

Research Article

Profile of Physical Activity, Perceived Barriers and Related Counselling Practices of Primary Health Care Physicians in Qatar: Cross-Sectional Study

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Abstract

Background: Primary health care physicians play a pivotal role in counselling patients on physical activity and their health behaviours may as well affect how patients perceive their doctors' counselling and advice. However, the physical activity habits and counselling of primary care physicians in Qatar are unknown.

Objectives: The primary objective was to determine the physical activity profile and perceived barriers among primary health care physicians in Qatar. Another objective was to identify the relationship between practicing physical activity and patient counselling.

Methods: A cross-sectional study was conducted on a proportionate stratified random sample of primary health care physicians across all primary health care centers. A structured self-administered questionnaire was employed. Frequencies and percentages were calculated when appropriate. Also, Pearson's chi-squared test and the Student t-test were employed at a level of significance $p \leq 0.05$.

Results: A total of 156 primary care physicians participated in the study. It was found that most physicians (79.5%) counselled their patients about physical activity. On the other hand, less than half of the participants (44.2%) practiced physical activity. The major barriers to physical activity among physicians were; the lack of time (85%), lack of motivation (28%) and physical activity partners (28%). Also, physically active physicians were more likely to offer their patients counselling about physical activities.

Conclusion: Primary care physicians were not providing optimal counselling on physical activity to their patients and more than half were sedentary, lack of time and motivation were the most common barriers. Thus, there is a need for workplace health promotion and wellness services for primary health care physicians in addition to training them on counselling.

Keywords: Physical activity; Perceived barriers; Counselling; Primary care physician

Background

Physical activity is an essential component of healthy living and can be defined as "any bodily movement produced by skeletal muscles that results in energy expenditure" [1]. It entails several

health benefits such as reducing the risk of cardiovascular disease, hypertension, stroke, type 2 diabetes, dementia, breast cancer, colon cancer, and other diseases [2,3]. Similarly, physical activity reduces the risk of all-cause mortality and all-cancer mortality [3]. Another benefit is the promotion of psychological wellbeing. Physical activity helps prevent several mental disorders such as depression, post-traumatic stress disorder, and anxiety [4]. These

benefits result in reduced national healthcare expenditures and increased productivity. Thus, the World Health Organization (WHO) has recommended physical activities of specific dose (duration, frequency, intensity and/or volume) and type (aerobic or strength) to combat the growing pandemic of noncommunicable diseases. To be physically active, one should practice moderate-intensity activities for 150 minutes/week or any vigorous activity for 75 minutes/week [5].

According to a survey across 168 countries, the global prevalence of physical inactivity was 27.5% in 2016. The highest levels of physical inactivity were women in Latin America, the Caribbean, South Asia, and high-income Western countries [6]. Given the pivotal role of primary health care in any national health system, the WHO has advocated the mainstreaming of physical activity counselling in that setting. It is recommended that the early screening, counselling, and referral for physical inactivity become standard practice across primary health centers [7]. There are several strategies to integrate physical activity counselling such as brief interventions, exercise referral schemes, and exercise prescriptions [8]. These cost-effective interventions can yield positive health outcomes among inactive patients. However, their success depends on the ability of primary care professionals to deliver efficient and acceptable physical activity counselling [9]. As a result, it is expected that primary care physicians counsel their patients on physical activity as part of their clinical routine. Nevertheless, almost one-third of patients reported receiving physical activity counselling from their primary care providers [10]. This is due to several barriers related to the physician or the patient. In the perspective of primary care physicians, there is limited time, skills, and financial incentives. Other barriers for physicians are the lack of a screening protocol, low self-efficacy, and doubt regarding the effectiveness of counselling [11,12]. Subsequently, the physicians' physical activity influences their clinical attitude on the matter. So, physicians are more likely to counsel their patients on physical activity if they are active themselves [8].

