in a multiple logistic regression model. Associations were evaluated using odds ratio and confidence intervals.

**Results:** Fifty-three subjects were included. The prevalence of frailty in this population was 49.1%. Frail patients were mostly female (53.9%) and older than non-frail subjects (75.3± 6.9 vs 66.85 ±. 5.3; p<0.001).

Independents predictors of frailty were age (OR 1.36; CI 95%; 1.08-1.71) and number of medications (OR 4.46; CI95%;1.11-17.3).

**Summary:** The prevalence of frailty in patients admitted for decompensate HF is higher than the reported on general population. Low levels HF knowledge, larger number of medications and older age are independent predictors of frailty.

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**Knowledge about Heart Failure (Health Literacy)**

| Less score 5 | 0% | 42.3% | <0.001 |
| 6-11 score | 48.2% | 53.9% |  |
| > 11 score | 51.8% | 3.8% |  |
| Decreased muscle strength | 25.9% | 84.6% | <0.001 |
| Low physical activity | 25.9% | 73.1% | 0.001 |
| Decrease speed walk | 14.8% | 57.7% | 0.001 |
Developing heart failure patients education

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Background: Growing amount of heart failure (HF) patients is causing demands to health care due to severity of illness, reduced hospitalization times and readmissions of these patients. Patient education is essential component in heart failure care to guarantee better quality of life to HF patients. National clinical practice guideline for the “Contents of education in heart failure patients’ self-care” was published in 2011. Guideline is based on ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure and gives effective and well evaluated strategies for patient education.

Purpose: The aim of this study was to obtain information about nursing staffs’ competence in heart failure patients’ education in the cardiology wards.

Methods: Heart failure patient education competence -questionnaire was developed and pilot tested in 2012. The questionnaire was based on clinical practice guideline and experts consensus. The level of competence was measured by 35 items comprising eight sub-scales: patients’ commitment to care, identification and monitoring of symptoms, medication education, HF worsening factors, sleep-related breathing disorders, education of exercise, rest and sexuality and follow-up care. Electronic survey questionnaire included also a knowledge test. The data (n = 55 nurses and practical nurses, response rate 41 %) was collected in 2015 by electronic structured questionnaire in all cardiology wards at one university hospital in Finland. Results were analyzed statistically.

Results: Half of respondents (56 %) felt that their competence in HF patients’ education is up to date. Nursing staff education competence was good related to HF, such as fluid restriction and monitoring weight. Lowest competencies were in special situations e.g. sexuality, identifying symptoms of depression, social support and sleeping disorders. In open responses nursing staff stated that they need more knowledge about HF medication, patient education methods and guidelines.

Conclusions: Nursing staff need more education in many areas related to HF and patient education methods. In the future our aim is to have HF nurse specialist working in cardiology wards. His/her responsibility is ensure quality of patient education by organizing continuing courses for nursing staff. Developing systematic strategies for HF patients’ education will be primary intervention in our cardiology wards.

The rate dependent bundle branch block and mechanical dyssynchrony leads heart failure and beneficial effect of cardiac resynchronization therapy.

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Background- CRT (Cardiac Resynchronization Therapy) has been approved beneficially in heart failure patients with refractory optimised medical therapy on based of many studies. The guidelines have shown CRT is indicated in NYHA class III-IV, LVEF < 35% & QRS >150 ms or LBBB (Left bundle branch block) to improve heart functions, ventricular remodelling and clinical symptoms.

Purpose- comparison of stress induced mechanical dyssynchrony between rate dependent LBBB and RBBB (Right bundle branch block) and beneficial role of CRT to improve LV function and reduce mortality.

Method-Patients presenting dyspnea on exertion NYHA class I-II to III-IV by stress test , normal QRS to rate dependent LBBB or RBBB by Stress test or Dubutamine Stress Echo were studied. CRT on cardiac function were assessed by Cath study, Echo and MRI ( Magnetic Resonance Imaging).

Result- 46 Patients with male and female ratio 1.87 :1, mean age was 46 yrs, 12 months observational study done on stress induced rate dependent LBBB and RBBB with worsening dyssynchrony and poor LV function were treated with CRT. Results have shown improved LV function in rate dependent LBBB patients (31±6 %) v/s RBBB patients (4.5±4%) with P value <0.04. and reduce mortality among rate dependent LBBB with CRT v/s without CRT ( 5% v/s 20 %) and another side mortality difference between rate dependent RBBB with CRT and without CRT were not found significantly.

Conclusion- Stress induced rate dependent LBBB with mechanical dyssynchrony leads to heart failure is benefitted by CRT than Rate dependent RBBB

1 Year mortality in rate dependent BBB
Self-efficacy, motivation and physical activity in heart failure patients
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Background/Introduction: Motivation to be physically active is a necessary precondition of action in heart failure (HF) patients, but still does not suffice to initiate the target behavior. Self-efficacy is considered to be useful constructs that help to facilitate such translations, but not yet examined in HF patients.

Purpose: To examine what role exercise self-efficacy plays in the relationship between exercise motivation and physical activity in HF patients.

Methods: 101 HF patients (mean age of 67 (SD 13.), 62% men. Self-efficacy was measured with the exercise self-efficacy scale; motivation was measured with the exercise motivation index. Physical activity was measured by the question: Over the past week, how much time did you exercise or were you physical active (eg, strength training, walking, or other type of training)? Logistic regression analyses were made to examine the moderation and/or mediation effect of self-efficacy on the relation between motivation and physical activity (1: less that 60 min active/week, 2: more than 60 min active/week).

Results: More than half of the HF patients were more than 1-hour active a week (58%). No moderation effects were found by self-efficacy on the relation between motivation and amount of physical activity. Self-efficacy mediated between motivation and physical activity. Motivation predicted physical activity (b = .58, p< .05). After controlling for self-efficacy, the relation between motivation and physical activity was reduced to b = .76, p=.06, indicating full mediation (see model).

Conclusion: The unveiled mechanism suggest that besides having a high motivation in becoming physical active, it is important to have a high exercise self-efficacy for HF patient in able to be physical active.

The validity of Gr-MSPSS in patients with heart failure
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Introduction: Patients with heart failure (HF) have complex problems, including lack of social support (SS).

Purpose of the study: The aim of this study was to evaluate the psychometric properties of the Greek version of the scale, “Multidimensional Scale of Perceived Social Support” (Gr-MSPSS). Also, authors investigated the levels of perceived SS and to explore potential clinical and demographic factors that affect the perceived SS in Greek-Cypriot population with HF.

Method: It is a methodological descriptive study. The reliability and validity of the Greek version of MSPSS were tested. The reliability was examined through the stability of the test-retest and the internal consistency was tested by the coefficient Cronbach’s alpha. Construct validity was examined by confirmatory factor analysis (CFA) and exploratory factor analysis (EFA).

Results: CFA of the Gr-MSPSS failed to extract the original construct of MSPSS. EFA identified a model with 2 factors: One factor is “Friends” and the other factor is “Family and Significant others”. The internal consistency reliability was examined by Cronbach’s alpha, which is found to be 0.87 and for the factors “Friends” and “Family and Significant Others”, 0.92 and 0.97, respectively. Test-retest showed high correlation between the total score of the scale (r = 0.907, p <0.01).

Patients with HF feel high levels of SS. The mean SS in the study population was estimated at 76.52 (SD 9.4) .Overall, men are found to perceive higher social support than women and retired participants less than workers. Finally, the SS appears to be significantly reduced in patients classified into NYHA IV compared to patients with NYHA I, II, III.

Conclusions: The results of the reliability and validity tests showed satisfactory results of the psychometric properties of the Gr-MSPSS, providing a useful tool for the assessment of perceived SS of Greek speaking patients with HF.
The role of metabolic syndrome in heart failure

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Introduction: Metabolic syndrome (MS) and heart failure (HF) are steadily increasing conditions, with a prevalence of 34% and of 1-2% in the general population, respectively. It is estimated that the prevalence of HF exceeds 8% in subjects over the age of 75 years, and HF has become the principal cause of mortality, hospitalization, and healthcare expenditures in individuals over the age of 65 years. MS represents a cluster of cardiovascular (CV) risk factors, including high blood pressure, insulin resistance, lipid abnormalities, and abdominal obesity that have been identified as “deadly quartet” and are associated with increased risk of HF.

Purpose: The scope of this review is to update the data about MS and HF, exploring prognostic association, mechanistic relationships, current clinical implications, and future research needs.

Methods: Literature review was conducted through electronic sources (pubmed, google scholar, scopus). Key terms used: metabolic syndrome, heart failure, cardiovascular disease.

Results: In the criteria of MS have been recently added features that have not yet been included in the general guidelines, such as disorders of blood clotting (increased fibrinogen and PAI-1 levels), imbalance of adipokines, elevated levels of proinflammatory agents (interleukins, TNF-a, hsCRP), increased oxidative stress and endothelial dysfunction. In the pathophysiology of MS are involved abnormalities of the autonomous nervous system, HPA axis deregulation, and disturbances in the activation of the renin-angiotensin-aldosterone axis. Insulin resistance, diabetes mellitus, and lipid abnormalities represent the main components responsible for several functional, metabolic and structural alterations that ultimately generate myocardial damage and negatively influence HF progression and evolution. Yet, other components responsible of the MS, i.e. obesity and high blood pressure, are favourably associated with outcome in HF patients.

Conclusions: MS is highly prevalent in patients with HF and is associated with multiple molecular, cellular, and neurohormonal responses that may affect prognosis.

Investigating how social support influences HF patients for exercise. A systematic review

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Introduction: Patients with heart failure (HF) seem not to adhere to the therapy which also include exercise. Social support has been found to be associated with the recommendation for exercise.

Aim: It is a systematic review which aims to estimate how social supports influence adherence to exercise.

Methods: A search of the electronic databases PubMed και CINAHL was undertaken by using the words “social support”, “exercise” and “heart failure” in all combinations using the word AND. Inclusion and exclusion criteria were used for the identification of the related articles. Search was established from the beginning of April until the beginning of May 2015.

Results: The systematic search revealed five studies which investigated the role of social support and adherence to the recommendation of exercise in patients with HF. Two of them were qualitative studies and three of them were quantitative studies which used a cross-sectional design. In two of the qualitative studies a positive association was found between the social support and exercise in patients with HF. Social support from the family, the partner and friends seem to be positively associated to the adherence to the recommendation to exercise. In contrast, it was not clear how the health professional influence positively HF patients to exercise. The two of the quantitative studies found social support to be significantly correlated with the adherence to exercise.

Conclusions: Current results show that the evidence are not adequate to clarify how social support is associated with the adherence to the recommendation to exercise.
Introduction: There are approximately 26 million people living with Heart Failure (HF) in the world. This condition affects Life Quality (LQ) more severely than other chronic diseases. However, only in the last years, it has been an emphasis in the objective measurement of the LQ proving its usefulness in the assessment of medical treatment efficacy and its potential as a predictor of mortality and rehospitalization in patients with HF. Therefore, identifying the factors that affect LQ in this population is a priority, in order to reduce the impact of the HF in the various dimensions that comprise this broad construct.

Objective: To determine the independent predictors of the life quality in patients with heart failure.

Methods: A cross-sectional analytical study in patients with chronic HF treated in a heart failure and heart transplantation clinic (February to October 2015). The outcome variable was the LQ measured through The Minnesota Living with Heart Failure Questionnaire (MLHQF); sociodemographic and clinical characteristics were studied. A descriptive analysis and simple and multiple linear regressions were performed to establish the predictors, statistical significance was considered with a p <0.05; the assumptions of the linear regression model were evaluated. Data were analyzed in the statistical software Stata v14. This research had the approval of a ethics committee.

Results: A total of 200 patients. The median of age was 64 years (range 20-88 years), 63% were men. In 20% of the patients, the etiology of the HF was Chagas disease and in the 80% other causes (ischemic, valvular, hypertensive, among others). The median of left ventricular ejection fraction (LVEF) was 30% (range 10-68%). The average of LQ was 38.7 points SD± 22.6 points. In the multivariate analysis four independent predictors that affect the LQ and one that favors the LQ were found: etiology of HF (Chagas vs others) β = 10.94 (95% CI 5.60 to 16.29), number of hospitalizations in the last year β = 2.10 (95% CI 0.45 to 3.75), use of digitalis β = 6.14 (95% CI 1.32 to 10.96), functional class (NYHA III-IV vs. I-II) β = 18.87 (95% CI 15.78 to 21.97) and socioeconomic status (high vs low-medium) β = -11.27 (95% CI -20.28 to -2.25).

Conclusions: These findings demonstrate that the LQ in patients with HF is modified by the following predictors: high socioeconomic level, Chagas disease, number of hospitalizations in the last year, use of digitalis and NYHA functional class III-IV, explaining the 55.47% of the total variation of the LQ in the study population.
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Clinical outcomes in patients with systolic heart failure after nursing education

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Purpose: The aim of our study was to evaluate the effect of nursing education on rehospitalization rates, inhospital length of stay and mortality in patients with systolic heart failure.

Methods: A randomized controlled trial was conducted in Athens to evaluate the effect of a nurse-led educational intervention on patients outcomes. 190 heart failure patients were randomly selected to participate in one educational session and were allocated in two groups: a) a control group (n=96), which had the usual care and b) an intervention group (n=94) with nurse-led educational intervention. Clinical outcomes were compared between the two groups. Data were collected at four times, firstly during patient hospitalization and subsequently at 3, 6 and 12 months after hospital discharge through telephone-based follow-up. A special form was recorded on rehospitalization rates, inhospital length of stay and mortality.

Results: 135 patients completed the study. Rehospitalization rates, inhospital length of stay and mortality had no statistically significant differences between the two groups. During the 12-month follow-up period 50.0% of controls and 44.4% of the intervention group patients had a rehospitalization event. Even, within the same period 39.7% of control patients had a rehospitalization due to decompensated heart failure, while, the proportion of the intervention group was 31.9%. Also, mortality was 11.1% for the control group and 7.8% for the intervention group. Patients in the intervention group were not found to have a significant difference in survival.

Conclusions: Education was found ineffective to decrease the use of healthcare services and to improve survival of heart failure patients. Further research is needed on nurse-led educational interventions for improving heart failure patients outcomes.

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 Decompensated heart failure

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Introduction: This case study features a 56 years old man who had been diagnosed with heart failure (HF) NYHA stage IV and Left Ventricular Ejection Fraction 20-25%. He underwent aortic valve replacement in 2007 and after two acute coronary syndromes (myocardial infarctions) in 2011 and 2014, he underwent percutaneous transluminal coronary angioplasty. Lastly, in 2015, he had a valvuloplasty in catheterization laboratory. Since his last admission he has been taking the following medication treatment: diuretics, antidepressants, anticoagulants, ACE inhibitors and b-blockers. Identification of the problem: This man presented to the clinic with signs of pulmonary edema. The last two months had repeated re-admissions due to decompensated HF. During his last hospitalization he became haemodinamically unstable with fever and episodes of panic. He was transferred to the intensive care unit (ICU) for close monitoring. Medication in ICU included inotropes for haemodynamic stability, diuretics and antibiotics.

The patient needed social support due to his condition and young age. It was provided by the closer person to him who was his wife and who has been with him almost the whole of the day during hospitalization. The fact that she was present seems to be contradicting in terms of patient reactions. Questions and problems: Patient diagnosed with endocarditis and aortic valve reduction. In fact patient started antibiotic therapy while scheduled for cardiac surgery. An important part of the nursing interventions which took place during this time of period was on psychosocial issues and support, by educating the patient and his family. Last but not least, nursing care focus on education of patient and his family about heart failure syndrome.

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Intensive care of children after implantation of single ventricle heart mechanical assist. Case Study.

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Introduction: Life of a child with a single ventricle heart defect depends on a proper circulation through pulmonary vascular bed. The mechanical assist is a frequent solution which poses a challenge for the nursing staff. Aim of study: Presenting the main nursing problems when providing care to children with a single Fontanventricle after implantation of BIVAD.

Methods: In this work, The case study research method was used. Doctors’ and nurses’ documentation together with personal observations from the course of treatment of children with Fontan circulation defect, who were implanted artificial heart ventricles, were analyzed.

Conclusions: 1. Single ventricle heart mechanical assist in children is a big challenge for care providing doctor-nurse team.
2. A large proportion of conducted assists fail due to such consequences of Fontan circulation as: single ventricle overload, thromboembolic disorders, enteropathy or plastic bronchitis.

3. A necessary condition to provide a professional nursing care are proper qualifications and good knowledge of:
   a. Fontan circulation anatomy and physiology,
   b. postoperative complications including post-perfusion syndrome after cardiac surgeries which are characteristic for children,
   c. rules of operating and using the device mechanically assisting the circulation (in this case it was Berlin Heart Excor),
   d. abnormalities of the membrane function in implanted artificial ventricle, importance of alarms and proper ways of reacting.

5. Exchange of experiences between nurses working with patients with Fontan circulation will enable to establish reliable procedures and standards of care and, therefore, will ensure safety for the child and its parents.

P210

Heart failure and arrhythmias in patients with hypothyroidism

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Purpose: The combination of heart failure (HF), arrhythmias, metabolic syndrome (MS) and expression hypothyroidism (ExH) progressively increases risk development of cardiovascular diseases.

