EFFECT OF A PHYSICAL EXERCISE PROGRAM ON FUNCTIONAL PERFORMANCE, MENTAL STATUS, AND DEPRESSIVE SYMPTOMS OF INSTITUTIONALIZED ELDERLY

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Of

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In

Gerontological Nursing

By

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رسالة علمية

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INTRODUCTION

Declines in various physical abilities are a natural part of aging, but, unfortunately, these declines are often accompanied by sedentary lifestyle which put elders at higher risk of disability, health problems, and death. [1, 2] This in turn, results in an altered or diminished quality of life. [3] Moreover, moving to an elderly home or relocation has a significant role in increasing inactivity. [4, 5] This may be due to the institutional routine that may hinder the ability of the elderly person to perform activity of daily living independently or the caregivers' belief that they are assisting their elders by allowing them to be sedentary. This may lead to further dependency and consequently to depression. [6- 8] In Alexandria, studies reported that elders' functional ability declined with the increased duration of stay in elderly homes [9- 12] Different studies reported that more than half of the elders in residential homes have limitation in their activities of daily living. [12- 14]

It has also been reported that the loss of functional mobility is associated with 50% mortality rate among nursing home elders within 6 to 12 months [15]. According to WHO each year at least 1.9 million people die as a result of physical inactivity. [16] In USA, approximately 60 to 70 % of elders are sedentary, and less than 20 % regularly participate in physical activity, also less than half of them have at least one limitation in the ADL. [17, 18] By 75 years of age, 1 in 3 men and 1 in 2 women do not engage in regular physical activity. According to this report, women are less active than men at all ages. [19, 20] In Alexandria, a study carried out in elderly homes reported that the number of elders who exercise regularly is relatively low where two thirds of all elders are either irregularly active or completely sedentary. [12]

Sedentary elders often find it difficult to perform even simple daily activities such as reaching into overhead cabinets, shopping, cleaning house, and walking up and down stairs, which are very strong predictors of loss of functional independence. [3, 18, 21] Inactivity also leads to increased risk of falls and fracture, depressed mood, social isolation, decrease functional ability, dependency, and eventually institutionalization. [22- 24] A number of chronic medical conditions including coronary heart disease, hypertension, non-insulin dependent diabetes mellitus, obesity, and osteoporosis are associated with inactivity. [25- 27] Sedentary lifestyle often contributes to decrease cardiovascular efficiency and diminish functional ability which leads to difficulties in activities necessary for independent living. [28, 29]

Active lifestyle is the key for successful aging. It is widely documented that an active life style is associated with better health and expected longer life. It helps elders to enjoy their life and maintain positive quality of life. Elders should be encouraged to modify their life style behaviors and health care practices to improve their activity and hence their quality of life. Thus, the care for elders should focus on adding life to years rather than adding years to life. This can be achieved by performing exercise which is considered as one of the major components for successful aging. [30- 32] Exercise is important to maintain health, increase functional ability and preserve the ability to perform activities of daily living, and improve quality of life. [33, 34] As well, exercise can prevent or delay many of the physical and psychological problems that commonly occur with aging. [35, 36] Thus, it can prevent heart disease, reduce elevated blood pressure and the risk of osteoporosis, and improve hyperlipidemia. It can also enhance glucose tolerance, promote appropriate weight, reduce sleep disorders, prevent further functional decline, and other

deteriorating conditions that occur during the aging process. [25, 37, 38] Several studies reported that exercise helps in the promotion of joint motion and muscle strength, also maintains flexibility. It stimulates circulation, enhances reaction time, balance control, improves gait, and increases endurance. Moreover, it maintains functional capacity, and reduces the risk of falls and fractures and prevents its complication especially dependency. [4, 23, 39] It is also reported that elderly men and women can increase their physical activity as much as 25% through their participation in an exercise program. [20, 40]

Exercise has broader significance for the overall well-being of elders such as improving mood, promoting a sense of well-being. It lowers the occurrence of depressive symptoms, and enhances better cognitive functioning. [21, 30, 41] It was reported that higher levels of physical functioning play an increasingly important role in improving cognition and enhancing psychosocial well being. On the other hand, declining function is often associated with poor cognitive function and depression. [42- 44] Evidence shows that exercise improves body circulation which increases blood supply to the brain enhancing cerebral circulation and increases intake of oxygen which improves cognitive function. [45-47]

This is important in elderly population who suffer frequently from depression and cognitive problems. According to WHO approximately 15% of elders have significant depressive symptoms and about 3% suffer from major depression. [16] In Alexandria, it was reported that 75% of elders residing in elderly homes have mild to moderate depression. [48] Studies also show that it is not aging per se that causes depression but the added variables of cognitive impairment, incontinence, chronic conditions, and disabilities, as well as significant personal and emotional losses. [49, 50] In Alexandria, a study reported that only a small percent 8% of the residents of elderly homes did not complain of any cognitive problem. [51]

Generally, to be effective exercise must be performed at regular intervals over time. [25] Fitness results are negligible if a person exercises fewer than three times a week. [52, 53] To get effective benefits of exercise it should be done 2-3 times per week and each session for 45 to 60 minutes. [45, 49] National health objectives for physical activity and fitness described the goals for Healthy People 2010 to include an increase in the proportion of elders who engage regularly, preferably daily, in moderate physical activity for at least 30 minutes per day. [54, 55]

The gerontological nurse has an important role in motivating, assisting elders in engaging and performing different exercise to maintain their functional ability. In this respect both elders and nurses should work together to design and select appropriate exercise program to suit the needs of the elders. Moreover, disability of the elders can be identified accurately by the nurses through elders' responses to a variety of questions about the inability to perform activities ranging from basic self-care to household activities and more strenuous tasks. Increasingly, the functional status has been also characterized through the use of measures of physical performance, which are objective tests of subjects' performance of standardized tasks, evaluated according to predetermined criteria that may include counting repetitions or timing the activity. [20, 31, 56]

Since the findings suggest that exercise can increase function in the elders, yet, further studies are required to throw light on its role in improving different functional abilities in institutionalized elders. [30]

The aim of the study is to:

Determine the effect of a physical exercise program on the functional performance, mental status, and depressive symptoms of institutionalized elderly.