

## Attitudes and Barriers of Primary Care Physicians toward Promoting Physical Activity to Patients in Prince Sultan Military Medical City, Riyadh, Saudi Arabia

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### Original Research Article

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**Abstract:** Physical inactivity is the biggest health problem of this millennium and promoting regular physical activity by primary care physicians is considered to have pivotal role to combat modern-day non-communicable diseases. This study aimed to assess the attitudes and barriers of primary care physicians toward promoting regular physical activity to patients in Prince Sultan Military Medical City, Riyadh, Saudi Arabia. This cross-sectional study was conducted between January 2015 and July 2015 at Prince Sultan Military Medical City Riyadh, Saudi Arabia. Using a structured questionnaire, a total of 80 participating primary care physicians were evaluated for their attitudes and perceived barriers toward promoting physical activity to patients. The data were analyzed using SPSS software. Physicians considered health promotion in general (n = 78; 97.5%) and promoting physical activity - in particular (n = 80; 100%) constituted the overwhelming majors of the participants since they considered such promotion as an important part of the primary care. Advice to increase physical activity was given to patients by most participants and most considered themselves effective health promoters. Lack of time (n = 58; 72.5%), patients ignoring the physician's recommendations (n = 52; 65%), and insufficient educational materials for patients (n = 43; 53.8%) were most frequently perceived as barriers to promoting physical activity by primary care physicians. The attitudes of primary care physicians were found to be consistent with expectations. However, consideration should be given to overcome perceived barriers to achieve health goals associated with promoting regular physical activity.

**Keywords:** Primary Care Physicians, Physical Activity, Health Promotion, Attitudes, Barriers.

### INTRODUCTION

Physical inactivity has been accurately labelled as “the biggest health problem of 21<sup>st</sup> century” [1] due to its established association with the risk of developing coronary heart disease, hypertension, increased blood lipids, type 2 diabetes, certain forms of cancer, psychological illness and other health consequences [2–6]. On the other hand, there is overwhelming evidence that regular physical activity has important and wide-ranging health benefits that can overcome most of the health consequences of an inactive life [7, 8].

Health promotion and preventive lifestyle, such as the encouragement of physical activity, quitting alcohol, and smoking cessation are indispensable to reduce personal and public health morbidities [9]. A number of authentic studies have shown that health care providers are capable of fulfilling these tasks because (1) they have a relatively high number of patient contacts; (2) they are perceived to be the most reliable formal source of health information; and (3) they can identify patients who are at risk at an early stage [10–12]. Many studies have been conducted to assess physical activity promotion; attitudes and barriers among physicians include primary care physicians or general practitioners in Europe, America, and other parts of the world [13–15]. Most of the evidence from studies of Saudi people supports the theory that lack of physical activity is associated with increased weight. For instance, in the southern region, some investigators [16] found that of 2,696 adolescents aged 11–19 years, insufficient exercise (that is, less than 2 hours per week) was significantly associated with increased body weight (adjusted odd ratio (OR), 1.352; 95% confidence interval (CI), 1.066–1.941). This is supported by a cross-sectional study of adolescent aged 12–20 years (n = 894) from schools in Riyadh. They recorded that lack of physical activity (less than one hour per week) was also associated with increased risk of obesity (OR, 1.63; CI, 1.01–2.62;  $p < 0.01$ ).

Lawlor's 1997 study in Bradford (UK) used a postal survey questionnaire to determine general practitioners' (GPs) knowledge and attitudes toward physical activity (PA) advice (N = 235). The result suggested that GPs had a good level of knowledge about the health benefits of regular physical activity and the levels required to achieve these, but did

not promote physical activity in a way that had an impact on the population [17]. In another study in the UK, Douglas analyzed 757 questionnaires (54% response rate) completed by primary care staff that queried staff's views and experiences related to routinely advising patients about physical activity. Confidence and enthusiasm for giving advice was generally high, but knowledge of current physical activity recommendations was low and lack of time and resources were more likely to be reported as barriers to general practitioners providing routine advice than for other professional groups [18]. In Denmark, Jorgensen <sup>[19]</sup> studied how general practitioners in Denmark promote physical activity. The methodology used was a self-administered questionnaire that was mailed to 396 GPs in 328 practices that returned 223 evaluable responses (56.3%). The results showed that GPs frequently provide physical activity counseling but without specific advice on how to perform the exercises. GPs that had received training in physical activity promotion were more likely to report providing advice on duration and frequency of exercise compared with GPs that had not been trained [19].

