SELF-REPORTED PHYSICAL ACTIVITY PRACTICES OF MILITARY PHYSICIANS AND THEIR COUNSELING PRACTICES - A CROSS-SECTIONAL STUDY

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ABSTRACT

Objective: To assess physical activity habits, physical activity counseling attitude, practices and its barriers among physicians in military service. Moreover, it evaluated the association between physicians' physical activity level and their counseling practices.

Study Design: Cross sectional study.

Place and Duration of Study: Military Tertiary care hospitals of Rawalpindi district, from Jul 2016 to Dec 2016.

Methodology: In this cross sectional study a total of 308 physicians of varying age and specialties were approached. The required sample was collected through convenient sampling. Self-administered structured questionnaire adapted from International Physical Activity Questionnaire (IPAQ) was used for data collection.

Results: Out of the 308 physicians 245 (79.5%) agreed that their physical activity habits influence counseling practices. Fifty eight percent (181) physicians were physically inactive in their leisure time and 137 (44.5%) physicians had inadequate counseling practices. Significant statistical association existed between physical activity habits of physicians and their counseling attitude and practices.

Conclusion: Physicians' counseling is significantly associated to one's own health practices, so addressing provider's lifestyle behaviors is key to substantial improvement in promoting counseling which will eventually help in reducing non-communicable disease (NCD) burden.

Keywords: Counseling, NCD, Physical Activity, Physicians' Role.

INTRODUCTION

Non-communicable diseases (NCDs) are the leading cause of death globally. They are strongly influenced by four main behavioral risk factors; tobacco use, insufficient physical activity, harmful use of alcohol, and unhealthy diet, which lead to; high blood pressure, raised blood glucose and cholesterol levels, and obesity[1].

Global recommendations on physical activity for adults are, at least 150 minutes of moderate-intensity aerobic physical activity throughout the week, or at least 75 minutes of vigorous-intensity aerobic physical activity throughout the week, or an equivalent combination of moderate- and vigorous-intensity[1]. Insufficient physical activity is the fourth primary risk factor for mortality[1]. Approximately 3.2 million people die each year due to physical inactivity[2].

In 2010, insufficient physical activity caused 69.3 million death and DALYs - 2.8% of the total globally[1]. The average global prevalence of insufficient physical activity is 28% for males and 34% for females[2].

According to World Health Organization (WHO) 2010, Eastern Mediterranean Emergency Programme (EMRO) regional data on prevalence of insufficient physical activity among adults older then 18 years in both genders is 31.1% which is second highest after America[1]. The highest levels of insufficient physical activity are seen in Saudi Arabia and Kuwait, where over two thirds (60%) of adults are classified as insufficiently active[2]. Global targets for prevention and control of NCDs to be attained by 2025

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recommend 10% relative reduction in prevalence of insufficient physical activity[4].

In Pakistan, total burden of NCDs are 1,332,000 and estimated to account for 50% of total deaths. The probability of dying between ages 30 to 70 years from four main NCDs is 21%. Pakistan has no operational policy, strategy or action plan to reduce physical inactivity or to promote physical activity[3]. According to National Action Plan–NCDs by Dr. Sania Nishtar, Pakistan has no consistent and validated data on physical activity. The tools for measuring physical activity have not been validated in the Pakistan[5]. It is vital for future epidemiological surveys that such tools be developed, standardized and validated[5]. Insufficient physical activity prevalence in Pakistan among adults older then 18 years is 24%[6].

WHO states that promotion of physical activity is an important public health objective[2], and physicians has a pivotal role in health education and promotion. Military physicians are thought to be more active than their fellow physicians of civil and private sectors and are supposed to promote and counsel more on physical activity to their clients. Physical inactivity among physicians could be a risk factor for counseling practices.

There is a need for continued promotion of physician's health[7]. Improved physician health is linked to more regular and effective counseling practices regarding lifestyle behaviors. Physicians need to be educated about physical activity so that they can promote it, and in their "inherent position as a role model" they should set good examples for individuals to copy and make their endorsement of physical activity more reliable.

This study will determine the physical activity levels of physicians, their attitude towards physical activity and counseling practices of physicians. Results of this study will help improve the physical activity practices of physicians as well as their counseling practices for better health education and health promotion.

