

Physical activity among Saudi Board residents in Aseer region, Saudi Arabia

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Abstract

Background: It is recognized that the health of physicians directly impacts the health of the larger population. Therefore, it is desirable that physicians lead a favorable lifestyle not only for their own health but also in view of their role in providing guidance for patients.

Objective: To assess physical activity among resident physicians in the postgraduate training programs of Saudi Board in Aseer region, KSA.

Materials and Methods: A cross-sectional study was conducted including all Saudi Board residents in Aseer region. Data were collected through a questionnaire developed by the researcher, which included four parts: demographic data, weight and height measurements, smoking history, and physical exercise using General Practice Physical Activity Questionnaire. The researcher met all the respondents and measured their weight and height, then every subject was asked to fill the self-administered questionnaire.

Result: Of 255 invited residents, a response rate of 82.7% was obtained. The mean age of the respondents was found to be 27.9 ± 2.6 years. Almost two-thirds of them (66.8%) were men. Majority of them (96.2%) were Saudis. Overweight and obesity were reported among 36% and 23.2% residents, respectively. Obesity was more significantly reported among male than female resident physicians (31.9% versus 7.1%), $p < 0.001$. Current smoking (with its all types) was reported by 10.4% respondent physicians. Male residents were more significant smokers than female residents (14.3% versus 2.9%), $p = 0.007$. It is evident that physical inactivity and moderate inactivity were reported among 47.9% and 31.8% residents, respectively, whereas physical activity was reported among only 9.5% of them. Female residents reported more physical activity than male residents (17.1% versus 5.7%), $p < 0.001$.

Conclusion: Most of Saudi Board residents in Aseer region were either physically inactive or moderately inactive.

KEY WORDS: Physical activity, resident physicians, smoking, obesity

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Introduction

Lifestyles relate to our ways of “doing,” “having,” “using,” and “displaying,” our behavior and all of the related products, objects, and infrastructures.^[1] It is recognized that the health of physicians directly impacts the health of the larger population, as many studies have established a link between the health behaviors of physicians and their interactions with patients.^[2]

It is desirable that physicians have healthy lifestyle not only for their own health but also in view of their role in providing guidance for patients.^[3] Physicians' personal lifestyle, habits, and health behaviors have been shown to be associated with their prevention-related counseling and screening practices with their patients.^[3–7] In addition, health behaviors among physicians are an important marker of how the public perceives harmful lifestyle behaviors.^[8,9] It has been pointed out that physicians tend to turn a blind eye to their own unfavorable lifestyle habits, and to be less assertive and proactive about providing patients with guidance for a better lifestyle if they are not practicing it themselves.^[3]

Patients look on physicians as good and credible sources of health information,^[10] and they expect dietary advice and guidance that will help them to avoid risk factors and to prevent diseases.^[11]

Despite the well-recognized health benefits of physical activity, Gnanendran *et al.*^[12] showed that doctors often do not counsel patients enough about exercise. At the individual level, clinicians are well positioned to provide patients with effective health advice and counseling about exercise.^[13] Patients view clinicians as a trusted and respected source of health advice regarding physical activity as many patients regularly meet their doctor, allowing for continual and progressive health counseling opportunities about regular physical activity.^[14] A recent study conducted on Australian general practitioners regarding their perceptions and practices of physical activity counseling found that the proportion with high knowledge and confidence in giving physical activity advice has failed to increase over the last 7 years, despite several education initiatives conducted during this period.^[15]

This study aimed to assess the physical activity of resident physicians in the postgraduate training programs of Saudi Board in Aseer region, KSA, as its associated factors.

Materials and Methods

A cross-sectional study was carried out from October 2013 to November 2013 among resident physicians in the training programs to get the Saudi Board in Aseer region. It lies in southwestern part of Kingdom of Saudi Arabia. There are many hospitals in Aseer region. Three hospitals are accredited by Saudi council for health specialties as post-graduate training centers for resident physicians to get the Saudi Board in many specialties. These hospitals are Aseer Central Hospital, Abha General Hospital, and King Fahad Military Hospital. In addition, there are six family medicine training centers in Aseer region.

