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Research Article

Physical Activity Level, Motivators and Barriers among Elderly above 60 Years Old who Attend Primary Health Care Centres in Qatif, Saudi Arabia, 2019

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Abstract

Background: An older individual usually suffer from chronic health problems such as cardiovascular disorders in addition to impairment or decline in physical activity but there is evidence that elderly individuals with regular physical activity can maintain healthy functioning longer than the inactive ones.

Objective of the Study: To assess the physical activity level in the aged people, in addition to their opinions about the motivators and barriers against physical activity as a lifestyle practice.

Subjects and Methods: This is a descriptive cross-sectional study that conducted in primary health care centers under the ministry of health at Qatif city, Saudi Arabia with a sample size of 250 participants. The data were collected by using a validated questionnaire named physical activity scale for the elderly (PASE tool). Standard general statistical methods applied using computer (SPSS) for data coding and analysis.

Results: The mean score of PASE among elderly in Qatif PHC was 91 ± 6.12. No statistical significant difference in scores based on gender variation. However, knowledge about benefit of exercise and poor health were the most motivators and barrier factors respectively.

Conclusion: PASE is an important instrument for clinicians for determine health status of elderly and for prevention protective strategies and planning, which is lower in our results in comparison with other studies.

Keywords: *Aged; Exercise; Physical Activity Scale; Primary Health Care; Saudi Arabia*

Introduction

Physical activity can be defined as an ability to perform daily activities with vigor, and demonstration of traits and capacities that are associated with low risk of premature development of the hypokinetic diseases (i.e. those associated with physical inactivity) [1,2]. Researches indicated that physical exercise proved to prevent and treat the lifestyle medicine related diseases [2,3].

Geriatric Health is a public health concern as it targets a vulnerable group to the chronic diseases. Between 2015 and 2050, the proportion of the world's population over 60 years will be doubled from 12% to 22%. All countries face a major challenge of this demographic shift to ensure healthy elderly [4]. The aged individuals usually suffer from chronic health problems such as cardiovascular disorders in addition to impairment or decline in physical activity but there is evidence that elderly individuals with high physical activity can maintain healthy functioning longer than the inactive ones [1,3].

The government of Saudi Arabia through the vision 2030 strive to encourage and support the public to be involved with regular participation in sports and athletic activities [5]. There are great efforts for elderly individuals to increase their quality of life and eventually the life expectancy rate of the population. As reported by Pate., *et al.* that 30 minutes of moderate PA on a daily basis is recommended to obtain a significant health benefits [6].

A survey conducted in Saudi Arabia published by Saudi general authority of statistics in 2017, reported that the estimated number of the elderly of all nationality (65+ years) was around 3% of the total population. Out of this number (57, 48%) were male and (42, 52%) were female. Moreover, the estimated number of the Saudi elderly (65+ years) was around 4, 19% of the total Saudi population with also 1:1 gender difference. Concerning the medical history, the same report showed the highest percentages of diseases among elderly individuals are diabetes (28, 7%) and blood pressure diseases (28, 5%), followed by those with arthritis (13, 9%). The results of the Survey indicate that the types of physical function difficulties among Saudi population (65+ years) are distributed in the following order: movement difficulties (70.5%: 38% are male and 62% are female), sight difficulties (24.2%: 63% are male and 37% are female), and finally hearing difficulties (5.3%: 66.7% are male and 33, 3% are female [7].

From above disclosure, the present study aimed to highlight the importance of physical activity in our community by addressing motivators and barriers factors that may help to design an evidence based public health program targeting this age category.

Objective of the Study

Primary objective

To assess the physical activity level in the aged people in Qatif region, by using physical activity scale for the elderly (PASE tool).

Secondary objectives

1. To assess the association between the physical activity scale for the elderly and their gender.
2. To assess the motivators and barrier factor through closed end opinion questions that had been validated and tested for reliability.

Research Methodology

Study design

The research design was cross sectional study.

Study setting

The study carried out in Al Qatif region which is a classic and historic, coastal oasis region located on the western shore of the Arabian Gulf in the Eastern Province of Saudi Arabia.

Population

The study conducted among elderly patients aged >/=60 years old of both gender with no memory impairment, who attend PHC in Qatif city/Saudi Arabia. Moreover, younger patients (< 60 years), cannot communicate, have cognitive problems, or attend PHCs were excluded.

Sample size and sampling

The study's sample size calculated using Epi info software (considering 39.45% prevalence of physical active Saudi population from a previous health surveys [8,9]. 95% confidence interval, 5% error. Suggested sample size was 368 participants which increased to 442 to increase the validity of results considering the non-response subjects. However, because of COVID19 pandemic situation we reached and interviewed 250 subjects only.