Methods: 97 women with MS by ATP III are surveyed 2gr.: 1gr.48 patients (53.8±3.3 years) with MS and ExH (TSH 16.4±2.3IU/ml, FT4 0.2±0.1mg/ml); 2gr. 49 patients (54.1±3.2years) with MS and euthyroid (TSH 2.4±1.0IU/ml, FT4 0.9±0.1mg/ml). Were determined: waist circumference (WC), body mass index (BMI), echocardiography in view of myocardial dysfunction, reduced ejection fraction, left ventricular hypertrophy (LVH), 24-hour monitoring ECG.

Results: patients of 1gr. had authenticaller smaller displays of abdominal obesity (WC 106.0±4.4sm), in comparison with 2gr. (WC 92.1±3.1sm BMI in groups differ (34.6±1.0 and 29.3±1.1 accordingly). The patients of 1gr. hat increase the myocardial mass index 136.7±3.5g/m² in comparison to presence LVH, of more expressed myocardial dysfunction≤.45%. The patients of 1gr. were manifestations of atrial fibrillation in 65%.

Conclusions: manifestation of heart failure in patients with MS and ExH is accompanied by more expressed of abdominal obesity (by BMI) and predominance of LVH, ejection fraction reduced, arrhythmias in comparison with 2gr.

P211

Investigation of the effect of tele monitoring on the quality of life in patients with chronic heart failure

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Purpose: The study aims to investigate the effects of using telemonitoring method on the quality of life of patients with chronic heart failure and on the symptoms of the disease.

Methods: The sample population was 40 patients (20 intervention, 20 control) who were hospitalized in the cardiology department and intensive care unit of an University Medical Faculty Hospital and who presented to the outpatient clinics with a complaint of heart failure and fulfilled the inclusion criteria.

The Individual Identification Form, the Left Ventricular Dysfunction Questionnaire, the Structured Telephone Interview Form and algorithms related to the symptoms of heart failure were used as data collection instruments.

Results: A significant difference was determined between the mean quality of life score at baseline (69.16 ± 26.13) and the mean quality of life scores at the third (57.50 ± 29.70) and sixth months (51.94 ± 26.18) in the intervention group.

While the mean quality of life score of the patients in the control group was 63.05 ± 26.61 at baseline, it was 72.77 ± 23.52 three months later and 65.55 ± 22.98 six months later.

Conclusions: The results indicate that telemonitoring method improved the quality of life in patients with chronic heart failure.
Table 1. The distribution of the mean quality of

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<th>0th month</th>
<th>Control group</th>
<th>3rd month</th>
<th>Intervention group</th>
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P212

The rate dependent bundle branch block and mechanical dyssynchrony leads heart failure and beneficial effect of cardiac resynchronization therapy (CRT)

Naresh Sen,1 S Jagdish2 and Sonal Tanwar2

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Background- CRT (Cardiac Resynchronisation Therapy) has approved beneficially in heart failure patients with refractory optimised medical therapy on based of many studies. guidelines have shown CRT is indicated in NYHA class III-IV, QRS >150 ms, LBBB (Left bundle branch block) to improve heart functions, ventricular remodelling and clinical symptoms.

Purpose-comparison of mechanical dyssynchrony stress induced between LBBB and RBBB (Right bundle branch block) and beneficial role of CRT to improve LV function and reduce mortality.

Method-Patients presenting dyspnea on exertion NYHA class I-II to III-IV, normal QRS to LBBB or RBBB by Stress test or Dubutamine Stress Echo were studied. CRT on cardiac function were assessed by cath study, echo and MRI (Magnetic Resonance Imaging).

Result-12 months observational study done on stress induced rate dependent LBBB and RBBB with worsening dyssynchrony and poor LV function were treated with CRT. Results have shown improved LV function in rate dependent LBBB patients 3±6 % v/s RBBB patients 4.5±4% with P value <0.04. and reduce mortality among rate dependent LBBB with CRT without CRT (5% TO 20%) another side mortality difference between rate dependent RBBB with CRT and without CRT were not found significantly.

Conclusion- Stress induced rate dependent LBBB with mechanical dyssynchrony leads to heart failure is benifited by CRT than Rate dependent RBBB.

Education and behavioural aspects

P214

Competence development in patient education. The perspective of health professionals and patients with experience in patient education in cardiac care
Background: As a facilitator of lifestyle change and risk factor reduction, patient education is a core component in secondary prevention of CHD. Thus, health professionals with the competence to provide quality patient education are central to meeting patients’ needs. However, research on what type of competencies and how they should be developed remains lacking.

Purpose: The aim of this study was to investigate, health professionals and patients’ views on the knowledge and skills necessary for being a good educator for adults recently diagnosed with CHD and, health professionals’ views on how competencies in patient education should be developed.

Methods: This research project builds on two qualitative studies, using semi-structured individual interviews with 19 health professionals and 17 patients. Purposeful sampling was used to recruit participants from Iceland and Norway.

Results: There was a common consensus among the participants that combining sound, updated theoretical and clinical knowledge with good communication skills were essential characteristics of a good educator. Specific skills included being able to establish trusting relationships with patients, capturing their learning needs, facilitating effective dialogue, and providing individualized patient education. Both health professionals and patients described the ability to tailor education to each patient’s needs and context as the most important characteristics of a good educator. The patients saw a good educator as trustworthy and able to translate general information to their personal situation in lay language. Building trust was dependent on patients’ perceiving the educator to be knowledgeable and good at connecting with the individual patient, so that the patients felt that they were being treated as a whole person with equality and respect. The health professionals also saw this as an important aspect. A supportive learning environment, experiential training, inter-professional cooperation, and mentoring from experienced educators were cited as examples of resources that enhance competence development.

Conclusion: According to the participants, competence in patient education requires evidence-based knowledge and clinical experience in cardiology. Good educator was described as trustworthy, with advanced communication skills that enable them to motivate and connect with the individual patient and the ability to tailor patient education. A supportive learning environment and inner motivation were considered the main factors required to become an expert educator.

Psychometric evaluation of the polish adaptation of the hill-bone compliance to high blood pressure therapy scale

Background: Development of simple instruments for the determination of the level of adherence in patients with high blood pressure is the subject of ongoing research. One such instrument, gaining growing popularity worldwide, is the Hill-Bone Compliance to High Blood Pressure Therapy.

The aim of this study was to adapt and to test the reliability of the Polish version of Hill-Bone Compliance to High Blood Pressure Therapy Scale.

Material and Method: A standard guideline was used for the translation and cultural adaptation of the English version of the Hill-Bone Compliance to High Blood Pressure Therapy Scale into Polish. The study included 117 Polish patients with hypertension aged between 27 and 90 years, among them 53 men and 64 women. Cronbach’s alpha was used for analysing the internal consistency of the scale.

Results: The mean score in the reduced sodium intake subscale was M = 5.7 points (standard deviation SD = 1.6 points). The mean score in the appointment-keeping subscale was M = 3.4 points (standard deviation SD = 1.4 points). The mean score in the medication-taking subscale was M = 11.6 points (standard deviation SD = 3.3 points). In the principal component analysis, the three-factor system (1 – medication-taking, 2 – appointment-keeping, 3 – reduced sodium intake) accounted for 53% of total variance. All questions had factor loadings > 0.4. The medication-taking subscale: most questions (6 out of 9) had the highest loadings with Factor 1. The appointment-keeping subscale: all questions (2 out of 2) had the highest loadings with Factor 2. The reduced sodium intake subscale: most questions (2 out of 3) had the highest loadings with Factor 3. Goodness of fit was tested at chi2 = 248.87; p<0.001. The Cronbach’s alpha score for the entire questionnaire was 0.851.

Conclusion: The Hill-Bone Compliance to High Blood Pressure Therapy Scale proved to be suitable for use in the Polish population. Use of this screening tool for the assessment of adherence to BP treatment is recommended.
Developing critical thinking skills in continuing nursing education through visual simulation scenarios

E Anikeeva, G Plotnikov, O Andguladze and I Halivopulo

1Research Institute for Complex Issues of Cardiovascular Diseases, Department of Education and Research, Kemerovo, Russian Federation

Background: Nurses are pivotal in hospital efforts to improve quality since they spend the most time at the patients’ bedside. However, their involvement in quality improvement is limited by specific challenges, related to traditional nursing education that does not always adequately prepare them for their evolving role in today’s contemporary hospital setting. Nurses are now required to provide skilled, multidimensional care in multiple, often unfamiliar environments or settings. Therefore, developing critical thinking and clinical decision-making skills is crucial for nursing process and education.

Purpose: To assess the effects of visual simulation based on branching algorithms on the development of critical thinking and clinical decision-making skills in nursing education aimed at delivering safe care to acute cardiac patients in the intensive care unit.

Methods: A quasi-experimental design using a regression-discontinuity analysis was used to assess the efficiency of visual simulation on developing critical thinking and clinical decision-making skills. 60 intensive care nurses were enrolled in the study. All nurses underwent a pre-test critical thinking questionnaire for the regression-discontinuity analysis. Since the obtained results indicated fundamental weakness in critical thinking (< 12 scores), all subjects underwent a basic knowledge test and were enrolled into two groups according to the cut-off criterion of 50% of positive answers: Group 1 (⩾ 50%, n=31) – a case-based learning education and Group 2 (< 50%, n=29) – a case-based learning education combined with visual simulation scenarios. The efficiency of the visual simulation scenarios on critical thinking was assessed using the post-test questionnaire.

Results: The pre-test data analysis showed that there was no dependence between work experience, knowledge level and critical thinking level. The post-test mean total score of 20 in Group 2 demonstrated a significant increase in critical thinking and decision-making skills corresponding to mid-range skill level suitable for learning and employee development. Whereas, the mean total score in Group 1 was 17.6 suggesting slower progress in the improvement of critical thinking in this Group.

Conclusion: Prior to training, critical thinking skills did not differ with respect to the nurses’ work experience. The case-based education combined with visual simulation scenarios was more effective in improving the nurses’ critical thinking and clinical decision-making skills compared to single case-based learning education.

In-service training in CPR: how often should be performed?

P Rammou, A Shena, E Dece and E Kletsiou

1HYGEIA HOSPITAL TIRANA, TIRANA, Albania 2University General Hospital Attikon, Athens, Greece

Introduction: In-Hospital-Cardiac-Arrest (IHCA) is not a sudden event but in most cases the result of a slow and progressive deterioration. In most clinical areas early recognition, 1st responder, immediate activation of a Code-Blue Team and performance of Cardiopulmonary Resuscitation (CPR) are critical elements of survival after IHCA. Thus, nurses’ competency in CPR is a critical factor in patient outcome suffering from IHCA.

Purpose: The purpose of this study was to determine the extent to which nurses acquire and retain knowledge following CPR training courses.

Sample & method: A convenient sample of nursing personnel (n=56) that had undergone in-service CPR training were administered a 20-item questionnaire (Retention Test, RT). The results of the RTs were compared to the mean values of a quasi-experimental study (pre-test followed by 4 hours CPR course, and a post-test questionnaire) that was held 6 months earlier.

Results: 43 RTs returned to the researchers (RR 77%), 34 of them (80%) were females with mean age 32.5±6 and mean experience 8.8±6.2 years. Six months after the training the mean score of the correct answers was 15.5±2, while the same score before the training was 11±3 and immediately after 15±2. Means before and after the training were statistically increased (p=0.000), but the there was no significant difference 6 months after the intervention. The findings supports that overall knowledge which gained during the seminar was retained for a 6-month period of time. Further analysis of the testing scores revealed that there was significant difference in 6 questions; 3 of them had further improvement (10%, 12%, 54.2%, p=0.036, p=0.034, p=0.000, respectively) but in 3 others scoring was similar to those prior to CPR training (p=0.000, p=0.023, p=0.000 respectively).

Conclusion: Findings of the study reveal that retention of knowledge of nursing personnel 6 months after a CPR training course was comparable, as their total score of correct answers remain unchanged. However, a more detailed approach of the scoring reveals a deficit of knowledge on specific topics. This study, as others,
supports the necessity of periodical refreshing in-service CPR courses, based on frequent knowledge assessment.

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Basic life support: retention of nursing personnel's theoretical knowledge after initial training

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1Hippokration General Hospital, Athens, Greece 2University of Athens Medical School, Athens, Greece

Introduction: Almost half of cardiac deaths occur in a hospital environment. Nurses are the first responders in cases of in-hospital cardiac arrest. Their competence in Basic Life Support (BLS) is paramount in improving patient outcome. The retention of BLS theoretical knowledge is a key factor in determining CPR competence overtime.

Purpose: To determine the retention of nursing personnel’s BLS theoretical knowledge overtime in a Greek Tertiary Hospital.

Methods: A questionnaire, based on the 2010 European Resuscitation Council BLS Guidelines, was distributed to 120 nurses who had attended a certified BLS course during the previous year. It consisted of demographic data and 12 multiple choice questions on BLS theoretical knowledge.

Results: Of the 120 questionnaires, 96 were answered (80% response). Of the responders, 13 (13.5%) were female, 55 (57.2%) were aged more than 40 years old, and 16 (16.5%) had a master’s degree. Their experience consisted of a mean 23 years of working and a median of attending 3 arrests per year.

Regarding the questionnaire, the mean knowledge score (correct answers) was 8.4 (perfect score 12, 70%). The correlation between the time elapsed from the seminar and the score was inversely related but non-statistically significant (Spearman’s rho (r) = -0.079, p = 0.319). Corresponding results emerged when the analysis was repeated per gender (men: Spearman’s-rho = 0.327, p=0.340 and women: r=-0.079, p = 0.478), per age profile (<40 years old r=-0.06, p=0.664 >40 old r=-0.501, p = 0.108), per level of education (master’s degree holders r=-0.395, p=0.129 and non-holders r=-0.097, p=0.392) and years of service (<10 years r=0.126, p=0.290 and >10 r=-0.023, p = 0.917)

Conclusions: In a Greek Tertiary Hospital retention of BLS knowledge, as judged by a questionnaire assessment, after a seminar seems to be adequate over a one-year period. This is irrespective of gender, sex, level of education or years of service. Loss of knowledge does exist, but does not reach statistical significance. Therefore, re-training should focus on periods that extend further than one year.

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A survey of maintenance of personal health and coronary risk factors in norwegian cardiac nurses

S Olsen1 and G Brors2

1University Hospital of North Norway, Division of Internal Medicine, Harstad, Norway 2Namsos Hospital, Department of Medicine, Namsos, Norway

Background: Nurses play an important role in coronary heart disease prevention and health promotion. Cardiac nurses (CN) seem to have adopted a healthier lifestyle than the general population. However, health status of CN is not previously studied in Norway.

Aim: The aim of this study was to explore the maintenance of personal health and coronary risk factors among CN in Norway.

Method: A questionnaire on self-reported lifestyle and health behaviour was mailed to members of the Norwegian National Society of Cardiovascular Nurses.

Results: After three reminders, 421 of 1040 members had opened the mail with the survey. The response rate was 72% (n=304). Two third of the CN have never smoked. The majority of the CN reported Body Mass Index (kg/m2) from 19 to 24(58%). Half of the CN exercise two to three times a week, and one-third exercise approximately every day. The majority of the CN reported one or two risk factors for coronary heart disease (CHD). Family history of CHD (41%) and stress (52%) were most common. Furthermore, one fourth of the CN had been to physician within the last year.

Conclusions: These findings suggest that Norwegian cardiac nurses have a healthy lifestyle and are aware of their own coronary risk factors.

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Critical analysis of nurses opinion about CPR e learning versus classroom delivery or combination of methods

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1University of Peloponese, of Economy, Management and Informatics Department of Economics, Tripoli, Greece 2University of Peloponese, Department of Nursing, Sparti, Greece 3Technological Educational of Athens, Department of Nursing, Athens, Greece

Background: One of the most common causes of death worldwide is sudden cardiac arrest. In Europe, each year...
350,000-700,000 people are affected. In US, approximately 350,000 people annually experience an out-of-hospital heart failure. Nowadays, there is plethora of educational programs introducing basic life support skills among medical, paramedical stuff but also civilians. With the increasing use of computer technology, e-learning gains ground the recent years in several areas including medicine.

**Purpose:** In our study, we conducted an opinion research about whether e-learning classes of CPR, conventional classroom learning or a mixed pattern are preferable among nurses.

**Methods:** Our study was conducted between August 2014 and April 2015 using an e-questionnaire uploaded in the official page of the National Regulatory Body of Nurses. In total 108 questionnaires were enrolled in the study after authenticity filtering.

**Results:** 30.3% of the participants were men and 68.8% women with mean age 36.21 years. 50.5% lived in capital city’s wide area, 47.7% had received higher education, and 43.1% had also a Master’s degree. 11.9% had no income, 37.6% and 32.1% received 500-1000 and 1000-1500€/month respectively. About 70% of the responders believe that average tolerable educational cost for a BLS course is about or less of 25€. 96.6% of the participants had CPR training before and a 90.8% desired to take further education or be retrained. 96.3% would apply CPR if needed with 67.9% not to quail from the risk of legal penalties. 84.4% had a certified knowledge of computers. Among e-learning, traditional classroom sessions and a combination of methods, 7.3% chose e-learning, 26.6% and 65.1% respectively classroom training or a combination of methods.