All resident physicians (255) were invited to participate in the study by completing the study questionnaire. They worked in the following specialties: General Medicine, Pediatrics, Family Medicine, Community Medicine, Radiology, General Surgery, Orthopedics, Urology, Dermatology, Obstetrics and Gynecology, and Otorhinolaryngology.

A self-administered questionnaire divided into four parts was applied for data collection. It included demographic data

(age, gender, marital status, nationality, residency level, and specialty), weight, and height measurements (weight and height were measured by the researcher and filled in the questionnaire). Weight was measured by electronic valid machine in kilograms. It was measured as the subject wears the ordinary clothes. Extra clothes were removed before measurements. Height was measured by valid machine in meters. Footwear was removed before measurement. Body mass index (BMI) assesses the body weight relative to height. It was calculated as weight in kilograms divided by height in meters squared, rounded to one decimal place. Obesity in adults was defined as BMI greater than or equal to 30 kg/m², whereas BMI from 25 to 29.9 kg/m² was considered overweight, BMI from 18.5 to 24.9 was considered normal, and BMI < 18.5 kg/m² was considered underweight.^[16] Smoking habit was assessed, physical exercise was assessed using General Practice Physical Activity Questionnaire (GPPAQ), which is developed by the London School of Hygiene and Tropical Medicine as a validated short measure of physical activity.^[17] The GPPAQ is a validated screening tool that is used to assess adult (16–74 years) physical activity levels. It provides simple, four-level Physical Activity Index categorizing subjects to one of the following categories: inactive, moderately inactive, moderately active, and active.

Before conducting the study, informed consent was taken from all participants, then all participants had the right not to participate in the study or to withdraw from the study before completion. The researcher explained the purpose of the study to all respondents. Confidentiality and privacy were guaranteed for all participants.

The Statistical Package for Social Sciences (SPSS) software, version 20.0, was used for data entry and analysis. Descriptive statistics (e.g., number, percentage, mean, range, and standard deviation) and analytic statistics using χ^2 -test were applied. *p*-Value of <0.05 was considered to be statistically significant.

Results

The total number of the resident physician invited to participate in the study was 255; of them, 211 responded by returning completed questionnaire giving a response rate of 82.7%.

In Table 1, most of residents (76.3%) were in the age group of 26–30 years. Their mean \pm SD age was 27.9 \pm 2.6 years. Almost two-thirds of them (66.8%) were men. Majority of them (96.2%) were Saudis. More than half of them (53.6%) were married. Almost a third of them (30.8%) were in the first residency level whereas 17.6% were in the fourth residency level. More than a quarter of them (28.0%) were specialized in family medicine whereas 17.1% and 15.2% were specialized in internal medicine and pediatrics, respectively.

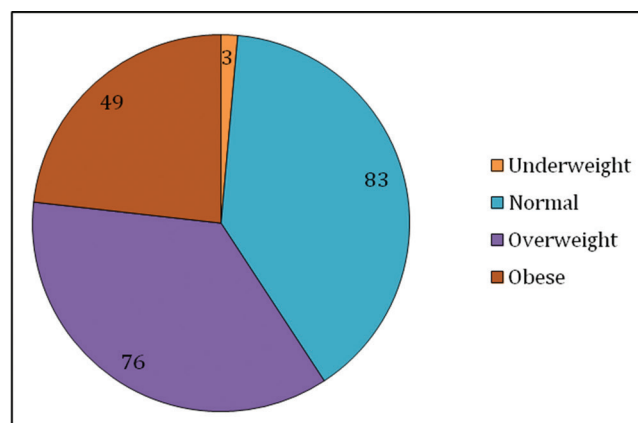
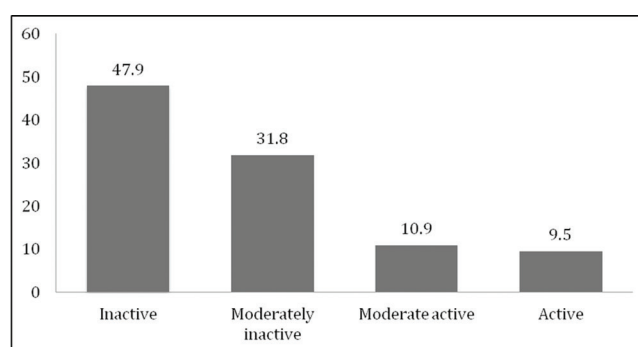
As clear from Figure 1, overweight and obesity were reported among 36% and 23.2% residents, respectively. From Figure 2, it is evident that physical inactivity and moderate inactivity were reported among 47.9% and 31.8% residents, respectively, whereas physical activity was reported among only 9.5% of them.

