Factors Associated with Quality of Life: Perspectives of Stroke Survivors

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ABSTRACT. Objective: The purpose of this mixed design study was to examine quality of life from the stroke survivors’ perspectives. It addressed the question: What factors have influenced the stroke survivors’ quality of life (QOL)? and tested the null hypothesis that stroke has no influence on stroke survivors’ QOL. Methods: A mixed design was used with nine stroke survivors who lived at home, were able to communicate and had experienced a stroke at least one year prior to the interview. Four data collection methods were used, including a semi-structured qualitative interview tool, two standardized tools measuring the QOL (the Delighted-Terrible Scale and the Satisfaction with Life Scale (SWLS)), and field notes. Results: On the Delighted-Terrible Scale the null hypothesis was rejected since the Dmax was found to be more than the critical

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D (0.57 > 0.43), using the Kolmogorov-Smirnov One-Sample test. Similarly, on the SWLS the null hypothesis was rejected as the $D_{max}$ was found to be more than the critical D (0.49 > 0.43). Most of the participants report being either satisfied or extremely satisfied with their lives on the quantitative measures. Findings from qualitative data presented four themes: doing what you enjoy doing; lost roles and occupations; live with what you have to live with; and hope for the future: improving QOL. Conclusion: In spite of the quantitative findings showing that the stroke survivors perceived themselves as mostly satisfied or satisfied with their lives, the participants talked about the stroke and its consequences in the qualitative part of the study and expressed how the stroke had negatively impacted the quality of their lives. It is recommended that long-term rehabilitation and psychosocial follow-up services be available for stroke survivors. It is apparent from this study that the participants were still in need of these services and were motivated to return to a rehabilitation program. This study strongly suggests that greater attention should be paid to the stroke survivors’ QOL in present rehabilitation programs.

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**KEYWORDS.** Stroke, survivor, quality of life

**INTRODUCTION**

Most people have the desire to improve their quality of life (QOL) by improving their working conditions, their role performance, engaging in leisure activities, and maintaining social interactions. When confronted with crises created by chronic disease such as stroke, the perceived QOL will depend on the person’s ability to cope with the new situation as well as on the severity of the disease, and the socioeconomic and psychological consequences. Stroke survivors confront drastic changes in their physical and psychosocial health that can detrimentally affect their QOL.

**LITERATURE REVIEW**

In reviewing articles from the *American Journal of Occupational Therapy (AJOT)*, it was noted that the concept of “quality of life” came
One of the main goals of occupational therapy is to improve the QOL of people through enhancement of occupational performance. Yerxa (1967) pointed out that the unique role of occupational therapy is to encourage the patient’s participation in choosing the treatment process by setting treatment goals in collaboration with the patient. Encouraging the performance of purposeful activities can, in turn, improve the patient’s perception of his/her psychosocial life as well as physical environment (Yerxa, 1967). According to the Ecological Systems Model for Occupational Therapy (Howe & Briggs, 1982), the goal of the occupational therapist is to “enhance individuals’ ability to cope with the environment, to adapt to it, to change it, and to master whatever range of life tasks and activities that will enable clients to accomplish their personal goals in relationship to themselves and to the surrounding systems” (Howe & Briggs, 1982). Function and dysfunction, according to Howe and Briggs (1982), is evaluated in terms of the person’s effectiveness in achieving goals for their QOL, and in their interaction with their environment.

In order to understand QOL it is important to study its components. Lau, McKenna, Chan, and Cummins (2003) found four components which contributed to the QOL of elderly stroke survivors: physical health, represented by the disease and treatment-related symptoms; functional health represented by mobility, self care, and role performance; psychological health, represented by cognitive functioning, well-being, emotional status, general perception of health, and happiness; and, finally, social health, represented by the amount and quality of social contacts and interactions.