**Conclusion:** Nurses seem to prefer to be trained by a combination of methods or else beginning to trust e-learning. There is an increasing will for CPR training or retraining. The majority would offer a minimum amount of money for education, totally justified from the current socioeconomic status and the lack of public funding. Encouraging, most of the participants have the intention to apply CPR if needed, despite the possibility for legal consequences.

**Aims:** To explore registered nurses’ perceptions about the situation of family caregivers to patients with heart failure, and registered nurses’ interventions, in order to improve family caregivers’ situation.

**Methods:** A qualitative design with an inductive approach. Six focus group interviews were held with 23 registered nurses in three hospitals and three primary health care centres. Data were analysed using qualitative content analysis.

**Results:** Two content areas were identified by the a priori study aims and four categories emerged in the analysis process. The content area “Family caregivers’ situation” includes the two categories: “To be unburdened in a clear and accessible care continuum”and “To comprehend the heart failure condition and its consequences”. The content area “Interventions to improve family caregivers’ situation” includes the two categories: “Individualized support and information in a clear and accessible care continuum” and “Bridging contact”.

**Conclusions:** Registered nurses perceived family caregivers’ situation as burdensome, characterized by worry and uncertainty. In the primary health care centres, the continuity and security of a registered nurse as a permanent health care contact may be a sustainable intervention to mitigate family caregivers’ worry and uncertainty. In the nurse-led heart failure clinics in hospitals, registered nurses can provide family caregivers with the opportunity of involvement in their relative’s health care, and also address congruence and relationship quality within the family. Registered nurses considered it necessary to have a coordinated individual care plan as a basis for collaboration between the county council and the municipality.

**Introduction:** Heart failure is a growing public health problem associated with poor quality of life and significant morbidity and mortality. The majority of heart failure care is provided by family caregivers, and is associated with caregiver burden and reduced quality of life. Research emphasizes that future nursing interventions should recognize the importance of involving family caregivers to achieve optimal outcomes.

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**Aims:** To explore registered nurses’ perceptions about the situation of family caregivers to patients with heart failure, and registered nurses’ interventions, in order to improve family caregivers’ situation.

**Methods:** A qualitative design with an inductive approach. Six focus group interviews were held with 23 registered nurses in three hospitals and three primary health care centres. Data were analysed using qualitative content analysis.

**Results:** Two content areas were identified by the a priori study aims and four categories emerged in the analysis process. The content area “Family caregivers’ situation” includes the two categories: “To be unburdened in a clear and accessible care continuum” and “To comprehend the heart failure condition and its consequences”. The content area “Interventions to improve family caregivers’ situation” includes the two categories: “Individualized support and information in a clear and accessible care continuum” and “Bridging contact”.

**Conclusions:** Registered nurses perceived family caregivers’ situation as burdensome, characterized by worry and uncertainty. In the primary health care centres, the continuity and security of a registered nurse as a permanent health care contact may be a sustainable intervention to mitigate family caregivers’ worry and uncertainty. In the nurse-led heart failure clinics in hospitals, registered nurses can provide family caregivers with the opportunity of involvement in their relative’s health care, and also address congruence and relationship quality within the family. Registered nurses considered it necessary to have a coordinated individual care plan as a basis for collaboration between the county council and the municipality.
Purpose: The purpose of this study was to develop a description of nurses’ knowledge about, attitudes toward, practice behaviors related to cardiovascular diseases (CVD) risk reduction.

Methods: We surveyed 50 primary care nurses in 10 health care centers located in 2 cities in Northwestern Albania (Lezhe and Shkoder). The data was collected over five weeks and was analyzed using descriptive analysis.

Results: The majority of the surveyed nurses could identify common risk factors for CVD and had positive attitudes toward CVD risk reduction. However, less than 62% of the respondents could correctly answer questions about evidence-based recommendations for CVD risk reductions. This sample of Albanian nursing professional lacked knowledge critical to providing guidance to individuals with or at risk for CVD.

Conclusions: However this is a small scale study and further investigation need to be done.

More intensive and creative approaches to the education of nursing professionals regarding CVD risk reduction are recommended.

P224

Nutritional habits and heart health of the university students

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Background: University youth is the group under risk in terms of the prevalence of the nutrition problems.

Purpose: This study is performed to determine nutritional habits of the university students and to evaluate the nutritional habits according to the heart health.

Method: The research was performed in a cross-sectional and descriptive study by the students studying at Marmara University, Faculty of Health Sciences and Social Sciences between October 2014 and February 2015. 602 voluntary students participated in the study. Percentage, frequency, average and chi-square were used for the statistical analyses. Significance level was taken as p<.05 in all of the tests.

Results: 69.3% of the cases whose average of age are 20.04±1.87 are female students and 63% of them are studying at the Faculty of Health Sciences. 9.1% of the students consume five portions of vegetable and fruits daily, 9.8% of them are using omega-3, 10.3% of them eat fish at least twice a week, 28.2% of them drink milk and fresh-squeezed fruit juice in the breakfast, 28.9% of them add salt before tasting the foods, 54.7% of them drink two liters of water daily, 64.3% of them prefer boiled and grill food instead of frying, 77.7% of them consume foods containing additives, and 79.9% of them drink caffeinated beverage. Breakfast is detected to be the most skipped main meal. It is detected that students of Health Sciences consume foods containing additives more than the students of Social Sciences (p=0.037) and follow the news regarding the nutrition and heart health more than the same (p<.0001). It is found that females prefer whole wheat bread while the males prefer white bread in the meals (p=0.001). It is determined that the males use omega-3 more than the females (p=0.019). Most of the male students add salt before tasting the foods (p=0.001) and drink more water than the females (p=0.003).

Conclusion: It is found that the students highly consume the foods containing additives while they consume vegetable, fruit and fish little, add salt before tasting the foods and do not have breakfast regularly and do not have good nutritional habits according to the heart health.

P225

Basic life support and automated external defibrillation (BLS and AED) provider refresher seminars: preliminary results of their effectiveness

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Introduction: Basic Life Support and Automated External Defibrillation (BLS/ AED) Provider Refresher Seminars is a new initiative program presented during conferences around Europe. Seminars based on 90 min hands-on sessions are focused mainly in teaching practical skills.

Purpose: To assess the effectiveness of the refresher BLS seminars, in terms of knowledge improvement and participants’ satisfaction.

Material – method: A self – answered, anonymous questionnaire, specially designed for the purpose of this study, distributed to health care professionals attending the seminars. The questionnaire consisted of a 5-item multiple choice knowledge test, questions about demographic characteristics and the evaluation of the seminars.

Results: 16 (30%) men and 39 (71%) women with mean age 30±13.14 years were trained. 40% had been trained in BLS before, with most of them (77%) after 2010 and only 20% followed a course more than once. 34.5% never performs BLS in real life, while 18.2% trained in BLS before, with most of them (77%) after 2010 and only 20% followed a course more than once. 34.5% never performs BLS in real life, while 18.2% performs more than 5 resuscitations per year. There was statistically significant improvement in all test’s questions (see table). Regarding the satisfaction of the
participants in a scale for 0-5 the registration procedure was rated with 4.68 ± 0.62 and the usefulness of the seminar with 4.87±0.33. The duration of the seminar was found optimal by 67.3 % of the participants and rather short by 18.2 %. 83.6% of the sample would like to follow a full BLS course and the 89.1% would like to follow an ALS course.

**Conclusions:** Despite the absence of sessions dedicated to teaching background knowledge some improvement was noticed. Questions requiring combination of simple steps were the less well answered before or after the seminar. Apparently some form of training in background knowledge is required for optimizing participants' benefit from seminars.

**Table 1. Correct answers before and after seminar.**

<table>
<thead>
<tr>
<th>Question</th>
<th>Before, n(%)</th>
<th>After, n(%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q1: Compression / ventilation ratio</td>
<td>42/55 (76.4)</td>
<td>54/55 (98.2)</td>
</tr>
<tr>
<td>Q2: Appropriate rhythm of chest compressions</td>
<td>30/55 (54.5)</td>
<td>51/55 (92.7)</td>
</tr>
<tr>
<td>Q3: Correct order of the steps of BLS algorithm</td>
<td>8/55 (14.5)</td>
<td>24/55 (43.6)</td>
</tr>
<tr>
<td>Q4: Correct positioning of AED pads</td>
<td>38/54 (70.4)</td>
<td>49/54 (90.7)</td>
</tr>
<tr>
<td>Q5: Number of rescuers needed to use an AED</td>
<td>38/53 (71.7)</td>
<td>44/53 (83)</td>
</tr>
<tr>
<td>Total Score</td>
<td>2.8 ± 1.2</td>
<td>3.89 ± 0.93</td>
</tr>
</tbody>
</table>

* All p values for \( \chi^2 \) comparisons before and after seminars<0.0001.

**Arrhythmias**

**P227**

Coping strategies before and after ICD implant: a randomised clinical trial of a psycho-educational support intervention delivered by arrhythmia clinical nurse specialists

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**Background:** Whilst many people learn to cope with long-term conditions or life-threatening illness, coping with potential sudden, unpredictable reminders of individual mortality when receiving shock therapy creates a unique challenge for people with ICDs. Clinical indications for ICDs continue to increase and evidence regarding how people learn to cope with both their underlying diagnosis (thus their primary or secondary prevention need for an ICD) and the impact of having such a device on their lives is still evolving.

**Purpose:** This clinical trial sought to assess coping strategies used and anxiety levels before and after ICD implant and whether these could be affected through a psycho-educational intervention delivered by arrhythmia clinical nurse specialists.

**Method:** A purposive sample of eligible patients awaiting first ICD implant was recruited over 27-months. ’Treat-and-return’ cases could not reliably access arrhythmia nurses pre-implant so were excluded. Participants completed the COPE inventory and State Trait Anxiety Inventory (STAI) pre-implant (T1), 6-weeks (T2) and 6-months (T3) post implant. The intervention was delivered 7-10 days post hospital discharge and following 6-week device check.

**Results:** Of 63 patients recruited and randomised, forty-nine participants (81.6% male) completed pre-implant questionnaires (usual care n=25, intervention n=24) and 32/49 repeated these at T2 and T3. No significant differences were found between intervention and usual care groups post-intervention. Both groups demonstrated altered coping over time (intervention group revealed increasing planning \( p=0.037 \) and decreasing mental disengagement \( p=0.008 \), usual care group demonstrated increased denial \( p=0.019 \)). At T3, denial significantly correlated with heightened state (\( r=0.573, p=0.010 \)) and trait (\( r=0.577, p=0.010 \)) anxiety for usual care.

**Conclusions and implications for practice:** This appears to be the first study to present longitudinal coping strategy data in the ICD patient population and the first to highlight discrepancies in access to arrhythmia specialist nurses. Whilst small sample size limits generalisability, changes in coping strategies over time, correlations to anxiety outcomes and the potential to influence these through a psycho-educational intervention delivered by arrhythmia specialist nurses warrants further investigation with larger samples.

**P228**

Methadone is a drug-induced acquired long QT syndrome and causes torsades de pointes. the optimal management of patients dependent on methadone is a big challenge

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**Introduction:** Methadone is a long-acting opioid receptor agonist and it is a first line pharmacotherapy agent for opioid use disorder. Several studies have reported QTc interval prolongation and TdP(TdP) with both therapeutic doses
and overdoses of Methadone. The optimal management of patients dependent on Methadone who develop potentially fatal arrhythmias remains unclear.

**Case report description:** A 50 year old female was admitted to Cardiology Department of Konstantopouleio General Hospital with electrical storm. The patient was on Methadone program for opioid addiction for the last three years. She claimed that she did not receive any opioid drugs, other than the prescribed oral doses of 100 mg Methadone daily. She reported recurrent syncopal episodes over the last 12 months. On admission her ECG showed long QTc interval (590 msec) and prominent U waves (corrected QTU: 708 msec), based on the Bazett’s formula. The initial diagnosis was Methadone –induced acquired long QT syndrome and TdP. With progressive weaning down of the Methadone dose under cardiac monitoring, the QTc levels decreased. Considering the half-life time of Methadone is 15-60 hours and with consultation with psychiatry specialists, a benzodiazepine (alprazolam 1 mg daily) was added to avoid withdrawal syndrome. On the 9th day of hospitalization the Methadone maintenance dose was decreased 30 mg, the QTc interval improved to 480 msec and there were no T-U wave patterns in the ECGs. In telemetry monitoring there were no recurrent episodes of TdP. During the 10-day hospital stay, the patient remained hemodynamically stable, asymptomatic, without any physical or mental disorders. It remains unclear whether an underlying genetic predisposition for arrhythmias (i.e. congenital LQTS) was present, as there was no cardiac work up before the initiation of Methadone therapy.

**Conclusion:** Methadone is a potential cause of QT interval prolongation and TdP. The combination of progressively decreasing doses of Methadone combined with benzodiazepine under cardiac monitoring temporarily prevented withdrawal symptoms and ventricular arrhythmias. Thorough medical history, baseline ECGs before Methadone initiation and follow up are necessary in patients on Methadone programs to prevent potentially fatal arrhythmias.

**P229**

**Patient decision aids in new implantable cardioverter defibrillator candidates: feasibility of conducting a randomized controlled trial**

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**Introduction:** Successful implementation of shared decision making and patient decision aids (PtDA) can reduce patient treatment uncertainty, improve knowledge, quality of decisions, and patient engagement. The aim of this pilot randomized controlled trial (RCT) was to evaluate the feasibility of processes for conducting a larger scale RCT to deliver an evidence based PtDA to new implantable cardio defibrillator (ICD) candidates in Ontario, Canada.

**Methods:** ICD candidacy for primary prevention indication was determined prior to patient recruitment. Patients unable to understand English were excluded. Initial study processes included mail-based study invitations during ICD consultation wait times (4-6 weeks). Patients were randomized to 1) usual care, or 2) decision aid intervention using a central internet randomization service. Investigators and research assistants were blinded to group allocation. The intervention group received the PtDA prior to specialist consultation. Patient demographics, medical history, decision quality measures (decisional conflict, values, and preferences) and HRQL were completed by all participants. Post-consultation, patient’s decisions to 1) proceed with the ICD 2) delay ICD or 3) decline the procedure were recorded and decision quality measures repeated. Primary feasibility outcomes focused on referral and recruitment rates, successful delivery of decision aid, allocation concealment, randomization procedures, and study process management.

**Results:** Over a 14 month period, 296 patients were screened for study eligibility (site referral rate = 21 patients/month). A total of 162 patients were excluded. Of the 134 remaining patients, a study recruitment rate of 61% was achieved. Study recruitment processes (i.e. mail-based invitations) were amended due to a reduction of 61% was achieved. Study recruitment processes (i.e. mail-based invitations) were amended due to a reduction in wait times for consultation at the start of the project. Eighty-two patients were successfully randomized to usual care (n = 41) or PtDA intervention (n = 41). All participants allocated to PtDA intervention received the PtDA. However, successful delivery and completion of the PtDA required patients to arrive in advance of their scheduled clinic visit.

**Conclusion:** The results suggest conduct of a larger decision support trial using a PtDA is feasible. However, patient ICD clinic processes require adjustment to accommodate for additional time required for PtDA delivery and patient deliberation.

**P230**

**When is exercise bad for you?**

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A 46 year old female referred with severe pre-syncopal symptoms that caused her distress and affected her quality of life. Her symptoms can last for up to 4 hours. Patient runs 3 times a week in a running club. There is a clear relationship between running and symptoms. They
consistently occur 4 to 8 hours post run. On history it was felt likely to be vasodepressor vasovagal pre syncope. Medical history of 10 miscarriages, no medications. She has a family history of pacemakers in both her maternal grandmother and paternal grandfather for abnormal heart slowing. Investigations included a physical examination, electrocardiogram, echocardiogram, tilt test and autonomic function tests all normal. Active stand demonstrated mild orthostatic hypotension. Week long external event monitor showed multiple episodes of pauses greater than 2 seconds. The longest pause was 4.8 seconds. Sometimes during running she reverts to right bundle branch block and this was mirrored in her exercise stress test. Patient was given conservative advice regarding hydration. Bradycardias and pauses not associated with patient’s symptoms so she an internal loop recorder implanted. Patient was advised to de-train, no change to rhythms and symptom got worse. Following a year of monitoring she had symptom rhythm correlation with episodes of pre syncope with frequent pauses, 6 pauses in excess of 4 seconds (the longest 4.8 seconds) over a 2 hour period and 40 episodes in excess of 3 seconds (figure 1). She had a permanent pacemaker implanted but advised that while her symptoms may improve they would be unlikely to go away entirely as some were likely to be associated with hypotension. 8 months post pacemaker implant, symptoms have dramatically improved, from on average 4 times per week to once every 2 months.

Figure 1. Internal loop recorder recording

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Treatment for the supraventricular tachycardias with the radiofrequency catheter ablation

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Introduction: Radiofrequency catheter ablation is a well established procedure for the treatment of supraventricular tachycardias with high success rates. The long term follow-up of patients underwent this procedure, is recommended in order to estimate the presence of permanent therapeutic result and the effect on their quality of life.

Aim: The aim of the study is to confirm the value of the radiofrequency catheter ablation for the treatment of supraventricular tachycardias and its effect on the quality of life of patients who underwent this procedure.