Table 1: Personal characteristics of Saudi Board residents, Aseer region, KSA, 2013

Personal characteristics	Frequency (<i>n</i> = 211)	Percentage
Age (years)		
≤25	28	13.3
26–30	161	76.3
>30	22	10.4
Range	23–40	
Mean ± SD	27.9 ± 2.6	
Gender		
Male	141	66.8
Female	70	33.2
Nationality		
Saudi	203	96.2
Non-Saudi	8	3.8
Marital status		
Single	98	46.4
Married	113	53.6
Residence level		
First	65	30.8
Second	61	28.9
Third	48	22.7
Fourth	37	17.6
Specialty		
Family Medicine	59	28.0
Internal Medicine	36	17.1
Pediatrics	32	15.2
General Surgery	15	7.0
Orthopedics	13	6.2
Radiology	12	5.7
Otolaryngology	11	5.2
Community Medicine	10	4.7
Dermatology	9	4.3
Urology	8	3.8
Obstetrics and Gynecology	6	2.8

The associations between physical activity and personal characteristics of residents of Saudi Board in Aseer region are presented in Table 2. Female residents reported more physical activity than male residents (17.1% versus 5.7%). This difference was statistically significant, $p < 0.001$. Regarding specialty, the highest rate of physical activity was reported among radiology residents (25%) followed by internal medicine and family medicine residents (13.9% and 13.6%, respectively) compared to none of residents of community medicine, general surgery, urology, otolaryngology, and obstetrics and gynecology. These differences were statistically significant, $p = 0.029$. Resident's age, nationality, marital status, and residency level were not significantly associated with physical activity.

Table 3 shows that almost a third of physically inactive residents (33.7%) were obese compared to 4.3% of those moderately active residents and none of those physically active residents. This difference was statistically significant, $p = 0.001$.

**Figure 1:** Distribution of BMI among Saudi Board residents in Aseer region, KSA, 2013.**Figure 2:** Physical activity of Saudi Board residents in Aseer region, KSA, 2013.

Discussion

This study examined physical activity behavior among Saudi Board residents in Aseer Region. Evidence suggests that the level of physical activity of physicians can be correlated directly with physician counseling patterns about this behavior.^[18] In this study, more than 47% of participated resident physicians were physically inactive and further more than 31% were moderately inactive. This rate is higher than that found in the National United States survey (Behavioral Risk Factor Surveillance System), which showed that 26% adults reported no moderate or vigorous activity in a usual week.^[19] In another similar study conducted among American physicians,^[20] more than 35% of their sample reported not exercising at all or getting only occasional exercise. In a representative cross-sectional Web-based American survey, which included attending physicians, residents, and fellow physicians and medical students, conducted in June 2009 to January 2010 throughout the USA ($N = 1949$), attending physicians and medical students were more likely than resident and fellow physicians to meet physical activity guidelines.^[18]

Table 2: Association between physical activity and personal characteristics of residents of Saudi Board in Aseer Region, KSA, 2013