In the literature review factors reported to have a negative impact on the QOL of stroke survivors were: physical, sensory, cognitive, perceptual, communication, and emotional deficits; physiological and psychosocial difficulties; depression, including feelings of hopelessness and helplessness, anxiety, and dehumanization; and change in ADL independence and decreased leisure and sexual activities (Ahlsio et al., 1984; Niemi et al., 1988; Kim et al., 1999; Smout et al., 2001; Mackenzie & Chang, 2002; Lau et al., 2003). Other factors were reported to have a positive influence on stroke survivors’ QOL. Stroke survivors with greater social support reported higher QOL, according to Kim et al. (1999). King (1996) reported that QOL is an important health-care outcome for the 86 stroke survivors who participated in the study and interviewed one to three years after stroke. The relatively high QOL among the participants was assumed to be related to their effective ability to cope with stroke. Secrest and Thomas (1999) investigated QOL follow-
ing rehabilitation and reported that the survivors’ world is grounded in loss and effort. Loss, such as memory loss, was common among stroke survivors. Effort describes the amount of energy stroke survivors’ spend to get through everyday life tasks.

For the purpose of this study, QOL was defined as the individual’s overall appraisal of their situation and subjective sense of well-being. It is influenced by different factors such as general health as well as social, financial, occupational, psychological, cultural, and environmental situations. The focus of this mixed design study was to examine the QOL from the stroke survivors’ perspectives and addressed the question: What factors have influenced the stroke survivors’ quality of life? The study also tested the null hypothesis that stroke has no influence on survivors’ QOL. This study was the second part of a larger study that targeted the same participants and focused on stroke survivors’ adaptation from their perspectives. The target population of this study was patients who had strokes at least one year prior to the study.

**METHOD**

**Design**

A mixed design approach was used by which qualitative data (an interview and field notes) as well as quantitative data (two instruments) about survivors’ QOL were gathered and analyzed. Polit and Hungler (1999) suggested that mixed design (data triangulation) is an area of inquiry that can be enriched by blending qualitative and quantitative data. According to Patton (2002), triangulation strengthens the study.

**Participants**

The survivors were selected from the Committed to Assisting with Recovery after Stroke (CAReS) research study (Ostwald, 2004). The CAReS study which targets stroke survivors and their spouses was funded by the National Institute for Nursing Research, and the National Institute of Health (NR05316) for five years (2001-2006). The aim of the project is to learn about the education, support, counseling, and skill training stroke survivors and their partners need after leaving the hospital. CAReS is a collaborative effort involving eight medical and educational institutions. A purposeful sampling method was used to recruit the participants. Inclusion criteria were that they reside at home, com-
municate and engage in a conversation, and had experienced the stroke at least one year prior to interview. Approval by the Institutional Review Board of Texas Woman’s University was secured before recruitment began. A signed consent form and a consent to audiotape were required. To protect their confidentiality, names were not included in any publications, rather a psedonym was used.

Data Collection

Data collection methods included a semi-structured qualitative interview tool, two standardized instruments measuring the QOL, and field notes. One session/visit about one hour long was sufficient to gather the needed data. Interviews took place in the participants’ homes at a convenient time. An interview guide that targeted the factors associated with QOL among stroke survivors was prepared, which focused upon (1) perceived meaning of QOL, (2) perceptions regarding the influence of stroke on QOL, and (3) perceptions regarding the factors that might help improve survivors’ QOL. Probing questions were used to gather more details.