A 10-year longitudinal study (1997–2007) in New South Wales (Australia) examined GPs' knowledge, confidence and practices in promoting physical activity to patients. Data were collected using a self-reported questionnaire on GPs knowledge, confidence, role perception, attendance of continuous professional development, and counselling practice with regard to promoting physical activity in their patients. The study found an increasing proportion of GPs reporting high knowledge, role perception, and confidence in giving physical activity advice to patients between 1997 and 2000, which remained unchanged for the rest of the study period [20].

In an analysis of data collected by the National Family Physician Workforce Survey among 28,340 primary care physicians in all Canadian provinces and territories [20], it was reported that a large proportion of Canadian primary care physicians regularly asked patients about their physical activity levels and advised them using verbal counseling. Although few respondents provided written prescriptions, performed fitness assessments, or referred patients there is evidence of successful recruitment of some health gains such as increased short-term physical activity and fitness, and improvements in the well-being of patients. However, these schemes are inadequately resourced for long-term evaluation. Therefore, conclusions regarding the cost-effectiveness of the two models are not possible. The objective this study was to assess the attitudes and barriers of primary care physicians toward promoting regular physical activity to patients attending the Prince Sultan Military Medical City (PSMMC), Riyadh, Saudi Arabia.

#### **PARTICIPANTS AND METHODS**

This cross-sectional study was conducted at PSMMC, Riyadh, Saudi Arabia between January 2015 and July 2015. The target population included all primary care physicians working in PSMMC. A total of 200 primary care physicians work at PSMMC and there are eight health centers. Of the eight health centers, Al-wazarat is the largest (with more than 30 specialized clinics) and is accredited by the Joint Commission International. The sampling technique was convenience sampling. Inclusion criteria: Primary care physicians working in PSMMC and consenting to participation. Exclusion criteria: Primary care physicians working in PSMMC that declined to participate and pregnant women.

The assumption for the sample size determination was based on a 95% level of confidence, 10% error tolerance ( $\delta$ ), and prevalence ( $p$ ) of 50%; then, the minimum sample size required was calculated as follows:

$$\text{Sample Size} = \frac{Z^2 p(1-p)}{\delta^2}$$

Where, Z represents the 95% confidence level ( $Z = 1.96$ ;  $1 - p = 1 - 0.5 = 0.5$ ;  $\delta = 0.10$ ).

However, with a finite population where the number of physicians estimated to be 200, the above formula becomes as follows:

$$\text{New Sample size} = \frac{\text{Sample size}}{1 + \frac{\text{Sample size}-1}{\text{Population}}} = \frac{96}{1 + \frac{95}{200}} = 66$$

Using the above formula, the minimum sample size required was calculated as 66.

#### **Data collection**

A total of 80 participating primary care physicians working at various professional positions including senior house officer, resident, registrar, senior registrar, and consultant from both genders, all age groups, and a range of work experience and nationalities were consented for the study. Each participant was given a structured, self-reported questionnaire having three parts. The first part anonymously collected participants' demographic information such as gender, age, nationality, marital status, experience and position. The second part comprised 10 statements related to their

attitudes toward promoting physical activity. The third part contained nine statements related to barriers to physicians in promoting physical activity to their patients. Responses were recorded as “yes”, “no” and “I do not know” in both, second and third parts of the questionnaire. The questionnaire was pilot tested with 10 physicians and retested again and those responses were not included in the analysis. Face validation was conducted by two consultants. Prior to distribution, the questionnaire was checked for usability and to ensure it contained no errors.

**Statistical analysis**

Data were entered into the Statistical Package for Social Sciences (SPSS) software where these were cleaned and managed before analysis. Every questionnaire had its unique identifier. Sample size, unique identifiers, and coding were discussed with statistician. Quality control was applied through double data entry.

