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RESEARCH ARTICLE
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BARRIERS TO HEALTHY EATING HABITS AMONG HEALTH CARE PROVIDERS OF HITEC-IMS AND HIT HOSPITAL TAXILA

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ABSTRACT

Background: Unhealthy eating practices are harmful for the wellness of health personnel. Healthy foods are essential for well-being of individuals.

Objectives: The study aims to assess the eating behaviors of healthcare providers, identify the barriers to healthy eating behavior, and determine the association of dietary habits with age, gender, job nature, and job position.

Methodology: Cross-Sectional study was conducted at HITEC- IMS and HIT Hospital Taxila from January to August 2022 on 120 health care providers selected by Convenience sampling. Sample size was calculated by using the Open Epi calculator with a confidence interval of 95%, and anticipated frequency of 50%. Data was collected by a structured Proforma and analyzed by SPSS version 25. The association of dietary behavior with gender, and job position was assessed by Chi Square test and correlation was applied to see the association of age with dietary habits **Results**: Out of 120 health care providers; doctors, nurses and paramedics were 84.2%, 5% and 10.8% respectively. Males were 46.7% while females were 53.3%. The mean age of participants was 33.5 + 13.6 years. 9.2% were smokers. Only 25% were having healthy eating behavior. Reliance on the cafeteria (49%), lack of options (40.8%), no sufficient breaks (31%) and work stress (30.5%) were identified as major barriers to healthy eating habits. No significant associations of dietary habits with gender (p- 0.3), age (p-0.6), profession (p- 0.1) and job specialty (p- 0.4) was found.

Conclusion: Although health care providers are well aware of the role of healthy eating behavior in maintain good health but still fail to adopt healthy eating behavior due to certain barriers that should be addressed.

Key words: Healthcare workers, dietary habits, barriers, weight, behavior

INTRODUCTION:

Proper dietary habits are defined as "the habitual choices made by individuals or groups regarding the types of food they consume," encompassing the intake of both macro and micronutrients.. Worldwide unhealthy eating habits of more than one-quarter personnel are due to changes in way of living [(1)]. The link between unhealthy diet, decrease in physical activity and constantly recurring diseases is well documented. [(2)]Moreover, the relation between healthy food habits, adequate lifestyle and nutrition and health education has been recognized in improving good health. Numerous studies have proven that Health behavior of physicians directly impact the health of the larger population by associating the health behaviors of physicians and their interactions with patients [(2)]. Health personnel's overlook themselves while at work. Taking regular breaks is helpful for concentration, and reduces the risk of human error. But hectic schedule of most of the medicinal persons is a barricade to this [(3,4)]. Healthcare professionals fall into the habit of having inadequate quantities of fluid, or missing meals while caring for patients [(5)]. Long working hours, junk foods, taking food in hassle contribute to the unhealthy eating practices that will affect their productivity negatively [(6,7.)] A study done to access eating habits among health professionals found out that most of the medical staff has no regular mealtime and missed their meals mainly in the morning[(8).]
Other studies showed direct relationship between skipping morning meal and young age ($r = 0.98$, $p = 0.048$) [(9,10).] Cafeteria timings, non-availability of proper food and short breaks are the supposed barricade to healthful practices [(11, 12)]. A Research has also proved that male staff missed their meals more frequently [13]. Studies have shown that healthcare professionals use to have food at café instead of home; where expenditures get in the way of having standard foods [14).] Patient care is directly affected by the well-being of health personnel. The purpose of this study is to assess the dietary habits of healthcare providers and identify the perceived barriers to healthy eating among health care providers.

Rationale:

No such study has been conducted in our setting to assess the dietary habits of health care providers. This study will help to fill this gap as well as knowledge about food habits and eating behavior of health care providers turns out to be very important for planning nutrition program promoting regular lunch breaks, increased healthy food choices at hospital cafeterias, extended hours of food services to accommodate night time staff, and improved access to food storage areas for the promotion of good health and well-being of healthcare workers. It will also encourage the participants to assess their dietary habits by themselves and will also help them to think about their life style modification by identifying and addressing the barriers to healthy eating.

MATERIALS AND METHODS:

This descriptive cross-sectional survey was conducted at the HITEC Institute of Medical Sciences and HIT Hospital in Taxila over a period of eight months, from January 2022 to August 2022. The sample size consisted of 120 participants, calculated using the Open Epi calculator with a 95% confidence interval from a total population of 150 healthcare providers at HITEC-IMS. An anticipated frequency of 50% was used, and the sample included doctors, nurses, paramedics, and laboratory technicians. The sampling technique employed was convenience non-probability sampling. The inclusion criteria involved healthcare providers such as doctors, nurses, paramedics, and laboratory technicians. Exclusion criteria included healthcare providers with less than one year of experience at HITEC-IMS and HIT Hospital Taxila, LHWs, midwives, and those diagnosed with chronic diseases that could alter dietary habits, such as diabetes, hypertension, ischemic heart

disease, or renal and liver disorders.A self-structured Proforma based on a validated dietary questionnaire[2] was used for data collection. The dietary questionnaire comprises of nine sections and the section C is about dietary habits with reliability of 0.75 which is highest among all the sections. Dietary habits were assessed on the basis of daily frequency of consumption of typical foods and beverages, fruit and vegetables, milk, breakfast, oily, fried and sugary food items and taking the caloric count into consideration. Dietary habits section consists of 14 questions out of which we have selected 10 questions for assessment of dietary habits. The Proforma for data collection is divided into four sections. The first part consisted of socio-demographic profile. The second section explored the hospital routine. The third section looked at the dietary habits for the last one month which was based on the section C of dietary questionnaire [2]. The fourth and last section assesses barriers to healthy eating. Data was collected by distributing the questionnaire among the health care providers after taking their consent and responses were recorded.