Qatar has witnessed tremendous economic development and urbanization, which led to a high prevalence of physical inactivity among its population. According to the country's Stepwise Survey in 2012, almost half (45.9%) of Qatar's residents reported low physical activity [13]. Moreover, noncommunicable diseases are the leading causes of mortality in the country and account for more than two-thirds (69%) of all deaths [14]. Qatar is expected to spend \$2,778 per head for NCDs alone by 2022 in comparison to \$3,327 per capita on all health care among OECD (Organisation for Economic Co-operation and Development) countries [15]. The Primary Health Care Corporation (PHCC) is the main provider of primary health services through 27 primary health centers distributed all over the country. Each health center provides preventive and curative services, being the first level of contact between the community and the national healthcare system [16].

The physical activity and related counselling practice of primary care physicians in Qatar remains unclear. Therefore, this study sought to explore the physical activity habits and related counselling practices of primary health care physicians in the country [17].

Methods

Study setting

The primary health care system in Qatar was established in 1954. It has evolved over the years to provide both curative and preventive services for the community [18]. PHCC currently operates 27 primary health centers across three health regions (northern, western, and central) [16].

Study design

The present study was an analytic cross-sectional study design.

Study population

The study included primary health care physicians across all PHCC health centers in Qatar, both family physicians (23%) and non-family physicians (77%) were recruited. Family physicians are those who enrolled in a family medicine training program or are board-certified in family medicine. Non-family physicians are board-certified or have a master's or PhD degree in internal medicine or paediatrics. The study excluded ophthalmologists, otolaryngologists, dentists, and physicians with exclusive administrative positions.

Sampling

The sample size was calculated based on the following formula ($n = N \cdot z^2 \cdot p(1-p) / [d^2(N-1) + z^2 \cdot p(1-p)]$) where the total number of primary health care physicians ($N=252$); value corresponding to the confidence level ($z=1.96^2=3.84$); absolute precision ($d=0.05^2=0.0025$); proportion of the population with the studied characteristics ($p=0.2$). The final calculated sample size was (n)=156. Subsequently, a stratified random sampling technique was employed between family and non-family physicians.

Pilot phase

The study's questionnaire was pre-tested on 10% of the participants. Accordingly, modifications were made to make the survey more comprehensive and reader-friendly.

Data collection tool

A structured and self-administered questionnaire was utilized to collect data from the participants [18,19]. The questionnaires were distributed among the physicians during their duty hours (morning and evening shifts). The questionnaire was developed in the English language and based on a thorough review of the literature. It comprised of three parts: demographic information (7

questions), physical activity habits (6 questions), and counselling practices (12 questions). All questions were in the close-ended format.

Statistical analysis

The collected data were coded and entered into the Statistical Package of Social Sciences (SPSS) version 20. Frequencies and percentages were calculated when appropriate. Also, Pearson’s chi-squared test and the Student t-test were employed at a level of significance $p \leq 0.05$.

Ethical considerations

The study was approved by the institutional review board of Hamad Medical Corporation (HMC). Furthermore, a research approval letter was obtained from PHCC research committee. Verbal consent was obtained from the physicians before data collection. All data were stored on a password-protected computer and were accessible only to the principal investigator.

Results

A total of 156 physicians agreed to participate in the study. The mean age of the participants was 44 years ($SD \pm 9.2$) with an almost equal gender distribution. The mean duration of practice in primary care was around 17 years (Table 1).

Variable	N (%)
Age (years)	
Mean (\pm SD)	44.04 (9.2)
Range	28-64
Gender	
Male	76 (48.7)
Female	80 (51.3)
Current position	
Resident	11 (7.1)
General practitioner	101 (64.0)
Specialist	38 (24.4)
Consultant	6 (3.8)
Duration of practice (years)	
≤ 10	52 (33.3)
11-20	46 (29.5)
≥ 21	58 (37.1)

Table 1: Demographic characteristics of primary health care physicians in Qatar (N=156).

Regarding the physical activity habits, less than half (44.2%) of physicians participated in physical activity. Among those, only 39% engaged in activity for 0-30 minutes, of moderate intensity (52%), and for three days per week (36%). Furthermore, most of the participants (82.5%) participated in physical activity less than the recommended five days per week (Table 2).

