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Motivators and Barriers to Physical Activity among Healthcare Providers in Karbala City

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Abstract

Background: Lack of physical activity is an important element for non-communicable diseases and early death. It is vital to increase physical activity levels among healthcare professionals. The aim of the study is to assess physical activity motivators and barriers to physical activity among health providers in Karbala City, Iraq.
Methods: A descriptive cross-sectional study examined physical activity levels and motivations among 800 healthcare professionals in Karbala City, Iraq in 2023. A simple random sample was drawn from selected hospitals and primary care centers in Karbala. The Arabic short form of the International Physical Activity Questionnaire "IPAQ" was used to measure physical activity levels. Demographic characteristics, percentages and frequencies were computed. Mann-Whitney U and the Kruskal-Wallis H tests were used to examine the association between activity levels and socio-demographics. A P-value less than 0.05 was considered significant.
Results: Approximately one-third (33.6%) of healthcare professionals were classified as physically inactive. The "Inactive" category had a mean age of 33.79 years, with 36.9% males and 31.0% females falling into this category. There was no significant difference in activity categories by age, gender, or job title of healthcare workers. Key motivators were intrinsic factors like accomplishment, experience stimulation, and knowledge. Fear of injury was the highest barrier 85.8%, followed by lack of skill 80.6%, and social influences 73.5%.
Conclusion: High rates of physical inactivity among healthcare professionals highlight the need for targeted workplace strategies, leveraging intrinsic motivation and addressing barriers around skills, environment, and safety concerns.
Keywords: Karbala, healthcare providers, physical activity, motivators, barriers
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Introduction

Regular physical activity, which includes activities like walking, cycling, wheeling, playing sports, or engaging in active recreation has been identified as one of the most significant factors in improving health [1]. Physical inactivity, on the other hand, is recognized as an important risk factor for noncommunicable disease comorbidity [2]. People with physically inactive have a 20 to 30 percent higher risk of dying prematurely compared to those who engage in adequate levels of activity [3]. Physical inactivity was recognized as a risk factor in the Global Burden of Disease (GBD) study, accounting for roughly 1.3 million deaths (17 deaths per 100,000 inhabitants) in those aged 25 and up [4]. In Iraq, non-cardiac diseases (NCDs) account for around 67% of all deaths; furthermore, 40% of males and 65% of Iraqi adults aged 18-70 years are physically inactive [2]. Various factors, including geographical area, profession and Lack of time, workplace circumstances, modern transportation, and personal traits, can affect how often healthcare employees engage in regular physical activity [5-6].

Recognizing the benefits of physical activity for workers, offering resources, and providing support to promote regular exercise are crucial for healthcare organizations and institutions. This can involve allowing access to exercise facilities, encouraging active breaks throughout shifts, and establishing an environment that values and promotes the well-being of healthcare professionals.

As far as we are aware, no prior research has been conducted to evaluate the physical activity patterns of healthcare professionals in Karbala City. This study can be used to help Karbala City's healthcare

providers create a program that will promote physical activity participation and adherence. The objectives of this qualitative study are; to determine the levels of physical activity among healthcare providers in Karbala City, to determine the factors that promote or discourage physical activity, and to investigate the possible association of physical activity levels with Socio-demographic characteristics of the study participants.

Materials and Methods

Setting and study design:

A descriptive cross-sectional study with some analytic elements was conducted among 800 healthcare providers working at Karbala Health Directorate. Data were collected from June 2023 to August 2023.

Targeted population: There are eight hospitals in Karbala Health Directorate and four primary health care sectors. The authors selected five hospitals and two primary healthcare sectors as well as one specialized center. The selected hospitals were Imam Hussein Medical City, AL-Hassan AL-Mujtaba Hospitals, Al Hindiya General Hospital, Gynecology and Obstetrics Hospital, and Karbala Teaching Hospital for Children. The primary healthcare sectors were the AL-Markaz Center, AL Husseinia Sector, and Specialized Dental Center.

Case Definition: All healthcare providers (medical, health, technical or administrative healthcare personnel) of Karbala Health Directorate of both gender who agree to participate in the study.

Moderate physical activities is referred to as any activity that causes a moderate rise in heart rate, breathing rate, and perspiration that lasts for at least ten minutes. This corresponds to 3-6 metabolic equivalents (MET) according to the physical activity compendium [7].

Vigorous physical activities is referred to activity that produce significant rise in heart beating, increased breathing rate, and perspiration for at least 10 min duration. The MET metabolic equivalent value is above 6 [7].