The second and third data collection methods were quantitative in nature. The Delighted-Terrible Scale, developed by Andrew and Withey (1976), consists of one question in which the participants are asked to rate their current feeling—taking into account what has happened in the last year and what you expect in the near future—on a seven-point scale ranging from delighted to terrible (McDowell & Newell, 1996). The participants select one of the following categories: “Delighted,” “Pleased,” “Mostly satisfied,” “Mixed—about equally satisfied and dissatisfied,” “Mostly dissatisfied,” “Unhappy,” and “Terrible.” The scale has a test-retest reliability of 0.7 (Andrew & Withey, 1976). The second scale was the Satisfaction with Life Scale (SWLS) (Diener et al., 1985). The SWLS is composed of five different statements about the participant’s life to which they agree or disagree using a scale of 1-7 that ranges from “Strongly agree” (7) to “Strongly disagree” (1). A total score was calculated and categorized: (5 to 9) “Extremely dissatisfied,” (10 to 14) “Dissatisfied,” (15 to 19) “Slightly dissatisfied,” (20) “Neutral,” (21 to 25) “Slightly satisfied,” (26 to 30) “Satisfied,” (31 to 35) “Extremely satisfied” (see Table 3). The scale has a total score range of 5 to 35. Test-retest reliability of SWLS is between 0.76 and 0.82, with 0.8 internal consistency of items (Pavot & Diener, 1993). All of the participants were able to complete both scales independently.
The fourth method of data collection was field notes. As suggested by Patton (2002), field notes were used to collect such data as the setting, who was present, and a description of the physical setting and the activities that took place. This information was used to understand the context. Data such as the demographics, contact information, and the medical diagnoses were gathered from the CAReS project database, with the stroke survivors’ permission.

DATA ANALYSIS

Interviews were transcribed verbatim. For quality control, transcripts were read and compared with the tapes. Several readings of each interview were done. Guidelines from Patton (2002) for qualitative content analysis were used in the coding process. The comments were organized into topics. Themes were recognized and quotations were listed under each related theme. Field notes were reviewed to highlight and uncover any of the researchers’ observations that would help clarify the analysis of the interview content.

To test the influence of stroke on the survivors’ QOL, data from the Delighted-Terrible Scale and the SWLS were analyzed using a non-parametric statistic test called the Kolmogorov-Smirnov One-Sample test which is a type of goodness-of-fit test that assesses the degree to which an observed pattern of categorical frequencies differs from the pattern that would be expected on the null hypothesis (Siegel & Castellan, 1986). The test statistic calculated is called $D_{\text{max}}$, which is the maximum difference between the cumulative proportions of the two patterns.

Trustworthiness

To enhance the trustworthiness of the study, three strategies were followed. Following the data analysis, two of the participants were contacted by phone, informed about the results (member check), and asked if they were in agreement with the results, or if they would like to add or modify anything; they both agreed to the accuracy of the results. Second, two peer reviewers who were not part of the study were each asked to code two transcripts; both reviewers had results similar to that of the author’s; therefore, consensus was reached about the themes. Finally, participants were selected from those who would offer rich information based upon the CAReS primary investigator’s knowledge about each participant.
RESULTS

Participants

Nine stroke survivors participated in this study (see Table 1).

Results from Quantitative Data

On the Delighted-Terrible Scale, to test whether stroke had an influence on the participant’s QOL, data analysis used the Kolmogorov-Smirnov One-Sample test (see Table 2). The maximum difference (\(D_{\text{max}}\)) was 0.57. Critical value of \(D\) in the Kolmogorov-Smirnov One-Sample test was found to be 0.43 at \(p = 0.05\). The null hypothesis accordingly was rejected since \(D_{\text{max}}\) was found to be more than the critical \(D\) (0.57 > 0.43). On the SWLS the participants’ scores ranged from 15 to 35. The mean score of the participants was 28.66 which falls under the “satisfied” category. Performing the Kolmogorov-Smirnov One-Sample test on this data, \(D_{\text{max}}\) was 0.49. Critical value of \(D\) was equal to 0.43 at \(p = 0.05\). \(D_{\text{max}}\) was found to be more than the critical \(D\) (0.49 > 0.43); therefore, the null hypotheses was rejected. According to these results, stroke has an influence on stroke survivors’ QOL. In contrast to a negative influence on stroke survivors’ QOL, in this study the participants reported that they were “Mostly satisfied,” “Pleased,” or “Delighted” on the Delighted-Terrible Scale, and by looking at Table 3 of the SWLS most of the participants were either “Satisfied” or “Extremely satisfied.” These responses of satisfaction would then indicate that stroke had a more positive influence on the QOL of the participants than expected.