The data for this study was analyzed using SPSS version 25. Dietary habits were assessed by 1st 10 questions of section C of eating habits. Questions 1, 2, 3, 4, 6 and 10 were judged on rating scale 1-4. Question 5, 7, 8 and 9 were on rating scale 1 – 3. Maximum score calculated for 10 questions was 36. The health care providers scoring >28 were labeled as having healthy eating habits and those having < 28 were labeled as having unhealthy eating habits The health care providers included doctors of clinical and basic sciences working at HITEC-IMS and HIT hospital, nurses and paramedics and laboratory technicians. Qualitative data was analyzed by finding out frequency and percentage; while mean and standard deviation were calculated for numerical data. A Chi-square test was applied to determine the relation of dietary behavior with age, gender, job status and job position and T-Test and ANOVA were used to determine the association of dietary behavior with BMI and to compare the dietary behavior among different job categories. Predetermined alpha (α) is taken at ≤0.05 with a level of 95% significance.

RESULTS:

The study was conducted at HITEC-IMS to assess the dietary habits of health care providers. The mean age was 33.5 + 13.58 years. Demographic results are depicted in Table 1 and dietary habits of the health care providers in Table 2.

Table 1: Demographic Statistics of Health Care Providers

Gender	**Frequency**	**%age**
Male	56	46.7
Female	64	53.3
Smoker	**Frequency**	**%age**
Yes	11	9.2
No	109	90.8
Profession	**Frequency**	**%age**
Doctor	101	84.2
Nurse	6	5
Paramedics	13	10.8
Working hours	**Frequency**	**%age**
<8hours	62	52.7
>8 hours	58	48.3
Working routine	**Frequency**	**%age**
Day time	73	60.8
Variable	47	39.2
On call duty	**Frequency**	**%age**
Yes	59	49.2
No	61	50.8

Mean score for the eating habits was 24.14+4.22 and mean BMI was 24.27 + 4.56. Regarding factors influencing the food choices 43(35.8%) reported family practices, 39(32.5%) reported working environment, 31(25.8%) reported friends and only 7(5.8%) reported social media influencing their food choices. No significant association of dietary habits with gender (p-value 0.3), profession (p- value 0.1) and job specialty (p-value 0.4) was found. Pearson correlation was applied to see the association of age with eating habit and the correlation coefficient r=0.42 showed very weak correlation and p-value 0.6 showed insignificant association. 49% identified reliance on the cafeteria or eating outside, 40.8% lack of options of healthy food, 30.5% stress of work, 26.70% lack of access to healthy food, 31.70% identified no sufficient break time as major barrier to healthy eating (figure 3).

Table 2: Dietary Habits of health care providers

Eating habits	**Frequency**	**%age**
Healthy	30	25%
Unhealthy	90	75%
Daily tea / coffee consumption	**Frequency**	**%age**
<2-3 times daily	68	56.7%
>2-3 times daily	52	43.3%
Beverage used daily	**Frequency**	**%age**
Water & tea	61	50.8%
Soft drinks	28	23.3%
Fresh juices and milk shakes	31	25.8%
Eating routine during working hours	**Frequency**	**%age**
Eat on the run	48	40%
Do not eat at all	17	14.2%
Eat after the work	55	45.8
Satisfaction with eating habits	**Frequency**	**%age**
Satisfied	39	32.5%
Neutral	55	45.8%
dissatisfied	26	21.7%
Total	**120**	**100%**

DISCUSSION:

The study was conducted at HITEC-IMS and at HIT hospital to assess the dietary habits of health care providers. Data was collected from 120 health care providers including doctors, nurses and paramedics with about 47% being male and 53 % females having age 33.5 + 13.58 years. According to the study done in Riyadh data was collected from 388 healthcare providers from King Abdul-Aziz Medical City in Riyadh with a slight predominance of females [15].

The percentage distribution of our sample of 120 participants was doctors-84.2% (20% related to basic medical sciences, 8% being Obs &Gynae, 35% were medical specialists, 25% were related to surgery and allied and the remaining 12% were dentists), nurses-5% and paramedics constituting 10.8% of the total. While in the other study 46.7% were residents, 23% were nurses and 11% were physicians mostly from emergency medicine and Obs Gyn dept (12.3%) [15].

