

Original Research Article

The prevalence of physical activity and perceived barriers among health care professionals in Gaza Strip/Palestine

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ABSTRACT

Background: Physical inactivity is public health problem in the world, it has been estimated that physical inactivity one of the main risk factors for worldwide mortality, and related to more than five million deaths annually. The present study aimed to determine the prevalence of physical activity (PA) among Palestinian healthcare professionals and the main perceived barriers toward the practice of PA.

Methods: A cross-sectional, snowball sampling technique, an online questionnaire was employed among healthcare professionals. The main perceived barriers to adherence to PA were assessed by the CDC questionnaire, adherence level assessed based on the World Health Organization (WHO) recommendations. Statistical analysis was performed using statistical package for the social sciences (SPSS) version 22.

Results: There were 400 healthcare professionals included in the study, 17% were physicians, 43% were nurses, around 19% were lab-technicians, around 12% were X-ray-technicians, and around 9% were physiotherapists. Their mean (SD) age 32.6 (\pm 8.4) years. Only 13.5% of the study participants reported that they were adherence to the practice of physical activity, the prevalence of regular physical activity among different healthcare professionals' disciplines were reported as 6.5% for X-ray-technicians, 10.7% for lab-technicians, 11.8% for physicians, 16.1% for nurses, and 18.9% for physiotherapist. The main reasons for being inactive were lack of energy, lack of willpower, lack of time, and lack of resources.

Conclusions: The healthcare professional's adherence to physical activity is suboptimal. Varied implementation strategies targeting the barriers are extremely required, public authorities should enhance the access to physical activity infrastructure, and reinforce the change toward healthy behaviors.

Keywords: Physical activity, Prevalence, Barriers, Healthcare professionals

INTRODUCTION

Physical activity defined (PA) as anybody movement produced by skeletal muscles that need energy spending – inclusive of actions take on working, playing, running home chores, traveling, and involving in recreational pursuits, the regular PA has marked usefulness for health.¹ The World Health Organization (WHO) recommended the minimum level of PA for adults aged 16-64 as follows: 150

minutes of moderate-intensity aerobic PA per week, or 75 minutes of vigorous-intensity aerobic PA per week, or an equivalent combination of moderate- and vigorous-intensity activity.² Currently, non-communicable diseases (NCDs) account for almost two-thirds of deaths globally.³ Besides, PA has an important role to prevent and control NCDs.¹ It has been estimated that the lack of PA one of the main risk factors for worldwide mortality.¹ The lack of PA is related to more than five million deaths annually.⁴ These

days, the Palestinian population has witnessed a notable change in lifestyles, nutritional behaviors, and environmental surroundings.⁵ The change in lifestyles leads to increasing the burden of NCDs such as cardiovascular diseases (CVDs), cancers, and diabetes, these diseases account for majority of deaths from NCDs in Palestine.^{6,7} The WHO estimated that more than 30% of the worldwide population and between 30% to 70% among the Eastern Mediterranean region (EMRO) countries including Palestine doesn't attend the minimum level of recommended PA.⁸

There was limited information about PA levels among Palestinian adults.⁹ A study conducted among Palestinian adolescents aged 13-17 years demonstrated that only 9.8% of respondents claimed that they were attended regular physical activity all week days.¹⁰ WHO emphasizes that PA must be an essential public health goal and placed a goal to reduce the lack of physical activity by 10% by 2025.^{1,11,12} The health care providers are a valuable source for counseling on healthy behaviors including PA especially for NCDs patients and usually recognized as role models for behaviors., previous studies demonstrated that health care providers' habits in PA may be a considerable factor influencing healthy behaviors counseling, the inactive health providers less interested to provide counseling on healthy behaviors.^{13,14}

Globally, health organizations, trained their health care providers to counsel on healthy behaviors for patients including PA.^{15,16} In Gaza Strip, the Palestinian ministry of health (MOH) trained their health care providers to counsel on healthy behaviors especially in primary healthcare centers 'including PA for NCDs patients.¹⁷ The Practice of healthy behaviors including regular PA among health care providers could promote the counseling of healthy behaviors for their patients and the patients practicing PA.^{15,16,18} The present study aimed to determine the prevalence of PA among Palestinian healthcare professionals and the main perceived barriers toward the practice of PA.