Variable	n(%)
Frequency (day(s)/week)	
1	7 (10.1)
2	19 (27.5)
3	25 (36.2)
4	6 (8.7)
5	8 (11.6)
6	2 (2.9)
7	2 (2.9)
Duration (minutes/session)	
0-30	27 (39.1)
31-60	24 (34.8)
>60	18 (26.1)
Intensity	
Light	21 (30.4)
Moderate	36 (52.2)
Vigorous	12 (17.6)

Table 2: Description of Physical activity among physically active primary health care physicians in Qatar. (n=69).

In addition to that, the most commonly reported reasons for engaging in physical activity were weight control (87%), general health maintenance (82.6%), and physical appearance (62.3%). On the other hand, cancer prevention was the least cited reason (33%) (Figure 1).

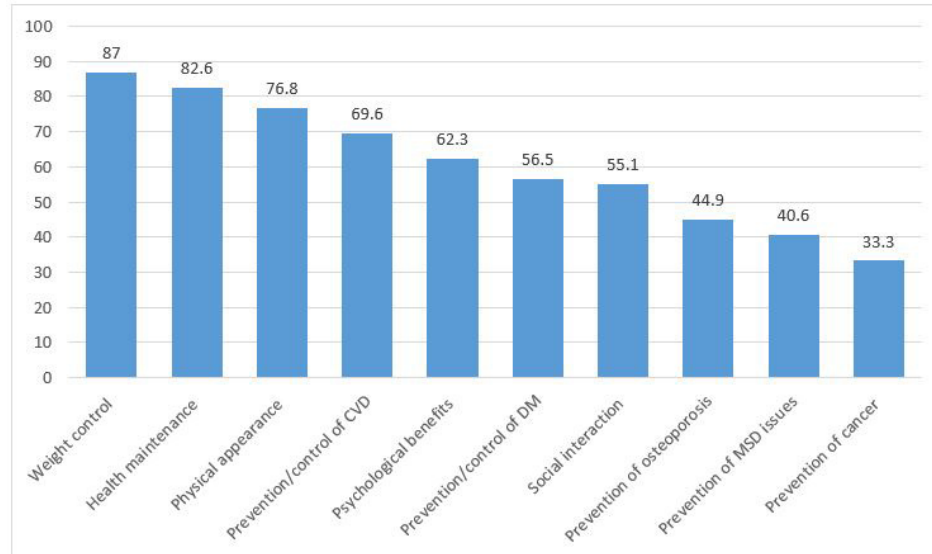


Figure 1: Reasons reported by primary health care physicians for performing physical activity. *(Numbers do not add up to 100% because multiple reasons were provided by many respondents).

Regarding the participation in physical activity, most of the physicians (85%) reported the lack of time as a barrier. Moreover, more than a quarter (28.2%) of the participants identified the lack of motivation (28%) or exercise partners (28%) as barriers to performing physical activity (Figure 2).

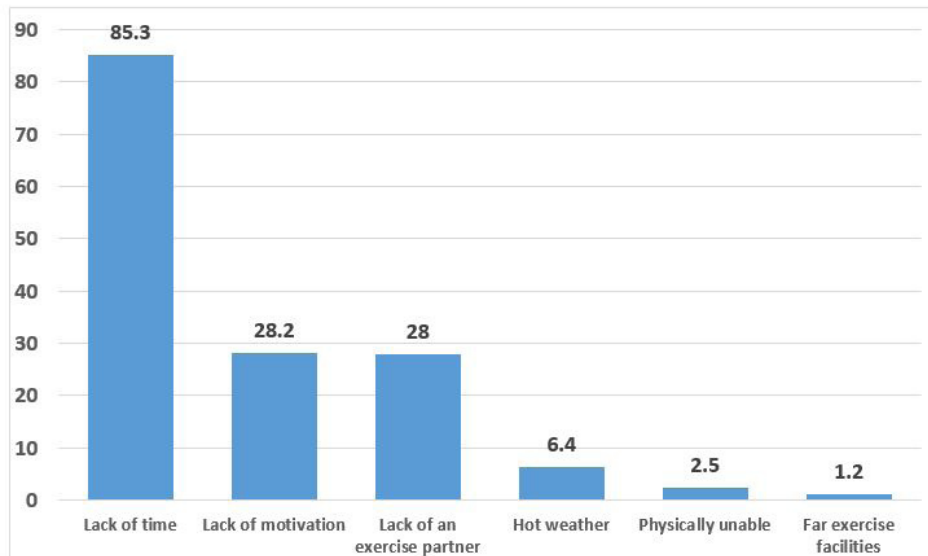


Figure 2: Perceived barriers to performing regular physical activity among primary health care physicians in Qatar (N=156).