METHODOLOGY

A cross sectional study was conducted in Military tertiary care hospitals and affiliated Military Institutes of Rawalpindi district. Study was conducted from July 2016 to December 2016. Ethical approval was sought from Institutional Review Board of AFPGMI, Rawalpindi (Re: 0146-AAA-ERC-AFPGMI). A total of 308 physicians were selected. Sample size of study was calculated through Open Epi software at 24% prevalence[4] and 95% Confidence Interval. Required sample for study was collected through non probability convenience sampling technique.

Table-I: Demographic characteristics.

S.No.	Demographic Characteristics	n (%)
1.	**Age (years)**	
	Less than mean (38.9)	164 (53.2)
	More than mean (38.9)	144 (46.8)
2.	**BMI**	
	Underweight	6 (1.9)
	Normal	181 (58.8)
	Over Weight	113 (36.7)
	Obese	8 (2.6)
3.	**Marital Status**	
	Single	29 (9.4)
	Married	279 (90.6)
4.	**Specialty**	
	Health Care Administrator	120 (39.0)
	Medicine and Allied	101 (32.8)
	Surgery and Allied	87 (28.2)
5.	**Gender**	
	Male	196 (63.6)
	Female	112 (36.4)

Data collection tool used was a self administered structured questionnaire. Questionnaire was adapted from International Physical Activity Questionnaire (IPAQ)[8,9]. Questions for physical activity counseling practices were taken from previous studies[10-12]. Physical activity habits were categorized as "active" and "inactive" based upon WHO global recommendations for adult physical activity. Attitude scores were categorized into "positive attitude" and "negative attitude" based upon median values. Physical activity counseling practices were also categorized into "adequate physical activity counseling practices" and "inadequate physical activity counseling practices".

SPSS version 21.0 was used for data analysis. Mean and standard deviation was reported for continuous variables while categorical variables were presented as frequency and percentages. Chi square test was used to determine association between physical activity habits and physical activity counseling attitude and practices. A *p*-value ≤0.05 were taken as significant.

Table-II: Physical activity habits of Physicians.

S. No.	Physical activity habits of Physicians	n (%)
1.	Self-perceived physically active	222 (72.1)
2.	Physical activity in leisure time	
	Moderate	94 (30.5)
	Vigorous	68 (22.1)
	Muscle strengthening	49 (15.9)
3.	Physical activity in daily routine (work/home/traveling)	
	Moderate	150 (48.5)
	Vigorous	70 (22.7)
Attitude Regarding Physical Activity Counseling Among Physicians		
1.	Physical activity at health care units	
	Always	211 (68.5)
	Sometimes	87 (28.2)
	Never	10 (3.2)
2.	Counseling improve patients physical activity level	248 (80.5)
3.	Physician's physical activity habits influence counseling practices	245 (79.5)
Practices Regarding Physical Activity Counseling Among Physicians		
1.	Counseling as a preventive health behavior	
	Always	114 (37.0)
	Sometimes	188 (61.0)
	Never	6 (1.9)
2.	Counseling to healthy patients	
	All of my patients	88 (28.6)
	Some of my patients	171 (55.5)
	None of my patients	49 (15.9)
3.	Counseling as a treatment measure	
	All of my patients	114 (37.0)
	Some of my patients	165 (53.6)
	None of my patients	29 (9.4)
4.	Any program/goal set for counseling	
	Always	36 (11.7)
	Sometimes	158 (51.3)
	Never	114 (37.0)
5.	Use of any counseling guidelines	
	Yes	78 (25.3)
	No	230 (74.7)

RESULTS

Out of the 308 physicians 245 (79.5%) agreed that their physical activity habits influence counseling practices. Demographic characteristics of physicians included in study are described in table-I. Mean age of the study participants were

Table-III: Association between physical activity habits and counseling attitude of physicians.

