

Research Article

Effectiveness of physical activity promotion programme on quality of life for old people

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ABSTRACT

Background: The purpose is to evaluate the effectiveness of the Physical Activity Promotion Programme (PAPP) on quality of life for old people.

Methods: A total of 43 subjects of both genders participated in the experimental study with convenient sampling; all were aged 55-70 years from Dhanori road, Pune. Participants received the PAPP for 50 minutes daily. The effectiveness of PAPP was measured by short-form 36 questionnaire.

Results: This experimental study had a significant impact on quality of life ($P = 0.001$), in both gender, which was increased. The overall changes improved to 82.3% from 47.8% and mainly in physical functioning & general health by 12.5% and 12% respectively after PAPP and pain was reduced to 26%. Thus, quality of life improved significantly for old people who carried out the PAPP.

Conclusion: Quality of life measured with SF- 36 in the group of old people were improved after PAPP.

Keywords: Physical activity promotion programme, Quality of life, Short form-36

INTRODUCTION

An essential public health goal is to reduce age-related disabilities in the elderly. Regular exercise and increased aerobic fitness are associated with a decrease in all-cause mortality and morbidity, and are proven to reduce disease and disability, and improve quality of life in older persons.¹ Observational studies have suggested that inactive people have more death risk due to no specific cause and from specific diseases (e.g., cardiovascular disease, diabetes, obesity and others) associated with physical inactivity.² There is evidence that regular physical activity contributes to the primary and secondary prevention of several chronic diseases and is associated with a reduced risk of premature death.³ Non-pharmacological interventions, such as physical exercise may have a great impact on the quality of life, but this remains poorly studied. In particular, the studies carried out have used very heterogeneous exercise programmes,

have evaluated quality of life in very different ways and have reported inconsistent results.⁴ Exercise and physical activity have been suggested as effective means to maintain independent living in old age. Epidemiological studies have showed that physical activity has a protective effect towards cardiovascular disease. The physical activity helps to regulate the blood pressure. There are previous studies about the physician's role in promoting physical activity. However, it is necessary to clarify the power of promoting physical activity for inactive people. An essential public health goal is to reduce age-related disabilities in the elderly. Inactivity is an important contributor to impaired functioning and disability with age. Although many of the chronic conditions plaguing older populations are preventable through appropriate lifestyle interventions such as regular physical activity, persons in this age group represent the most sedentary segment of the adult population. The recommended intensity of aerobic activity takes into

account the old person’s aerobic fitness that maintain or increase flexibility are recommended and balance exercises are recommended for old people at risk of falls. In addition older people needs an activity programme for achieving recommended physical activity that integrates preventive and therapeutic recommendations. The promotion of physical activity in older population should emphasize moderate intensity aerobic activity, muscle strengthening activity, reducing sedentary behaviour and risk management. In previous studies, changes in the SF-36 questionnaire had been observed after performing a program of physical activity. These improvements were obtained in all the fields of the quality of life, except in the emotional role and in general health.⁵ Exercises are done by the individuals at old age but proper protocol is not followed including stretching exercises, balance, flexibility, muscle strengthening etc. Thus the study is undertaken with the purpose to provide the old population with a proper protocol that improves the quality of life and a part of primary prevention is given. The aim of the present study was to evaluate the effectiveness of the Physical Activity Promotion Programme (PAPP) on the quality of life for old people and objectives were to calculate changes in each dimensions of SF36 after PAPP and to calculate changes in the score of Sf36 pre and post exercises.

METHODS

The undertaken study design was experimental. Total 43 subjects were selected for the study by convenient sampling for the duration of 3 months. Out of 43 (23 females and 20 males) 4 were the dropouts due to musculoskeletal problems. Study was done in garden at Dhanori road, Pune-15. Subjects of fulfilling following inclusion criteria were selected for the study, individuals willing to participate for PAPP, according to ACSM inactive people, not engaged, with moderate physical activity for at least thirty minutes, five times a week¹⁴ Both males and females familiar with English language between age group 55-70 years were included in the study. Subjects with following criteria were excluded-Recent heart attack in last 3 months, cognitive problems, inability to ambulate independently, neurological conditions affecting functional ranges, musculoskeletal disorders restricting the functional ranges significantly. Permission was taken from the ethical committee. All participants were screened for their previous medical history. All participants were given information about the study and a written consent was taken before participation. Physical Activity Promotion Programme (PAPP) was performed thrice a week for 8 weeks.⁶ Activity plan according to ACSM guidelines: were adults should be encouraged for 150 minutes of physical activity programme in a week, including 60 minutes per week for aerobic exercises, 2 days a week for muscle strengthening, 90 minutes per week for balance, 2 days a week for flexibility exercises. A moderate intensity physical activity was performed and individualized to the person's functional abilities.¹⁵ The guidelines of American