Patient enrollment-methods: 76 symptomatic patients enrolled in the study (40 males and 36 females). The average age was 51±14y/o for the male and 55±19y/o for the female population. All the patients underwent complete electrophysiology study using the same procedural protocol in order to induce their clinical arrhythmia and elucidate its mechanism. Following the diagnostic part of the study all the patients underwent radiofrequency catheter ablation. The quality of life of the patients was estimated with frequent telephone follow-ups and completion of standard quality of life questionnaires.

Results: In 43 patients (56,57%) AV nodal tachycardia was induced, in 9 patients (11, 83%) AV reentrant tachycardia using an accessory pathway was induced, one patients (1,31%) had atrial tachycardia, 14 patients (18,42%) had atrial flutter and three patients (3,94%) atrial fibrillation. All patients underwent radiofrequency catheter ablation. In 71 patients (93,42%) the procedure was successful and in 3 patients (3,94%) was failed. In the long-term follow-up eight (8) patients had recurrence of their arrhythmia (10,42%). Sixty (78,94%) patients declare that the procedure improved their quality of life and 59 patients (77,63%) they would repeat the procedure anyway if this was necessary.

Conclusion: Electrophysiology studies followed by radiofrequency catheter ablation are the procedure of choice for the treatment of supraventricular arrhythmias. They indeed eliminate the arrhythmia episodes, they are safe and improve the quality of life.

Influence of socio-demographic factors into acceptance of the atrial fibrillation

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Atrial fibrillation (AF) is responsible for a reduction in quality of life due to a lack of acceptance of the illness. Aim: Assessment of the degree of acceptance of the illness in pts. with AF according to the socio-demographic factors.

Methods: The study included 50 pts. (21W, aged 65.2±9.9y) hospitalized due to AF. In all, socio-demographic data and assessed the acceptance of the illness by using Acceptance of Illness Scale were performed.

Results: The exact results of acceptance of the illness according to socio-demographic factors is presented in the tables below. The largest number of patients (25 pts. / 50%) had an average degree of acceptance of the disease. 15 pts. (30%) had a high degree of acceptance. Only 10 pts. (20%) did not accept the illness and has a low degree of adaptation to living with AF.

Conclusion: Most of patients with atrial fibrillation have an average degree of acceptance of the illness. The lowest degree of acceptance of the disease occurs in patients performing physical work. Place of residence and gender to affect the assessment of the degree of acceptance of the disease.

Table 1. Acceptance of the illness (AI)

<table>
<thead>
<tr>
<th>Sociodemographic indicator</th>
<th>Average AI ± SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
</tr>
<tr>
<td>women</td>
<td>28 ± 10.2</td>
</tr>
<tr>
<td>men</td>
<td>28.8 ± 8.9</td>
</tr>
<tr>
<td>Age</td>
<td></td>
</tr>
<tr>
<td>below 50</td>
<td>31 ± 8.9</td>
</tr>
<tr>
<td>50-64</td>
<td>29.1 ± 10.3</td>
</tr>
<tr>
<td>65-74</td>
<td>29.6 ± 9.4</td>
</tr>
<tr>
<td>above 74</td>
<td>23.9 ± 6.8</td>
</tr>
<tr>
<td>Level of education</td>
<td></td>
</tr>
<tr>
<td>basic</td>
<td>23.3 ± 6.6</td>
</tr>
<tr>
<td>training</td>
<td>28.7 ± 10.5</td>
</tr>
<tr>
<td>secondary</td>
<td>29 ± 9.1</td>
</tr>
<tr>
<td>higher</td>
<td>29.2 ± 9.2</td>
</tr>
<tr>
<td>Physical activity</td>
<td></td>
</tr>
<tr>
<td>mental work</td>
<td>30.9 ± 9.1</td>
</tr>
<tr>
<td>manual work</td>
<td>22.4 ± 8.2</td>
</tr>
<tr>
<td>pensioner</td>
<td>28.5 ± 10.2</td>
</tr>
<tr>
<td>unemployed</td>
<td>40 ± 1.1</td>
</tr>
<tr>
<td>Place of residence</td>
<td></td>
</tr>
<tr>
<td>city</td>
<td>29.7 ± 9.4</td>
</tr>
<tr>
<td>rural</td>
<td>23.1 ± 10.2</td>
</tr>
</tbody>
</table>

Introduction: Atrial Fibrillation is the most common, though an important supraventricular arrhythmia. This arrhythmia is very common after cardiac surgery and is a factor of complications and is correlated with worse prognosis.

Purpose: The purpose of this study was the recording of epidemiological data of postoperative atrial fibrillation in a single surgical center.

Methodology: 129 consecutive patients were enrolled for this study, during the period from September 2014 to August 2015. Data collected included the patient’s medical history, laboratory tests, type of surgery, medication and electrocardiographic finding before and after surgery. The statistical analysis of the results was performed by the program of Microsoft Excel/2007.

Results: In our study, 109 out of 129 patients fulfilled the inclusion criteria, mostly men (72.5%) with mean age 66.9±9.5. Assessing the patients for risk factors the most common ones were hypertension (93.6%), hyperlipidemia (72.5%) and smoking (40.4). Regarding the surgery, 66% patients underwent CABG, 23% AVR/MYR and 11% both (CABG+AVR/MVR). 40% of the patients experienced atrial fibrillation post-operatively, mostly the second postoperative day. Mean age of the postoperative atrial fibrillation group was about 67 years and had mainly valvular surgery. The majority of patients had high value of the ratio E/E’ (ultrasound finding), higher value of RDW-CV (index distribution range red platelets- hematologic finding) and high levels of liver transaminases ALT-AST>40U/L.

Conclusions: The postoperative atrial fibrillation is a serious factor of complications and more hospitalization in the region of Epirus, Northwestern Greece. Findings of this study confirmed that the arrhythmia appears to the oldest patients, mainly after heart valve replacement or repair. Predisposing role seems to have high levels of liver transaminases (finding similar to international studies), high value of E/E’ and RDW-CV. The early diagnosis and treatment of the arrhythmia is a critical point to the successful outcome of surgery.
Mrs J 65

Presenting Condition
- January 2015 - 2 ICD shocks for VT.
- Finishing antibiotics for chest infection.
- Amiodarone reduced from 200mg to 100mg for hypothyroidism previously
- Previously intolerant of bisoprolol & carvedilol

Comorbidities
- Severe LVSD
- Anterior MI & Cardiac arrest 1999
- Asthma

Social History: limited support
- Husband poor support, heavy drinker.
- Youngest daughter - main support during MI recovery. 2008 aged 36 died sudden cardiac death secondary to MI. Mrs J cares for 3 grandchildren.

Psychology: Anxiety & poor coping Post MI & Arrest 1999
- Came to terms with father dying of MI & cardiac arrest at 49.
- High level of anxiety – poor quality of life.
- Course of Cardiac Rehabilitation & anxiety management.
- Improved quality of life.

Post ICD shocks 2015

Psychological Analysis
- Loss of locust of control
- Anxiety attacks secondary to fear of ICD shocking
- Avoidance Behaviours: stops going out house
- Sense of loss, bereavement & thoughts of mortality

Differential diagnosis:
- Ventricular tachycardia due to high risk of malignant arrhythmias from previous MI
- Prolongation of QT interval from antibiotics for chest infection (QTc normal 420ms)
- Increased risk of arrhythmias due to reduction of amiodarone
- Hypo/hyperkalaemia due to diuretics (normal 4.5mmol)
- Deranged magnesium (normal)
- Ischaemic event (no chest pain troponinT normal)

Diagnosis: VT secondary to reduction in amiodarone due to hypothyroidism

Management: Aim - Reduces risk of ICD shocking & improves quality of life with an ICD
- Medical management: increase amiodarone to 200mg daily
- Introduce nebivolol 1.25mg (tolerated)
- Refer endocrinology to manage hypothyroidism
- Social support: Well known to arrhythmia nurse including from previous held posts (cardiac rehabilitation & heart failure) – open access nurse counselling
- Psychological issues addressed: locust of control, avoidance behaviours, anxiety management, gradual exposure (refused to see psychologist - specialist nurse input for education & medical management more beneficial)
- Re-referred to cardiac rehabilitation

Implication for clinical practice
- Patients overlap cardiology specialist nurses spheres of influence – knowledge/experience of all enhance care.
- Specialist nurses with counselling - a strong support mechanism
- Psychology integral with education & medical management to achieve optimal management
- Knowledge of individual enhances support.

Conclusion: Cardiac specialist nurses have an essential part in maintaining quality of life utilising a holistic approach.

**Acute cardiac care**

P239

**Differences in non acs chest pain patient profile who self-referred and who presented directly to the emergency department**

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Introduction: While the current advice to patients experiencing unresolved chest pain is to present directly to the emergency department (ED) this can place a burden on over stretched EDs. Internationally chest pain account for 5-10% of ED presentations. ACS management protocols are well established whilst those relating to non-ACS are varied.

Purpose: The aim of this study was to examine the profile and diagnosis of non ACS chest pain patients referred from the ED to a nurse led chest pain clinic by route of initial presentation to ED: self-referred or via their general practitioner.

Methods: This was an observational comparative study design of all patients attending a protocol led nurse led chest pain clinic over a two-year period. Data was extracted from case notes. Ethical approval was granted. Analysis used chi and t-test as appropriate.
Purpose: Determine the ability of EGSYS score to predict a cardiac cause.

Introduction: Syncope is a common medical condition encountered in emergency department (ED). Physicians’ approaches to this condition are varied due to lack of methodical approach. The challenge for the emergency physician is to distinguish between cardiac and non-cardiac syncope. Scores are designed to simplify hospitalization decision. The Evaluation of Guidelines in Syncope Study (EGSYS) score was developed to determine patients with syncope of a cardiac cause. According to the guidelines of the European Society of Cardiology (ESC), a score superior or equal to 3 predict a cardiac cause.

Methods: Prospective and observational study over 4 years. Inclusion of patients aged 18 years old or older admitted to the ED with a diagnosis of syncope. Exclusion criteria were: no consent, neurological deficit suggestive of stroke, previous recruitment into the study, collapse related to alcohol consumption, trauma, or seizure activity. A physical examination, an electrocardiogram (ECG) and an orthostatic hypotension test were performed. Patient’s management was based on the EGSYS score. All patients were explored in the cardiac unit. The final cause of the syncope has been determined after investigations. We calculate the specificity, sensitivity, the positive predictive value and the negative predictive value of this score in our population.

Results: Inclusion of 168 patients. Mean age: 52 ± 20 years. Fifty eight (34%) were aged more than 60 years old. Sex ratio=1.62. No medical history was observed in 65 patients (39%). Thirty four patients (20%) had a previous syncope. The ECG was normal in 53% of patients. The EGSYS score was superior or equal to 3 in 44% of cases. The specificity, sensitivity, the positive predictive value and the negative predictive value of an EGSYS score ⩾ 3 were: 73%, 70%, 55% and 84% respectively.

Conclusion: The EGSYS score had a good negative predictive value. It seems useful to rule out a cardiac cause if the score is less than 3.

P241

Prognostic value of the admission shock index in predicting early mortality in STEMI patients

Introduction: Risk scores used for risk stratification in ST-segment elevation myocardial infarction (STEMI) such as Thrombolysis In Myocardial Infarction (TIMI) are widely used but their sophisticated calculation usually makes them inconvenient to operate at bedside in daily clinical practice. The shock index (SI), is a simple tool used in outcome assessment in critically ill patients, such as trauma (J trauma 2009), severe sepsis pulmonary embolism (Am J cardiol 2008) and pneumonia (Respiration 2009). However, the prognostic value of SI in patients with STEMI has not been well understood.

Purpose: The present study, therefore, aims to investigate the usefulness of SI to evaluate the early mortality in patients with STEMI.

Methods: Retrospective analysis of a prospective registry of STEMI (January 2009-November 2014). Patients diagnosed with STEMI were included based on clinical, electrical and biological criteria. The demographics, comorbidities, clinical and biological data and in-hospital
procedures were collected. The admission SI was defined as the ratio of admission heart rate and systolic blood pressure. The admission TIMI risk score (TRS) was calculated according to the score criterion. The prognosis was based on the evaluation of early mortality at 7 day. The admission SI and TIMI score were compared. Receiver-operating characteristic (ROC) curves and tables were created to establish the optimal cut-off values for predicting early mortality for both SI and TIMI score.

**Results:** During the study period, 374 patients were enrolled. Mean age 59 ± 11 years, sex ratio at 5,4. Comorbidities n (%): current smoke 271 (72%), hypertension 128 (34%), Diabetes 130 (35%), dyslipidemia 62 (16%), coronary artery disease 44 (12%), stroke 20 (5%). Overall mortality was 10%. The prognostic value of the SI was demonstrated with a likelihood ratio to 13.5 (LR+ = 2,3) (p = 0.000). A cut-off at 0.7 was predictive of 7 day mortality and the Area Under Curve was 0.77 (p=0,000). The SI had a sensitivity of 51% and a specificity of 71%. Compared to the TIMI risk score, the LR was 48 (LR+ = 3,6) p = 0,000, The area under the curve was 0,86 (p=0.000). It has sensitivity and specificity at 78%.

**Conclusion:** In conclusion, both SI and TIMI risk score could predict early mortality in patients with STEMI, although the TIMI score is more accurate than SI. Thus, admission SI, an easily calculated index at first contact, may be a useful predictor for short-term outcomes especially for acute phase outcomes in patients with STEMI.

P242

**Use of an automated chest compression device during CPR in our cath lab**

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Cardiopulmonary resuscitation in the cardiac cath lab presents numerous challenges. Among those are the restricted space, radiation hazard, poor CPR quality and continuous interruptions due to the interference of the angiographic equipment with the resuscitation effort. During a nine month period, seven non-shockable cardiac arrests occurred in our cath lab. Of those:
- Three patients died in the cath lab
- One in the intensive care unit
- Three were discharged.

In three cases automated chest compression was applied:
**Case 1**
- 73 year old female.
- Acute (2 hours post PCI) stent thrombosis in the proximal RCA.
- Intubated and defibrillated in the Coronary Care Unit.
- Cardiac arrest during PCI, placement of device.
- Successful PCI under automated chest compressions.
- Return of spontaneous circulation after 12’ min of cardiopulmonary resuscitation.
- Died from bleeding on day 4 post PCI.

**Case 2**
- 81 year old male.
- Dissection of the proximal calcified LAD during PCI for non-STEMI Cardiac arrest, placement of device and tracheal intubation.
- PCI under automated chest compressions.
- Restoration of vessel patency (stent), no-reflow.
- 45’ min of cardiopulmonary resuscitation.
- No return of spontaneous circulation (ROSC)

**Case 3**
- 70 year old male Acute LM thrombosis during thrombus aspiration (primary PCI during STEMI and shock due to proximal LAD occlusion).
- Cardiac arrest, placement of device and intubation.
- PCI under automated chest compressions.
- Return of spontaneous circulation after 18’ min of cardiopulmonary resuscitation.
- Patient discharged after 6 days.

The use of an automated chest compression device in the cardiac cath lab needs training for effective and timely deployment and inhibits considerably the image quality. Nevertheless it allows adequate visualization for PCI in chaotic and catastrophic conditions during CPR and provides continuous, uninterrupted, high quality chest compressions for as long as needed. Finally it safeguards rescusitators from radiation hazard and allows them to attend to their primary duties.

P243

**Cardiac arrest management: where stands the therapeutic hypothermia?**

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**Introduction:** Mortality and morbidity rates from cardiac arrest (CA) remain high despite recent advances in CPR and post resuscitation protocols. We present a case CA from refractory VF in the emergency department (ED) of a community hospital.

**Case description:** A 38 years old male was transported by EMS due to chest pain that started on exercise and persisted up to the ED. His vital signs upon initial evaluation were normal but while connected for a 12 lead ECG he became unresponsive, with no signs of life and asystole on ECG. CPR started immediately, and after
a few cycles of CPR his rhythm changed to VF, which was relapsing soon after successful defibrillation. The ECG during spontaneous rhythm showed marked ST segment elevation. The cath lab was unavailable due to an ongoing PPCI therefore fibrinolysis was performed. After 45 min of CPR, the rhythm stabilized. The patient remained unresponsive, on mechanical ventilation and a core temperature of 35.2°C. He was hypotensive and ST segment elevation was still prominent on ECG, therefore the patient was transferred to the cath lab for rescue PCI. Angiography revealed massive thrombosis of the LAD. Thrombus aspiration was performed and GP IIb-IIIa antagonists were given. When TIMI 3 flow was restored and in the absence of lesions causing more than 50% luminal stenosis, the patient was transferred to the ICCU. Patients’ temperature was maintained below 35.5°C for 24 h and below 36.5°C for the next 48 h using an external cooling device. His haemodynamic status improved significantly after PCI and mechanical ventilation was removed on the 4th day of hospitalization. His CPC was 1. A repeat angiography revealed a dissection of the LAD, which was not apparent in the initial angiography and a stent was placed. He remained in ICCU because of fever that was treated with the appropriate antibiotics. The patient was released on 10th day and remained in a good overall state until his last follow up visit to hospital, a few days ago.

