Journal of Advances and Scholarly Researches in Allied Education
Vol. 16, Issue No. 5, April-2019, ISSN 2230-7540

Role of Physical Therapy in Improving Function in Elderly Population

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Abstract – Elderly people returning from injury or illness who are suffering from chronic pain, physiotherapy can help to relieve pain and restore physical functions such as flexibility, strength, balance and coordination.

Elderly physiotherapy merge a combination of approaches including stretching, walking, massage, hydrotherapy, and electrical stimulation among others.

The goal of physiotherapy for elderly is to make daily tasks and activities easier and to make elderly people independent as possible.

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INTRODUCTION

Being physically active is very important to rule out the cause of disease and for promotion of health in all age groups whether one is young or old, able bodied or disabled, male or female.

Physical therapists are trained to maintain and improve function to keep people mobile and independent. They expertise in treating wide range of conditions, especially long term and chronic with help of safe and effective exercise programme targeting specific muscle group. By doing so, significantly contributes in reducing burden of growing global epidemic of diseases related to lifestyles.

OLDER ADULTS AND PHYSICAL ACTIVITY

Successful aging encompasses multiple dimensions of health, including physical, functional, social, and psychological well-being [1].

From 2008 to 2060, the population of aged 65 years and above is predicted to rise by 66.9 million. The numbers of people in the 80 years and above age group is fastest growing part of population [2]. The elderly population increases demand on every country's health system. For this reason it is economically important that older people are self-sufficient and can stay in their houses and avoid long stays in hospitals and convalescent homes. Lower levels of physical activity in older adults are likely to lead to a decline in cardiovascular fitness and muscular strength [3]. This decline may result in older adults falling below a threshold for independence. The projected figures for 2060 for adults over 65 and together with lower levels of activity makes it imperative to encourage adults to continue to engage in physical activity to maintain independence and function by adding life to years.

Physical activity is proved to be beneficial and effective to rule out and treat a number of disorders, such as musculoskeletal ailments, mild to moderate depression, cardiovascular diseases, diabetes type II, obesity, and several is a frequent forms of cancer. Physical activity in the form of exercise can have a beneficial effect on the pain experience for people with chronic pain [4].

The effect of exercise depends on type of activity, intensity, duration and frequency. The greatest beneficial effect is achieved in those who are initially in the worst physical shape, for example; people that are inactive or have been immobilized over time.

Generally, 30 minutes of daily physical activity of moderate intensity is recommended to rule out disease and improve health for adults. This is to maintain blood pressure as well as muscle power and joint mobility to decrease conditions like heart

disease, overweight and diabetes type II and colorectal cancer [6].

Exercise for older people can reduce fall trends and has a beneficial effect on health related quality of life. Falls are a predominant reason for elderly people admissions to hospitals[6] Lower levels of exercise in older adults are likely to lead to a decline in cardiovascular fitness and muscular strength [7]. This decline may result in older adults falling below a threshold for independence.

One systematic review included 66 articles, to examine relationship between physical activity and functional independence[8]. Participants were limited to healthy community dwelling older adults (65-85 years) and the outcomes used were related to functional limitations, disability or loss of independence. It was found that exercise in older adults had 50% lower risk of disability in activities of daily living. Physically active older adults also tend to have a slow decline rate of function. There was a consistency across the studies and the benefits were observed both in the short term and long term follow up. There was some evidence of a dose response relationship [8]. Two systematic [9,10] reviews also revealed that enhanced musculoskeletal fitness is positively associated with functional independence, mobility and overall quality of life. Older adults who already have functional limitations also can benefit from regular physical activity [11].

There is strong evidence to suggest that older adults at risk of falls who participate in regular exercise can significantly reduce their risk. Reduction in risk of fall is seen in older adults who partake in programmes that include balance and moderate intensity muscle strengthening activities for at least 90 minutes per week plus moderate intensity walking for about an hour a week [7]. This research directly support recommendation for resistance training and flexibility exercise to be performed at least two times per week for maintenance of functional status, to promote lifelong physical activity and enhance overall quality of life [3].

Concerns that preventive measures in older adults might increase frailty by increasing survival without improving health were allayed by the results from the Canadian Study of Health and Ageing. They examined the effect of physical activity on possibilities to improve/deteriorate health and mortality in older population in community. It was found that exercise decreased the effect of aging on death and improved heath. The study concluded that the net effect of exercise should therefore be to improve health status at the population level [12]. Physiotherapists work in Community Rehabilitation Teams which provide falls prevention classes in the community. In addition physiotherapists provide advice on falls prevention and promotion of balance and exercise for elderly in their own houses.

PHYSIOTHERAPY AND PHYSICAL ACTIVITY

Physical therapists are specialized in exercise and have knowledge of functional anatomy and pathology and its effects on all systems. So, they are ideal professionals to guide, prescribe and manage exercise activities. Exercise helps in promoting well-being and fitness. It is a powerful intervention for strength, power, endurance, flexibility, balance, relaxation, and the remediation of pathophysiology, impairments and functional limitations.

Pain and loss of function are the commonest reasons to seek physiotherapy. Knowledge of the effect of co morbidities combined with knowledge of function and the management of damaged and painful tissue means that physiotherapists can instruct and guide the person in the treatment phase. The physiotherapist recommends the correct level of exercise and activity for the individual to achieve the optimal effect. Physiotherapists have the related skills to provide individualized exercise programmes. These are based on the assessment, from which the physiotherapist selects the type of activity, degree of load and intensity appropriate to the individual's needs and abilities. This may involve specific exercise, related to joint and muscle status, strength and endurance, and the patient's age, current injury, disease or symptoms. Rehabilitation will be achieved through close follow-up, specific activities and a gradual progression. Physiotherapists also provide individualized activities in groups. Physiotherapists use their knowledge of illness and movement analysis to detect any compensatory movement strategies that the patient with chronic pain uses to avoid movement and their pain. Patients with chronic pain often demonstrate movement phobia. This may be associated with an exaggerated or irrational fear of physical movement due to the pain sufferers' perception of themselves as being vulnerable to increased pain or aggravated injury. This can lead to long-term passivity, resulting in muscular atrophy, physical deconditioning and depression [14]. Physiotherapists use a variety of modalities to reduce pain perception to ensure avoidance of dysfunctional movement strategies. Additionally, it is important to downplay the importance of pain in relation to movement and provide information on optimal exercise doses depending on the patient's health problems. Pain perception can thus be reduced and patients enabled to better cope with their situation. Research has shown that physical activity under guidance yields a stronger pain-relief effect for long-term pain conditions (irrespective of diagnosis) compared to cases where an exercise programme is lacking [15].

CONCLUSION

The Physiotherapist's knowledge of the body in health and disease and of function, movement, specific exercise and health behavior as well as of health promotion approaches is important in the context of physical activity in disease prevention, management and health promotion in elderly population. Physiotherapists have a clear role in facilitating the population to follow recommendations and to use exercises as a preventative measure as well as a therapeutic and rehabilitation measure. Physiotherapists should have a clear and well-defined role in the local authorities for health promotion and disease prevention. Programmes for patients who require lifestyle changes need to be established as permanent treatment options in local authorities. The quality of these must be ensured by the involvement of qualified and competent physiotherapists.

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