College of Sports Medicine and the American Heart Association for adults above age 50 promotes at least 150 minutes of moderate cardiovascular exercise per week and encourage daily 50-minute sessions.¹⁶

Table 1: Activity plan according to ACSM guidelines.

Mode	Type of activities	Frequency	Duration
Aerobic physical exercises	Walking, gardening, yard work, dancing	3 days/week	60 minutes
Muscle strengthening	lifting weights, carrying groceries)	2 days/week	20 minutes
Balance	walking backward or sideways, heel walking, toe walking, and standing from a sitting position	3 days/week	90 minutes
Flexibility exercises	Stretching activities	2 days/week	20 minutes

RESULTS

Figure 1 shows changes in dimensions of SF 36 after PAPP.

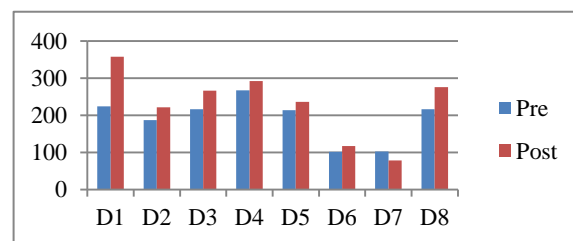


Figure 1: Changes in dimensions of SF 36 after PAPP.

The improvement was obtained in all fields, mainly in physical functioning and general health. The pain was reduced to 26%.

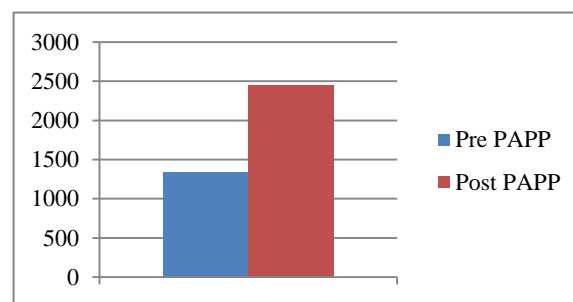


Figure 2: Overall difference in SF36 score.

The overall changes improved to 82.3% from 47.8% after physical activity promotion programme.

Table 2: Statistical analysis.

Parameters	SF 36		
	Pre PAPP	Post PAPP	Diff
MEAN ± SD	1339 ± 213.6	2442 ± 391	1103 ± 183.2

P value is 0.001, considered to be extremely significant

DISCUSSION

Quality of life improved significantly for old people who carried out the PAPP.

The improvements were obtained in all fields, mainly in physical functioning and general health by 12.5% and 12% resp. The overall changes improved to 82.3% from 47.8% after physical activity promotion programme. Research shows that doing aerobic and muscle-strengthening physical activity of at least a moderate level can slow the loss of bone density that comes with age thus improves physical functioning. Regular physical activity can help in thinking, learning, and judgment skills sharp as the age increases. It can also reduce risk of depression and may help improve sleep. Studies also showed that activity performed at least three days a week may reduce the risk of injury and excessive fatigue while producing health benefits and improving general function of body.¹⁷

In the recent industrialized world, HQL in older adults is particularly important in view of the increasing number of olds. At this age physical abilities slow down and pharmacokinetic responses to treatment decline. The results of the current study are in agreement with Acree et al. who found that HQL of the elderly who exercise is higher than HQL of the elderly who do not, so that the adherence to exercise improves HQL. For adults, there is substantial evidence documenting the health-benefits associated with physical activity. Physical activity improves health even for chronically ill or frail older adults. The present study concluded that the quality of life measured with SF 36 in the group of old people were improved after PAPP. In the present study no progressive strengthening exercises were given and no equipments were used.

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Conflict of interest: None declared

Ethical approval: The study was approved by the institutional ethics committee

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