Evaluation of Physical Activity Motivations: Motivations for physical activity was evaluated using the Arabic version of the Sports Motivational Scale SMS28 [8]. It was developed to measure adult physical activity motivation.

Evaluation of Physical Activity Barriers: Physical activity barriers were evaluated using a CDC questionnaire “Barriers to Being Active” [9].

Sampling: A simple random sample was drawn from each health institute of Karbala Health Directorate of both genders who agreed to participate in the study. Those with chronic illness, disabilities, and pregnant women were excluded from the study. The data was collected through a structured questionnaire which was prepared by the authors of this study. The questionnaire included some socio-demographic data (gender, age, job title) and questions on three areas of PA.

Physical Activity Assessment:

The Arabic short form of the International Physical Activity Questionnaire “IPAQ”, was used to measure physical activity [10]. Seven items that provide information about the amount of time spent engaging in walking, vigorous, and moderate physical activity over the previous seven days were included in the short form of the IPAQ that was used in this study; frequency (estimated in days per week) and duration (time per day) were obtained separately for each activity. Evaluation of Physical Activity Barriers included twenty one questions on seven barriers (lack of social support, lack of willpower, lack of energy, lack of time, lack of skill, lack of resources, and , fear of injury) [9].

Subjects who fit inclusion criteria received a 3-part questionnaire. The first part explained the study and asked for key demographic information and physical activity data using a standardized scale "The International Physical Activity Questionnaire-Short Form". The second part included the SMS28 in Arabic to assess motivations. The third part asked about factors that could potentially prevent physical activity participation, with directions about how to rate response. Subjects were informed to complete the questionnaires privately. It was clearly explained to them that there were no wrong or right answers, confidentiality of answers, and they have the option to leave the study at any time.

Scoring protocol for IPAQ:

Using participants' answers, physical activity score can be represented by continuous (measured in MET-min per week) or categorical score, which comprises three different levels.

Category 1: Low physical activity

Represents minimal degree physical activity. Participants who do not fulfill criteria for Categories moderate or high are classified as having low or inactive status.

Category 2: Moderate physical activity

Any of a following three criteria must be met:

- Engaging in vigorous activity for a minimum twenty minutes on three or more days a week.

- Participating in walking for at least half an hour or engaging in moderately intensive exercise five days or more a week.
- Undertaking a combination of walking, moderate-intensity, or vigorously intensive activity for a minimum of 600 MET (minutes on 5 days or more a week).

Category 3: High physical activity

One of two criteria should be met:
- Engaging in vigorously intensive activity on minimum 3 days, and a minimum of 1500 MET (minutes a week).
- walking, moderately, or vigorously intensive exercise combined for a minimum of 3000 MET (minutes a week over seven days or more).

Scoring of the Arabic Scale Sports Motivation SMS28 [8]:

Intrinsic motivation:

To know: Questions 2,4,23, and 27
To accomplish: Questions 8,12,15, and 20
To experience stimulation: Questions 1,13,18, and 25

Extrinsic motivation:

Identified: Questions 7,11,17, and 24
Interjected: Questions 9,14,21, and 26
External regulation: Questions 6,10,16, and 22

Motivation:

Questions 3,5,19, and 28 [11]

Participants who indicated that they were physically active were asked the open-ended question "Why do you practice your sport?" They were then presented with a list of 28 potential reasons for participating in sports, individuals were prompted to evaluate the extent to which various reasons aligned with their motivation for an engagement. Using a 7-point Likert-scale, the lowest scale is 1 “Does not correspond at all” up to scale 7 “Corresponds exactly”, and the mid-point anchor at scale 4 “Corresponds moderately”, subjects provided ratings for each of the 2 reasons.

Physical Activity Barriers statements scoring:

Physical activity barriers are classified into seven distinct categories.:
Lack of time: Statements no.1,8, and 15
Social influences: Statements no.2,9, and 16
Lack of energy: Statements no.3,10, and 17
Lack of willpower: Statements no.4,11, and 18
Fear of injury: Statements no.5,12, and 19
Lack of skill: Statements no.6,13, and 20
Lack of resources: Statements no.7,14, and 21
A score of five or higher in any category indicates that this barrier is significant.

Ethical consideration

The study was conducted in line with the code of ethics in research of the Ministry of Health. The ethical committee of Karbala Training and Human Development Center has approved the protocol of this study. Verbal agreement to take part in the study from participants who agreed to be involved.

