Perceived Benefits and Barriers to Exercise among Physically Active and Non-Active Elderly People

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ABSTRACT

Purpose: *Adhering to a physically active lifestyle and exercising regularly is a challenge for many elderly people. Identifying the factors that influence such adherence may help in policy-making and in promoting a physically active lifestyle. This study aimed to compare perceived benefits and barriers to exercise among physically active and non-active elderly persons.*

Method: *Around 140 elderly persons with normal cognition and no depression, living in the community, were divided into two groups - the physically active and the non-active - using Rapid Assessment of Physical Activity Scale. Their perception about benefits, barriers and motivators for exercise were studied using Exercise Benefits and Barriers Scale. The scores of both groups were analysed.*

Results: *A significant difference was found in scores of perceived benefits and scores of motivators in both groups ($p < 0.0003$ and < 0.0001 respectively), but no difference was found in perceived barriers($p = 0.0607$). Strongest benefit perceived by the physically active elderly was "Exercise helps me to sleep better", and the strongest motivator was "I enjoy exercise".*

Conclusion: *The study shows that although both the physically active and non-active elderly perceive equal barriers for exercise, the benefit perceptions and motivators seem to play a significant role in adhering to a physically active lifestyle and exercising regularly. Spreading awareness about such benefits and the reduction of barriers may help in promoting regular physical activity among the elderly.*

Key words: *physically active/non active elderly, benefits, barriers, motivators, exercises*

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INTRODUCTION

Engaging in regular physical activity can provide numerous physiological, cognitive, and psychological health benefits in the ageing population (Cavanagh et al, 1998).A strong correlation between physical and cognitive benefits of exercise and frequency of exercise is well known(King et al, 1998).Habitual exercise can minimise the physiological effects of an otherwise sedentary lifestyle, reduce effects of co-morbidities like Parkinson's disease, hypertension, osteoarthritis, Alzheimer's disease, and prolong active life expectancy by enhancing overall physical-mental well-being and quality of life (Bean et al,2004).However, despite this knowledge, many elderly people do not engage in recommended levels of regular physical exercise. This sizeable proportion of inactive older people calls for a critical examination of the challenges faced by the elderly in adhering to regular exercise. This has led numerous studies to focus on identifying barriers and motivators among the elderly (Schutzer & Graves, 2004).

The Exercise Benefits and Barriers Scale (EBBS) has been used in this study. The EBBS is a 43-item summated rating scale consisting of two subscales, Benefits and Barriers. Ratings are obtained using a four-point response system.

It has been observed that if a person finds a certain intervention/activity to be useful, then he/she may consider it a benefit and it may serve as a motivator for him/her to stick to that behaviour. However, if a certain factor is considered to be a problem, it may have a negative impact, and the individual may regard it as a barrier and avoid that behaviour. An interaction between perceived benefits and barriers determines a person's adherence or non-adherence to that behaviour. Thus it can be assumed that those who are physically active and perform regular exercises, must have perceived more motivating factors and benefits to stick to this behaviour, whereas those who are not regular with exercises must have perceived more barriers which lead to them not sticking with regular physical activity (Lovell et al,2010).Knowing such factors can help policy- makers to plan a strategy to enhance physical activity and thus increase Quality of Life of the elderly(Gill et al,2013).

Many countries have recognised the need to develop strategies to increase elderly participation in physical exercise as one of the components in their national health policies, with the idea that it will help to reduce the burden of care (Bean et al,2004). Studies focusing on the perceived benefits and barriers to exercise in various populations have been conducted internationally (Ussher et al, 2007;

Crowley & Kennedy, 2009; Stroud et al,2009; Blaney et al,2010). However, no studies published to date shed any light on the benefits and barriers to exercise as perceived by the physically active and non-active elderly people themselves.

It is known that the motivators and barriers can vary depending on the population, geography, level of education, availability of resources, personal preferences (Mathews et al, 2010), etc. Thus, the study conducted in a particular area/ for a particular group cannot be generalised for the entire population. The elderly population is expected to increase in the coming years in India, which will place a greater demand on the healthcare system and the nation's workforce.

With this dramatic demographical change in the population, it has become increasingly important to find effective ways to improve health and prolong independence among older adults. So far, very little information is available on the perceived barriers or motivators to exercise among representative groups of the elderly with or without physical activity worldwide, and none at all among elderly Indians. This study was therefore planned with the purpose of finding whether these groups differ in their motives for and barriers to participation in physical activity. This information may help to shed some light on important factors to be targeted in order to promote regular physical activity among older Indian people.