Themes from Qualitative Data

Qualitative findings are presented under four main themes: (1) Doing what you enjoy doing; (2) lost roles and occupations; (3) live with what you have to live with; and (4) hope for the future: improving QOL (Table 4).

DOING WHAT YOU ENJOY DOING

When asked what QOL means to them, participants described with astute understanding what they believed the meaning was. Major elements of their responses were: concerns about housing/financial
<table>
<thead>
<tr>
<th>Participants</th>
<th>Age</th>
<th>Gender</th>
<th>Ethnicity</th>
<th>Years post stroke</th>
<th>Main diagnosis and other medical conditions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Richard</td>
<td>74</td>
<td>Male</td>
<td>White/Non-Hispanic</td>
<td>One year and nine months</td>
<td>Left Lacunar CVA, Carotid Artery Stenosis, Coronary Artery Disease, Diabetes Mellitus, Essential Hypertension, Hyperlipidemia, Hypothyroidism, Obesity</td>
</tr>
<tr>
<td>Mark</td>
<td>57</td>
<td>Male</td>
<td>African American</td>
<td>One year and six months</td>
<td>Right Basal Ganglia Infarct, Neuropathy, Obesity</td>
</tr>
<tr>
<td>Mike</td>
<td>81</td>
<td>Male</td>
<td>White/Non-Hispanic</td>
<td>Two years and four months</td>
<td>Right Hemisphere Ischemia, Depression, Ileostomy, Prostate Cancer, Sciatica, Sleep apnea, Uretrostomy</td>
</tr>
<tr>
<td>John</td>
<td>58</td>
<td>Male</td>
<td>White/Non-Hispanic</td>
<td>Two years and seven months</td>
<td>Left middle cerebral artery infarct, Allergies, Atrial Fibrillation, Coronary Artery Disease with Coronary Artery Bypass Grafting surgery (CABG), Deep Vein Thrombosis, Essential Hypertension, Obesity</td>
</tr>
<tr>
<td>Nancy</td>
<td>72</td>
<td>Female</td>
<td>White/Non-Hispanic</td>
<td>Two years</td>
<td>Left Basal Ganglia Sub-acute Ischemia, Chronic Obstructive Lung Disease, Degenerative joint disease, Osteoporosis</td>
</tr>
<tr>
<td>David</td>
<td>85</td>
<td>Male</td>
<td>White/Non-Hispanic</td>
<td>One year and eight months</td>
<td>Transient Ischemic Attack, Right Pariental Intraparenchymal Hemorrhage, Coronary Artery Disease, Essential Hypertension, Hyperlipidemia, Prostate Cancer</td>
</tr>
<tr>
<td>Mary</td>
<td>81</td>
<td>Female</td>
<td>White/Non-Hispanic</td>
<td>Three years and seven months</td>
<td>Left Lacunar CVA, Depression, Essential Hypertension, Gastritis</td>
</tr>
<tr>
<td>Sam</td>
<td>70</td>
<td>Male</td>
<td>White/Non-Hispanic</td>
<td>One year</td>
<td>Left Basal Ganglia CVA, Coronary Artery Disease with Coronary Artery Bypass Grafting surgery CABG, Degenerative Joint Disease, Essential Hypertension</td>
</tr>
<tr>
<td>George</td>
<td>57</td>
<td>Male</td>
<td>African American</td>
<td>One year and seven months</td>
<td>Left Lateral Medullary Infarct, Diabetes Mellitus, Essential Hypertension, Hypercholesterolemia, Obesity</td>
</tr>
</tbody>
</table>

Note. All names are pseudonyms.
TABLE 2. Delighted-Terrible Scale

<table>
<thead>
<tr>
<th>Participant’s feeling</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Terrible “1”</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Unhappy “2”</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mostly dissatisfied “3”</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mixed “4”</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Mostly satisfied “5”</td>
<td>5</td>
<td>56</td>
</tr>
<tr>
<td>Pleased “6”</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>Delighted “7”</td>
<td>2</td>
<td>22</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
</tr>
</tbody>
</table>