Conclusion: Successful treatment of cardiac arrest requires involvement of many different professionals not only during CPR but also in post resuscitation care. Nurses are an essential part of all the steps in the chain of survival from initial alert for CA to complex interventions pot resuscitation.

P244

The impact of local vs general anesthesia on inflammation markers in TAVI patients

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Background: Transcatheter aortic valve implantation (TAVI) is a rapidly spreading treatment option for severe aortic valve stenosis. This procedure is done either under general anesthesia or by monitor assisted local anesthesia. Although previous studies have shown benefits, regarding procedural and hospitalization time, for the patients who have undergone the implantation under local anesthesia, it is non clear whether the same is true in respect of the post TAVI inflammation markers.

Methods: We evaluated 266 patients, 132 (80.80±6 years; 45.5% males) under local anesthesia and 134 (80.89±5.11 years; 56.7% males) under general anesthesia. Clinical picture and C-Reactive Protein (CRP) levels were evaluated and recorded. Anova repeated measures was used in order to evaluate CRP levels.

Results: A significant elevation of CRP levels was observed in both groups from baseline to 48 hours after procedure (baseline vs 24h vs 48h). When we compared CRP levels between the two groups, there was no significant difference; group A vs group B at baseline (p=0.395), at 24 hours after procedure (p=0.159) and at 48 hours after procedure (p=0.390).

Conclusion: Although transcatheter aortic valve implantation under monitor assisted local anesthesia may be associated with reduced procedural time and shorter hospital stay, these data did not show a significant difference in the post TAVI inflammation markers.

P245

Primary percutaneous transluminal coronary angioplasty in diabetic patients with acute myocardial infarction

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Objective: Some studies showed that diabetic patients (D) group (DG) had a worse outcome when compared to nondiabetic (ND) patients group (NDG), after primary percutaneous coronary intervention (PCI). The objectives were to compare mortality and major coronary events (MACE) at 30 days and 1 year of DG and N DG submitted to primary PCI and to study whether another conditions were related to worst outcome of patients in 30 days or one year.

Methods: Prospective study with 450 consecutive patients submitted to PCI from 01/01/2001 to 12/31/2006 (121 D and 329 ND) with ST-segment elevation acute myocardial infarction (AMI) in the first 12 hours of symptoms presentation treated with balloon catheter or bare metal stent and without cardiogenic shock. We used in statistical analysis: Student t test, chi-square test, Fischer exact test, and multivariate analysis: logistic regression and Cox analysis.

Results: DG and N DG had similar age (63.1±10.0 and 62.3 ±11.7 years, p=0.443), male gender (63.6% and 69.9%, p=0.205) and multivascular disease (66.1% and 60.8%, p=0.301). The diabetic group had more dyslipidemia (65.3% ×51.7%, p=0.009) and severe left ventricular dysfunction (15.7% ×8.2%, p=0.019). The stent implantation rate was (83.5% and 81.1%, p=0.863) and glycoprotein (GP) IIb/
IIla inhibitors utilization (79.3% and 82.2%, p=0.831) were similar. The mortality at 30 days (2.5% and 2.7%, p=1.000) and at 1 year (5.0% and 6.7%, p=0.650) and MACE at 30 days (4.1% and 6.4%, p=0.496) and at 1 year (19.4% and 15.4%, p=0.349) were similar. The absence of TIMI III flow after the procedure (procedure failure) was the only independent hospital mortality (30 days) predictor (P<0.001, OR=8.045, CI95 2.327-27.816). Procedure failure (p=0.023, HR=3.364, CI95 1.182-9.578) and age ≥ 65 years (P=0.035, HR=3.391, CI95 1.091-10.543) were independent predictors of mortality at 1 year. The multivessel coronary disease (p=0.023, OR=4.218, CI95 1.223-14.545 and procedure failure (P<0.028, OR 3.155, CI95 1.132-8.799) were independent predictors of MACE at 30 days and multivessel coronary disease was independent of MACE at 1 year (p=0.034, HR=1.854, CI95 1.048-3.280).

Conclusion: The diabetic patients submitted to primary PCI had mortality rate and MACE similar to none diabetic patients at 30 days and 1 year. The absence of TIMI III flow were predictor of mortality at 30 days and 1 year and age ≥ 65 years at 1 year. Independent predictors of MACE at 30 days were multivessel coronary disease and absence of TIMI III flow (procedure failure) and at 1 year was multivessel coronary disease.

P246

Primary percutaneous coronary intervention in women with acute myocardial infarction

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Coronary heart disease is the leading cause of mortality and morbidity. Literature describes higher mortality risk for women with acute ST-elevation myocardial infarction (STEMI) in the past, even after primary percutaneous transluminal coronary angioplasty (PPTCA). Prior studies have reported worse results after PTCA in women than in men, but recent data suggest that this difference is less marked.

Objective: To determine gender-related differences and risk factors for death and major events, both in-hospital and at six-month follow-up, of patients that have been admitted with less than 12 hours of STEAMI and PPTCA in other to set out whether there are gender differences in a real-world contemporary treatment and outcome.

Methods: For two consecutive years, 199 patients were enrolled in the study, with STEAMI and PPTCA without cardiogenic shock. The immediate outcome, in-hospital and six-month follow-up were studied. Multivariate Cox analysis were performed to identify independent predictors of death and major events.

Results: Clinical characteristics were similar in both groups, except that women were older than men (67.04 ± 11.53 x 59.70 ± 10.88, p < 0.0001). In-hospital mortality was higher among women (9.1% x 1.5%, p = 0.0171), as the incidence of major events (12.1% x 3.0%, p = 0.0026). The difference in mortality rates remained the same at six months (12.1% x 1.5%, p = 0.0026). The independent predictors of death in multivariate analysis were: female gender and age >80 years old. Independent predictors of major events and/or angina were: multivessel disease and severe ventricular dysfunction.

Conclusion: After STEAMI and PPTCA, the independent predictors of mortality throughout the follow-up were female gender and age >80 years, in both in-hospital and six months follow-up.

P247

Complications in acute myocardial infarction: is more enough?

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In the present era of catheter based reperfusion therapy of Acute Myocardial Infarction hospitalization days have substantially decreased. However, complications not related to the procedures should be estimated even in patients with properly managed cardiovascular risk factors.

We are presenting the case of a 56-year-old male patient who was admitted in the Emergency Room 4 hours after acute chest pain and syncope, in cardiogenic shock,
dyspnoic, sweaty and anxious yet in full conscious. From his medical history he had multiple cardiovascular risk factors such as smoking, diabetes, arterial hypertension and thrombophilia. All co-morbidities were under medication and well controlled.

Admission ECG suggested posterior myocardial infarction, confirmed by echo study - akinetic posterior walls with preserved Ejection Fraction of 40%. The patient underwent an emergency PCI which revealed occlusions of the left main and circumflex coronary arteries, revascularization with two stents and an IABP was placed and the admitted in the ICCU due to his unstable condition where the symptoms deteriorated. Despite the good angiographic result and the assistance from the IABP the patient was haemodynamically unstable. Inotropics drugs were granted iv (norepinefrine). In addition his dyspnea worsened – the ABGs showed respiratory oxeosis, therefore an intubation was decided. Two days later he presented high fever with an increase of inflammation markers and after blood, urine and mucus cultures the fever was controlled with appropriate antibiotics. The extraction of IABP and extubation took place with success 8 days after the PCI. Many episodes of severe dyspnea occurred even twice in the same day, yet all were successfully overcome under NTG perfusion and diuretics. Thought to be stable he discharged critical care, but the same day the normal sinus rhythm changed to atrial fibrillation and NSVT. Following the guidelines (amiodarone 24 h perfusion) lead to blood pressure decrease and bradycardia, in need for appropriate medication (atropine).

After a period of 15 days hospitalization the patient could be discharged from the hospital, after a dramatic experience for him and his family, having suffered many complications and with many questions which affected strongly his understanding of the disease, as up to that moment he had in full control all the risk factors. At the same moment, this case raises several issues of interest for the healthcare team. Despite the optimal treatment and angiographic result after a MI, complications can be unpredictable and demand both precautions and awareness.
hospital with 10 days history of dyspnea and recurrent syncope. Acute cor pulmonale and femoro-popliteal phlebothrombosis were diagnosed on echocardiography and ultrasound examination. Thrombolysis indicated due to submassive pulmonary embolism was complicated by intracranial hemorrhage. Pulmonary artery angiography with embolus fragmentation and inferior vena cava filter Bird nest were accomplished after craniotomy and haematoma evacuation. Long term physiotherapy were realised in order to improve neurological deficit, the patient stayed on chronic anticoagulation.

Case of coronary artery thrombosis in woman 19 years old. Previously healthy young girl, smoker, was admitted to hospital after resuscitation for ventricular fibrillation occurred during physical training in secondary school. STEMI was revealed on ecg examination. Coronarography: thrombotic closure of ramus interventricularis anterior treated by angioplasty with thrombus aspiration and chrom-cobalt stent implantation. Therapeutic hypothermia was followed by rehabilitation and tailoring of therapy according to guidelines.

Conclusion: Hormonal contraception should be prescribed warily after individual complex assessment of potential risk factors like for example smoking. Potential risk of thrombotic complication should be considered during examination of women taking contraception.

P250

Do we have cut-offs to define obesity as risk factors in a population of patients at high risk for coronary artery disease?

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Background: Obesity is a chronic non-infective disease and is one of the leading causes of morbidity and mortality in the world. To determine the impact that obesity has to the occurrences and severity of coronary artery disease (CAD) according to different available definition for obesity (WHO, IDF).

Method: The study included 837 consecutive patients (60±8,7godina), 77% were male. Patients were divided into three groups depending on the values of BMI, waist circumference and waist-to-hip circumference relation. After invasive cardiac diagnosis, the patients were divided into a group that have/don’t have CAD and CAD was graded as one, two, three, four or more-vessel disease.

Results: In patients who had CAD or higher degree of CAD, the average BMI was 27.8±4 (p=0.482 vs. p=0.903), waist circumference 101.9±12 (p=0.442 vs. p=0.934), waist-to-hip ratio 0.96±0.9 (p=0.933 vs. p=0.392). Patients with CAD or higher degree of CAD in BMI groups, were differed significantly by waist circumference (p=0.0001 vs. p=0.207), and also the relationship waist-to-hip (p=0.07 vs. 0.002). Patients who had a CAD and were obese by waist circumference had higher values of waist-to-hip circumference ratio (p=0.0001 vs. p=0.05).

Conclusion: Patients with CAD are more likely to be obese by all three parameters for defining obesity.

P251

Complications and outcome of intra-aortic balloon pump support in patients admitted in cardiac intensive care unit

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Background: Intra-aortic balloon pump (IABP) is used as an effective circulatory assistance device to increase myocardial oxygen supply and decrease myocardial oxygen demand. During the last decades, improvements in technology allow safer use of IABP in difficult circumstances for patients admitted in Cardiac Intensive Care Unit (CICU).

Purpose: To evaluate the complication incidence related to IABP usage in patients admitted to CICU and possible risk factors.

Methods: Between February 2014 and September 2015, a total of 28 patients admitted in the CCU of a tertiary, specialized cardiac surgery hospital. Data collection is in progress. Patients’ medical history, IABP related variables and complications were recorded.

Results: Mean age of the studied sample was 51.5±16.1 years and 64.3% (n=18) were male. As regards to their medical history, 31.8% (n=7) were current smokers, 7.1 % (n=2) had a history of diabetes mellitus, 29.6% (n=8) a history of hypertension, 39.3% (n=11) a history of coronary heart disease, while 10.7% (n=3) had a history of peripheral vascular disease. Eighteen patients (66.7%) received IABP as a bridge to transplantation, 11 patients (40.7%) during cardiac arrest, 1 patient (3.7%) after acute myocardial infarction while in 22 cases (81.5%) the insertion of IABP was performed under emergency circumstances. The duration of IABP therapy ranged from 1 to 110 days (mean 22.9±33.9 days). Two patients (7.2%) developed ischemia of the limb, requiring thromboembolectomy. Femoral artery hematoma occurred in 7.1% (n=2) of the studied sample. Regarding patients’ outcome, mortality rate in CICU was 29.6% (n=8). T-test analysis revealed that advanced age (>65 years) was the factor affecting CICU mortality (p=0.002) while prolonged length of stay in CICU, Body
Mass Index, ejection fraction and laboratory findings e.g. serum creatinine, hematocrit were not associated with CICU mortality.

**Conclusion:** The early recognition of risk factors for IABP complications may prevent their occurrence and influence patients’ outcome.

**P252**

**Bacterial profile of mechanically ventilated patients hospitalized in the coronary care unit**

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**Introduction:** Tracheobronchial tree colonization is considered an important risk factor for the development of ventilator-associated pneumonia (VAP). The aim of the present study was to examine microbiologically the respiratory tract flora of mechanically ventilated patients hospitalized in the Coronary Care Unit (CCU) of our institution for the detection of colonization with important bacterial pathogens.

**Methods:** Cultures of bronchial excretions using tracheal aspirates were taken the first 24h of intubation and before extubation, in a total of 39 CCU patients (mean age 68.7±11.9yrs, 79.6% men). Risk factors for colonization, including APACHE II score, Clinical Pulmonary Infection Score (CPIS), placement of an invasive device as well as the duration of mechanical ventilation (MV), were recorded. Predictors of colonization were examined with univariate and multivariate analysis.

**Results:** 46% of the participants with normal flora in the first 24 hours of intubation, were colonized with potential pathogens by the day of extubation. The most frequently isolated colonizers were Acinetobacter spp, MRSA, MSSA, Escherichia coli, Candida albicans, Enterobacter spp and Serratia marcescens. Patients who were colonized by potential pathogens had higher CPIS compared to those who were not (p <0.001). Rates of positive cultures for potential pathogens correlated with the APACHE II score (p=0.047). Colonization with a potential pathogen was associated with placement of a nasogastric catheter (p=0.048) or a central vein catheter (p=0.004), with the duration of MV (p=0.010) and placement of an Intra-Aortic Balloon Pump for a prolonged period (p=0.009).

**Conclusion:** High rates of bacterial colonization were identified in this cohort of CCU patients. The risk factors identified will assist in the establishment of a better infection control protocol in the future.

**P253**

**Case report of recurrent myocarditis**

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**Introduction:** Myocarditis is an important and often unrecognized cause of dilated cardiomyopathy. The causes of acute myocarditis include a broad range of viral, bacterial, and fungal infections, systemic and collagen vascular diseases, drugs, or toxins.

**Aim:** To present an interesting case of a patient with repeated hospitalizations due to recurrent myocarditis in a 5 months.

**Material and Methods:** A 39 years old female patient with more than two hospitalizations due to acute myocarditis was evaluated. The data were collected from the patient’s history and the hospital database.

**Results:** The patient admitted in critical condition. Symptoms included chest pain, fatigue and fever. Clinical audit demonstrated signs of myocardial ischemia (cardiac troponin T=7ng/ml, left ventricular ejection fraction (LVEF) 40%). Peripheral blood sample and vaginal cultures were positive for Chlamydia spp using polymerase chain reaction techniques. The patient had four previous hospitalizations for myocarditis. From the history emerged that the patient tried for the last ten years to have children unsuccessfully. The Nursing process and the patient care were based on the protocols implemented in our hospital for acute myocarditis. The algorithm included the Isolation of patient, the administration of antibiotic therapy and ATG and the extracorporeal support with IABP.

**Conclusions:** The patient discharged well after 25 days of hospitalization with LVEF 45%. It remains under the constant monitoring of the Heart Failure department as an outpatient.

**Psycho-social**

**P255**

**Symptoms of depression and exhaustion and their relation to myocardial infarction and periodontitis**

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**Background:** Psychosocial stress, depression and exhaustion are considered risk factors not only for...
cardiovascular disease (CVD) but also for periodontitis. The PAROKRANK (Periodontitis and its relation to coronary artery disease) study population consisted of patients, <75 years, with a first myocardial infarction (MI) and matched controls.

**Aim:** This report aims to study how symptoms of depression and exhaustion, and psychosocial stressors relate to MI and periodontal disease.

**Methods:** The study population comprised 805 patients with a first MI and 805 age, gender and geographically matched controls without MI. The mean age of participants was 62±8 years and 81% were males. All participants were interviewed on their medical history, including medical treatment, and underwent a standardized physical examination and a dental panoramic x-ray grading their periodontal status. Information on a large number of risk factors related to cardiovascular disease and periodontitis was obtained. In addition detailed information on perceived stress at home and at work, control of life and symptoms of depression (Montgomery Åsberg Depression Scale; MADRS) and exhaustion (Karolinska Exhaustration Disorder Scale; KEDS) were collected. A MADRS score ≥13 and a KEDS score ≥19 points were considered as an indication of clinically relevant symptoms of depression and exhaustion.

**Results:** Patients had a more frequent family history of CVD, smoking and divorce than controls while the educational level was lower in the latter group. Symptoms of depression were more common among patients than controls (14 vs. 7%; p<0.001) and they received less treatment with antidepressants (patients: 16 vs. controls: 42%; p<0.001). Symptoms of depression or exhaustion doubled the risk for MI (MADRS OR 2.17 [99% CI 1.23-3.82]; KEDS OR 2.22 [99% CI 1.32-3.73]). More patients than controls had experienced stress at home (18 vs. 11%; p<0.001) and at work (42 vs. 32%; p<0.001) and even moderate levels of stress at home increased the risk of MI (OR 2.15 [99% CI 1.35-3.41]). There was no difference in symptoms of depression and exhaustion between those with periodontitis compared to those without.