Objectives

The study had the following objectives:

1. To identify physically active and non-active elderly people, using the Rapid Assessment of Physical Activity Scale;
2. To collect data regarding the perceived benefits and barriers to exercise among the elderly, using the Exercise Benefits and Barriers Scale in both groups;
3. To analyse and compare both groups.

METHOD

Sample

A total of 140 healthy elderly individuals were included in the study from Pune, Maharashtra.

Inclusion criteria:

- Healthy individuals above 65 years of age,
- Conversant with English language and minimum educational qualification of a Graduate degree,
- Staying in community,
- Scoring 0-9 on the Geriatric Depression Scale, and
- 25-30 in Mini-mental State Examination.

Exclusion criteria:

- Housebound/bedbound elderly individuals,
- Those living in acute care facility or old age homes.

The participants were screened as per the inclusion and exclusion criteria. The individuals who were included in the study were divided into 2 groups – the physically active and the non-active - as per Rapid Assessment of Physical Activity score, with criteria as>6 = physically active or<6 = physically non-active.

Ethical clearance was obtained from the College Ethical Committee and written informed consent was taken from the participants.

Data Collection

The outcome measures used were Exercise Benefits Barriers Scale, Mini-Mental Status Examination, Geriatric Depression Scale and Rapid Assessment of Physical Activity. Both groups were administered the Exercise Benefits and Barriers Scale (EBBS). The primary researcher was available to explain and help if the participants required assistance. Data was analysed using Statistical Package for the Social Sciences (SPSS) version 22.00.

RESULTS

Table1: Demographic Data

		Physically Active (m±sd)	Physically Non-active (m±sd)
Age (years)		71± 5.499	73 ±5.455
Gender	No. of males	35	35
	No. of females	35	35

Table 2: Benefits Perceived by Physically Active and Non-active Elderly Persons

Perceived Benefits	Physically Active				Physically Non-active			
	Strongly Agree	Agree	Disagree	Strongly Disagree	Strongly Agree	Agree	Disagree	Strongly Disagree
Decreases tension	68%	28%	6%	0%	46%	48%	6%	0%
Helps me sleep better	72%	24%	4%	0%	16%	66%	14%	4%
Increases stamina	64%	26%	8%	2%	24%	60%	12%	4%
Body function is improved	70%	20%	10%	0%	28%	35%	14%	20%
Mental health improved	74%	20%	4%	2%	58%	38%	4%	0%

Table 3: Barriers Perceived by Physically Active and Non-active Elderly Persons

Perceived Barriers	Physically Active				Physically Non-active			
	Strongly Agree	Agree	Disagree	Strongly Disagree	Strongly Agree	Agree	Disagree	Strongly Disagree
Time consuming	0%	15%	47%	38%	6%	32%	44%	18%
Exercise tires me	7%	12%	47%	34%	7%	18%	44%	31%
No convenient schedules	28%	52%	18%	2%	34%	38%	22%	6%
Places far away	2%	22%	45%	30%	11%	10%	42%	35%
Few places to exercise	1%	14%	58%	27%	17%	27%	35%	24%

Table 4: Motivators Perceived by Physically Active and Non-active Elderly Persons

Perceived Motivators	Physically Active				Physically Non-active			
	Strongly Agree	Agree	Disagree	Strongly Disagree	Strongly Agree	Agree	Disagree	Strongly Disagree
I enjoy exercise	78%	18%	2%	2%	0%	44%	48%	8%

Sense of accomplishment	10%	80%	10%	0%	30%	62%	4%	4%
Improves appearance	8%	85%	7%	0%	14%	70%	13%	3%
Prevents heart attack	67%	23%	10%	0%	35%	44%	20%	0%
Enjoyable peers	67%	23%	10%	0%	36%	52%	11%	1%

Table 5: Comparison of Subscales of EBBS among Physically Active and Non-active Elderly Persons

Subset Scores	**Physically Active**		**Physically Non-active**		**P value**	**Inference**
	Mean	SD	Mean	SD		
Benefits	99.28	10.01	92.37	11.67	0.0003	Extremely significant difference
Barriers	43.41	7.52	40.61	8.59	0.0607	Not significant difference
Motivators	29.38	2.84	27.65	2.67	0.0001	Very significant difference

A significant difference was found in perceived benefits scores and motivators scores in both groups ($p < 0.0003$ and < 0.0001 respectively), and no difference was found in perceived barriers ($p = 0.0607$). Strongest benefit perceived by the physically active elderly was, *"Exercise helps me to sleep better"*, and the strongest motivator was, *"I enjoy exercise"*.