Demographic characteristics of Physicians		Attitude n (%)		*p*-value
		Positive	Negative	
1.	Age (years)			
	< 38.39 mean	91 (59.5)	73 (47.1)	0.029
	≥ 38.39 mean	62 (40.5)	82 (52.9)	
2.	Service (years)			
	< 14 mean	95 (62.1)	77 (49.7)	0.028
	≥ 14 mean	58 (37.9)	78 (50.3)	
Physical Activity Habits		**Attitude n (%)**		***p*-value**
		Positive	**Negative**	
3.	Self-perceived physically active			0.027
	Active	119 (77.8)	103 (66.5)	
	Inactive	34 (22.2)	52 (33.5)	
4.	Leisure Time			
	Active	73 (47.7)	54 (34.8)	0.022
	Inactive	80 (52.3)	101 (65.2)	
5.	Daily Routine (work/home/ travelling)			<0.0001
	Active	102 (66.7)	70 (45.2)	
	Inactive	51 (33.3)	85 (54.8)	

Table-IV: Association between physical activity habits and counseling practices of physicians.

Demographic characteristics of physicians		Practices n (%)		*p*-value
S. No		**Adequate**	**Inadequate**	
1.	Age (years)			
	<38.39 mean	81 (47.4)	83 (60.6)	0.021
	≥38.39 mean	90 (52.6)	54 (39.4)	
2.	Service (years)			
	<14 mean	89 (52.0)	83 (60.6)	0.133
	≥14 mean	82 (48.0)	54 (39.4)	
Physical Activity Habits		**Practices n (%)**		***p*-value**
		Adequate	**Inadequate**	
3.	Self-perceived physically active			0.225
	Active	128 (74.9)	94 (68.6)	
	Inactive	43 (25.1)	43 (31.4)	
4.	Leisure Time			
	Active	73 (42.7)	54 (39.4)	0.56
	Inactive	98 (57.3)	83 (60.6)	
5.	Daily Routine (work/ home/ travelling)			0.010
	Active	107 (62.6)	65 (47.4)	
	Inactive	64 (37.4)	72 (52.6)	

38 ± 8.7 years. Mean service years of the study participants were 14 ± 8.85 years. Out of 308 physicians 127 (41.2%) were physically active during leisure time while 181 (58.8%) were inactive. During daily routine 172 (55.8%) were active while 136 (44.2%) were inactive. Positive attitude towards physical activity counseling was reported by 153 (49.7%) respondents while 155 (50.3%) reported a negative attitude towards counseling.

while 137 (44.5%) of respondents reported inadequate counseling practices. Barriers reported by physicians for lack of physical activity are presented in fig-1. While barriers reported for physical activity counseling are presented in fig-2.

Respondents who were less than 38 years of age showed positive attitude towards physical activity (p=0.029). Similarly less number of service years was also associated with positive attitude towards physical activity (p=0.028).

