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Original Article

Comparison of Physical Activity and Dietary Habits among Clinical and Non-clinical Side Doctors

Muhammad Abdullah Ijaz[1], Abeera Ijaz[2], Muhammad Muneeb Ijaz[3], Mahnoor Khalid[1], Jawad Akhtar[4]
Multan Medical & Dental College[1], Multan, Department of Medicine, PAEC General Hospital[2], Islamabad, Department of Physiotherapy[3], Multan Medical & Dental College, Nishtar Medical University[4], Multan.

Abstract

Objective: To compare the level of physical activity and dietary habits of doctors working in clinical and basic sciences disciplines to assess the risk of getting diseases.
Study type, settings & duration: A descriptive cross-sectional study was conducted at Multan Medical and Dental College and Ibn-e-Sina Hospital and Research Institute, Multan from October to December 2019.
Methodology: Self-administered questionnaire was used to inquire physical and dietary behavior. Metabolic Equivalent of task MET-minutes were determined using CDC and WHO guidelines i.e. individuals with ≤600 MET-minutes per week were considered inactive. Waist to Hip ratio was measured to determine high risk participants.
Results: A total of 97 doctors from both disciplines participated with 36 males (37.1%) and 61 females(62.9%). Overall 52.6% (N=51) of participants described doing physical activity. Further 45.1% (N=23) of Basic Side (BS) and 54.9% (N=28) Clinical Side (CS) doctors were physically active in their leisure time. Only 35.5% of BS and 35.1% of CS advised their students and patients almost daily, to perform physical exercises. Almost 67.5% of basic side and 70.2% of clinical side doctors were not taking balanced diet. Further 37.9% of BS and 43.9% of CS doctors reported having fast food 3 to 4 times a week. 55% of BS and 47.4% of CS were physical inactive. Waist to hip ratio (W:H) indicated overall 41.2% sample was at high risk for getting metabolic diseases.
Conclusion: Most doctors didn't meet WHO guideline of physical activity and were having imbalanced diet and have sedentary life style.
Key words: Doctor's lifestyle, exercise, physician's health, dietary habits, physical activity.

Introduction

According to World Health Organization physical activity (PA) is defined as any movement produced by skeletal muscles which requires energy utilization.[1] Other studies, including fact sheet of same organization signifies that insufficient physical activity is not only leading cause of mortality but also major part of non-communicable diseases (NCDs) i.e. diabetes, cancer, cardiovascular diseases, depression, osteoporosis and osteoarthritis.[2-4] Studies have proven that cardiovascular diseases are leading cause of death in physicians[5] and sedentary life style is major risk factor for cardiovascular diseases. In past decade many studies have been carried out to appraise the medical conditions of medical students and doctors as strong coalition has been disclosed between doctor's physical activity (PA) and their ability of counseling.[6]

Moreover, studies have unveiled that incidence of cancer could be reduced to 50% by quitting smoking, exercising, losing weight and healthy eating.[7,8] Instructing patients to perform PA has proven to their boost quality of life.[9]

Corresponding Author:
Muhammad Abdullah Ijaz
Multan Medical & Dental College
Multan.
Email: mabdullahijaz@hotmail.com

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Authors Contribution

MAI & MMI conceptualized the project. MAI, MK & JA did the data collection. AI & MMI did the literature search. MAI & MK performed the statistical analysis. Drafting, revision & writing of manuscript were done by MAI & AI.

One of the study signified that patient having disease specifically COPD doing regular PA are at low risk of mortality and hospital admission than patients with insufficient PA.[10]

Insufficient PA leads to obesity which has positive relation with morbidity and mortality. It has been found that obesity is linked to vast variety of diseases i.e. hypertension, CHD, stroke, Gallbladder disease, osteoarthritis, DM. Low quality of life and functional disabilities are also associated to obesity.[11] there are around eleven cancers which are attributing to obesity.[12]

Increased fast food intake is linked with obesity and is associated with more lipids and beverages and less protective nutrients i.e. milk and fibers[13] and thus has detrimental effect on body regulation of energy balance and insulin resistance.[14]

In pursuit to decrease overall economic health burden preventive measures are being taken worldwide. Since strong association is present between PA and several diseases, it has become imperative for doctors to counsel their patients for PA.[15]

Although the knowledge of doctors is exceptional as compared to general population but it does not necessary conclude to healthy lifestyle.[16]

There is general perception in Pakistan that doctors live sedentary life style and are more vulnerable of getting diseases. We have very little information regarding health status of doctors, current study was aimed to learn dietary habits and extent of physical activity and chances of getting non-communicable diseases in doctors.