*(Numbers do not add up to 100% because multiple reasons were provided by many respondents).

Regarding their counselling practices, the majority of participants (79.5%) advised their patients about physical activity during routine visits. However, the percentage of patients who received counselling varied. Almost one-third (30%) of the physicians counselled 1-20% of their patients. A similar proportion (29.5%) counselled 21-40% of their patients. However, only a minority (4.5%) of primary care physicians counselled most of their patients (81-100%). In addition to that, almost half of the doctors (43.6%) devoted 1-2 minutes of their consultation to physical activity counselling. A similar percentage (42%) of participants devoted 3-5 minutes and the remaining (22.5%) devoted more than 5 minutes of the overall consultation time. During consultations, most physicians recommended walking as a form of physical activity. The least discussed topic was to engage in vigorous activity (Table 3).

Topics	Very likely	Likely	Unlikely	Very unlikely
Health benefits	72 (58.1%)	48 (38.7)	3 (2.4%)	1 (0.8%)
Psychological benefits	48 (38.7%)	60 (48.4%)	15 (12.1%)	1 (0.8%)
Household tasks	32 (25.8%)	44 (35.5%)	36 (29%)	12 (9.7%)
Walking	90 (72.6%)	28 (22.6%)	6 (4.8%)	0 (0%)
Moderate activity	38 (30.6%)	57 (46%)	24 (19.4%)	5 (4%)
Vigorous activity	6 (4.8%)	19 (15.3%)	64 (51.6%)	35 (28.2%)

Table 3: Topics covered by physicians who provided clinical consultation (n=124).

In addition to that, the findings revealed that being overweight patients, had dyslipidaemia, or diabetic were the medical conditions that frequently triggered physical activity counselling by the physicians (Table 4).

Patients medical conditions	Very likely	Likely	Unlikely	Very unlikely
Overweight	118 (95.2%)	6 (4.8%)	0 (0.0%)	0 (0.0%)
Hypertension	96 (77.4%)	25 (20.2%)	3 (2.4%)	0 (0.0%)
Ischemic heart disease	35 (28.2%)	42 (33.9%)	38 (30.6%)	9 (7.3%)
Diabetes	115 (92.7%)	9 (7.3%)	0 (0.0%)	0 (0.0%)
Hypercholesterolemia	118 (95.2%)	5 (4.0%)	1 (0.8%)	0 (0.0%)
Depression	55 (44.4%)	40 (32.3%)	26 (21%)	3 (2.4%)

Table 4: Frequency of primary care physicians providing physical activity advice for specific medical conditions (n = 124).

Upon bivariate analyses, the participation of physicians in physical activity was positively associated with their counselling of patients in this regard ($p < 0.001$). The other variables (age, gender, duration of practice and the current positions) were not statistically associated with the counselling practice (Table 5).

Explanatory variable	Physical activity counselling, n (%)		Total	p-value
	Yes	No		
Participation in physical activity				
Yes	64 (41)	5 (3.2)	69 (44.2)	<0.001
No	60 (38.5)	27 (17.3)	87 (55.8)	
Age (mean±SD)	44.8±9.0	41.0±9.6	-	0.4
Duration of practice in years (mean±SD)	17.8±9.8	15.2±9.3	-	0.1

Gender				
Male	63 (40.4)	13 (8.3)	76 (48.7)	0.3
Female	61 (39.1)	19 (12.2)	80 (51.3)	
Current position				
Resident	6 (2.8)	5 (3.2)	11 (7.1)	0.1
GP	83 (53.2)	18 (11.5)	101(64.7)	
Specialist	30 (19.2)	8 (5.1)	38 (24.4)	
Consultant	5 (3.2)	1 (0.6)	6 (3.8)	

Table 5: The association between physicians’ demographic characteristics and their counselling regarding physical activity (n=156).

