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Physical Activity Profile in Adult Patients Attending Family Medicine Clinics

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ABSTRACT

Background: Scientific evidence has been accumulated about the health benefits of physical activity and exercise on the health of adults in the last decades. However, few studies attempted to study the physical activity profile among adults in Saudi Arabia. Thus, this study aimed to identify the physical activity profile among patients who attend family medicine clinics in Jeddah city, Saudi Arabia.

Methods: The cross-sectional design with 382 patients attended family medicine clinics in King Faisal residential city clinics and King Khalid residential city clinics were surveyed using a validated structured questionnaire. The short form of IPAQ questionnaire, which was used in this study, consists of 7 items questioning physical activity, in addition to questions about time spent (minutes per day and days per week) and intensity of physical activity (moderate or vigorous). The data collected in the paper forms of questionnaire then coded and introduced into computers, and then they analyzed using the Statistical Analysis System (SAS), Version 9. **Results:** In the study participants, only 12.6% reported that they were highly active, 28.5% were moderately active, 17.85% lightly active, and 41.1% were inactive. A highly significant difference (P <0.001) was found between age groups (72.3% of participants with age <40 years were physically active compared to 52% with age ≥40 years). The percentage of physically active males were significantly more than females (57% compared to 53.3%). Participants with normal BMI were significantly more physically active than participants with abnormal BMI (69.9% compared to 53.7%).

Conclusion: The majority of the study population did not reach the recommended values of physical activity. In addition, no differences between the different types of the educational level were found regarding physical activities.

Keywords: Physical activity, exercise, family medicine, Saudi.

INTRODUCTION

Physical activity is a term represents a wide range of body movements that generated by the skeletal muscles and utilize energy above the baseline level. It includes routine daily activities, exercise, and active sports [(1)]. Exercise is an active repetitive form of physical activity that designed to improve the body fitness [(2)]. Physical activity, particularly exercise, enhances health and well-being through improving bone quality, strengthening muscles, increasing the capacity of the cardiovascular system, and reducing depression and anxiety [(3, 4)]. Scientific evidence has supported introducing of the exercise as the essential components of health promotion programs directed towards the general population [(1)]. There are several types of exercise include aerobic exercise, when large muscles trained in a repetitive manner for determined period; resistance exercise is the training of muscle against continuous stretching, traction or weight force; flexibility exercise is the training of joints by extended movements; balance exercise is any training aims to decrease chance of falling [(5)]. Many factors influence the availability and practicing of exercise including socio-economic variables, governmental policies, and cultural factors [(6)]. Regarding the exercise, no age limits have been reported and studies have found the significant effect of active physical activities on the health of children [(7)], adolescence, adults [(8)] and even elderlies [(9)]. The recommendations for the minimum time of active physical activity differed according to the age. In children, the standard is a minimum of 60 minutes of moderate activity per day [(10)], while in elderlies it is 150 minutes per week [(2)]. In adults, 30 minutes of moderate physical activity has been found to maintain significant health benefits. Physical inactivity was found more dangerous

In Saudi Arabia, studies showed low physical activity and tendency to a sedentary lifestyle, which leads to increases rates of obesity, diabetes mellitus, and cardiovascular diseases [(11-16)]. The cultural factors represent the main obstacle for adults to exercise and to sustain the physically active lifestyle, although many health education campaigns have been conducted. A study found only 15% of Saudi college males practice adequate physical activity to gain substantial health benefits [(17)]. Another study conducted in Riyadh city found 19% of Saudi male adults have exercised, regularly for 30 minutes, twice or more weekly [(18)]. Other study found very high inactivity prevalence of 96% because it used a different standard in the definition of physical inactivity [(19)].

In the last two-decade, scientific evidence has accumulated about the health benefits of physical

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activity and exercise on the health of adults. However, few studies attempted to study the physical activity profile among adults in Saudi Arabia [15, 17-19]. Patients attend family medicine clinics are more representative sample for Saudi population than patients who attend general or specialized hospitals. Thus, this study aimed to identify the physical activity profile among patients who attend family medicine clinics in Jeddah city, Saudi Arabia.

METHODS

The cross-sectional design was used in this study, in which patients attended family medicine clinics in King Faisal residential city clinics and King Khalid residential city clinics were surveyed using a validated structured questionnaire called International Physical Activity Questionnaire (IPAQ) [20]. Patients who were less than 18 or more than 65 years old and those who refused to participate were excluded from this study. The objectives of this study were demonstrated for the study participants and the confidentiality of the provided information was ensured after that written consents for the participation in this study were obtained. A sample size of 382 was calculated to be sufficient to detect the prevalence of physical activity at 95% confidence level, 5% estimation error. This calculation conducted using Epi-Info software, Version 6, using estimated prevalence of 54% reported by **Abizaid *et al.*** [21] that was assessed in family medicine clinics of Armed Force Hospital. The systematic sampling technique was used to select patients from the waiting list in the family medicine clinics. As the expected patient frequency was 25 patients per day, the narrow sampling period of 4 was used to ensure completion of data collection in two months period. The first patient was selected randomly from the list and then in every consecutive four patients, the fourth patient was selected to be included in this study .