DISCUSSION

Physical activity causes increase in strength, flexibility and balance, thereby enhancing quality of movement and leading to decreased number of falls or detrimental effects of immobility, and improving Quality of Life (Kennedy et al, 1998). Being physically active has been beneficial in reducing risk in hypertension, diabetes mellitus, stroke and cardiac arrest (Cavanagh et al, 1998; Bean et al, 2004; Ussher et al, 2007). This indirectly reduces mortality and morbidity and consequently reduces the burden on resources and caregivers. Physical activity also promotes the secretion as well as the production of serotonins.

Both groups were comparable on the basis of age and gender as seen in Table 1 (M: F: 1:1).

As seen in Table 2, a benefit experienced and perceived strongly by the physically active (70%) was "body and system functioning is improved". Similarly, the

physically active have strongly agreed that "exercise improves my stamina, strength ", while the non-active have not agreed. The physically active also perceived the benefits of exercise as something that "helps them sleep better" (72%) and "decreases tension "(68%). The p value for the benefits subscale 0.0003 was extremely significant (seen in Table 5). A similar study conducted by Dergeance et al (2003), concluded that larger percentage of the population reports that LTPA (Leisure Time Physical Activity) increases their confidence, self-esteem and strength, and reduces stress and depression, which is consistent with the findings of this study.

As seen in Table 3, a barrier perceived strongly by the physically active elderly (96%) and not so strongly by the physically non-active elderly (44%) was "there are no convenient schedules". "There are no convenient schedules," and "places to exercise are few and far away", were the barriers perceived by the physically active and the physically non-active almost equally, as they both agreed to this in the same percentages. Inspite of perceiving these barriers strongly, the physically active elderly adhere to exercise because they experience the benefits of exercise. The physically non-active elderly have not experienced these benefits and do not adhere to exercise. Societal influences, expectations, and attitudes can affect the level of physical activity among the elderly. Limited availability of income for dues and transportation to exercise facilities or Clubs decreases the likelihood of physical activity. Even though the comparison of scores is not significant, some components are perceived strongly as barriers by the physically non-active. For the barriers, it was 0.0607 which was considered not quite significant (seen in Table 5).

In Table 4, it is seen that the motivator "I enjoy exercise" was perceived strongest by the physically active elderly (78%) while the physically non-active elderly had no such perception. "Exercise prevents heart attacks "and "helps me establish contact with friends and persons I enjoy" are equally perceived strongly as a motivator among the physically active (67%) and physically non-active (36%) persons. Serotonins increase awareness and cause excitation, which may be one of the reasons for the strong feeling of exercise as a benefitting factor and thus perceived as a motivator (Atkinson & Davenne, 2007). For the elderly, friends and company play an important role, and exercise helps them improve that domain of their life, thus increasing mental satisfaction and also perceiving it as a benefit (Lavizzo-Mourey et al, 2001). The p value for motivators subscale was 0.0001 which was considered extremely significant, as seen in Table 5.

Also, the physically active give strong opinions about the benefits and the motivators they perceive, while the physically non- active only "agree" or "disagree". It can be said that the physically non-active elderly are aware of these benefits but lack motivation to get into regular activity. Awareness about the benefits of physical activity among physically non-active elderly people should be increased. The physically non-active elderly should be made to experience benefits of physical activity through group exercises or exercise Clubs in their localities.

This study showed that the physically active perceive more benefits of a physically active lifestyle than the physically non-active elderly do. The reason for this can be attributed to the various benefits that the active elderly have experienced due to their exercise schedules.

Since active elderly people are highly motivated to continue activity due to awareness about the benefits of exercising, it is possible that spreading awareness about these benefits to non-exercising elderly people might encourage them to increase their physical activity .Once they experience these benefits, they will automatically be motivated to maintain a physically active lifestyle. This will in turn enhance their Quality of Life and independence, leading to reduced burden on caregivers. Steps can also be taken to reduce barriers like travel inconvenience and lack of appropriate places to exercise.

CONCLUSION

Physically active elderly people perceived more benefits of exercising as compared to their physically non-active counterparts. The strongest benefit they felt was "Exercise helps me sleep better" and the strongest motivator was "I enjoy exercise". On the other hand, physically non-active elderly people perceived barriers to exercise such as "Exercise takes too much of my time" and "Facilities do not have convenient schedules".

The study highlights the importance of spreading awareness about the benefits of physical activity to physically inactive elderly people. It also highlights the need to provide facilities in public places to promote physical activity among the elderly.

Limitations

Factors which may affect attitudes about a physically active lifestyle, such as

socio-economic status, level of education, availability of resources, personal preferences, family background, etc., were not considered during the study. The study population was from the urban area only and consisted of those who were educationally well-qualified, hence the results cannot be generalised to elderly people from rural areas or those with different characteristics.

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