TABLE 3. Participants’ Scores on the SWLS

<table>
<thead>
<tr>
<th>Score</th>
<th>n</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Extremely dissatisfied “5-9”</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Dissatisfied “10-14”</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Slightly dissatisfied “15-19”</td>
<td>1</td>
<td>11.11</td>
</tr>
<tr>
<td>Neutral “20”</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Slightly satisfied “21-25”</td>
<td>1</td>
<td>11.11</td>
</tr>
<tr>
<td>Satisfied “26-30”</td>
<td>3</td>
<td>33.33</td>
</tr>
<tr>
<td>Extremely satisfied “31-35”</td>
<td>4</td>
<td>44.44</td>
</tr>
<tr>
<td>Total</td>
<td>9</td>
<td>100</td>
</tr>
</tbody>
</table>

Mean scores = 28.66
Range of scores = 15-35

TABLE 4. Factors Associated with QOL of Stroke Survivors: Main Themes and Subthemes

Doing what you enjoy doing
Lost roles and occupations
Live with what you have to live with
  Changes in their lives
  Troublesome effects
  Differing levels of control
  Feelings about their bodies
  Dependency on others
Positive changes
Hope for the future: Improving QOL
situation; better family/social interaction/participation; physically and mentally capable of engaging in doing what you want to do; being happy and enjoying life; how others perceive you/are you still worthwhile; good health; and helping others. The following is a description of the meaning of QOL from the perspectives of the participants.

When asked about the meaning of QOL, John talked about his plan to move to another house if he has the money, and about his relationship with his family: “So it (stroke) has brought us together in the sense that we’re there for each other more... There’s more communicating than there was.” He talked about his limitations in doing what he wants to do, which made him feel humiliated: “Before I never saw the end of it. I never thought... I mean, anything I wanted to do, I could do it... And now I realize there are limitations... I’m learning a little humility... because I was pretty arrogant, I think. That’s something else I’m learning or trying to learn, to be better.”

In her unique definition of quality of life, Mary included many elements of what others mentioned. She stated, “Quality of life would mean to me having good health, number one... having friends... having a nice house... being able to cook like I’d like, but I don’t do a whole lot of cooking now... being able to do the things that I enjoy doing and I am a people person... I enjoy being around people and, to me, if I don’t see someone, I will talk to them.”

Mike stated, “The quality of life means, first of all, feeling good. Physically feeling good; and then mentally feeling good about yourself and the surroundings that you’re in. Feeling good and comfortable with the surroundings... and with the involvement of my friends and family.” According to Sam, “Quality of life means what you do daily and things like that. And things I do around the house. I cannot mow the yard and things like that now.”

LOST ROLES AND OCCUPATIONS

Most of the participants reported that stroke had a negative impact on the quality of their lives due to: lost roles, inability to do the things they used to do; limitation in social participation; dependency on others; difficulty/inability to drive; difficulty/inability to engage in leisure activities; and mobility problems.

David stated, “It’s had a more major impact than I’d like to think.” David reported a story about a lost role as a president of one of the religious classes. According to Mary, major influences on QOL included
her inability to do the things that she used to do before the stroke, limitations on her social participation, dependency on her husband, and difficulty with driving.

Stroke resulted in Richard being unable to golf anymore; however, he is still engaged in another leisure activity (fishing). “It took my golf game away from me and it took . . . uh . . . but I can fish. I do love that. And . . . it hasn’t too much changed except I just don’t get around like I should.” Similarly, mobility problems played a negative role in the QOL for Mike, George, and Mark. Mike stated, “I just can’t move around and do the things like I used to be able to do. Again, that’s because of . . . my walking needs to be improved.” Each of these factors contributed to the deterioration of QOL.

**LIVE WITH WHAT YOU HAVE TO LIVE WITH**

Participants were asked about the factors that might have had an influence on the quality of their lives: their feelings about the changes in their lives due to stroke; the troublesome effects of the stroke; level of control over aspects of their lives, as compared with before the stroke; feelings about their bodies as compared with before the stroke; any positive changes in their lives; and factors that played a negative role in the quality of their lives. The following is a discussion of these subthemes.