**Ethical consideration**

All human rights were respected in the informed consent form, including privacy, confidentiality, no potential harm, and right to refuse or withdraw without giving reason and with no consequences. This study was approved by the Research Committee, Head of Research and Training, and the research ethical committee in PSMC (approval granted March 11, 2015; Reg. # HAP-01-R-015, and project No. 671).

**RESULTS**

The socio-demographic features of the primary care physicians are as shown in Table 1. The male to female ratio was 3:2 and most participants (82.5%) were married. The majority of the respondents were in the age bracket of 25 - 44 years (76.3%), with 1–10 years’ experience (63.8%). Saudi nationals were fairly more than one-third of the study population. In this study, registrars (42.5%) and consultants (22.5%) were the two most frequent professional groups.

**Table-1: The socio-demographic characteristics of the study population.**

Socio-demographic Variables	n	%	
<b>Gender</b>	Male	48	60.0
	Female	32	40.0
<b>Age group</b>	25–34 years	30	37.5
	35–44 years	31	38.75
	45–54 years	13	16.25
	≥ 55 years	06	7.5
<b>Nationality</b>	Saudi	31	38.8
	Non-Saudi	49	61.2
<b>Marital status</b>	Single	14	17.5
	Married	66	82.5
<b>Work experience in a public health center</b>	1–5 years	23	28.8
	6–10 years	28	35.0
	11–15 years	13	16.3
	16–20 years	6	7.5
	≥ 21 years	10	12.5
<b>Position held</b>	Sr. House Officer	7	8.8
	Resident	10	12.5
	Registrar	34	42.5
	Sr. Registrar	11	13.8
	Consultant	18	22.5

At least 80% of the physicians responded with an affirmative reply to the statements regarding attitudes toward promoting physical activity as shown in Table-2.

**Table-2: Attitude of the physicians towards promoting physical activity**

The Attitude-Related Statement	Responses		
	Yes	No	I do not know
Health promotion is an important part of primary care work	78 (97.5)	-	2 (2.5)
Promoting physical activity is important in primary care	80 (100)	-	-
Advice to increase physical activity is more effective when linked to an individual's presenting problem	75 (93.8)	3 (3.8)	2 (2.5)
I can be effective in promoting health	76 (95)	-	4 (5)
I can be effective in persuading some patients to increase physical activity	74 (92.5)	1 (1.3)	5 (6.3)
I have sufficient knowledge to advice patients about physical activity	64 (80)	6 (7.5)	10 (12.5)
I think any amount of physical activity is beneficial to health	69 (86.3)	9 (11.3)	2 (2.5)
I think only vigorous/strenuous activity is beneficial to health	10 (12.5)	65 (81.3)	5 (6.3)
I try to encourage as many patients as possible to increase their physical activity	75 (93.8)	5 (6.3)	-
I only discuss physical activity if the patient mentions it	11 (13.8)	69 (86.3)	-

The majority of physicians (72.5%, 65% and 53.8%) perceived that lack of time, patients ignoring the recommendations and insufficiency of educational materials for patients, respectively, acted as barriers to promoting physical activity as shown in Table 3.

**Table-3: Barriers perceived by physicians in promoting physical activity to their patients**

The Barriers-Related Statements	Responses		
	Yes	No	I do not know
Lack of time to promote physical activity	58 (72.5)	22 (27.5)	-
Insufficient knowledge and training	22 (27.5)	58 (72.5)	-
Difficulties in accessing to physical activity promotion training	27 (33.8)	51 (63.8)	2 (2.5)
Lack of success in the counseling role	24 (30)	51 (63.8)	5 (6.3)
Educational materials for patients are insufficient	43 (53.8)	36 (45)	1 (1.3)
There is a lack of available education for health professionals regarding physical activity promotion	26 (32.5)	52 (65)	2 (2.5)
Lack of resources (for example: finance, incentive)	30 (37.5)	45 (56.3)	5 (6.3)
Patients ignore recommendations	52 (65)	23 (28.8)	5 (6.3)
Lack of standard protocols	30 (37.5)	44 (55)	6 (7.5)

## DISCUSSION

In modern society, a high percentage of the population remain inactive, and the effects of this sedentary lifestyle can be seen in the increasing prevalence of chronic noncommunicable diseases like diabetes, hypertension, cardiovascular diseases, etc [16]. Regular physical activity is associated with positive health gains. Health care professionals are in a favorable position to promote this because they have relatively high patient contact, they are perceived as reliable sources of formal health information, and, in general, are trusted and are listened to. Morris beautifully summarized health promotion as “public health’s best buy” [21].