Methodology

A non-probability cross-sectional descriptive study was conducted from October to December, 2019 in Multan medical and dental college and Ibn-e-Sina hospital and research institute, Multan. Total 140 doctors were approached, 97 agreed to participate (M= 36, F=61) with response rate of 69.2%. Doctors of age ranging from ≥24 to ≤65 of both genders, with no apparent physical disability were included, while all those who had faced any major accidents in past 2 years of both genders and females in their gestational period were excluded from study. Written informed consent was taken from each participant.

Doctors were segregated in two groups, the Clinical group and the Basic group. The Clinical group included all practicing doctors of hospital including includes department of Pathology, Medicine, Surgery, Gynae, Peads, and their sub specialties. Basic Groups included all non practicing doctors which includes department of Anatomy, Physiology, Biochemistry, Pharmacology, Community medicine and Behavior sciences.

Metabolic equivalent-minutes (MET minutes) of each exercise were calculated by multiplying duration of activity with days of week. CDC defined constants of MET were used.[17] These METs were then compared with moderate and vigorous intensity activity of WHO criteria[18] of 150 minutes of moderate-intensity or 75 minutes of vigorous-intensity activity which equate 600 MET per week as per which samples with MET ≤600 were considered inactive and living sedentary lifestyle. Samples with Waist to hip ratio above 0.90 for males and above 0.85 for females were considered high risk as per WHO guideline.[19]

Different variables i.e. Gender, department, designation, PA in leisure time, persistence in PA, balanced diet, fast food intake, MET value, W:H ratio, high risked population; were calculated, analyzed and correlated for significance. Data was analyzed using SPSS V25.

The ethical approval was obtained from the Institutional Ethical Review Committee of Multan Medical and Dental College, Multan.

Results

Total 97 participants filled out the questionnaire with response rate of 69.2% out of which 36 (37.1%) were males and 61 (62.9%) were females. Mean age was 31.5years (Table-1).

Table 1: Demographic variables of study participants.

Variable		*n*	*%*
Gender	Male	36	37.1
	Female	61	62.9
Designation	H.O	19	19.6
	PGR	33	34.0
	Demonstrator/Senior registrar/Medical officers	35	36.1
	Assistant Professor	2	2.1
	Associate Professor	2	2.1
	Professor	6	6.2
Department	Basic	40	41.2
	Clinical	57	58.8
Age	25 to 45 years	85	87.6
	45 to 65 years	10	10.3

About 51 (52.6%) of doctors reported that they performed any sort of physical activity in their leisure time apart from routine work out of which 23 (45.1%) were from of Basic Side and 28 (54.9%) from clinical side. Intra department statics indicated that basic side doctors take better care of their health prominently at level of Demonstrator; 23

(57.5%) of BS disclosed that they performed physical activity while for CS percentage was only 28 (52.6%) mostly at level of senior registrar (SR) and medical officer (MO).

Values of MET reflected that 22 (55%) of BS and 27 (47.4%) of CS health professionals were physically inactive**;** out of which shockingly overall more males are inactive than females with 29 (45.9%) and 21 (58.3%)respectively. However, in BS females were more inactive 15 (55.6%) with comparison to males 7 (53.8%); results were in contrast to CS where higher numbers of males are inactive 14 (60.9%) than females 14 (38.9%). Acrophase was present at designation of Demonstrators/SO/MR.

Around 17 (29.8%) CS participants and 30 (63.8%) BS participants vowed that they wanted to increase their level of physical activity. Out of which 23 (57.5%) of BS and 33 (56.1%) CS doctors claimed that they didnot have time. All the doctors were well aware of their level of PA, only 2 (5%) of BS and 6 (10.5%) of CS were satisfied with their level of PA.

Despite hectic routine, clinical side doctors turned out to be more persistent in carrying their physical routine with percentage of 30 (65.2%) while only 16 (34.8%) of basic side regularly followed their physical activities routine in leisure time apart from daily work.

Overall 40 (41.2%) participants were at high risk. Providentially, CS health professionals are less obese and low risked as compared to BS professionals with value of 36 (63.2%) and 21 (52.5%) respectively. .

Only 11 (27.5%) of BS and 20 (35.1%) of CS advised their students and or patients daily, to perform physical exercises. Occasional advise was rendered more often which was 15 (37.5%) and 23 (40.4%) for basic and clinical side respectively **(**Figure-1).