**Conclusion:** Patients with a first MI more frequently report symptoms of depressions and exhaustion than matched controls without MI, but receive less antidepressive treatment suggesting an under-treatment of depression in patients who will experience a myocardial infarction. The relation between depression and exhaustion and periodontitis was not confirmed by the present investigation.

**P256**

Disease severity is related to psychosocial distress in chronic heart failure patients, but not in caregivers: results from an observational study

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**Background:** Symptoms associated with chronic heart failure (CHF) are often reflected in patients becoming progressively dependent on support from family caregivers, raising the importance of demonstrating value beyond patient’s health status to also include impact on the life situation of caregivers.

**Purpose:** The aim of this research was to describe how disease severity, measured by NYHA class, is related to psychosocial outcomes in patients and caregivers.

**Methods:** Baseline data of a multi-centre, longitudinal study, collecting data directly from patients (n=150) with a confirmed diagnosis of CHF and their primary family caregivers (n=150), from 11 clinical sites in the US, were analysed. Quality of life (QoL) was assessed using the CHF-specific Kansas City Cardiomyopathy Questionnaire (KCCQ) for patients and the EuroQoL Visual Analog Scale (EQ5D-VAS) for both patients and caregivers; anxiety and depression was assessed using the Hospital Anxiety and Depression Score (HADS) measured for both; impact of caregiving on wellbeing and lifestyle and on productivity/activity impairment using the Heart Failure Caregiver Questionnaire (HF-CQ) and the Work Productivity and Activity Impairment questionnaire (WPAI).

**Results:** Mean patient age was 69 ± 12.5 years; 56% of patients were in NYHA class III-IV; 57% had reduced Ejection Fraction. Mean time since diagnosis of CHF was 4.5 ± 5.5 years. Mean KCCQ Overall Summary Score and Clinical Summary Score were 55.86 and 55.84, respectively; mean EQ5D-VAS was 64.7; HADS anxiety 7 and depression 5.8. Caregiver mean age was 56.6 ± 14.6 years; 41.7% were caring for their spouse and 31.1% for their parent; 30.5% worked full time, 19.2% part-time and 28.5% were retired. Mean caregiving time was 39.6 ± 42.6 hours per week. HF-CQ total score was 21.1, with individual scores of 19.9 for physical wellbeing, 25.3 for emotional wellbeing and 20.2 for lifestyle. EQ5D-VAS was 83.3; HADS anxiety 6.3 and depression 3.7. WPAI score was 8.5 for absenteeism, 16.4 for presenteeism, 17.9 for productivity loss and 26.4 for activity impairment. Patients’ EQ5D-VAS, KCCQ and HADS were significantly different in patients stratified by disease severity measured by NYHA class. Patients’ disease severity was not significantly associated with caregivers’ productivity loss, activity impairment, QoL and anxiety/depression.

**Conclusions:** This study confirms that psychological distress in patients with CHF is related to disease severity, whereas caregiver QoL, productivity/daily activities and anxiety/depression is independent of patient’s health status.
**P257**

**Depression in symptomatic patients with hypertrophic cardiomyopathy**

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**Background:** Hypertrophic cardiomyopathy is considered to be the most common inherited cardiac disease. The course of the disease may involve symptoms of heart failure negatively affecting everyday activities of the individual and worsening the psychological wellbeing of these patients. There is, however, a paucity of data on this issue.

**Purpose:** To explore the depression levels in patients with hypertrophic cardiomyopathy and the variables that affect them, the correlation of depression with clinical indicators of disease severity, the potential correlations between depression and the patients’ social and demographic characteristics.

**Method:** This is a prospective, non-experimental, descriptive correlational study with cross-sectional comparisons. The study sample consisted of 48 patients with known hypertrophic cardiomyopathy followed in a single referral center. The evaluation was based on the Zung Depression Scale, the Beck Depression Inventory (BDI) and the Depression Scale 14 (DS14).

**Results:** The sample consisted of 69% men (n=33) with mean age of 52.5±16.9 years (range 20-79 years). Most of the patients were in class II (31.3%) or III (29.2%) according to NYHA functional classification with a reported symptoms duration of 6.1±5.0 years. According to Zung Depression Scale 60% of the patients in the entire cohort were depressed but likely to respond to treatment, 17% somewhat and borderline depressed and only 16% were normal. In BDI questionnaire the mean Total Score was 12.5±9.6, the average was 0.6±0.5 and 25% of the patients may need treatment for depression. The results of DS14 showed the negative dimension scale to be 12.0±7.3 and the mean social inhibition score 8.5±6.3. There was a strong correlation between NYHA class and Zung Depression Scale (r=0.349, p=0.037), while duration of symptoms, gender and age did not seem to relate to depression levels.

**Conclusions:** This study shows impaired psychological wellbeing depression levels according to 3 different depression scales in the majority of patients with hypertrophic cardiomyopathy followed in a cardiomyopathy referral center. Symptomatic status seems to be the major factor related to depression levels. Further studies should investigate the effect of treatment of symptoms of depression in such patients.

**P259**

**Parental needs of children with congenital heart defects**

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**Introduction:** In literature, parenting a child with a chronic illness has been described as a highly stressful and demanding experience for both the parents and family. The expectation of a healthy child is replaced by the need to take life-saving options on behalf of their children, despite the risks to the life of their child, and uncertainty about outcomes. Limited studies have focused in the holistic needs of these parents.

**Purpose:** To describe the experiences and needs of parents of children with CHD (PCCHD).

**Methods:** Critical review of 34 articles published after 2000 in PubMed and Scopus.

**Results:** A limited number of studies with well-established methods, validated instruments and satisfying sample are published. It is acknowledged that parents may experience high stress levels and great dilemmas due to the increased demands and stresses placed on them. Therefore, persisting parental psychosocial problems manifested in depression, anxiety, somatization and hopelessness, may occur. According to our findings, the burden of caring for child with CHD is related to worries, concerns, and anxiety. The burden of care is related to treatment, medical and surgical intervention(s), prolonged and/or multiple hospitalizations, diagnostic procedures, medications, and the emotions experienced by parents, not only at the time of diagnosis but during life span. Parents should have sufficient knowledge about the nature of their child’s disease, about typical symptoms, treatment, short- and long-term risks of complications, and how to prevent them. During the child’s inpatient stay parents are receiving a lot of disease-related information, but it is not clear whether they are sufficiently prepared upon hospital discharge. In addition, many studies stated a great lack in knowledge about lifelong care. Nurses have the opportunity to offer support and information in addressing these complex issues.

**Conclusions:** Nursing care should focus in an approach that acknowledges the role of parents’ perceptions, needs and social vulnerability. This holistic approach will improve parental satisfaction and as an outcome will guide to optimal growth and development of their child.
Relationship between anxiety and cardiovascular disease risk in healthy hellenic armed forces

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Aim: Coronary heart disease (CHD) is referred to as a psychosomatic disease. Phenomena such as anxiety, depression, mental exhaustion and socioeconomic situation have not been well examined (Albus et al., 2004). The aim of this study was to examine the relationship between anxiety and the risk of CHD appearance in healthy Greek Military Earth Force population.

Material-methods: Four sixty four (464) Earth Force officers (358 men and 106 women) aging from eighteen (18) till sixty (60) years old complete the 20-item State-Trait Anxiety Inventory (STAI) (Spielberg et al., 1970). Responses are recorded on a four-point scale. Two anxiety traits were measured. Pearson r correlations were conducted to reveal if any relationship between trait and/or state anxiety and the risk of CHD appearance exists.

Results: Frequency results revealed that a total of 46,0% feel a little calmness, 28,6% feel a continuous agony for bad situations that might happen. Respectively, 31,0% was in an anxiety state, feeling nervous, 24,6%, and in continuous arousal, 27,7%. Pearson r resulted in a positive correlation between smoking habit and State Anxiety, r=.238, p=.010, as well as with Trait Anxiety, r=.238, p=.010. Results showed that STAI statements directly connected with anxiety are positively correlated with either State Anxiety, r=.920, p=.010, and Trait Anxiety, r=.920, p=.010. Positive correlations were found between given STAI statements and blood measurement results (blood pressure, LDL).

Conclusion: Results confirm the initial hypothesis that anxiety as autonomous trait has a direct relationship with CHD appearance. This research applauses the influence of anxiety to sudden cardiac death.

Screening for depression in patients with acute coronary syndrome (ACS)

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Background: American Heart Association (AHA) published a paper that documented an association between depression and increased morbidity and mortality in a variety of cardiac populations, depression has not yet achieved formal recognition as a risk factor for poor prognosis in patients with acute coronary syndrome (ACS). The purpose of this abstract is to (1) review available evidence for depression as risk factor for patients with ACS; and (2) discuss screening to identify patients with depressive symptoms. This is an important problem as patients who are depressed are likely to also be non compliance to other medical treatment for ACS. Thus, it is important to screen patients and offer appropriate follow up services if screening yields a positive result.
Methods and Results: A brief summary of the available evidence will be given and detailed steps on screening will be provided. Methods for screening and suitable screening instruments are suggested. Models for best practices to treat depression will be identified. Policy suggestions are included.

Conclusions: Convincing evidence exists that supports that depression as risk factor for adverse outcomes in patients with ACS. Methods for screening to identify depressive symptoms have also been delineated by the AHA and will be presented. Available treatment options are available. Ways that clinicians can implement these recommendations will be presented.

Prevention and rehabilitation from knowledge to practice

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Screening for cognitive impairment by dutch cardiovascular nurses

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Background: Cognitive impairment is common in patients with cardiovascular disease. Since it may influence needs and effects of disease management, it is important to assess patients’ cognitive abilities in a reliable way. The aim of this study was to describe how often and how cardiovascular nurses perform cognitive screening.

Methods: A total of 710 nurses who were visiting the national cardiovascular congress in the Netherlands in 2014 were asked to fill in a questionnaire about screening for cognitive impairment. They were also asked whether they used different teaching material or another approach during the clinic visit in case the patient was cognitively impaired. 185 Nurses (163 female) with a mean age of 44 (±14) years and a working experience of 22 (±11) years completed the questionnaire. 151 (81%) worked in non-academic hospitals, 29 (16%) in academic hospitals and 5 (3%) in a general practice. Of the nurses 33% is mainly responsible for heart failure patients, 10% for cardiovascular risk management, 20% is in acute care, 20% is responsible for patients with heart failure, hypertension or stroke, and 12% for different other categories.

Results Screening: Almost all nurses (98%) took cognitive impairment into account when approaching a patient, mostly based on their clinical assessment. Additionally 42% of the nurses used validated instruments to screen for cognitive impairment, such as the MMSE (2%), MOCA (0.5%), DOS (25%).

In total 40% of the nurses screened without any underlying reason. Furthermore, nurses screened when there were clinical signs of cognitive impairment or in case patients could not remember information (65%), if the patient did not understand information (61%), in case of an impaired self-care behavior (61%) or for other reasons as confusion, agitation or aberrant behavior (4%).

Approach: Of all nurses 10 % reported the use of a specific protocol for cognitive impaired patients and 18% had a specific approach in case of cognitive impairment, such as simple use of language, a lot of explanation and repetition (23%). Other specific strategies were use of internet (8%), brochures (18%) and short movies (6%).

Conclusion: Screening of cognitive function is generally assessed by clinical observations. Use of validated instruments is uncommon, and a specific approach for patients with cognitive impairment is low. This is clearly an area in need of implementation of research in the area of cognitive impairment in cardiac care.

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The self-management behaviour after an individual nurse-led counselling programme for patients early discharged after myocardial infarction: a pilot randomised controlled trial

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Background: Secondary prevention programme have showed effect on cardiovascular risk reduction, but few studies have investigated whether a nurse-led intervention for patients early discharged after myocardial infarction (MI) promote self-management behaviour.

Aim: To evaluate and compare the short-term effects of a 6-month individual nurse-led counselling programme together with usual care for patients early discharge after MI on self-management behaviour.

Methods: A pilot randomised controlled trial was performed in a district hospital in Norway. A total of 61 patients were allocated to either usual care (n=29) or beside usual care adding a nurse-led counselling programme (n=32) by three face-to-face sessions and two telephone contacts over a 6-month period, starting two weeks after discharge. The main outcome was self-management behaviour measured with patient activation measure (PAM, physical activity...
behaviour for patients early discharged after MI.

Results: Median age was 63 year and 70 % were male. The intervention group showed a better PAM score (P=0.03) and increased average intensity (P<0.01) and summer index of weekley physical activity (PA) (P=0.04) copared with the control group. In comparison within the groups, the intervention group reported a increased PAM score (P=0.01) and average frequency (P=0.03), duration (P=0.03), intensity (P=0.01) and summary index of weekley PA (P<=0.01). The SmartDiet improved within both the intervention group (P<=0.01) and the control group (P=0.02).

Conclusion: Individual nurse-led counselling programme in addition to usual care seem to promote self-management behaviour for patients early discharged after MI.

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The role of expert cardiac rehabilitation staff in detecting adverse indicators and creating a post-discharge safety net

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Introduction: Cardiac Rehabilitation (CR) reduces overall cardiovascular mortality, hospital readmissions, and improves cardiovascular risk factors, exercise capacity and quality of life. The role of exercise and cardiovascular risk factor management is important but is also likely that the monitoring and expert management of complex care needs in CR also has an impact.

Purpose: This study aimed to investigate the monitoring for potential health risks and subsequent intervention activities undertaken by CR staff.

Methods: The study used a qualitative design with data collected in focus groups and individual interviews in New South Wales, Australia between March-June 2015. Focus groups and interviews were audio-taped and transcribed verbatim. Framework analysis was used to analyse the data.

Results: The sample included 39 CR professionals, mostly female (n = 35, 88%) and mean age 51 years (range 28-70 yrs). The majority were nurses (n = 32, 82%), with the remainder from an allied health background (n=6,18%). Mean time since qualification was 27 years (range 7 – 48) and mean CR experience was 13.57 years (range 3- 30). Two major inter-related themes were identified. Firstly, CR staff were alert to multiple actual and potential health issues/incidents. Secondly, there were continuing processes of monitoring and investigation used to detect these issues. Ongoing contact was the thread that connected these two themes. This was essential to the monitoring and actions undertaken because it allowed opportunity to develop a more complete assessment of patients and for observation of a trend. Documentation of these observations depended on perceived severity.

Conclusions: CR is a complex intervention with a previously unreported role in detecting adverse indicators and creating a safety net for participants. This role needs to be clearly articulated to demonstrate that CR is more than exercise and risk factor management.

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Moderate interval training improves anthropometric parameters of older adults with coronary artery disease

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Background: Overweight, obesity and abdominal obesity in old cardiac patients should be managed by cardiac rehabilitation programmes to reverse their negative consequences. However, elders are commonly excluded from interval training (IT) programmes.

Purpose: The purpose of this study was to determine if an IT programme can improve anthropometric parameters in elderly patients with coronary artery disease (CAD).

Methods: A randomised controlled trial of 90 patients who suffered from CAD was carried out (40% acute myocardial infarction; 60% angina pectoris; 24.4% women). Subjects were randomly assigned to an interval training group (IT, n=45, 69.2±4.1 years, 80% men) or to a control group (CG, n=45, 69.2±5.6 years, 71.1% men). The IT participated in a ten 1-minute station circuit session. Subjects stayed 1 minute in each exercise, with a 30-second rest between stations. Duration of the programme was 2 months (1 session/week). We evaluated body mass index (BMI) and waist circumference before and after the intervention. A Student’s t-test was performed and the level of statistical significance was set at 0.05.

Results: With regard to BMI and waist circumference, table 1 showed significant differences between groups at the end of the study, while no significant differences were observed at the beggining. At the end of the study, IT significantly improved BMI and waist circumference when comparing to the CG, as shown in Table 1.
Conclusions: Moderate interval training in patients with coronary artery disease improves anthropometric parameters of elderly people and thus may reduce their risk of subsequent cardiovascular disease.

Table 1. Results of BMI and waist circumference b.

<table>
<thead>
<tr>
<th></th>
<th>PRE-INTRAVENTION</th>
<th>POST-INTRAVENTION</th>
<th>p-value</th>
<th>p-value</th>
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<tbody>
<tr>
<td>BMI</td>
<td></td>
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</tr>
<tr>
<td>CG</td>
<td>27.7±3.8</td>
<td>28.8±3.8</td>
<td>0.264</td>
<td>0.000</td>
</tr>
<tr>
<td>IT</td>
<td>27.8±3.4</td>
<td>26.0±2.8</td>
<td></td>
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<tr>
<td>Waist circumference</td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>CG</td>
<td>103.8±12.6</td>
<td>109.7±12.4</td>
<td>0.313</td>
<td>0.000</td>
</tr>
<tr>
<td>IT</td>
<td>101.4±9.7</td>
<td>97.8±11.3</td>
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BMI: body mass index; CG: control group; IT: interval training. Data are expressed as mean±SD.