METHODS

Study designs and settings

This cross-sectional used snowball sampling techniques, the study was employed among different healthcare professionals from 15 August to 15 September 2020, an online questionnaire spread through the internet, using free Google form. Ten healthcare professionals were initially identified (two physicians, two nurse, two lab-technician, two x-ray technician, and two physiotherapist), all of them are agreed and willing to participate in the study, and each one asked to identify more cases from their discipline eligible to including and excluded criteria. This process is continued until 400 cases were identified. Online consent forms were obtained before complete the questionnaire, participants were informed that participation in the study

is voluntary, and confidentiality and anonymity of the information were confirmed.

Including criteria

The target population was the different healthcare professionals working in primary healthcare centers or hospitals in the Gaza Strip with a minimum one-year of working experience.

Excluding criteria: healthcare professionals working in primary healthcare centers or hospitals in the Gaza Strip with less than one-year of working experience and pregnant, lactating women, and cases with serious illness.

Sample size and sampling

The traditional equation (Cochran) was used to calculate the sample size, the estimated sample size according to the equation is 384 cases, with a margin of error of 5% and confidence level of 95%. Besides, the sample size was increased to 400 cases.¹⁹

Study instrument

Data were collected by self – administrated questionnaire. The preliminary questionnaire consists of seven items to assess the health-care professionals' demographic and background and one question to assess the prevalence of physical activity among health-care professionals derived from the WHO recommendation of PA for adults. The main perceived barriers to adherence to PA were assessed by the CDC website questionnaire, which consists of 21 items to assess the barriers to PA, a 4-points Likert scale was used for response categories (very likely=3, somewhat likely=2, somewhat unlikely=1, very unlikely=0), the barriers were classed into seven perceived barriers, for each perceived barrier there were three interrelated questions, the scores of the three interrelated questions ranged from 0-9.²⁰ A score of 5/9 or more in any perceived barrier class is considered as a barrier to PA. The cross-cultural guideline process was employed in the translation of the questionnaire.²¹ Face and content validity were checked for the final Arabic draft questionnaire, Minor changes in the language and the construction did. Then, the questionnaire was piloted among 30 of the eligible Health care professionals, the results of the pilot study showed a good overall Cronbach's alphas of 0.82.

Data analysis

The statistical package for the social sciences (SPSS) software version 22 was used for the statistical analysis. The characteristics of the sample were described by descriptive statistics. Frequencies and percentages were used to describe categorical variables, whereas the means and standard deviations (SD) were used to represent continuous variables. Chi-square and Fisher's exact tests were used for analysis. P values of less than 0.05 were considered as statistically significant.

Ethical approval

The study protocol was approved by the Palestinian Health Research Council (Helsinki Ethical Committee). Moreover, an online informed consent was also obtained from each participant.

RESULTS

Characteristics of the study participants

The characteristics of the study participants are summarized in Table 1. There were 400 healthcare professionals included in the study, 17% were physicians, 43% were nurses, around 19% were lab-technicians, around 12% were X-ray-technicians, and around 9% were physiotherapists. Their mean (SD) age 32.6 (±8.4) years. More than half of the participants (58.8%) were males, (60.5%) had a bachelor degree, less than one-third of the study participants (27%) were single, majority of them (83%) working in hospitals compared to primary healthcare centers (17%), and about two-thirds of them (76%) working in different shift work patterns.

Prevalence of PA

The prevalence of the practice of physical activity among the healthcare professionals’ participants in the study is summarized in Table 2. Only 13.5% of the study participants reported that they were adherence to the practice of physical activity according to WHO recommendations. With 14.9% for males and 11.5% for females. The prevalence of regular physical activity among different healthcare professionals’ disciplines were reported as 6.5% for X-ray-technicians, 10.7% for lab-technicians, 11.8% for physicians, 16.1% for nurses, and 18.9% for physiotherapist. Besides, the prevalence of physical inactive was 38.5%, with 35.7% for males and 42.4% for females. The prevalence of physical inactive among different healthcare professionals’ disciplines were reported as 44.1% for physicians, 42.7% for lab-technicians, 41.3% for X-ray-technicians, 35.1% for physiotherapist, and 34.5% for nurses.