**Changes in Their Lives**

Participants reported they have accepted what has happened and are willing to work with it, “I have to accept them. It’s something that I have to overcome and I’m doing everything I can to improve on what I do.” On the other hand, Mary and Mike reported they did not like the changes. Mary said, “I don’t like it. I don’t like it.” Mike felt restricted in what he likes to do.

**Troublesome Effects**

Problems such as poor memory, lack of concentration, mobility limitation, limitations in performing house maintenance tasks, leisure activities, and activities of daily living, and decrease in stamina were reported by participants as the major troublesome effects from their stroke.

John complained about his poor memory, lack of concentration, and impaired sensory perception. “It’s like the short-term memory is the problem.” Impaired mobility was a primary concern of most of the par-
participants and affected leisure activities. “I’d like to go out and swing a golf club,” said Richard. On the other hand, difficulty performing activities of daily living was also a problem. “Yeah, I cannot do that at all (dressing himself)” said Sam. Mark added, “The stamina. That’s the biggest thing with me is stamina. Before the stroke I was up every morning . . . seven days a week, I wake up around 5-5:30 and I’ll be out of bed by 6-6:15, I’ll be out of bed every day. . . . And now it takes me a long time to get dressed.”

**Differing Levels of Control**

The majority of the participants reported their level of control over their lives had changed. John still makes his own decisions but it takes him more time to think about it first; as an example, if he wants to sign a contract it now takes him a long time to read and understand it before signing. In the first few months after the stroke he did not feel in control of his life because he could not drive. Mark believed his inability to drive affected his control over different aspects of his life; he reported that the lack of financial resources as well as his limited ability to do what he wants impacted his control over life. He stated, “I do get frustrated with that because I’ve lost a lot of that (control) with the stroke. You can lose a lot of that because I no longer drive and that hasn’t affected me as much as I thought it would. I am limited to my abilities to go and do the things that I want to do whenever I want to do . . . and so my threshold of want is very low.”

In contrast, Richard, Sam, and George reported they feel that they still are in control over different aspects of their lives and they make most of their own decisions. Richard felt the reason behind this was, “My wife and I have always had a close relationship with our finances and stuff like that. So it wasn’t no big deal because she takes care of the records and stuff, like our finances and so forth . . . I feel in control even though I don’t do the mechanics of it.”

**Feelings About Their Bodies**

Participants reported feelings of acceptance, increased awareness of their bodies, and disappointment about their physical limitations. Some reported changes in their bodies such as weight gain, and not being active.

John stated, “Well it’s probably the same as it was. Obviously there’s things I wish it would do better. But you know . . . it could be so much
worse. I’m pretty fortunate, I think. So I’m not mad about it.” David feels that he is more aware of his body now than before the stroke.

In contrast, others felt differences in their body compared to before the stroke. Mary had put on more weight and is less active. Similarly, Richard stated that “Because I can remember two years ago or a year before this . . . man, I was a very active person. I could do most anything and I taught construction technology in college and I was a substitute teacher here and I was just very active.”

Dependency on Others

All participants reported they are more dependent on others. Most of them have accepted it. John stated, “No, because, again, we’re sharing it now. I did more of it before. Now she does most of it. We’re partners. So I don’t feel bad about that.” David believes that people around him, neighbors, friends, and relatives are considerate about his condition which helped him accept his dependency. Family support make it easy for Richard; he stated, “If I have to go somewhere, my wife has to take me. Or my sons or my daughters have to take me. But there’s no question, if I want to do it; they will do it for me.”

On the other hand, some reported negative feelings about their dependency on others, such as of guilt, frustration, and oversensitivity. Sam stated, “But I cannot take care of myself like I used to, things like that.” Nancy reported, “I feel guilty about it. I wish I could be more independent, but I do as much as I can for myself. I think even sometimes I surprise him (I can even do that), I mean, you can sit back and feel sorry for yourself or you can keep going.”

