

An Analysis of Barrier Factors of Physical Activity among Old Adults

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Abstract. The purpose of this study was to examine the barrier factors of physical activity (PA) among older adults. A self-report questionnaire or face to face interviews were used to collect data from 450 older adults who visited public health centers. The data were analyzed using Cronbach's α , means, standard deviations, and independent t-test with the SPSS windows 21.0 program. The results of this study were as follow. The mean age of the participants was 76.72 ± 7.27 years. The area considered as the highest barrier factors of physical activity was 'lack of physical activity skills', and the lowest barrier was 'lack of time'. The barrier factors of life in the physical activity which the participants were aware of were found to be all significant in the positive correlation.

Keywords: barrier factors, physical activity, old adults

1 Introduction

Many people are hoping for successful aging. Physical activity is one of the most widely recommended successful aging strategies for managing chronic illnesses and is known to have various health benefits (Braith & Stewart, 2006; Choi & Choe, 2004; Hagberg, 1992).

26% of the Korean aged are restricted from their social life due to the decreased physical function caused by physical breakdown and health problems (Ministry of Health & Welfare, 2012). The aged are restricted from their activities due to their decreased balance ability, such as the muscular weakening, the decreased joint working range, the delayed stimulus-response time of the nerve system etc.

Regular physical activity were shortens the recovery time of chronic diseases, improves the muscle strength, the muscular endurance, the balance, and reduce the depression, which is a very useful way of increasing their participation in social activities (Gregg and the others, 2003).

Therefore, this study was conducted to provide the basic data for the development of the training program for the regular exercise by understanding the obstacle factors to the physical activities of the aged.

2 Materials and Methods

2.1 Participants

A self-report questionnaire or face to face interviews were used to collect data from 450 older adults who visited 5 public health centers.

2.2 Instruments

In this study, the measurement tool of barrier factors of physical activity used in Ministry of Health and Welfare is used. This tool consists of 7 areas with a total of 21 questions (lack of time, social influences, lack of energy, lack of willpower, fear of injury, lack of skills, lack of resources). Each item is calculated from 0 to 3 point by a 4-point scale. The Cronbach's alpha for the reliability of the research tool is .835.

2.3 Data analyses

The data were analyzed using Cronbach's α , means, standard deviations, and independent t-test with the SPSS windows 21.0 program.

3 Results and Discussion

3.1 Barrier factors of physical activity level

The areas considered as the high barrier factors of physical activity were 'lack of physical activity skills', 'lack of willpower', 'lack of resources', 'fear of injury' and the areas considered as the relatively low barrier were 'lack of time', 'lack of energy (Lack physical strength)', and 'social impact (Being shy)'.

On the other hand, the highest $1.40 \pm .93$ is for 'It is difficult to learn a new sport for my age' in the barrier factors by the question and the lowest $.46 \pm .75$ for 'I am too busy to arrange time for regular physical activity for now'(Table 1).

Table 1. Barrier factors of physical activity level

Item	Mean \pm SD
1. I am too busy to arrange time for regular physical activity for now.	.46 \pm .75
2. Since my family and my friends don't like physical activities, I don't have the opportunity to exercise.	.66 \pm .74
3. I'm just exhausted with work, so I have trouble exercising.	.77 \pm .80

4. I have been desirous of exercising more, but I have trouble starting to do more.	1.22±.92
5. I think that exercising in my age is likely to cause physical injury.	1.01±.87
6. I do not exercise because I've never learned exercise technique.	1.01±.87
7. I do not exercise because there is no road to jog, swimming pool, bike path near by.	.68±.91
8. I think physical activity is so time-consuming that I don't have enough time to work or spend with my family.	.76±.72
9. I am worried about how I look like when I am exercising.	.71±.73
10. It is difficult to arrange time for exercise even late at night or early in the morning.	.64±.72
11. I prefer staying indoors to exercising outdoors.	1.03±.99
12. I know the people who were injured after the excessive exercise.	.64±.69
13. It is difficult to learn a new sport for my age.	1.40±.93
14. To sign up for club, receive training, and buy equipment is too expensive.	1.38±.93
15. The leisure time is too short to exercise.	.69±.81
16. In the gathering of my family or friends, I do not do physical activity.	.99±.82
17. I am so exhausted during weekdays that I want to rest on weekend.	.78±.77
18. I want to exercise more, but I do not have the confidence to do more.	1.28±.95
19. It seems that I will get sick or injured when I exercise.	.86±.78
20. I am not cut out for doing physical activity with interest.	1.17±.87
21. I will exercise if there are sports facilities and shower room in the workplace.	1.38±.88
total	19.50±7.99

3.2 Correlation among barrier factors of physical activity

The result of the examination of the relation between barrier factors of physical activity and exercise practice is as shown in Table 2. The barriers to the participants who practiced exercise were significantly low compared to the participants who did not in the areas, such as lack of time ($t = 2.42, p = .0165$), social influence ($t = 3.28, p = .001$), and lack of energy ($t = 3.26, p = .001$), lack of willpower ($t = 4.45, p < .001$), fear of injury ($t = 3.52, p = .001$), and lack of skills ($t = 4.70, p < .001$). However, there was no significant difference in the lack of support ($t = .62, p = .534$).

Table 2. Correlation among barrier factors of physical activity

factors	F1	F2	F3	F4	F5	F6
lack of time (F1)	1.00					
social influence (F2)	.481*	1.00				

lack of energy (F3)	.588 ^k	.446 ^k	1.00			
lack of willpower (F4)	.251 ^k	.329 ^k	.341 ^k	1.00		
fear of injury (F5) lack of skills (F6)	.068 ^k	.321 ^k	.268 ^k	.374 ^k	1.00	
Lack of resources	.254 ^k	.297 ^k	.248 ^k	.456 ^k	.333 ^k	1.00
	.348 ^k	.346 ^k	.333 ^k	.234 ^k	.121 ^k	.328 ^k

* p < .05

4 Conclusion

The aged will face with the decreased physical activity caused by the dysfunction of the musculoskeletal system, making it difficult for them to live independently with aging. This make the social life of the aged cut off, influencing the emotional factors such as depression and the quality of later life. Exercise programs, such as physical activity are proposed as a strategy for enhancing the quality of later life, which have been reported to be effective. However, since all programs are effective when the aged take active participation, it is important to understand the barriers of physical activity in developing the programs for promoting the physical activity of the aged. Therefore, this study was to figure out the barrier factors of physical activity of the aged. The result is as follows.

Firstly, 80% of the participants were diagnosed with diseases. Hypertension (46.9%) and arthritis (45.3%) were found to comprise a large proportion of the diseases. The participants who replied that they were in shape were below average. 67.3% of them were found to practice exercise.

Secondly, the area considered as the highest barrier factor of physical activity was 'lack of physical activity skills', and the lowest barrier was 'lack of time'.

Thirdly, the barrier factors of life in the physical activity which the participants were aware of were found to be all significant in the positive correlation.

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