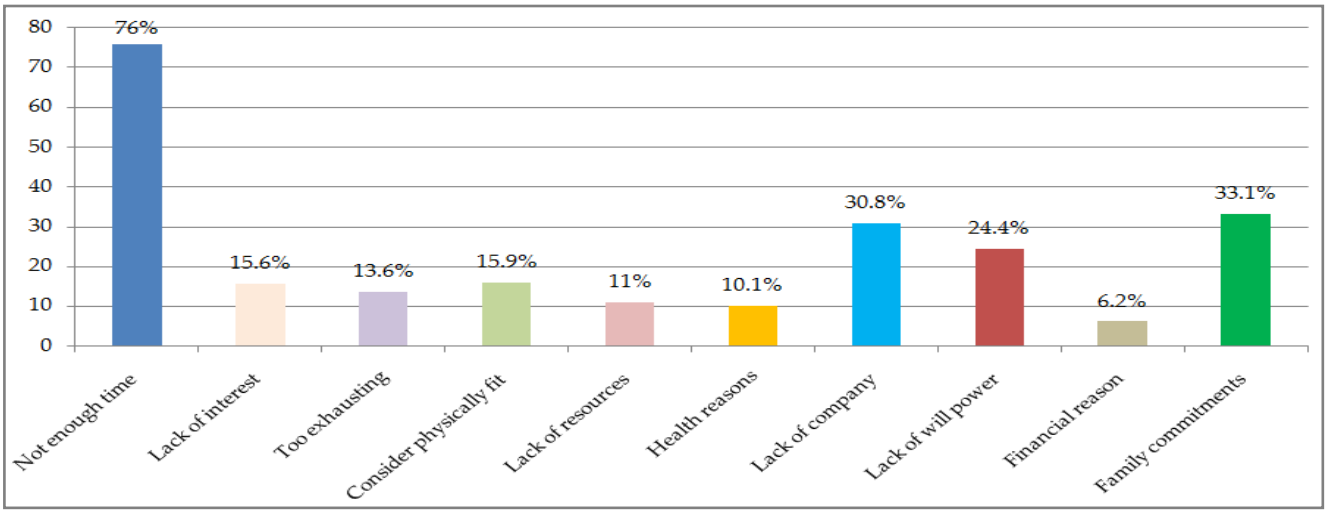

Figure-1: Barriers to physical activity habits of physicians.

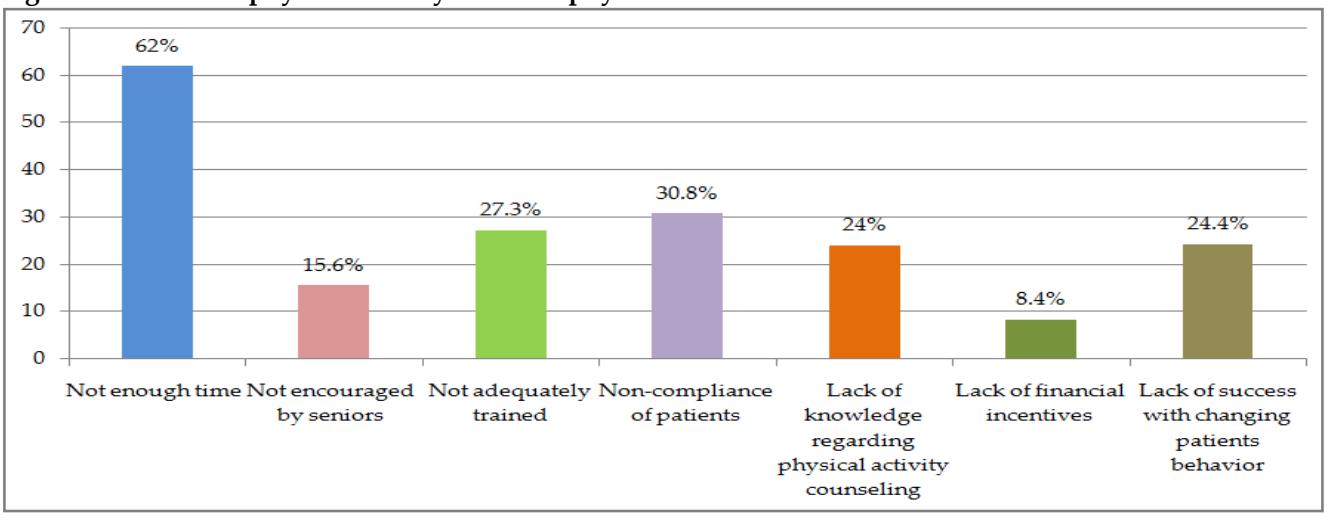

Figure-2: Barriers to physical activity counseling.

Physical activity habits of physicians, their attitude and practices regarding physical activity counseling are presented in table-II.

Counseling practices of physicians were reported adequate by 171 (55.5%) of respondents

Physicians who were active in daily routine had a statistically significant association with physical activity (p=0.01). No statistically significant association was found between self-perceived physical activity and leisure time activities

of physicians with adequate physical activity habits of physicians, table-IV.

DISCUSSION

The study was aimed at understanding the effect of physicians' physical activity habits on their counseling practices regarding physical activity. In leisure time 58.8% of physicians were found inactive as compared to their physical activity level in daily routine like work place, home and while travelling where 55.8% of physicians were active. Main outcome of the study that is physical activity counseling attitude and practices were found to be 49.7% and 44.5%, respectively.

Many reports recommend that physically active of health care providers are expected to deliver healthier, more reliable, and encouraging preventive counseling to their patients[13]. Physicians participated in our study revealed that 41.2% are active in their leisure time and only 49 out of 308 (16%) physicians were doing muscles strengthening exercise, same results were shown in a study conducted by Department of Community Health Sciences, Zia-ud-din University, in three tertiary care hospitals of Karachi where physical therapist and midcareer physicians do not join fitness clubs or gyms for exercising[14].