The perceived barriers to adherence to physical activity among healthcare professionals

Table 3 demonstrated that the main reason for being inactive was lack of energy (81%), which was significantly

higher among females healthcare professionals compared to males, and also among healthcare professionals working in primary healthcare centers compared to healthcare professionals working in hospitals. The lack of willpower was ranked as the second barrier to being active (73%). The lack of time ranked as a third barrier to being active (72.8%). The lack of resources was ranked as a fourth barrier to being active (60.3%), which was statistically significantly higher among married healthcare professionals, healthcare professionals working in hospitals, and healthcare professionals working in different shift patterns.

Table 1: Characteristics of the study participants.

Variables	Participants (n=400)	Percentage (%)
Gender		
Male	235	58.8
Female	165	41.3
Age (mean±SD:32.6±08.4) (years)		
≤30	219	54.8
31-50	168	42.0
>50	13.0	03.3
Marital status		
Single	108	27.0
Married	245	61.3
Widowed or divorced	47.0	11.8
Education level		
Diploma	95.0	23.8
Bachelor	242	60.5
Postgraduate	63.0	15.8
Specialization		
Medicine	68.0	17.0
Nursing	174	43.0
Lab-technician	75.0	18.8
X-ray-technician	46.0	11.5
Physiotherapist	37.0	9.3
Workplace		
Hospital	332	83.0
Primary healthcare center	68.0	17.0
Work pattern		
Day shift only	96.0	24.0
Different shifts patterns (day or night)	304	76.0

Table 2: Sociodemographic characteristics by level of physical activity.

Sociodemographic characteristics	Regular physical activity		Irregular physical activity		Physical inactive	
	No.	%	No.	%	No.	%
Total (n=400)	54.0	13.5	192	48.0	154	38.5
Gender						
Male (n=235)	35.0	14.9	116	49.4	84.0	35.7
Female (n=165)	19.0	11.5	76.0	46.1	70.0	42.4
$\chi^2=2.16, 0.339$						

Continued.

Sociodemographic characteristics	Regular physical activity		Irregular physical activity		Physical inactive	
	No.	%	No.	%	No.	%
Age (years)						
≤30 (n=219)	34.0	15.5	114	52.2	71.0	32.4
31-50 (n=168)	19.0	11.3	73.0	43.5	76.0	45.2
>50 (n=13)	01.0	07.7	05.0	38.5	07.0	53.8
$\chi^2=7.90, 0.083$						
Marital status						
Single (n=108)	15.0	13.9	56.0	51.9	37.0	34.3
Married (n=245)	33.0	13.5	113	46.1	99.0	40.4
Widowed or divorced (n=47)	06.0	12.8	23.0	48.9	18.0	38.3
$\chi^2=1.29, 0.863$						
Education level						
Diploma (n=95)	10.0	10.5	46.0	48.4	39.0	41.1
Bachelor (n=242)	33.0	13.6	113	46.7	96.0	39.7
Postgraduate (n=63)	11.0	17.5	33.0	52.4	19.0	30.2
$\chi^2=3.08, 0.544$						
Specialization						
Medicine (n=68)	08.0	11.8	30.0	44.1	30.0	44.1
Nursing (n=174)	28.0	16.1	86.0	49.4	60.0	34.5
Lab-technician (n=75)	08.0	10.7	35.0	46.7	32.0	42.7
Xray-technician (n=46)	03.0	06.5	24.0	52.2	19.0	41.3
Physiotherapist (n=37)	07.0	18.9	17.0	45.9	13.0	35.1
$\chi^2=6.20, 0.625$						
Workplace						
Hospital (n=332)	46.0	13.9	156	47.0	130	39.2
Primary healthcare center (n=68)	08.0	11.8	36.0	52.9	24.0	35.3
$\chi^2=2.818, 0.664$						
Work pattern						
Day shift only (n=96)	14.0	14.6	50.0	52.1	32.0	33.3
Different shift patterns (day or night)/ (n=304)	40.0	13.2	142	46.7	122	40.1
$\chi^2=1.42, 0.491$						

Table 3: Characteristics of the study participants in relation to barriers toward practice of physical activity.