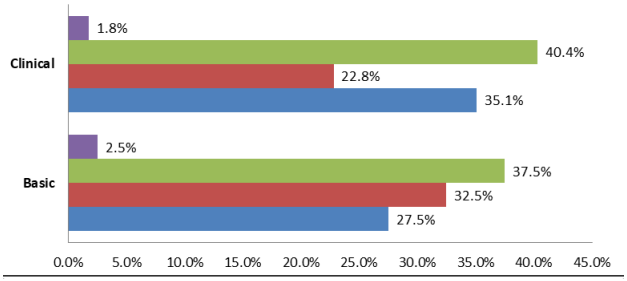

Figure 1: Level of counseling for physical activity given to patients/students by doctors.

Regarding eating habits, 15 (37.5%) of BS participants claimed to take fast food 3 to 4 times a week, while for VS this was 23 (43.9%) (Figure-2).

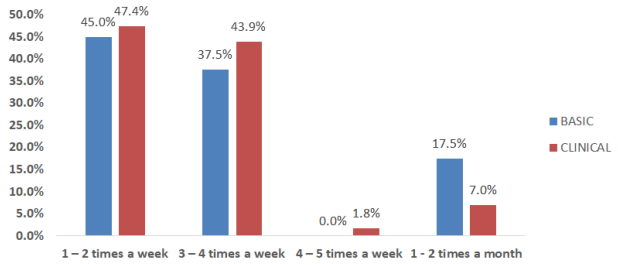

Figure 2: Frequency of fast food intake in clinical and non-clinical side doctors.

Despite being medical professionals, doctors did not follow their own suggestions, 27 (67.5%) of BS and 40 (70.2%) of CS agreed that they do not take balance diet.

No any significant association was found in doctors of both groups (clinical & basic) for being physically inactive or being a high risked population (prone to metabolic diseases) (Table-2, 3 & 4).

Table 2: Chi-square test all doctors (clinical & basic sides).

Tests	*Statics value*	*df*	*p-value*
All Doctors at high risk for NCD (waist to hip ratio)			
Pearson Chi-Square	1.102	1	0.294
All doctors are physically inactive			
Pearson Chi-Square	0.548	1	0.459

Table 3: Basic side Chi-square results.

Tests	*Statics value*	*df*	*p-value*
Basic side doctors are at high risk for NCD (waist to hip ratio)			
Pearson Chi-Square	0.100	1	0.752
Basic side doctors are physically inactive			
Pearson Chi-Square	0.400	1	0.527

Table 4: Clinical side Chi-square results.

Tests	*Statics value*	*df*	*p-value*
Clinical side doctors are at high risk for NCD (waist to hip ratio)			
Pearson Chi-Square	3.947	1	0.047
Clinical side doctors are physically inactive			
Pearson Chi-Square	0.158	1	0.691

Discussion

Findings of this cross-sectional study revealed that health professionals certainly need to increase their physical activity. Overall only 49.5% of Health Professionals (HP) were found physically active which is far less than study conducted in United States, where results indicates that 78% of HPs are physically active and follow DHSS

guidelines of MET.[20] However, results were far better than the study conducted in 2014 in Riyadh where 68.4% HPs showed inactivity. In our study more males appeared to be physically inactive in leisure time when compared with females with overall percentages to 53.8% and 49.9% respectively, these results do not coincide with survey conducted in Prince sultan medical city[21] and with Australian National Health Surveys where females are less active.[22]

These differences may be due to fact that there is less analogy in work environment, level of exertion in doctors of both genders in both groups i.e. CS and BS groups. Further our study contemplated contrast between basic and clinical groups which might have resulted in this change.

Our results showed drastically low values i.e. 35.5% from BSand 35.1% from CS, of inculcation of PA to either students and/or patients, which are 46% lower than exercise counseling made physicians of Brazil.[23] With comparison to study conducted in Canada, 69.8% of physicians there found to be to suggesting their patients to perform or increase level of physical activity[24]

In Pakistan consumption of fast food is quite popular among healthcare professionals. In our study overall 46.4 % of doctors mentioned that they take fast food 1-2 times a day; while in Behrain only 28.9% of doctors utilized fast food once a week.[25] Fast food consumption by medical staff can be interpreted as lack of assessing healthy nutrition at work.

This research is unique of its typeas it is solely focusing Health professionals and is providing baseline for studies in similar course. It has been conducted in private medical college of South Punjab; most doctors belong to elite background having more economic resources than ordinary doctors which is a bias in some of the variables. Further to be more conclusive a national study involving both Public and private medical colleges and hospitals and with larger sample size needs to be done.

There was no significant association of being physically inactive or being at high risk as most of the doctors do not meet WHO criteria of physical activity, thus are at higher risk of getting lifestyle related non communicable diseases (NCDs) Dietary habits are poor. Fewer doctors counsel their patients to perform PA. There is no significant evidence to proclaim Clinical or Basic groups particularly at high risk or inactive. Work has to been done at institutional level to provide healthy environment for doctors.

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