WHO states that the prevalence of physical inactivity among Pakistani adults, 18+, is 24%[4]. The prevalence of physical inactivity in leisure time and daily routine among physicians is 58.8% and 44.2% respectively which is higher than general population of Pakistan. Study showed that our respondents are more active; 55.8%, in their daily routine like at work place, home and while travelling. As physicians do not have enough time to do leisure-time physical activity because of their highly commitment jobs so they try to compensate in house chores or at workplace to meet the requirement of physical activity to remain fit[14].

Self-reported BMI of physicians in our study were "underweight" 1.9%, "normal" 58.8%, "overweight" 36.7% and "obese" 2.6%. There is a statistical significant association (p=0.000) that physicians who were inactive in their leisure time were also physically inactive in their daily routine like in work place, home or while travelling and vice-versa. The major factors in our study which stop physicians from adopting regular physical activity habits are not having enough time 76%; lack of company 30% and lack of will power 24.4%. A study conducted in Karachi revealed lack of will power 62%, lack of company 61% and shortage of time 53% are the most stated barriers among physicians[14], these contrasting results with our study shows that there are different trends of commitments among physicians in military setup. Lack of resources 11% in our military study as compared to 55% of lack of resources at Khan *et al* study conducted in civil setup[14]. The same barriers were showed in a study by Rao *et al*, lack of time and lack of inspiration and will power in 50% of medical professionals[15]. Another study exposed lack of company, time, financial limits and lack of facilities as a barrier to physical activity[16].

Physical activity counseling by physicians is the most practicable, reasonable and cost-effective way for encouraging general population on physical activity[17]. In our study negative attitude towards physical activity counseling is in 50.3% of physicians whereas, 55.5% of physicians are having adequate physical activity counseling practices. It is also pertinent to mention that in younger physicians and service years less than 14, their attitude towards counseling were more positive (p<0.05). A national study on prevalence of physical activity counseling was conducted in Brazil showed 80% high rates of counseling by physicians but their knowledge regarding physical activity recommendations was very low[12,18].

Self-perceived physically active physicians have statistical significant association with positive attitude towards physical activity counseling and physicians who were more physically activity during work place, home and while travelling are more likely to show positive physical activity counseling attitude and practices (p=0.000). Many experimental studies and cross-sectional surveys established that, there is a

relationship between lifestyle habits of doctors and counseling practices regarding physical activity and physically inactive doctors are risk factor for counseling practices[19].

It is important to mention that when physicians were asked do they set any program or goal for physical activity counseling for their patients 51.3% reported "sometimes", 37.0% said "never" and 58.1% of physicians ask "general questions" about engagement in physical activity. The most reported barriers to physical activity counseling among physicians were not enough time 62.0%, non-compliance of patients 30.8%, lack of training 27.3%, and lack of success with changing patients' behavior 24.4%. In another study lack of time were reported in 50% of general physicians while insufficient educational material and lack of specific trainings to health professionals were the perceived physical activity counseling barriers and 30% of physicians think that patients will be unlikely to be motivated by their counseling[18].

LIMITATION OF STUDY

The present study was limited in the aspect that it measures self-reported activity rather than actual activity. Physicians may be inclined to overestimate their physical activity habits and physical activity counseling practices, because they know the benefits of physical activity and what they should be doing. Nevertheless, the efforts have taken to design the questionnaire in a manner to minimize this possible source of bias.

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CONCLUSION

Counseling by physicians are strongly related to their own health practices, so addressing providers' own health behaviors is key to increase health promotion counseling. Physicians act as a role model and agent of change in any society. They can positively influence patients' health habits by counseling them about prevention and health-promoting behaviors like physical activity. Physician's personal practices influence their clinical counseling attitudes and practices. Subsequently, this could have a large impact on the management and prevention from NCDs in general population. "Physician will hardly be thought very careful of the health of his patients if he neglects his own."(Galen 130–200 A.D)

CONFLICT OF INTEREST

This study has no conflict of interest to be declared by any author.

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