Our study focuses on the attitudes of physicians toward promoting regular physical activity and the barriers they face. Almost all the respondents had a positive response toward health promotion (97.5%) and physical activity (100%) and considered it a part of their job. The majority of the studies on this topic give unanimously similar results [19, 22-24]. Eighty percent of the physicians were of the view that they had sufficient knowledge on the subject. Similar percentages were found in other research [17, 25]. However, Gould et al. found the level of knowledge to be insufficient [26]. Douglas and Terrance reported that high numbers of doctors (66–80%) believe they have adequate knowledge to advise patients. Meanwhile, when the same group was asked about current recommendations about specific diseases, only 13% fulfilled the required criteria [23]. This suggests that participants may exaggerate while talking about their knowledge on this matter. The studies which found the level of knowledge insufficient asked specific questions about the nature of diseases and the physical therapies required, whereas most studies, including this one, asked only about the physician’s opinion without going into specifics.

The majority of the physicians believe that they can be effective and persuasive in health promotion, and they regularly try to convince as many patients as possible. This result is consistent with works of Douglas and McKenna [23,

27]. However, lower levels (39%) were also confirmed in another study [17]. In contrast to the statement given by most doctors, a poll conducted among patients states that they received physical activity counselling in 22.3% of the visits [28]. This could mean that GPs have a tendency to overestimate their physical activity counselling when asked. Not many studies are conducted from patients' point of view and more data are needed to clarify this picture.

Physicians (93.8%) in the present study agreed that their consultation about activity is more effective when it is linked to the presenting complaints of the patient. This statement concurs with those of some others studies [17, 23]. This is because the patient is more sensitive to an advice linked to his current ailment as opposed to a general one. In addition, regular follow up is the major reasons for improved implementation in patients with chronic diseases. Most practitioners (86.3%) were of the view that any form and amount of light physical activity was beneficial, and they did not advise vigorous exercise. Similarly, a review of other studies shows that walking was the most commonly prescribed activity and heavy activity was avoided [17, 29].

Lack of time during general practice was deemed the most common barrier in the promotion of physical activity. Similar complaints were found in other studies [17, 23, 24–27]. This can be explained by the high patient load and financial reasons. McKenna et al found that by increasing the consultation time by 1.5 to 2 minutes inform the normal 10-minute consultation effectiveness of physician's advice increase by 50% [27]. A similar improvement was observed by Jorgensen [19].

Sixty-five percent of doctors in the present study were of the view that their patients ignored their recommendations. The same has been reported by Geense [25]. Many remedies have been suggested in this regard. Patients are more than three times as likely to pay attention if the doctor himself exercises regularly [27]. Negotiating rather than an authoritative approach is more patient-friendly [29]. Increasing the consultation time also has a significant effect [19, 27]. Regular follow-up is also a good way to augment the effect as well as the use of "green prescriptions" rather than only verbal advice [29].

Insufficiency of education material for the patients is another barrier in the promotion of physical activity. Forty to sixty percent of respondents in a study by Douglas stated the same [23]. In this regard Ribera et al were of the view that promotion should be on a public level and there should be more institutional support [30]. However, Geense prefers to advise patients in his own practice in collaboration with physiotherapists instead of national programs outside the practice as he thinks patients develop a rapport with their physician and are more likely to follow his word [25].

Lack of resources was deemed a problem by only 37.5% of the respondents. This finding is in contrast with other papers where it was considered a major barrier [22, 25].

## **CONCLUSION**

The attitude of the health care workers regarding promotion of physical activity was found to be positive in general. The major barriers were time limitation, patients ignoring recommendation and insufficient study material. Concurrence of the results with other research establishes the widespread nature of the problem. Radical changes involving a multidisciplinary approach are required to tackle social, environmental, and individual factors.

## **Limitations of the study**

- Sampling problems
- Time limitation for complete the research
- The data obtained in some cases may be biased

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