Personal characteristics	Physical activity				χ^2 (p-value)
	Inactive N (%)	Moderately inactive N (%)	Moderately active N (%)	Active N (%)	
Age (years)					
≤25 (n = 28)	13 (46.4)	8 (28.6)	2 (7.1)	5 (17.9)	10.65
26–30 (n = 158)	78 (48.4)	53 (32.9)	15 (9.3)	15 (9.3)	(0.100)
>30 (n = 22)	10 (45.5)	6 (27.3)	6 (27.3)	0 (0.0)	
Gender					
Male (n = 141)	83 (58.9)	40 (28.4)	10 (7.1)	8 (5.7)	24.42
Female (n = 70)	18 (25.7)	27 (38.6)	13 (18.6)	12 (17.1)	(<0.001)
Nationality					
Saudi (n = 203)	98 (48.3)	63 (31.0)	22 (10.8)	20 (9.9)	1.87
Non-Saudi (n = 8)	3 (37.5)	4 (50.0)	1 (12.5)	0 (0.0)	(0.601)
Marital status					
Single (n = 98)	47 (48.0)	32 (32.7)	11 (11.2)	8 (8.2)	0.40
Married (n = 113)	54 (47.8)	35 (31.0)	12 (10.6)	12 (10.6)	(0.941)
Residence level					
First (n = 65)	29 (44.6)	23 (35.4)	6 (9.2)	7 (10.8)	
Second (n = 61)	36 (59.0)	18 (29.5)	3 (4.9)	4 (6.6)	8.16
Third (n = 47)	21 (43.8)	14 (29.2)	8 (16.7)	5 (10.4)	(0.519)
Fourth (n = 35)	15 (40.5)	12 (32.4)	6 (16.2)	4 (10.8)	
Specialty					
Internal Medicine (n = 35)	15 (41.7)	10 (27.8)	6 (16.7)	5 (13.9)	
Pediatrics (n = 32)	15 (46.9)	13 (40.6)	2 (6.3)	2 (6.3)	
Family Medicine (n = 59)	27 (45.8)	18 (30.5)	6 (10.2)	8 (13.6)	
Dermatology (n = 9)	4 (44.4)	3 (33.3)	1 (11.1)	1 (11.1)	
Radiology (n = 12)	6 (50.0)	1 (8.3)	2 (16.7)	3 (25.0)	
Community Medicine (n = 10)	8 (80.0)	2 (20.0)	0 (0.0)	0 (0.0)	
General Surgery (n = 15)	2 (13.3)	12 (80.0)	1 (6.7)	0 (0.0)	
Orthopedics (n = 13)	10 (76.9)	1 (7.7)	1 (7.7)	1 (7.7)	
Urology (n = 8)	4 (50.0)	2 (25.0)	2 (25.0)	0 (0.0)	46.33
Otolaryngology (n = 11)	8 (72.7)	3 (27.3)	0 (0.0)	0 (0.0)	(0.029)
Obstetrics and Gynecology (n = 6)	2 (33.3)	2 (33.3)	2 (33.3)	0 (0.0)	

Three underweight cases were excluded from statistical analysis.

Among strengths of this study is its unique nature in our society as well as the relatively high response rate (82.7%). A response rate of less than 50% reported among different studies conducted among physicians.^[5,6,21] This high response rate can probably be ascribed to the researcher himself in personal contact with the physicians as well as to the

explanation of the purpose of the study, scientific importance, and value of the study to them.^[22]

These results are not without limitations. First, this study was based on self-report, where responses regarding socially undesirable behaviors may be understated. Second, although our sample closely reflected the gender distribution

Table 3: Association between physical activity and body mass index among Saudi Board residents in Aseer region, KSA, 2013

Physical activity	Body mass index		
	Normal N (%)	Overweight N (%)	Obese N (%)
Inactive (n = 98)	32 (32.6)	33 (33.7)	33 (33.7)
Moderately inactive (n = 67)	27 (40.3)	25 (37.3)	15 (22.4)
Moderately active (n = 23)	16 (69.6)	6 (26.1)	1 (4.3)
Active (n = 20)	8 (40.0)	12 (60.0)	0 (0.0)

$\chi^2 = 22.9$, $p = 0.001$.

of resident physicians in Aseer region, the number of female respondents in our sample limited the generalizability of the study. Third, this study was cross-sectional and limited the ability to make causal inference among health-related lifestyle, and health-risking behaviors. Finally, further extension of this study is recommended, and could examine the impact of type of practice and specialty on obesity and its associated risk factors.

Conclusion

Conclusively, most of Saudi Board residents in Aseer region were inactive, particularly male residents, otolaryngology physicians, and orthopedics. Therefore, sedentary lifestyles among resident physicians should be modified to maintain their optimal health status.

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