Results: The majority (87%) were satisfied with the service provided at their regular pharmacy. Those surveyed agreed or strongly agreed that pharmacists are able for providing screening for raised blood pressure (52%), diabetes (55%), with a minority (24%) agreeing that pharmacists are capable for testing for cholesterol.

The pharmacist role with perceived highest capability was in providing advice on how to take medicine properly with 90% of the respondents willing to take advice from their pharmacist.

A limited role (34%) of the pharmacist was seen in the diagnosis of the CVD and prescribing medications.

In the relation to the prevention of the CVD, even though 66% of the surveyed believed that pharmacists are capable of providing information on lifestyle and diet advices, actually only 15% of them has sought assistance to their pharmacist.

Conclusion: There was belief by those albanians surveyed that pharmacists are capable of providing screening for hypertension and diabetes. Through these services and in conjunction with counselling on CVD risk reduction, pharmacists play an important role in the reduction of CVD, ultimately improving public health and decreasing the burden on Albanian’s health care system. However at present pharmacists are not being fully utilized to deliver health promotion advice and contribute to the prevention of CVD.

The Greek version of the Montreal cognitive assessment in coronary artery disease in Cyprus

Introduction: Mild cognitive impairment (MCI) is defined as a transitional state between normal ageing and early dementia characterized by an increased impairment of cognitive functions for persons of particular age and educational level (without affection of basic activities of daily living), but not meeting the diagnostic criteria for dementia (Gauthier et al. 2006).

Aims: To assess the psychometric properties of the Greek version of MOCA (MoCA-Gr) in a Greek-Cypriot population with chronic heart disease (CHD) and the comparison of the tools MoCA-Gr and MMSE on the detection of MCI and the relation of demographic factors with MCI were also investigated.

Methods: The study is a methodological survey to validate MoCA-Gr in a specific population. A convenience sample of 150 persons with known CHD were 99 healthy
persons (free of heart disease history). MoCA and MMSE questionnaires, along with demographic and clinical information were completed. Content, construct and concurrent validity were assessed. Also, the internal consistency (Cronbach’s alpha) and stability (test-retest) were investigated.

Results: The AUC was found to be 0.834 (p<0.001) indicating that the MOCA-Gr can discriminate between CHD patients and healthy group (Picture 1). Cronbach’s a was also found to be good (0.774).Specificity was found to be 58% and sensitivity 93%.MOCA-Gr and MMSE total scores are highly correlated (r=0.766 p<0.001) within the sample of 150 CHD patients and also highly correlated (r=0.761 p<0.001) within the total of 249 persons (150 CHD + 99 Healthy control group).

Conclusions: MoCA-Gr may assess mild cognitive impairment among CHD patients with good psychometric properties and be more sensitive than MMSE in detecting MCI.

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Improved lifestyle habits in cardiovascular risk individuals taking part in a structured lifestyle intervention program during one year

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Background: Cardiovascular diseases are the leading cause of death in the world and unhealthy lifestyle patterns are the underlying causes. Consequently, prevention programs focusing lifestyle intervention are now receiving much attention. However, there are a few studies evaluating lifestyle interventions in clinical practice.

Purpose: The aim of this study was to evaluate the effects of a structured lifestyle intervention during one year in individuals with high cardiovascular risk.

Methods: Participants were referred from doctors to the Department of Cardiology to be included in a lifestyle intervention program. After an individual visit to a nurse for a person-centered health check-up and a lifestyle counselling the participants were invited to five group sessions including discussions of physical activity, food and alcohol, tobacco, stress and behavioural changes. The participants were investigated at baseline, after 6 months and after one year. The information on lifestyle habits and quality of life was collected from questionnaires.

Results: One hundred and two participants (66 f and 44 m), mean age 58 (SD±11) years were included in the study. Sedentary time decreased significantly from 7.4 to 6.3 hours/day and the daily physical activity as well as exercise habits increased. The dietary pattern improved, i.e. regarding the intake of fruits and vegetables and the quality of fat. The number of individuals with a risk consumption of alcohol decreased and the number of the smokers decreased from ten to nine. In parallel, quality of life improved significantly.

Conclusion: Improvements in several important lifestyle factors was noted in individuals with increased cardiovascular risk after taking part in a structured lifestyle intervention program at a department of cardiology.

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Cardiac rehabilitation in order to manage arterial pressure in elders after acute coronary syndrome

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Background: Acute coronary syndrome (ACS) is a common condition in old people. Phase II cardiac rehabilitation programmes have shown some promising results in these patients, although participation of elderly in this kind of programmes is scarce.

Purpose: This paper aimed at analysing the efficacy of a phase II cardiac rehabilitation programme in arterial pressure of elders after ACS.

Methods: A double blind controlled trial was conducted. 90 consecutive patients discharged with ACS were recruited. Patients were randomly allocated to a phase II cardiac rehabilitation programme (CRP, n=45, 80% men, 69.2±4.1 years) or to a control group (CG, n=45, 71.1% men, 69.2±5.6 years). CRP sessions were as follows: 8 cardiovascular exercises, interrupted by 1-minute active breaks of superior limbs exercises (2 months, 1 session/week). Systolic and diastolic arterial pressure (SAP and DAP, respectively) were evaluated by a sphygmomanometer and measures were assessed at baseline and at week 24. Differences by group were evaluated using the Student’s t-test. Significance level was set at 0.05.

Results: Regarding SAP, at initial assessment there were no significant differences between CG and
CRP (133.02±17.49mmHg vs. 126.56±17.04mmHg, respectively, p=0.079) whilst at week 24 a significant improvement was shown in CRP with respect to CG (126.29±16.93mmHg vs. 134.36±14.96mmHg, respectively, p=0.019). With regard to DAP, at baseline there were no significant differences between CG and CRP (74.33±10.02mmHg vs 72.53±9.68mmHg, respectively, p=0.389) neither at week 24 (73.09±9.11mmHg vs 72.91±8.98mmHg, p=0.926). However, at the end of treatment, improvement was observed in both groups with respect to DAP.

Conclusions: This phase II cardiac rehabilitation programme enabled elders with ACS to improve systolic arterial pressure whilst it had no significant effect on diastolic arterial pressure.

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Exploring a new role of clinical pharmacists in preventive cardiology.

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Background: ASHP regulations affirm that Pharmaceutical care by a clinical pharmacist (CP) improves the quality of care in managing complications of Type 2 Diabetes Mellitus (T2DM) in patients with high risk for cardiovascular diseases (CVD).

Objective: To explore CP’s potential role in preventive cardiology.

Method: This pharmacist-initiated cross-sectional study, supervised by a senior cardiologist, diagnosed and evaluated Cardiac Autonomic Neuropathy (CAN) in T2DM patients by cardiac Autonomic Function Tests (AFT) which involves measuring Blood Pressure (BP) and monitoring ECG for QTc, Heart Rate Variability (HRV) by Valsalva maneuver (VM) and deep breathing test (DBT). Patients were also assessed for insulin usage and anti-diabetic medication adherence.

Results: Out of 75 patients, 84% were diagnosed with CAN. Insulin non-usage (p<0.001) and poor medication adherence (p<0.002) were found to be associated with CAN. HRV (VM and DBT) were identified in 57.3% and 64% of patients respectively. 29.3% of them were identified with QTc prolongation.

Conclusion: This study establishes the diagnostic and supportive role of CP in preventive cardiology, aiding cardiologist in diagnostics and pharmaceutical care. Thus, detection of CAN in high risk patients could be a novel approach widening pharmacist’s expertise in diabetes care management.

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The validation of the greek version of delirium observation scale (DOS) in cardiac patients

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Introduction: Delirium is an acute neuropsychiatric syndrome that occurs very often in clinical settings. It is a common post-operative complication with 3-52% incidence in cardiac patients. The consequences of delirium include higher morbidity and mortality, lengthened hospital stay and higher cost of care. Although there is a plethora of screening tools, delirium is difficult to diagnose and is often missed, due to different clinical expressions. The need for use of standardized and valid screening tools is major, as well as the finding and implementation of effective dealing strategies.

Aim: The aim of this study is the validation of the Greek version of Delirium Observation Scale (DOS) in cardiac patients.

Material and Method: This is a methodology study of investigating the validation and predicticitability of the Greek version of DOS in Greek-Cypriot cardiac patients. Reliability and internal validity were evaluated with Cronbach’s Alpha coefficient. Predictive validity was evaluated with the diagnosis of a neurologist according to DSM-IV criteria which is considered to be the “gold standard”.

Results: Cronbach’s Alpha was 0.98, kappa measure of agreement was 1.00, giving both 100% sensitivity and speciality to the tool.

Conclusion: DOS is a valid, useful and friendly tool for nurses to identify delirium in cardiac patients.

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Post-op cardiac surgical site infection: implementing evidence

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KF, a 61 years old Caucasian arrived at the Acute & Emergency Department of a private, tertiary non-Academic Hospital due to febrile status (>38.4 o C), post op CABG (12th day). Patient referred that in the last 48 hours was in subfebrile but “today the situation got worst… feel a lot of pain in the sternum, inside the wound…I feel tired, weak and I don’t want to eat anything…”.
Patient admitted in a single room due to his prior hospitalization, blood analysis performed, empiric antibiotic treatment initiated (cephalosporine 1st generation, (C1g), 1gx3, IV). The examination of sternum incision revealed redness, with minimal purulent exudate; culture of exudate sent, cleaning of the wound performed, and transparent dressings applied. Nursing team provided training to the patient regarding Pain assessment (Numerical scale), Fall risk (MORSE scale), Pressure Ulcer assessment (NORTON scale) tools applied, hypercaloric/hyperprotein nutrition initiated (after consulting dietician), 3h vital signs measurement and blood glucose measurement, following standard precautions measures and care of personal hygiene. Additionally, patient and his proxies advised about hand hygiene practices. Meanwhile, a thoracic CT-Scan that performed on admission day, resulted in “no visible signs of Mediastinitis”.

On the 2nd day of admission (d2) despite antibiotic regimen and negative “no growth/sterile” cultures of the wound exudate, patient continued to be in febrile status (mainly during evening hours) and his socio-physiological was getting worse. In the following days clinical condition of the patient remained the same: febrile status (although febrile episodes were limited through the day course), anorexia, weakness, and immobilization. On d10, appliance of a Negative Pressure Wound Therapy System was decided. That was the 1st case of such supplemented therapy in our hospital; educational training to the nursing personnel as well as to the patient as well as to his proxies provided.

Eight days after the initiation of Negative Pressure Wound Therapy System patient discharged; afebrile, in good clinical condition (blood analysis and blood glucose within normal range), with written instructions regarding antibiotic therapy, nutrition, personal hygiene, care of the wound. Written instruction also provided in regards the use of Negative Pressure Wound Therapy and a follow-up appointment scheduled.

**Screening of cardiovascular risk factors in policewomen from underserved communities: a cross sectional study**

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**Background:** Coronary heart disease (CHD) may be clinically different in women when compared to men being underdiagnosed and treated. Worldwide, heart disease and stroke are the leading cause of death in female gender with 8.6 million deaths per year, as mentioned by literature.

**Objective:** to identify the prevalence and self knowledge of cardiovascular (CV) and stroke risk factors in policewomen of the Police Units, located at underserved communities.

**Methods:** Observational and cross-sectional study, All policewomen answered an one-minute and anonymous questionnaire of 30 questions about age, stress level, tobacco smoke, hypertension, dyslipidemia, physical inactivity, obesity, diabetes and family history of CHD between 05/06/2015 and 10/09/2015. A positive answer or the lack of knowledge were equivalent to a point. Considered high risk group: two or more positive answers or the lack of knowledge. They’ve attended to encouraged lectures about cardiovascular risk factors.

**Results:** Total of 32 police units, 602 policewomen, average age 28.1 years, 71% high stress level; 7% tobacco use; hypertension 7% (lack of knowledge in 7%); 76% have already measured cholesterol (87% unknow the level); 76% have already measured glycemia (30% were unaware; 16% of family history of CHD and stroke; 51% unaware of body mass index (BMI); BMI was calculated: 59% ≤25, 23% >25 and ≤30, 18% without weight and/ or height; 53% physical inactivity; 92% denied preview CHD. 90% used to visit gynecologist but only 12% to a cardiologist. It was identified 97% with ≥2 points.

**Conclusion:** High level of prevalence of CV risk factors ou unknoeledge besides a high stress level activity. They must be warned and encouraged to complete their risk assessment in a healthcare unit.

**Health promotion model to MI**

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**Aim:** The aim of this study was to examine the effectiveness of a theoretically based training program built on the health promotion model (HPM) and individual counseling based on the patient’s level of self-efficacy, prognosis, functional capacity and risk factors for patients post-myocardial infarction (PMI).

**Methods:** We used a prospective, pretest–post-test quasi-experimental study design. The study sample consisted of 70 patients who were PMI. The control group (n=35) consisted of patients receiving routine clinical care, the experimental group (n=35) consisted of patients who received care based on the HPM accompanied by individual counseling.

**Results:** We observed a statistically significant difference when comparing repeated measures of smoking status,
exercise and dietary status and total cholesterol, waist circumference, HbA1C results, functional capacity, and self-efficacy level in the experimental group to those of the control group.

**Conclusion:** Consequently, we suggest that the HPM is an effective tool for use in patients PMI. The HPM should be implemented in cardiology clinics for PMI patients by cardiology nurses, following studies using larger study samples.

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**Effect of glycaemic status on left ventricular diastolic function detected by pulsed tissue doppler imaging in type 2 diabetes patients**

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**Background:** Diabetes mellitus is considering an important independent factor in developing diastolic dysfunction. Diastolic dysfunction comprises about 30 to 50% of all patients hospitalized for heart failure. The aim of this study was to determine the effect of glycaemic status on left ventricular diastolic function by pulsed tissue Doppler imaging in type 2 diabetic patients.

**Methods:** Our study included (100) subjects, 20 normal healthy subjects, 80 known to be diabetic patients presented in our diabetic outpatient clinic and echocardiographic unit at Al-Hussein University Hospital between November 2010 and June 2011. The patient were classified according glycaemic status in to three groups: Group (A) Normal healthy control subjects. Group (B) well controlled diabetes HbA1C less than 7, Group (C) uncontrolled diabetes HbA1C more than 7.

**Results:** There was no statistically significant difference between the three groups as regard LVEDD, LVESD, LV EF% and LVFS%. There was statistically significant difference between the three groups as regard LA dimension mean E wave mean of A wave mean of E/A ratio diameter mean of DT mean of IVRT mean of Em wave mean of E/Em degree of diastolic dysfunction. There was statistically significant difference in patient have LV diastolic dysfunction between the three groups as regard E wave, A wave, DT, and IVRT. But there was no statistical difference between patient have diastolic dysfunction as regard mean of Em. There was negative correlation between HbA1c level and E wave, E/A, Em and positive correlation with LA dimension, A wave, IVRT, DT and E/Em.

**Conclusion:** The Glycemic status is well correlated with severity of diastolic dysfunction in asymptomatic type 2 diabetic patients. Tissue Doppler imaging has been shown to be more sensitive and more independent from various confounders, such as preload for assessment of diastolic function in asymptomatic type 2 diabetic patients and its results are significant correlated with glycemic state.

**P279**

**Obstructive sleep apnea (OSA): Is there a link between OSA and specific cardiovascular outcomes**

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**Background:** OSA has been independently linked to specific cardiovascular outcomes and all-cause mortality. The aim of the research conducted at the Clinic for Pulmonary Diseases was to determine: 1) The distribution of patients by categories OSA according to measured value Apnea–Hypopnea Indeks (AHI), 2) OSA in interaction with specific cardiovascular outcomes.

**Method:** The target group were all patients who came to the OSA treatment (N=97). Sleep apnea has been defined as negative AHI<5, AHI 5–15 mild, AHI 15–30 moderate, and AHI>30 severe. In each patient, we recorded the AHI, BMI, age, sex, comorbidities, ABG analysis. Medical diagnoses were obtained from the medical documentation. AHI is a result of polysomnography (PSG). All patients made a complete full night PSG (ALICE IV or LE 5 Respironics).

**Results:** 1) The distribution of patients by categories OSA according to measured value AHI: patients with AHI<5 (21%), AHI 5–15 (31%), AHI 15–30 (16%), AHI>30 (32%) (N=97). 2) Display distribution of patients by categories OSA according to measured value AHI with certain medical conditions (N=97): Arterial hypertension; AHI<5 (65%), AHI 5–15 (53%), AHI 15–30 (38%), AHI>30 (29%), history of Myocardial infarction; AHI<5 (5%), AHI 5–15 (5%), AHI 15–30 (6%), AHI>30 (3%), Cor pulmonale; AHI<5 (5%), AHI 5–15 (5%), AHI 15–30 (6%), AHI>30 (3%).

**Conclusion:** We have demonstrated a high prevalence of OSA patients. With the collected data, we can confirm by increasing degree of OSA increases the percentage of specific cardiovascular outcomes in these patients.