The study questionnaire included questions about physical activity according to the short form of IPAQ. In addition, the questionnaire included questions about background factors such as age, gender, nationality, educational level, body mass index, and past medical history. The short form of IPAQ questionnaire, which was used in this study, consists of 7 items questioning physical activity, in addition to questions about time spent (minutes per day and days per week) and intensity of physical activity (moderate or vigorous). According to IPAQ, study participants were classified into inactive and active study participants, and those active ones further classified into light active walkers, moderately active and high active participants. Participants with light activity spend at least 10 minutes walking/ 5 days per week, moderate physical activity were those who had 3 days of vigorous exercise for ≥ 20 minutes/day per week; OR ≥5 days of moderate exercise, walking, or combination of activities for ≥30 minutes/day per week. Participants with high physical activity were those who had either more than 3 days of vigorous exercise per week OR 7 days of moderate exercise, walking or combination of activities per week.**The study was done after approval of ethical board of King Abdulaziz university.**

The data collected in the paper forms of questionnaire then coded and introduced into computers, and then they analyzed using the Statistical Analysis System (SAS), Version 9. The main outcome of physical activity was categorized as inactive, active (moderate and high), and the frequencies and percentages were calculated. Frequencies and percentages also calculated for background variables include age, gender, nationality, educational level, body mass index, and past medical history. The significant associations were detected using chi-square test at P-values less than 0.05.

RESULTS

A total of 382 participants with age 18 years and older completed the questionnaires. More than half of the participants were females (56%) while, 44% were males. The age group ≥50 years was the dominant (41.1%), followed by age group 40-49 years (24.9%), age group 30-39 years (21.2%), and the least was the age group 18-29 years with only 49 participants (12.8%). One hundred and forty-five (38%) of the participants completed high school level, and 25.7% were illiterate. However, participants who completed the primary level only were 77 (20.2%); and those who completed the university level were only 62 (16.1%). About three-quarters of the participants (75.9%) were Saudis and only 92 (24.1%) had other nationalities. According to body mass index (BMI), more than half of the participants (56.8%) were found obese or overweight while, 32.2% were found normal in weight and only 11% were underweight. Investigation of the past medical history revealed that 33% of the participants had no past medical history, 16.3% with diabetes mellitus, 7.9% with cardiovascular diseases, 3.1% with a history of road traffic accident, and 39.8% were grouped having other conditions. With

regard to the physical activity, only 12.6% reported that they were highly active, 28.5% were moderately active, 17.85% lightly active, and 41.1% were inactive (Table 1).

When the data were dichotomized for exploring the possible risk factors that may have an effect on the physical activity the results revealed non-significant differences (P >0.05) in relation to educational level, nationality, and past medical history. However, a highly significant difference (P <0.001) was found between age groups (72.3% of participants with age <40 years were physically active compared to 52% with age ≥40 years). The percentage of physically active males were significantly more than females (57% compared to 53.3%). Participants with normal BMI were significantly more physically active than participants with abnormal BMI (69.9% compared to 53.7%). More details about the risk factors are presented in Table 2.

Table (1): Distribution of demographic and background factors among attendants of family medicine clinics

Demographic variable		Frequency	Percent
Gender	Male	168	44.0%
	Female	214	56.0%
Age group	18 - 29	49	12.8%
	30 - 39	81	21.2%
	40 -49	95	24.9%
	≥50	157	41.1%
Educational level,	Illiterate	98	25.7%
	Primary level	77	20.2%
	High school level	145	38.0%
	university level	62	16.1%
Nationality	Saudi	290	75.9%
	Non-Saudi	92	24%
Body mass index	Overweight or Obese	217	56.8%
	Normal	123	32.2%
	Underweight	42	11.0%
Past medical history	No medical history	126	33.0%
	Diabetes mellitus	62	16.3%
	Cardiovascular diseases	30	7.9%
	Road traffic accident	12	3.1%
	Others	152	39.8%
Physical activity	Inactive	157	41.1%
	Lightly active	68	17.8%
	Moderately active	109	28.5%
	Highly active	48	12.6%

Table (2): The risk factors affect physical activity among attendants of family medicine clinics