Mostly healthcare providers have unhealthy eating behavior. Almost 85% of the participants either eat on the run or only get to eat after work while the remaining didn't eat at all. Similarly, a study done in Ghana by Nsiah-Asamoah et al found that most healthcare providers skipped

breakfast and relied on unhealthy food options during work hours [16] According to another study done in Riyadh, a high percentage of participants (68%) did not eat at their workplace. [15]. From healthcare professionals including doctors, nurses and paramedics only 9.2% were active smokers. In another study from 388 only 15% have habit of smoking [15]. Similar behavior towards smoking were observed in another study done in northern Nigeria where 98.4% of the respondents showed healthy behaviour towards smoking. [17] Regarding factors influencing the food choices 43(35.8%) reported family practices, 39 (32.5%) reported working environment, 31(25.8%) reported friends and only 7(5.8%) reported social media influencing their food choices. No significant association of dietary habits with gender (p-value 0.3), profession (p-value 0.1) and job specialty (p-value 0.4) was found. Another study demonstrated significant association of dietary habits with gender [12]. Mostly female employees used to carry home-made snacks; and take fruits/vegetables more frequently as compared to males and more cereals/ bread (56.6% vs 44.3%) (p-value < 0.05) [15].

A study done in Africa showed a relationship of morning meal intake with gender but with no significant difference (r= 0.952, p =0.324)). No association of dietary habits with other personal characteristics was noticed [13]. In a study by Wong et al [14] male personnel miss out morning and day meals frequently than females. These findings are consistent with another study done in Africa that showed females had a significant (P < 0.05) overall better feeding behavior (88.15 ± 9.00) compared to males (83.62 ± 7.18). [18] According to Mekary et al[19], most health professionals skipped meals, but male participants skipped meals more as compared to female participants, especially breakfast and lunch meals. Poor dietary habits have been shown to correlate with higher levels of burnout and other emotional, cognitive and physical symptoms. A study done in Nigeria assessed obesity rates among healthcare workers and found that workhour sugary drink consumption predicted obesity [17] Utter j et al. found that indicators of poor diet were associated with greater burnout. They also found that only less than 40% healthcare workers reported their diet as very good and only 15% had 5 or more servings of vegetables as recommended. [20]

Pearson correlation was applied to see the association of age with eating habit and the correlation coefficient r=0.42showed very weak correlation with insignificant difference (p-value 0.6). 49% identified reliance on the cafeteria or eating outside, 40.8% lack of options of healthy food, 30.5% stress of work, 26.70% lack of access to healthy food, 31.70% identified no sufficient break time as major barrier to healthy eating. A similar study done in Riyadh showed that most common cause of not taking meals in time was hectic schedule, accessibility to proper food and lastly sanitation of work places [15]. Ross A et al. while assessing the barriers to good dietary practices in nurses found that several factors including lack of time/overwork, lack of resources/facilities, fatigue, outside commitments, "unhealthy" food culture, supportive versus unsupportive individuals, and positive versus negative role models were the most common reasons leading to poor dietary habits. [21]

Winston et al also noticed similar barricade like; high cost, lack of time, cleanliness at food places, time shortage, personal likes and dislikes, taking food in hassle and job stress [12]. A survey of NHS workers regarding barriers to health eating showed that the limited healthy food options were the major cause of frustration, and only 12% reported the NHS supported healthy eating. [12]. Marko S etal[22] conducted a systematic review on barriers to healthy eating for nurses working in hospitals. They identified three types of barriers affecting the nurses behaviour of healthy eating. High accessibility and availability of unhealthy foods, high cost and low availability of healthy foods and absence of storage and preparation amenities were identified as environmental barriers, while shift work, inconsistent rosters and high work demands were categorized as 0rganizational barriers and the interpersonal barriers were stress, fatigue, personal values, beliefs, attitudes, and individual characteristics. In our study 32.5% of the respondents were found to be satisfied with their current eating habits, 45.8% were neutral while only 21.7% were dissatisfied. Poor dietary habits negatively impact work efficiency and hinder the ability to manage the personal wellness leading to higher burnout rates. Lemaire JB et al in his study linked deficit in obtaining adequate nutrition at work with emotional, physical, and cognitive symptoms. [23]Another study

showed that 77% respondents were satisfied with their eating behavior [12]. Literature supports Promotion of healthy eating habits among healthcare workers which involves supporting for mindful eating, encouraging home-cooked meals, using food journals, and leveraging mobile apps.[24] Hospitals should provide nutritious options in cafeterias, offer healthy snacks, and foster a supportive environment. This holistic approach enhances staff wellness and sets a positive example for patients

CONCLUSION:

In this survey mostly respondents had unhealthy dietary behavior while at job.
Although health care providers are well aware of the role of healthy eating behavior in maintaining good health but still fail to adopt healthy eating behavior due to certain barriers which can be addressed. Health behaviors of health care providers can significantly influence the advice and support they provide to patients

LIMITATIONS:

Sample size is small by increasing the sample size the generalizability of the results would be favorable. All sorts of foods commonly used in culture of Punjab were not the part of questionnaire. Also the information was collected once and for short time leading to improper estimation of dietary practices.

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