Sampling

Through the multistage random sampling:

1. First stage is simple random technique at Primary Health Care centers (PHCc) level: in Qatif there are 30 PHCs assumed to be similar (no defined categorization of the centers). Data of the previous year from Qatif PHC database were reviewed and estimated that 9.4% of all patients seeking Qatif PHCs are elderly people. From these data and from knowing the average of total patients seeking each PHC per year, six PHCs out of the 30 centers chose to be included in our sample. Centers were numerated and randomly selected.
2. Second stage at elderly people level (subjects) who follow the randomly chosen centers: a list of elderly patients who visit the center in the last year formed from reviewing (visitors' registration record of the last year) and then proportional random technique done accordingly from the six lists of the six centers.

Data collection

The study questionnaire was adapted from validated surveys that were previously used and tailored to suit the local population and assure its applicability. The questionnaire translated into Arabic and subjected to a process of forward and backward translation. The questionnaire consists of 4 main sections:

1. Characteristics of participants and the demographic variables (age, gender, marital status, educational level, income and occupation).
2. Physical activity/exercise level using PASE tool which includes questions covering Leisure time activity, household activity and work-related activity. The tool uses frequency, duration, and intensity level of activity over the previous week to assign a score, ranging from 0 to 793, with higher scores indicating greater physical activity [2]. A license agreement from the NERI (the copyright owner) was obtained to use the PASE questionnaire. The PASE tool was adapted into Arabic language and evaluated about its reliability and validity in a study among community-dwelling older adults in Saudi Arabia [10].
3. Motivation factors including the causes that motivate the participant to undertake physical exercise.
4. Barriers factors including question to the participant about what are the reasons that prevent him/her from exercising.

Study plan

1. Data collection started after getting the permission from ethical and scientific committee.
2. Because of COVID19 pandemic situation we reached and interviewed 250 subjects only. Data collected by using face-to-face interview questionnaire.

3. Approval for data collection of required authorities and institutions obtained. In addition, the participants' privacy and confidentiality were assured, no identifiers collected, and all data, both hard and soft copies kept in a secure place.

Data management and statistical analysis

For the Data entry and statistical analysis, SPSS 20.0 statistical software package used. Quality control performed at the stages of coding and data entry. Data presented using descriptive statistics in the form of frequencies and percentages for qualitative variables, and means and standard deviations, medians and inert-quartile range for quantitative variables. T- test used to record the statistically significant between participants' answers and their demographic characteristics among the participants.

Result

Characteristics of the study subjects

According to the study design, the response rate was 56.6% and 250 participants out of 442 calculated sample size were included in the study; three persons were dead and 189 of the nonresponse subjects could not reached and interviewed due to COVID19 pandemic situation. Their mean age was 66 ± 8 years that ranged between 60 - 98 years.

Table 1 shows that the nationality of all subjects were Saudi, 58.4%male gender and 41.6% were female. The great majorities of them were married 80%, with collage degree 27.6% or elementary level 27.6%. One third of the subjects were retired 38.4%. Slightly half of them with good monthly income of more than 5000 Saudi riyals.

Demographic characteristics	Frequency	Percent (%)
Age		
Range	60 - 98 years	
Mode Mean ± SD	64 years 66 ± 8 years	
Gender		
Male	146	58
Female	104	42
Marital Status		
Single	2	1
Married	200	80
Divorced, separated, or widowed	48	19
Occupation		
Housewife	84	33.6%
Governmental	19	7.6%
Private	28	11.2%
Un-employed	23	9.2%
Retired	96	38.4%
Level of education		
Illiterate	31	12.4%
Read and write/elementary	69	27.6%

Intermediate	40	16%
Secondary	41	16.4%
Collage and above	69	27.6%
Monthly income		
Low < 1999 SR	11	4.4%
Moderate 2000-4999 SR	89	35.6%
High >5000 SR	150	60%

Table 1*: General characteristics of the participants (n = 250).*

Physical activity level among the participants

Table 2 shows that mean of physcial activity scale for elderly (PASE) score wsa 91 ± 61 and range between (0, 362). The mean of PASE score for male = 96 and for female = 83. The value of T- test = 1.753 and the p- value = 0.081 thus indicate that there is no significant difference in means in PASE scores due to gender at significant level.

	Frequency	Mean ± SD	t value	P-value
Total PASE score	250	91 ± 61		
Male PASE score	146	95 ± 68	1.753	0.081
Female PASE score	104	82 ± 49		

Table 2: *PASE score for 250 elderly and among different gender.*

Particpants responses to the questions of barriers and motivation factors

As shown in table 3, positive attitudes and knowledge about benefits of exercise, disease management and health maintenance with positive experiences were the most frequent factors with percent of 52.0%, 50.4% and 45.6% respectively.