Statistical analysis:

Data were then analyzed using the SPSS program, version 23. Frequencies and percentages were computed for the demographic characteristics, as well as for all levels of walking, and moderate and vigorous physical activities. The levels of physical activity were examined according to age, gender, and job title. The relationships between activity levels, as well as motivation subscales, and each gender, job title, and age group were tested using the Mann-Whitney U Test and Kruskal Wallis test. MET-min per week for each of walking, moderate, and vigorous-intensity activities were calculated according to the guidelines of IPAC. Furthermore, sufficient vigorous activity was computed based on 3 or more days of vigorous-intensity activity of at least 20 min per day. Likewise, sufficiently moderate walking activities were computed based on 5 or more days of moderate-intensity walking of at least 30 min per day.

Results

The age of the included participants of the current study (N=800) ranged from 20 to 60 years with a mean of 32.57±9.03 years with a female and paramedical staff predominance (59.7% and 77.5% respectively) (Table 1). Analysis of data of 626 participants out of the total 800 (after excluding the outliers and missing) showed that one third of them classified as physically inactive (Grade 1), whereas the rest were categorized as Minimally active or Active (Figure 1).

Table 1. Socio-demographic characteristics of healthcare professionals in Karbala City in 2023 (n=800)

Characteristics		Total=800 Frequency (%)
Age groups	< 30	343 (42.9)
	30-39	292 (36.5)
	≥ 40	165 (20.6)
Gender	Male	322 (40.3)
	Female	478 (59.7)
Job title	Medical staff	180 (22.5)
	Paramedical staff	620 (77.5)

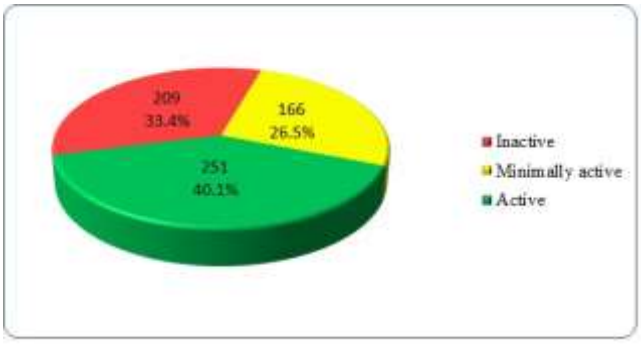

Figure 1. Physical activity level of healthcare professionals (n=800) in Karbala City in 2023.

Table 2 presents a comparison of physical activity categories according to age, gender, and job title. The table displays the mean age and standard deviation (Mean±SD) for each activity category, as well as the percentage breakdown by gender and job title.

The "Inactive" category had a mean age of 33.79±9.28 years, with 36.9% males and 31.0% females falling into this category. Among staff, 32.7% of medical professionals and 33.6% of paramedical staff were classified as inactive. In the "Minimally active" category, the mean age was 33.69±10.04 years. This category comprised 25.9% of males and 27.0% of females. Regarding job titles, 29.3% of medical staff and 25.6% of paramedical staff were minimally active. The "Active" category had a mean age of 32.31±8.82 years, with 37.3% of males and 42.0% of females falling into this group. Among staff, 38.0% of medical professionals and 40.8% of paramedical workers were considered active. There was no significant difference in activity categories by age (P=0.288), gender (P=0.658), or job title (P=0.164)

Table 2. Comparison of physical activity categories according to age, gender and job title

Activity category	Age* (Mean±SD)	Gender** %		Staff¥ %	
		Males	Females	Medical	Paramedical
Inactive	33.79±9.28	36.9	31.0	32.7	33.6
Minimally active	33.69±10.04	25.9	27.0	29.3	25.6
Active	32.31±8.82	37.3	42.0	38	40.8

* P=0.288, **P=0.658, ¥P=0.164

The results showed that the mean total internal motivation corresponded moderately (4±1.31) and was significantly higher than the mean total external motivation and Amotivation (Corresponded a little) as illustrated in Table 3 below. Total and subscale motivations comparison by gender showed significant difference between males and females p-value = 0.007 and 0.009 respectively, while total external motivation and the subscale external regulation showed significant difference by age groups p-value = 0.03 and 0.006 respectively. There was no significant difference in all motivation scales by job title (Table 3). The study showed that the main barrier for physical activity was 'Fear of injury' followed by 'Lack of skill' and 'Social influence' (Figure 2).