Positive Changes

Participants were asked if they perceived any positive changes in their lives. Most of the participants reported that they are closer to their families/spouses than before the stroke. Nancy stated, “My oldest daughter and I are much closer . . . his daughter—and my daughter too—are much closer. . . . I appreciate my husband more than I did before.”

Stroke allowed some participants to be spiritually stronger than they were before the stroke; they considered that as an important gain in their lives. Sam stated, “My prayer is a lot better now.” Similarly, David stated that now he prays daily.

Mary believes that stroke made her more aware. “Well, it’s made me more aware of life in general.” Mike stated, “I think the change in my at-
attitude. You have to live with what you have to live with. And you have
to do the best you can with what you have.” Similarly, Sam reported he
does not dwell on things as before. The positive changes in Mark’s life
were related to his health habits; he stated, “Of course, yes, it did. Now I
know about healthy eating, healthy living, I don’t smoke anymore . . . I
feel better for that.”

The differences in the participants’ experiences with stroke could be
attributed to several factors such as the severity of the stroke, the social,
psychological, and financial factors, availability of resources, age, and
gender.

**HOPE FOR THE FUTURE: IMPROVING QOL**

Each participant was asked his/her opinion about the factors that
might help improve the quality of their lives. The major points were:
keeping hope that they will, one day, walk or be cured; having a sense of
humor; keep exercising; keeping a positive attitude towards life; trying
different things of interest to the stroke survivor; and living in a commu-
nity that is more accessible to people with disabilities.

Hope was a word that was mentioned by some as a factor that im-
proved their QOL. Mary stated, “I hope that one day that I’m going to
walk. That’s the main thing and prayers go with it.” She added that a
sense of humor also helped to improve the quality of her life. Richard
reported exercising and keeping a positive attitude as the two important
factors.

Focusing more on the occupational therapy part is reported by David
as a factor that might improve the quality of his life; he stated, “I con-
centrated probably more on the physical therapy part . . . but the occu-
pational part of the therapy, I’ve worked around it and probably it’s
where I probably don’t have the finesse that I might have had, if I’d been
more diligent in my continuous exercises.” The willingness to try dif-
f erent things of interest to the stroke survivor and the encouragement
from family are factors that helped to improve QOL, according to Mike.

Finally, Nancy reported that a more accessible community (i.e., res-
taurants, shopping malls, and buses) would be important to her. About
restaurants, Nancy stated, “Oh, oh. The restaurants needs to get a his
and her john that’s handicapped in them. That’s what most places need.
They really do need that because I can’t go to the bathroom unless he
helps me.” About the malls, she said, “The mall, all they need is one
room. Oh, and department stores have so much junk. Their racks are so
close together; I can’t get in between (she uses a wheelchair).

**DISCUSSION**

This mixed design study focused on the QOL of stroke survivors and
the factors that influence it from their perspective. This study also tested
the null hypothesis that stroke has no influence on stroke survivors’ QOL.
Quantitative results from both the Delighted-Terrible Scale and the
SWLS supported that stroke can influence the QOL of survivors.
According to the literature (Kim et al., 1999; Smout et al., 2001; and
Lau et al., 2003), it was expected that QOL of the participants would be
negatively influenced by the stroke. However, the participants re-
sponded that they are mostly satisfied on the Delighted-Terrible Scale
(mean score = 5.6 out of a possible 7), and satisfied on the SWLS (mean
score = 28.6 out of a possible 35). The perceived high QOL based on
these results could be interpreted using the Occupational Adaptation
theory by Schkade and Schultz (1992), whereby humans experience a
normative internal process in periods of transition. This process is
called occupational adaptation. Transitions in life, such as stroke, rep-resent an occupational challenge for the stroke survivor who generates an
occupational response. This response will then be evaluated by the sur-
vivor and the feedback will be integrated for subsequent use (Sch-
kade & Schultz, 1992). It is possible that two years poststroke, as
experienced by this study’s participants, they had time to evaluate their
responses to the occupational challenge and integrate the feedback, so
as to reach an occupational response that was satisfactory to them.
Therefore, their satisfaction with their lives, in spite of the conse-
quences of stroke, might be related to their adaptation to their situations.
If a similar study were conducted in the acute stage of stroke—first three
months, survivors might report less satisfaction with their lives.

