Tactile intervention as a novel technique in improving body stability in healthy elderly and elderly with diabetes. Diabetic Techno and therapeutics

Abstract

BACKGROUND:

Body sway increases in the elderly because of normal aging and high incidence of disease such as diabetes. Prevalence of sway is greater in the elderly with diabetes because of damage to the central and peripheral nervous systems. Increase in body sway is associated with an elevated risk of falling. Falling is one of the major causes of morbidity and mortality in the elderly. The purpose of this study was to develop a new technique to improve body stability and decrease body sway in the elderly people with or without diabetes.

SUBJECTS AND METHODS:

Twenty-two subjects--12 elderly (mean age, 75.5±7.3 years) and 10 age-matched elderly with diabetes (mean age, 72.5±5.3 years)--were recruited for this study. Subjects received tactile feedback as a tingling sensation resulting from electrical stimulation triggered by body sway.

RESULTS:

The results showed a significant reduction in body sway in the elderly while standing on foam with eyes open (1.0±0.31 vs. 1.9±0.8; P=0.006) and eyes closed (1.8±0.7 vs. 3.3±1.5; P=0.001). In the group with diabetes, there was a significant reduction in body sway while standing on foam with eyes closed (1.4±0.5 vs. 2.3±0.8; P=0.045) but not with eyes open.

CONCLUSIONS:

In this small study, this technique offers a new tool for training people with diabetes and elderly people to improve body stability and balance.