Table 3. Motivations subscales comparison by age gender and job title

Variables	Categories	Mean±SD	P value		
			Gender*	Job title*	Age groups**
Internal Motivation	To Know	3.88±1.45	0.937	0.263	0.437
	To Accomplish	4.04±1.49	0.155	0.610	0.996
	To Experience	4.10±1.51	0.211	0.050	0.356
	Total	4±1.31	0.331	0.200	0.625
External Motivation	Identified Regulation	3.69±1.46	0.005	0.165	0.115
	Interjected Regulation	4.08±1.35	0.366	0.975	0.228
	External Regulation	3.57±1.50	0.009	0.088	0.006
	Total	3.78±1.20	0.007	0.197	0.033
Amotivation		2.75±1.38	0.344	0.102	0.429

* Mann-Whitney U Test, ** Kruskal Wallis Test

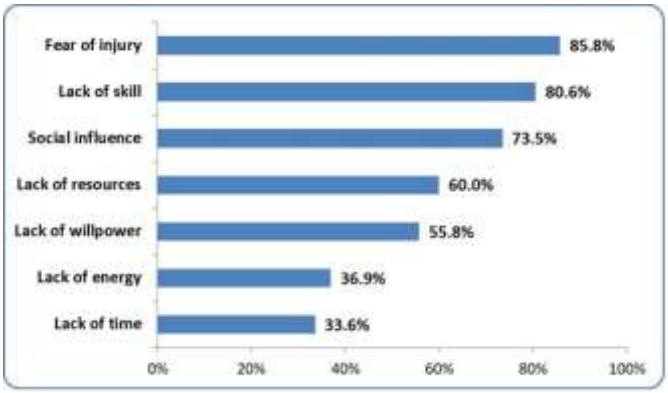

Figure 2. Barriers to physical activity among healthcare professionals (n=800) study participants in Karbala City in 2023.

Discussion

The study aimed to explore the physical activity of healthcare providers in Karbala City, identifying factors that either promote or hinder physical activity and investigating potential associations with socio-demographic characteristics. The research involved a cross-sectional study utilizing a diverse sample from healthcare institutions in Karbala City. The results indicated that approximately one-third of healthcare providers in Karbala city were classified as physically inactive. The proportion of physically inactive subjects (33.6%) was relatively high compared to other studies in the region (22%)

in Saudi Arabia [10] which underscores the urgency of addressing physical inactivity among healthcare providers. The level of physical inactivity in this study mirrors concerns raised WHO's global status report on physical activity [2]. The main motivator for physical activity was intrinsic factors, and the top barriers were the fear of sustaining injury and, to a lesser extent, the lack of skill, followed by social influences. In contrast to other research [1, 5-6] that showed there was a steady drop in activity levels with advancing age, this study did not find significant associations between physical inactivity and gender, age, or type of healthcare staff. Intrinsic motivation was the main driver for physical activity participation, especially the sub-domains related to accomplishment, experience stimulation, and gaining knowledge. This internal drive to be active for personal growth and satisfaction has also been reported by Teixeira PJ et al. [12] and Gunnell KE et al. [13]. Extrinsic motivating factors were rated much lower overall. An exception was interjected regulation which relates to body image concerns, and was scored moderately high. This indicates that appearance-related pressures should not be dismissed. Regarding barriers, fear of injury was the highest which could reflect safety concerns, followed by lack of skill and the least was lack of time and energy. Recognizing the moderate internal motivation among participants highlights the importance of adopting intrinsic motivation through tailored strategies, considering the components identified by the Sport Motivation Scale (SMS28) [8]. While age, gender, and job title did not significantly influence physical activity levels, other factors such as work-related stressors or personal health considerations might contribute. The research underscores the importance of targeted interventions aimed at encouraging physical activity among healthcare providers in Karbala City. The findings contribute to the evolving dialogue on healthcare professionals' well-being and the importance of fostering a culture of health within healthcare organizations.

Conclusion

This study sheds light on the physical activity patterns, motivations, and barriers among healthcare providers in Karbala City. The findings offer valuable insights for developing targeted interventions aimed at enhancing physical activity levels among this critical population. As we strive for healthier communities, addressing the unique challenges faced by healthcare providers is paramount. Future research employing more objective measures and longitudinal designs could address these limitations and provide a more comprehensive understanding. The implications of our findings extend to both healthcare providers and organizations. The identification of barriers, such as fear of injury and lack of skill, suggests that interventions should target these specific challenges to enhance physical activity engagement.

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Declaration of nurses' consent: All participants were voluntary and signed a consent form.

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