Barriers	Lack of time		Lack of social support		Lack of energy		Lack of willpower		Fear of injury		Lack of skill		Lack of resources	
	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Variables	No	%	No	%	No	%	No	%	No	%	No	%	No	%
Total (n=400)	291	72.8	142	35.5	324	81.0	292	73.0	59.0	14.8	99.0	24.8	241	60.3
Gender														
Male (n=235)	163	69.4	82.0	34.9	177	75.3	176	74.9	32.0	13.6	62.0	26.4	145	61.7
Female (n=165)	128	77.6	60.0	36.4	147	89.1	116	70.3	27.0	16.4	37.0	22.4	96	58.2
P value	0.069		0.762		0.001		0.309		0.467		0.366		0.415	
Age														
≤ 30 years (n=219)	156	71.2	67.0	30.6	181	82.6	156	71.2	29.0	13.2	56.0	25.6	126	57.5
31 to 50 years (n=168)	124	73.8	72.0	42.9	131	78.0	125	74.4	28.0	16.7	38.0	22.6	107	63.7
>50 years (n=13)	11.0	84.6	03.0	23.1	12.0	92.3	11.0	84.6	2.0	15.4	5.0	38.5	8.0	61.5
P value	0.593		0.028		0.348		0.538		0.646		0.378		0.385	
Marital status														
Single (n=108)	78.0	72.2	32.0	29.6	92.0	85.2	73.0	67.6	13.0	12.0	20.0	18.5	54.0	50.0
Married (n=245)	178	72.7	94.0	38.4	195	79.6	183	74.7	41.0	16.7	68.0	27.8	157	64.1
Widowed or divorced (n=47)	35.0	74.5	16.0	34.0	37.0	78.7	36.0	76.6	05.0	10.6	11.0	23.4	30.0	63.8
P value	0.958		0.280		0.427		0.322		0.346		0.175		0.031	

Continued.

Barriers	Lack of time		Lack of social support		Lack of energy		Lack of willpower		Fear of injury		Lack of skill		Lack of resources	
Education level														
Diploma (n=95)	73.0	76.8	51.0	53.7	80.0	84.2	62.0	65.3	23.0	24.2	33.0	34.7	67.0	70.5
Bachelor (n=242)	176	72.7	66.0	27.3	196	81.0	180	74.4	27.0	11.2	49.0	20.2	138	57.0
Postgraduate (n=63)	42.0	66.7	25.0	39.7	48.0	76.2	50.0	79.4	09.0	14.3	17.0	27.0	36.0	57.1
P value	0.372		0.001		0.453		0.110		0.011		0.019		0.074	
Specialization														
Medicine (n=68)	45.0	66.2	21.0	30.9	52.0	76.5	56.0	82.4	05.0	07.4	15.0	22.1	39.0	57.4
Nursing (n=174)	124	71.3	65.0	37.4	137	78.7	117	67.2	30.0	17.2	45.0	25.9	113	64.9
Lab-technician (n=75)	57.0	76.0	20.0	26.7	63.0	84.0	60.0	80.0	10.0	13.3	16.0	21.3	42.0	56.0
Xray-technician (n=46)	36.0	78.3	21.0	45.7	40.0	87.0	34	73.9	10.0	21.7	15.0	32.6	28.0	60.9
Physiotherapist (n=37)	29.0	78.4	15.0	40.5	32.0	86.5	25.0	67.6	04.0	10.8	08.0	21.6	19.0	51.4
P value	0.498		0.204		0.447		0.078		0.185		0.632		0.413	
Workplace														
Hospital (n=332)	235	70.8	117	35.2	261	78.6	241	72.6	52.0	15.7	86.0	25.9	214	64.5
Primary health center (n=68)	56.0	82.4	25.0	36.8	63.0	92.6	51.0	75.0	07.0	10.3	13.0	19.1	27.0	39.7
P value	0.051		0.811		0.007		0.683		0.248		0.237		0.001	
Work pattern														
Day shift only (n=96)	73.0	76.0	36.0	37.5	80.0	83.3	73.0	76.0	11.0	11.5	19.0	19.8	43.0	44.8
Different shift patterns (n=304)	218	71.7	106	34.9	244	80.3	219	72.0	48.0	15.8	80.0	26.3	198	65.1
P value	0.406		0.639		0.504		0.441		0.287		0.197		0.001	