**P280**

**2D speckle tracking longitudinal strain confirms normal myocardial function in female athletes**
Prevention and management strategies of cardiotoxicity in previous cancer patients is important to optimize the follow-up and their quality of life. In women surviving breast cancer, when sports activity can be allowed, the Dragon Boat sport activity has been recently demonstrated to have a positive impact on the diastolic myocardial function. Two-dimensional Speckle tracking echocardiography (2DST) already demonstrated its clinical potential in discovering early and late reduction of heart function. Purpose This study aims to verify the feasibility of the strain imaging program to consistently and accurately characterize the myocardial function in a group of women a of Dragon Boat team, previously treated with chemotherapy and radiotherapy, compared to a normal female athletes control group.

Materials: Among a cohort of 50 Dragon Boat athletes, a selected group of 20 subjects previously affected of breast cancer and normally trained, were submitted to 2D standard echographic exam (My-Lab ESAOTE) and to 2DST analysis, by a dedicated software for the evaluation of the deformation parameters of the LV chamber (Longitudinal Strain). Only subjects with an excellent image quality were considered for the study.

Result: 2D standard echo parameters were normal in both groups; EF was preserved in Dragon Boat group although at lower level of the normal range and significantly lower with respect to the control group (Dragon Boat EF 56.9 ±5 vs Controls 64.4 ±4; p<0.005). Strain parameters were within the normal range, however all the values of Dragon Boat athletes were significantly lower in comparison to the control with the exception of the septal-apical segment.

Conclusions: 2DST confirms normal function in athletes with a previous story of cancer. Despite this, the significant difference of the data are suggestive for a possible modification of the heart function in sport at high cardiovascular impact. Dragon Boat maintains normal systolic function, however a possible protective role in a more acute situation will need more large investigation.

<table>
<thead>
<tr>
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<th>Strain Glob</th>
<th>Strain Lo Med</th>
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<tr>
<td>Dragon Boat</td>
<td>−21.22±5.3</td>
<td>−19.01±5.05</td>
<td>−16.35±5.3</td>
<td>−18.26±7.9</td>
<td>−18.93±5.8</td>
<td>−24.42±5.3</td>
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<tr>
<td>Controls</td>
<td>−25.43±2.1</td>
<td>−24.1±2.1</td>
<td>−23.5±2.4</td>
<td>−25.08±4.1</td>
<td>−23.08±0.5</td>
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<td>P</td>
<td>0.02</td>
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Tracking the self knowledge of cardiovascular risk factors and stress level in policewomen of pacifying police units from state government

P Borges, VF Marcolla, AAB Aragao, ECS Peixoto and ACB Souza

Coronary heart disease (CHD) may be clinically different in women when compared to men being underdiagnosed and treated. Worldwide, heart disease and stroke are the leading cause of death in female gender with 8.6 million deaths per year, as mentioned by literature.

Objective: to identify the prevalence and self knowledge of cardiovascular (CV) and stroke risk factors in policewomen of the Pacifying Police Units (PPU).

Methods: Observational and cross-sectional study. All policewomen answered an one-minute and anonymous questionnaire of 30 questions about age, stress level, tobacco smoke, hypertension, dyslipidemia, physical inactivity, obesity, diabetes and family history of CHD between 05/10/2013 and 10/10/2013. A positive answer or the lack of knowledge were equivalent to a point. Considered high risk group: two or more positive answers or the lack of knowledge. They’ve attended to encouraged lectures about cardiovascular risk factors.

Results: Total of 32 PPU, 602 policewomen, average age 28.1 years, 31% high stress level; 7% tobacco use; hypertension 7% (lack of knowledge in 7%); 76% have already measured cholesterolemia (87% unknow the level); 76% have already measured glycemia (30% were unaware; 16% of family history of CHD and stroke; 51% unaware body mass index (BMI); BMI was calculated: 59% ≤25, 23% >25 and ≤30, 18% without weight and/or height; 53% physical inactivity; 92% denied preview CHD. 90% used to visit gynecologist but only 12% to a cardiologist. It was identified 97% with ≥2 points.

Conclusions: High prevalence or unknoweledge of CV risk factors and stress level activity in this population.
With the increase in the number of installations of systems used for cardiac resynchronization (CRT) and then with the increasingly growing need to insert three leads, one of which often defibrillation, is becoming more urgent the need for a approach to a large vein such as the subclavian vein. Traditionally, the puncture of the subclavian vein is performed based on anatomical markers has the advantage of being able to be used for the introduction of more leads (up to three), but is weighed against the risk of pneumothorax and lead fracture. The approach to the cephalic vein through the venotomy does not present the risks of described, but it has the disadvantage of not being equally effective, given the small size of the vessel and the possible anatomical tortuosity. In recent years more and more interesting is the approach to the axillary vein, presenting the advantage of presenting less risk of pneumothorax, not to present a risk of breakage of the leads, it can be used for the implantation of more leads, but it has the disadvantage of a low success rate when using the traditional approach. We wanted to evaluate the safety and efficacy approach to the axillary vein. The operator right-handed wielding the probe with the left hand and the syringe with the needle with your right hand. It identified the anatomical region extrathoracic axillary vein was pricked after local anesthesia in the area of interest, with Seldinger technique. The progression of the needle was guided by ultrasonography. The puncture was possibly carried out two or three times depending on the type of plant programmed. After a learning period of the echo-guided technique were enrolled 90 patients in which consecutive, randomly 1:1, was chosen the initial approach (echo or subclavien). If in a maximum time of 5 minutes the first approach failed in the cannulation is passed to the second approach. In the learning period of about three months the frequency of failure is lower than 30%. In the period of enlistment randomized, the frequency of success at the first attempt of the approach echo is comparable with that for subclavien (42/45, 93.3% vs. 43/45, 95.6%). Are not reported to the system and major events in the postoperative period. Are registered minor events such as dislodgement during the procedure and / or raising the threshold post-procedure to be comparable in the two groups (Eco: 2.2% vs 6.7% Subclavien). The proposed technique appears to be effective and safe as the classical technique for subclavian, also presents the advantage of being free from risk of pneumothorax and breaking of leads.

**Background:**

Health-related quality of life is a major issue among patients with heart diseases.

**Objective:**

The aim of the present study is to investigate quality of life and depression in patients diagnosed with heart failure and myocardial infarction respectively. Correlation between these two domains in the total sample is also examined.

**Method:**

The following psychometric tools in order to collect data were used: a) Missoula-VITAS Quality of Life Index, studying health-related quality of life issues, b) CES-D for depression and c) a questionnaire including sociodemographic characteristics of the sample.

**Results:**

Results indicated that patients with heart failure presented higher levels of depression than patients with myocardial infarction and that depression was correlated to quality of life in the overall sample.

**Conclusion:**

Treatment of chronic diseases, such as heart failure and myocardial infarction, focuses not only on the improvement of prognosis and medication adherence, but also on the improvement of quality of life as well as on the decrease of depression levels.

**Service development and innovation**

**Effects of an eHealth intervention combined with person-centered care throughout the continuum of care for patients diagnosed with acute coronary syndrome**

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**Background:**

The concept of eHealth, which encompasses a variety of actions referring to health services and information delivered or enhanced through digital technology, could have a positive effect on management of optimizing self-care. There is a knowledge gap regarding the effects of
mobile-based self-management tools in combination with PCC for patients with chronic heart diseases.

**Purpose:** The aim of this study is to investigate the effect of a smartphone-based eHealth tool in combination with PCC for patients with acute coronary syndrome (ACS).

**Methods:** A total of 199 patients with ACS who were aged <75 years were randomly assigned to a PCC intervention (n=94) or standard treatment (control group, n=105) and followed for 6 months. Patients who were included in the intervention arm were provided the option to use a smartphone-based or internet-based eHealth tool for at least 2 months post-hospital discharge. The primary end-point was a composite score of changes in general self-efficacy ≥5 units, return to work or prior activity level, and re-hospitalization or death at 6 months post-discharge.

**Results:** Of the 94 patients included into the intervention arm, 37 (39%) used the eHealth tool at least once during the study. Patients who used the eHealth tool in combination with the PCC intervention had a 4 times higher chance of improvement in the primary endpoint compared with the control group (odds ratio: 4.0; 95% confidence interval: 1.5-10.5; P = .005).

**Conclusion:** Our findings indicate a significant beneficial effect on self-efficacy for patients using eHealth as a self-management tool to improve PCC outcomes.

**P286**

Training the trainers in the health care sector: Implementing an innovative training course for clinical nurse educators

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**Introduction:** On the job training is a demanding process that requires from the clinical nurse educators both knowledge and specific skills, such as empathy, communication and sense of collaboration, in order to achieve effective performance. Purpose of this study was to implement an educational program based on adult learning techniques, soft management skills and evidence based practice.

**Method:** Experiential Learning Theory developed by Kolb was used as the theoretical background of the educational intervention. As Kolb suggests, it is always necessary to reflect on a specific experience to make generalizations and formulate concepts which can then be applied to new situations. A pilot program was conducted, as 42 nurses, were trained in a 40 hours seminar divided into 3 modules regarding adult learning techniques, soft management skills and evidence based practice. During the whole seminar participants had opportunities to reflect on their experiences and their role as Clinical Nurse Educators. The effectiveness of the program was evaluated by a mixed quantitative and qualitative method. The quantitative evaluation was performed by the method of assessing the level of knowledge with special structured questionnaire which was completed anonymously by the participants before and after the seminar. The questionnaire consisted of two parts: the knowledge of adult education techniques and knowledge about evidence-based nursing practice (plus two subscales for assessing the methodological validity of published systematic reviews and original research articles).

**Results:** A comparison of the responses before and after showed a significant increase in the level of knowledge, both in overall performance level (33.8 ± 6.16 & 41.78 ± 5.08, p<0.000), and in subsections (p<0.000 at all scales). For the qualitative evaluation of the trainees, participants in the seminar were asked to create a story with keywords relating to trainers, training methods and the content of the seminar, as themselves identified. The analysis of texts emerged as the main core issues: the pleasure for the selection, the pleasant climate during the courses, the creation of interactive environment among colleagues and the expectation for undertaking new roles, especially those of adult educator.

**Conclusions:** According to this pilot program, the basic concepts of experiential learning theory can be an effective model for nurses’ education in application of empirical and scientific knowledge through on-the-job training.

**P287**

Greek doctors’ and nurses’ motivational reasons to participate in CPD

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**Introduction:** Continuing Professional Education (CPE) for doctors and nurses became extremely essential to the assurance and improvement of quality patient care as an element.

**Purpose:** The main purpose of the study was to investigate the participation and the motivational reasons which influence Greek doctors and nurses to participate in CPE programs.

**Methods:** The study entailed a descriptive, comparative, correlational design. The sample size consisted of 971 health professionals (n=971), 531 military doctors and 440 military nurses, of a total population of 2025, working
in the Hellenic Army health services, throughout the Greek territory (response rate 47.2%). A self completed questionnaire was used for the data collection (Mar 2010-Sep 2010). The questionnaire included the revised Participation Reasons Scale (PRS), a Likert type scale. The factors of the revised PRS were: improvement of professional competence and patient service, professional commitment, collegial learning and interaction, personal benefits and job security, for doctors (α=0.92) and nurses (α=0.93), as well. The level of significance was set at p=0.05.

Results: The vast majority of doctors (98.3%) and nurses (86.2%) were informed for the scientific developments, demonstrating interest in on-line CPE (90.6% and 74.6%, respectively). Doctors referred that spent 12.2 days in CPE activities (SD ±17.5), with median 10 days, and nurses 7.3 days (±26.2), with median 3 days, during the previous year. In relation to motivational orientations, the factor of improvement of professional competence and patient service received the highest recognition amongst doctors and nurses [5.5 (±1.1) and 5.4 (±1.2), respectively] and the factor of personal benefits and job security the least [4.5 (±1.2) and 4.6 (±1.2), respectively]. More CPE days, in the previous year, reported the doctors and nurses who were older (p<0.001 and p=0.001, respectively), more experienced (p<0.001 and p=0.011, respectively), with a master’s degree (p<0.001 and p=0.002, respectively) and IT skills (p=0.001 and p=0.003, respectively).

Conclusions: Military doctors and nurses demonstrated a positive attitude towards CPE. Their most important reason to participate was their need for professional development and improvement for the benefit of patient care and the least important their personal benefit. The study’s findings could facilitate the CPE providers to realise the factors that influence doctors’ and nurses’ participation in CPE, in order to update their policies for the benefit of the health professionals, the service, the patients and the society as a whole.

P288

The application of the activity based costing (ABC) model in the cath lab.

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Background: The costing of health services is always a challenge, especially through the undertaken effort of a more accurate approach of the costs, particularly in recent years. The cath lab is a sector that looks attractive and more feasible for this approach, because of its high productivity and uniformity of the operations carried out.

Purpose: Examine how to calculate primarily the direct costs of health services in the cath lab, based on Activity Based Costing (ABC). Also how safe it can be as a costing method, as well as the co-benefits generated by this application.

Methods: The ABC costing model requires the identification of all activities and the time devoted to each. Time is measured using a timer per day, per patient and by the rank of the person or persons employed by activity. The production of 15 working days in similar activities has been examined and the direct costs of the cath lab per patient on materials and human resources have been calculated.

Results: The cath lab, guided by the ABC costing model, can have a clear result on the nursing cost of its patients, based on reliable criteria. All direct costs and some indirect costs related to the production of a health service in the cath lab, can be determined safely and even without complex procedures required.

Conclusions: The Activity Based Costing model in the cath lab can easily be applied in a modern organized hospital, without requiring additional resources. It is a sure and accurate guide to the costing of health services in the cath lab. In addition, it identifies operational problems and costly operations and provides useful information on the quality of nursing.

P289

Patient with mechanicals prosthesis in the right position. DAI implant. Infirmary work in the operating room.

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Introduction: Adult congenital heart are more frequent, standing out the tricuspid and pulmonary valve. As well the electro-stimulation therapies are conditioned by the complexity of the anatomy and the presence of mechanicals prosthesis in the right position. In any surgical process the knowledge and the training of the nursing staff is fundamental to achieve the success of the procedure.

Clinical Case: A 57 years old patient having a RV (right ventricle) pathology operation in 1971. In later check-up can be seen TI (tricuspid insufficiency) and PI (pulmonary insufficiency). The patient had a tricuspid and pulmonary valve operation replaced by mechanical prosthesis in 2012. Subsequently the patient suffers a syncope episode and VT (ventricular tachycardia) therefore a bicameral DAI implant is made. Having the patient a mechanical tricuspid
valve, two cables are placed in veins branches in the coronary sinus and a cable in the right atrium.

Because of these surgical antecedents the patient at the arrival to the operating room for the DAI implementation shows anxiety and insecurity disorder consequently our intervention is required to provide physical and psychic wellbeing.

After preparing the necessary medication the patient: is monitored, internal defibrillation charged paddles are placed, electric bistoury paddles, oxygen mask, radiation protection, sometimes catheterization. Equipment testing: x rays, monitors, electric bistoury, defibrillator, analyzer.

In the operating table we will place the implant surgical equipment with accessories, channeling guides, stimulation electrodes, measuring cables, generator, everything is ready to use.

Result: Implant bicameral DAI is done placing an electrode in the right atrium and two electrodes (defibrillator and stimulating) placed in veins the coronary sinus; with measure optimal controls.

Conclusions: The DAI implant in the coronary sinus in patients with tricuspid mechanicals prosthesis is the optimal alternative to avoid approaches more aggressive. Infirmary constitutes a fundamental part to realize these interventions and needs training and knowledge of the equipment and devices to use. Important assignment in the psychological state of the patient.

Factors that structure nurses professionalism

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The nature of the nursing profession is not a routine. It demands a scientific design and the best performance of the nurse practice, so it can offer better results to the care receivers. But there is a gap between theory and practice that leads in work conflicts. Conflicts and disparities that guide us to complication in the area of care giving.

Purpose: This study tries to discuss the factors that influence the development of professionalism in nursing.

Method: The research of the identified bibilography in Greek, English and Italian data bases, promoted original studies, that met our criteria. Their resolution promoted the meaning of the nursing profession, the factors that shape the values of a professional nurse as well as obstacles faced by the nursing stuff.

Results: Twelve studies emerged from the bibliografy in agreement with this systematic review. The articles ascertain the factors that show the difference between job and profession, the role of professional values in nursing care, the role of the nursing instructors, the gap between teaching and practice and the way to erase it.

Conclusions: This review raises the need of the recognition of the nursing profession and the influence that it has to the care giving.

Appropriate use criteria of transesophageal echocardiography

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Introduction: The transesophageal echocardiographic imaging is highly used in the clinical practice.

Aim: The aim of this study was to evaluate appropriateness of transesophageal echocardiographic imaging in the greek polulation.

Material and Methods: The study was performed at the echocardiographic laboratory of a University hospital in Athens, Greece. 300 patients were included in a randomized study. The study was conducted from November 2013 to May 2014. The transesophageal echocardiographic studies were classified according to the American College of Cardiology Foundation 2011 Appropriate Use Criteria.

For computations Statistical Package for Social Sciences® version 18.0 was used. P values less than 0.05 were regarded as significant (p \(\leq\) 0.05).

Results: The patients’ mean age was 57.5 years (± 16.2). 59.2% of them were men (N=178/ 300).The percentages of appropriate, uncertain and inappropriate studies were 91.3%, 2.0% and 6.7%, respectively (N= 274, 6 and 20, respectively).

Conclusions: This study was too small. Additional research is needed.
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