Risk factor		Physical activity (%)		Chi-square	P value
		Active (n=225)	Inactive (n=157)		
Age group	< 40	94 (72.3%)	36 (27.7%)	14.6	0.001
	≥ 40	131 (52.0%)	121 (48.0%)		
Gender	Male	111 (57.0%)	57 (43.0%)	6.4	0.012
	Female	114 (53.3%)	100 (46.7%)		
Educational level	ligh school or less	192 (60.0%)	128 (40.0%)	0.98	0.321
	University level	33 (53.2%)	29 (46.8%)		
Nationality	Saudi	168 (57.9%)	122 (42.1%)	0.47	0.494
	Non-Saudi	57 (62.0%)	35 (38.0%)		
Body mass index	Normal	86 (69.9%)	37 (30.1%)	9.1	0.003
	Abnormal	139 (53.7%)	120 (46.3%)		

Past medical history	Yes	144 (56.3%)	112 (43.7%)	2.3	0.133

DISCUSSION

Physical inactivity has been well documented as a risk factor for some life-threatening diseases. On the other hand, physical exercise has been linked with good quality of life and increase of life expectancy [3, 4, 22]. The aim of the current study was to explore the prevalence of physical activity among adults attending family medicine clinics at King Faisal residential city clinics (Jeddah) and King Khalid residential city clinics (Al-Taif), Saudia Arabia. The results of this study revealed more than half of the participants (58.9%) were generally active. This percentage is comparable with that reported from Canada [23]. However, it is higher than that reported by **Abozaid and Farahat** [21] in which a percentage of 53.8% of the study participants were physically active, than that reported by **Al-Refaee and Al-Hazzaa** [18] in which 47% of the general population at Riyadh city were found generally active, and also higher than that reported in Bahrain Kingdom [24] where the prevalence of the physically active subjects was only 13%. On the other hand, the prevalence of the physical active in the current study is lower than that reported in Australia [23] where the prevalence was 74%, in USA [25] where it was found that 77% of the participant physically active, and in Finland [23] where the prevalence was 84%. This variation in reporting the prevalence of the physical activity might be related, to some extent, to characteristics of the recruited sample where more than half of them were obese or overweight which in turn may be linked to the physical exercises among this group as an attempt to lose a weight. Another explanation may be related to the past medical history of the participants where approximately 50% were medically compromised. For this group, the physical exercises are usually recommended and applied .

In the current study, it was clearly found that subjects <40 years were significantly more active than those ≥40 years. This result is in agreement with that of **Al-Refaee** and **Al-Hazza** [18] and **Al-Nozha *et al.*** [19] where it was found that physical activity decreased with progression of age. This may be attributed to the fact that physical activity becomes harder to be performed by elder subjects. In addition, it is not uncommon that systemic diseases especially the chronic are usually linked with elder patients [26, 27]. Similarly, men were significantly more active than women. This is not surprising as in our conservative country there are many restrictions play as barriers for women activity. Similar results were reported from several studies [28-30]. With regard to educational level, no significant difference (P= 0.321) was found between subjects who completed high school level or less and those who completed university level. This result is inconsistent with that reported by **Al-Refaee** and **Al-Hazzaa** [18] and reported by **Abozaid** and **Farahat** [21], in which subjects with university level were more physically active. This may be related to the large difference in number of these groups (320 subjects with high school or less compared to 62 subjects with university level). However, this result comes in line with that found in Greek population [28] where no significant association between physical activity and educational levels was found.

To the best of our knowledge, this is the first study conducted among Saudi and non-Saudi subjects exploring the physical activity. Although the included Saudi subjects were much higher than non-Saudi subjects, there was no significant difference (P= 0.494) in relation to the physical activity. It is somewhat difficult to explain this point but it might be related to the nature or type of the work as most of the foreign subjects in Saudi Arabia are dealing with works that require more physical activities. Subjects with normal BMI were significantly more active than subjects with abnormal BMI (P= 0.003). This result is inconsistent with that reported by **Al-Refaee** and **Al-Hazzaa** [18] and **Abozaid** and **Farahat** [21], in which they found no association between abnormal BMI and physical activity though the percentage of obese subjects was higher among inactive than active groups. When comparing the subjects according to the past medical history, no significant difference (P= 0.133) was found between subjects with and without past medical history. This result is partially in line with that of **Abozaid** and **Farahat** [21] who did not find any association between hypertension and physical activity. Again, this variation might be related to the difference in number between subjects of both groups (33% with no medical history compared to 67% with medical history) .

Some limitations of the current study should be taken into consideration, however. First, this study is a cross-sectional in nature representing a targeted population so that generalization of the results is limited. Second, no data were collected regarding the barriers and the types of the

physical activities. A further national survey with stratified sampling to include large population from different areas with different characteristics is highly recommended.

CONCLUSION

Within the limitation of the current study, it can be concluded that the majority of the study population did not reach the recommended values of physical activity. In addition, no differences between the different types of the educational level were found regarding physical activities. More public and educational motivation programs about the benefits of physical activity are highly needed.

CONFLICT OF INTEREST

The author declared no conflict of interests.

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