Discussion

The current study explored the physical activity habits and related counselling practices of primary health care physicians in Qatar. In our study, less than half of the participants (44.2%) were found to be physically active. The lack of time was identified as one of the major barriers to participation in physical activity. On the other hand, the majority of physicians (79.5%) counselled their patients on physical activity during routine visits.

The low level of physical activity among the primary health care physicians in Qatar is higher than that of a similar study in the Arab Gulf region. The Bahraini study found that almost one-third of physicians (29.6%) of performed regular physical activity [20]. However, the results of both studies corroborate with the decreased prevalence of physical activity in the Arab Gulf countries. In our study, the lack of time, motivation, or partner were the most important barriers against engaging in physical activity. These findings are in line with earlier evidence from the literature and highlight the importance of social support and self-motivation in adopting and maintaining physical activity [21-23].

Our results showed that most primary health care physicians counselled their patients about physical activity. Such findings are in agreement with the results of earlier studies [24-26]. On the other hand, a cross-sectional of primary care physicians in the USA found that 22% of patients received physical activity counselling. The study relied on direct observation and patient reporting methods to assess their outcome [27]. This wide gap between the self-reported and direct observation methods of physical activity counselling may be due to physicians’ over-estimation of their counselling practices and recall bias.

In our study, most physicians recommended three days of physical activity per week. On the other hand, only a third (35.5%) of physicians advised their patients to engage in physical activity for five days or more per week. Overall, the suggested duration

and intensity of physical activity were provided correctly by the physicians in this study. This shows that primary care physicians lack thorough knowledge of the current recommendations for physical activity. This is in agreement with an earlier study on the knowledge and practice of primary health care physicians towards evidence-based medicine in Qatar [28]. Also, Qatar has developed a national physical activity guideline in 2014 [29]. Thus, primary care physicians in the country should receive dedicated workshops on national physical activity guidelines.

The most frequently covered topics by physicians during consultations were walking and the health benefits of physical activity. These findings are consistent with earlier evidence from the literature [30]. Other important topics that should be covered in any clinical consultation were neglected. The root of such practice might be the lack of training in physical activity counselling among the physicians despite their increased practice in this regard [31]. Such training should focus on the provision of individualized recommendations, the proximal health and functional benefits of physical activity, addressing environmental and social factors, and the protocol of delivering advice [32].

This study suggests that patients who are overweight, dyslipidemic or diabetic are more frequently advised to participate in physical activity. These results agree with several earlier studies [24,33,34]. On the hand, patients with ischemic heart disease were the least to receive advice on physical activity in this study. In contrast, earlier research revealed that coronary heart disease was one of the most important reasons to provide physical activity counselling by physicians [19]. Physical activity has been shown to reduce the mortality and morbidity from heart disease [35]. Thus, our study results may reflect a lack of knowledge and confidence among primary care physicians in prescribing physical activity to cardiac patients. These gaps reaffirm the importance of implementing system-wide changes such as training physicians in physical activity counselling and capacity building of the health care workforce [36].

The study is representative of primary care physicians in Qatar because it encompassed all functional primary health centers in the country and utilized a probability sampling technique. Our study was the first to assess the physical activity habits and related counselling practices of primary care doctors in Qatar. Thus, the results offer a baseline for future research on health promotion practices and strategies in Qatar. On the other hand, the lack of a validated method for measuring the physical activity habits and counselling among our participants may result in an overestimation of the results. Also, the absence of other health care professions in our study (e.g. nurses, dentists, physiotherapists) limit the generalizability of the results to the entire health sector in Qatar.

In conclusion, our study found that primary health care physicians were not providing optimal counselling on physical activity to their patients. Thus, there is a need to train doctors on physical activity counselling by incorporating it into the primary care residency programs or through continuing medical education sessions. Another issue was the low level of physical activity among our participants. As a result, we recommend that institution-wide and evidence-based policies be developed to encourage physical activity among healthcare professionals.

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