Motivations factors	Frequency	Percentage
• Disease management (exercises reduce my pain and health-care personnel have advised me to exercise).	126	50.4%
• Health maintenance Positive experiences (exercise increase my energy and helps with health maintenance).	114	45.6%
• Positive attitudes and knowledge about benefits (Exercise keeps me in good physical condition, Exercise prevents me from getting lazy, Exercise keeps me young and delays aging and Exercise helps me think clearly).	130	52%
• Social contacts (I meet friends when exercising also Exercise helps me get to know new people).	7	2.8%
• Suitable environment (it's nice to exercise in good weather or there are good exercise facilities near my home or Exercise is affordable).	22	8.8%
• Self-expression and self-confidence (I can express myself with exercise, Exercise gives me self-confidence, or I enjoy nature when exercising outdoors).	27	10.8%
• I have no reason to exercise	69	27.6%

Table 3: *Motivations factors for physical activity among participants (250).*

According to the participants (Table 4), the most common documented barriers for physical activity among elderly were poor health (60.8%) and lack of time and interest (42.4%).

Barriers factors	Frequency	Percentages
• Poor health (Pain and disease prevent me from exercising or Health-care personnel have warned me not to exercise or I'm too tired to exercise).	152	60.8%
• Fear and negative experiences (I'm afraid of falling when exercising or I'm afraid of getting injured when exercising or Physical exercise feels uncomfortable or I feel insecure when exercising outdoors).	19	7.6%
• Lack of knowledge (I'm too old to exercise or I don't know why I should exercise or I don't know where to exercise or I have no skills for exercising).	26	10.4%
• Lack of time and interest (I have no time or interest to exercise or I have enough other interests or I'm not used to exercise).	106	42.4%
• Lack of company (I don't like exercising alone).	13	5.2%
• Unsuitable environment (Weather conditions prevent me from exercising or my neighborhood is not suitable for exercising or Exercise facilities are too far away or Exercising is too expensive or I have no equipment needed for exercising).	66	26.4%
• I have no barriers to exercise.	42	16.8%

Table 4: *Barrier factors for physical activity among participants (250).*

Discussion

The present study intended to measure PASE score which reflecting the level of physical activity, motivators, and barriers factors among elderly. The present study showed that the mean of PASE score was 91 +/- 61.2 which is lower in comparison to most of other studies [11]. One of these studies carried out in China [12] in 2012 with sample size n = 90 participants, the mean age was 77 +/- 7 and mean PASE score was 104.4 +/- 47. However, the results of low activity is premature onset of ill health, cardiovascular and metabolic diseases, obesity, falls, cognitive impairments, osteoporosis and muscular weakness which are decreased by regularly activities.

Another study [13] conducted in Canada in 2013 with n = 297 persons, their results showed mean PASE score 155 +/- 66 which is again higher than our findings but they clearly mentioned in their study that the subjects were healthy elderly. Moreover, study conducted in Italy [14] 2018, the PASE mean was 159 +/- 77.8 but their sample size n = 94 and mean age of participants was 62, which is smaller number of subjects and younger than our study participants. And they also mentioned in their limitation that the study conducted among healthy elderly.

Another study conducted in Saudi Arabia [10] in Riyadh city 2019 n = 59 with mean age 65 and mean PASE score 111.7 +/- 77.7. They also found a significant difference in PASE between gender groups and that men are significantly more active than women. In contrast to our results we found no significant deference in PASE score among deferent gender, which could be due to low response rate and small sample size of our study. Although they mentioned in their results that 33% of their subjects were females which reflecting the possible reason of their high mean PASE score in comparison to our results.

A study in Iran [15] 2019 n = 278, showed mean PASE score 153.7 +/- 48 and mean age was 74. They also found a significant negative relation between PASE score and age.

The study of Salehi., *et al.* (2010) [16] found that sixty-two percent of participants reported laziness as the most important barrier for not engaging in physical activity. Meeting new people (74 percent;), having fun (71.8 percent;), and contacting friends (67.73 percent;) were the most prevalent reasons for participating in physical activity, while it was the lowest reason for being active in our study.

Additionally, a study of Justine [17] 2013 found the most common barriers among elderly respondents were 'too tired' (51.7%), and 'lack of motivation' (38.4%) similarly to the result of this study.

Conclusion

As the population get old, the concepts of healthy aging and chronic disease protection have become more important. To determine health status of elderly and for prevention strategies, it is important to know the level of physical activity. The results of our study showed low PASE in Qatif city in comparison with other studies, which identifies needs and motivational efforts for health promotion among them.

Limitations of the Study

Recall bias and proposed sample size not reached due to COVID19 pandemic situation, are the main limitations of this study. Results of the study applied for elderly who seeks Qatif PHC, we cannot generalize it in all elderly in Qatif as we didn't include healthy or bed bound ones.

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