DISCUSSION

To the best of our knowledge, the present study is one of the few studies that assessed the physical activity among the Palestinian community. Regular physical activity has marked usefulness for physiological and psychological health, has an important role to prevent and control NCDs, and obesity.^{1,22-25} In the present study, only 13.5% of the study participants reported that they were adherence to the practice of physical activity, which a much lower than other countries, A studies conducted in Nigeria demonstrated that healthcare professionals adherence to recommended physical activity ranged from 20.8% to 38.1%.^{26,27} A recent study conducted among Saudi Arabia physicians demonstrated that 21.4% had more than 3 days of PA.²⁸ In Egypt, 16% of physicians reported that they physically active compared to 29% in Bahrain, a study conducted in Australia showed that 70% of physicians and medical students regular practicing of physical activity based on the national guidelines.²⁹⁻³¹

The present study demonstrated that around half (48%) of healthcare professionals practicing irregular physical activity, which a much lower than the study conducted in Saudi Arabia that presented (65.2%) of primary healthcare Physicians do a moderate to vigorous physical activities,¹⁸ and a much higher than a study conducted in Nigeria presented that (9.7%) of healthcare professionals do a moderate level of physical activity.²⁶

The study found that (38.5%) of healthcare professionals were physically inactive, which higher than the study

conducted in Saudi Arabia that presented 34.8% of physicians were physically inactive.¹⁸ The study findings suggest that Palestinian healthcare professionals have a lower level of physical activity compared to neighbors' countries. Although, the nurses were the lowest reported percentage of physically inactive compared to other professionals disciplines , there were none statistically significant difference found among different health professional disciplines, which consistent with a study in Nigeria, and other study conducted in Croatia that demonstrated physicians and nurses equally to physical inactive, besides, a study conducted among polish health personnel demonstrated that physicians were physically inactive compared to nurses and other health professionals.^{26,32,33}

The main perceived barriers to being active were lack of energy, the lack of willpower, the lack of time, and lack of resources. The lack of energy was reported as the first barrier, which was significantly higher among females healthcare professionals compared to males, our study finding consistent with studies conducted in Saudi Arabia and Greece revealed females physically inactive compared to males.^{28,34,35}

Another study conducted in Saudi Arabia demonstrated that females more active than males.³⁶ There was limited evidence that explains the difference in physical activity behaviour among males and females. There were previous studies reported that lack of energy, lack of willpower, lack of time, and lack of resources as the main perceived barriers to being active.²⁸

The lack of willpower was reported as the second barrier to being active, it is easy to find justifications not to practice exercise, lack of willpower is a consequence of lack of self-motivation.³⁷ The lack of time was reported as the third barrier to being active. A study conducted in Saudi Arabia among medical students demonstrated that lack of time as the main perceived barrier to being active.³⁸ It should be suggested to analyze the healthcare professionals' long work hours and workloads. The lack of resources was reported as the fourth barrier to being active. In Saudi Arabia, the lack of resources was reported the main perceived barrier to be active among women.³⁹ The possible explanation for the lack of resources that, Gaza Strip since 2007 under siege which influencing all aspects of life, it is difficult for people facing these challenges to join a club or buy suitable equipment for attending PA.

The health care providers are a valuable source for counseling on healthy behaviors and usually recognized as role models for behaviors., previous studies demonstrated that health care providers' habits in physical activity may be a considerable factor influencing the healthy behaviors counseling, the inactive health providers less interested to provide counseling on healthy behaviors.^{13,14} Practice of healthy behaviors including regular physical activity among health care providers could promote the counseling of healthy behaviors for their patients and in the whole population.^{15,16,18,40}

A possible limitation of the study is the snowball sampling technique, which could lead to selection bias, and only healthcare professional who access the internet had the opportunity to participate in the study, as well as, the small sample size can be also one of the limitations of our study. Despite that, our study provides preliminary results about the prevalence of PA and the main perceived barriers among healthcare professionals in the Palestinian context.

CONCLUSION

The healthcare professional's adherence to physical activity is suboptimal. Varied implementation strategies targeting the main barriers are extremely required to increase public awareness of physical activity and healthy lifestyle benefits, public authorities should enhance the access to physical activity infrastructure, and to reinforce the change toward healthy behaviors. Further investigations to assess the prevalence of PA and main perceived barriers among the Palestinian community are strongly recommended.

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