Significant elements of QOL identified were: concerns about hous-
ing/finances, family/social interactions; the mental and physical cap-
abilities; being happy and enjoying life; perceptions of the survivor by
others feeling worthwhile; having good health; and helping others.
These elements are similar to those reported by Lau et al. (2003). Occu-
pational therapists need to acknowledge these elements and then edu-
cate and work with the survivors and their primary caregivers on ways
to improve QOL. For example, the caregiver can play a role in facilitating
Participants provided insight about the influence of stroke on their QOL. Some of these losses are similar to those reported by Niemi et al. (1988); Kim et al. (1999); and Mackenzie and Chang (2002). Rehabilitation professionals working with stroke survivors might benefit from being aware of these results. For example, occupational therapists can incorporate leisure activities that are of interest to the stroke survivor in their treatment sessions. Providing survivors the opportunity to express their feelings about the changes that have happened in their lives would seem to be a good strategy for rehabilitation professionals to use when working with stroke survivors. Allowing the survivors to tell his/her “story” facilitates trust and collaboration in the therapeutic relationship.

Stroke affected the survivors’ memory, concentration, mobility, activity performance, leisure pursuits, and stamina. Feelings regarding the changes that survivors experienced varied; while some accepted the changes, others did not like what had happened to them, as it restricted them from doing what they wanted to do. Similar variations in feelings were noted when they talked about their level of control over different aspects of their lives. Some reported they were still in control over their lives, while others reported their level of control had changed. These variations demonstrate that survivors experienced stroke differently and, in turn, the rehabilitation plan should be individualized for each stroke survivor.

Participants, in spite of the limitations that they experienced in their daily lives, were able to find positive effects from the stroke. They reported that due to the stroke they became closer to family members/spouses; their spirituality improved; their awareness about life increased; their attitude towards others and towards life in general was enhanced; and they were utilizing better health habits. It is important during therapeutic communication between the therapist and the client to direct the client’s attention to the positive areas in their lives. People can still find meaning in their lives with the support and encouragement of those close to them. The therapist’s role is to facilitate their clients’ awareness of the positive aspects of their lives as they will be living the rest of their lives with a chronic disability and need to see what is possible.

Participants were able to identify several factors they believed would improve the quality of their lives. These were: hope, a sense of humor, exercising, praying to God, keeping a positive attitude towards life, trying different things of interest, a more accessible community, more fo-
cus on the occupational therapy part of their treatment, and family support and encouragement. This list of factors requires special attention from therapists as well as from family. For example, the caregivers as well as the therapist should maintain and encourage the feeling of hope. They also should encourage the stroke survivor and facilitate engagement in different occupations that are meaningful to the individual.

CONCLUSIONS, IMPLICATIONS, AND LIMITATIONS

Different results might be achieved if the study were conducted with a younger age group of stroke survivors, or those having different cultural backgrounds, and with stroke survivors with longer or shorter stroke experience. In addition, no QOL scores were available prior to their stroke to make a comparison between pre- and post-stroke.

This study presented insights from stroke survivors about the quality of their lives as influenced by their stroke. Although the quantitative findings indicated that they perceived themselves as being mostly satisfied or satisfied with their lives, they talked about the stroke and its consequences in both negative and positive terms. It is recommended that long-term rehabilitation and psychosocial follow-up services be available for stroke survivors. From this study it is apparent that the participants reported they are still in need of these services and are motivated to return to some kind of community-oriented rehabilitation programs. Stroke survivors should be encouraged to identify what could improve the quality of their lives. This could help rehabilitation professionals as well as caregivers focus on these elements. Further attention should be paid to the stroke survivors’ QOL in any rehabilitation program.

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