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Awareness and Practices Regarding Nutritional Status, Habits and Physical Activity among Physical Education University Students - A Cross-Sectional Study

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Abstract

Background: An unbalanced diet and reduced physical activity are the chief risk factors for many chronic diseases. University students are the most affected population due to changed patterns in daily routine. It is presumed that university students would have better knowledge regarding physical activities and healthy nutrition; however, more evidence is needed to demonstrate whether this knowledge is implemented. Hence, the primary purpose of this study is to examine the awareness and practices regarding nutritional status, habits, and physical activity among university students.

Methods: A cross-sectional study was conducted between July 2023 and November 2023 on 82 university students using a convenience sampling method. A modified questionnaire was used to ask questions regarding nutritional status, habits, and physical activity. The data was analyzed using SPSS 21.0.

Results: A total of ninety students were provided with the questionnaire, out of which eight students partially filled the questionnaires. The total number of questionnaires examined was 82, which included n=35 (42.7%) males and n=47 (57.3%) females.

Conclusion: The results disclosed that students had adequate knowledge regarding nutritional habits and the vitality of physical activity. However, that knowledge needed to be implemented in daily life practices.

Keywords

Dietary Habits, Nutritional Status, Physical Activity, Young Adults.

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Introduction

The alarming high prevalence of chronic diseases presents a significant challenge for healthcare systems around the globe. While many factors contribute to chronic illness, many can be prevented by forming lifelong habits like eating well, exercising frequently, and keeping a healthy weight[1]. Nutritional habits or practices are generally the choices an individual makes on what to eat, and they vary from one person to another[2]. Nutritional status is the check and balance of an individual's intake of nutrients, health, and normal metabolic activities[2]. Normal nutritional status is maintained with the balance in the nutrient intake and consumption by the body, i.e. energy expenditure and calorie intake by the body[3]. Some of the recommendations for a healthy diet include a consistent intake of fruits, vegetables, beans, nuts, whole grains (unprocessed), minerals, and vitamins. A good diet helps prevent malnutrition and Non-Communicable Diseases (NCDs), including diabetes, cardiovascular diseases, stroke and cancers[4]. As per the recommendations given by Pakistan Dietary Guidelines for Better Nutrition (PDGN), two to three servings should be of proteins, fats, vitamins and minerals, while four to five servings of carbohydrates would be enough to meet the requirements of most of the groups of the population living in the country, but the actual practice is still sceptic[5]. World Health Organization (WHO) defines physical activity as any bodily movement produced by skeletal muscles that requires energy expenditure[6]. Physical activity should not be mixed with the term 'exercise' as exercise is a structured, repetitive and planned activity to improve or develop any fitness components[7]. A person should include physical activity in his/her life as numerous benefits are reported, such as glycemic control, muscle and bone strength and well-being[8]. Inadequate physical activity and sedentary life patterns are the causes of deaths globally and a significant cause of non-communicable diseases[9]. As per a 2018 report which analyzed data from 168 countries with 1.9 million participants, the worldwide age-standardized prevalence of insufficient physical activity was 27.5% in 2016. The prevalence in 2016 was more than double in high-income countries (36.8%, 35.0–38.0) compared to low-income countries (16.2%, 14.2–17.9)[10].

Furthermore, insufficient physical activity has shown an upward trend in high-income countries, reaching 31.6% (27.1–37.2) in 2001. If the current patterns persist, it is unlikely that the 2025 global physical activity target, which aims for a 10% relative reduction in insufficient physical activity, will be achieved[8]. University students are the most enormously reported population engaged in sedentary lifestyles and poor eating practices[11]. Although it is generally assumed that the students studying health subjects at university would have more knowledge than the students of other subjects, it is still not evident that this knowledge is converted into healthy lifestyle practices. University opens a new world of responsibilities, interactions, and adjustments

in a student's life[9]. The reasons (lack of time, burden of studies, shortage of money because of expenses, etc.) that students generally give for not consuming a balanced diet are insufficient to justify their poor dietary habits[11-12].

The knowledge and implementation of a balanced nutritional status, practicing good dietary habits, and being physically active in practical life are vital for students as they are the source of productivity to society. In addition, they should be physically active to reduce the outcomes of sedentarism, and it will also decrease the rate of growing diseases and disabilities, leading to a healthy life. Hence, the current study aims to identify university students' knowledge and implementation practices regarding physical activity and nutrition.

Methodology

Study Design and Setting

A cross-sectional study was carried out at University of Karachi between July to November 2023 to determine the nutritional status, habits, and physical activity practices. Initially ninety students were recruited in the study through a non-probability convenient sampling technique.

Sample Size

A total of 90 participants were recruited (sample size was calculated from open EPI sample-size calculator).

Sample Selection Criteria

- ***Inclusion Criteria***
  - Students with age between 18 to 25 years old who were willing to participate in the study were included.
  - Students enrolled in the department of Health, Physical Education, and Sports Sciences.

- ***Exclusion Criteria***
  - Individuals with any pre-existing medical conditions that may significantly impact their nutritional status, habits, or physical activity, as these factors could confound the study results.
  - Students engaged in professional sports training or competitions, as their lifestyle and dietary practices may differ significantly from the general student population.

Data Collection Tool Procedure

A modified questionnaire[13] on nutritional habits and physical activity was used for data collection. After getting the consent, the participants were given the questionnaires by hand. They were briefed about the study, and the pros and cons were ensured that their confidentiality would be kept confidential. The questionnaire included:

- Two questions from demographic background regarding age and gender.
- Two height and weight questions were used to calculate the BMI for determining nutritional status.
- 12 claims (divided into two sections: nutritional habits and physical activity, where the claims from 1-8 were about nutritional habits and from 9-12 were about physical activity).
- 13 questions (divided into two portions: nutritional habits and physical activity, where the questions from 13-18 were about nutritional habits and from 19-25 were about physical activity).

The answers were given in four categories for each claim, i.e., strongly agree (=4), agree somewhat (=3), disagree somewhat (=2), and strongly disagree (=1). Each question could be answered in several minutes or times per day/week.

Data Analysis Strategies

The data analysis was done using the software Statistical Package for Social Sciences (SPSS version 21.0). The distribution of variables was computed, and frequencies and percentages were reported along with the mean and standard deviation.

Results

A total of ninety students were provided with the questionnaire, out of which eight students who partially filled out questionnaires were excluded. The total questionnaires examined were n=82, which included n=35 (42.7%) males and n=47 (57.3%) females. Nearly half of the participants were between the age ranges of 20-21 years, n=36 (43.9%). Table-1 shows the demographic details of the participants.

Table-1 Demographic details of the participants (n=82)

Parameters	n (%)
Age (in years)	
18-19	6 (7.3%)
20-21	36 (43.9%)
22-23	32 (39%)
24-25	8 (9.8%)
Gender	
Male	35 (42.7%)
Female	47 (57.3%)
Body Mass Index (BMI)	
Underweight	18 (22%)
Normal	38 (46.3%)
Overweight	11 (13.4%)
Pre-obese	13 (15.9%)
Obese	2 (2.4%)

Most of the students n=55 (67.1%) showed the will to increase their daily intake of fruits whereas only a small number of students n=4 (4.9%) gave a negative response against increasing their daily intake of vegetables. The details of the students' responses to claims regarding their nutritional habits are shown in Figure-1.

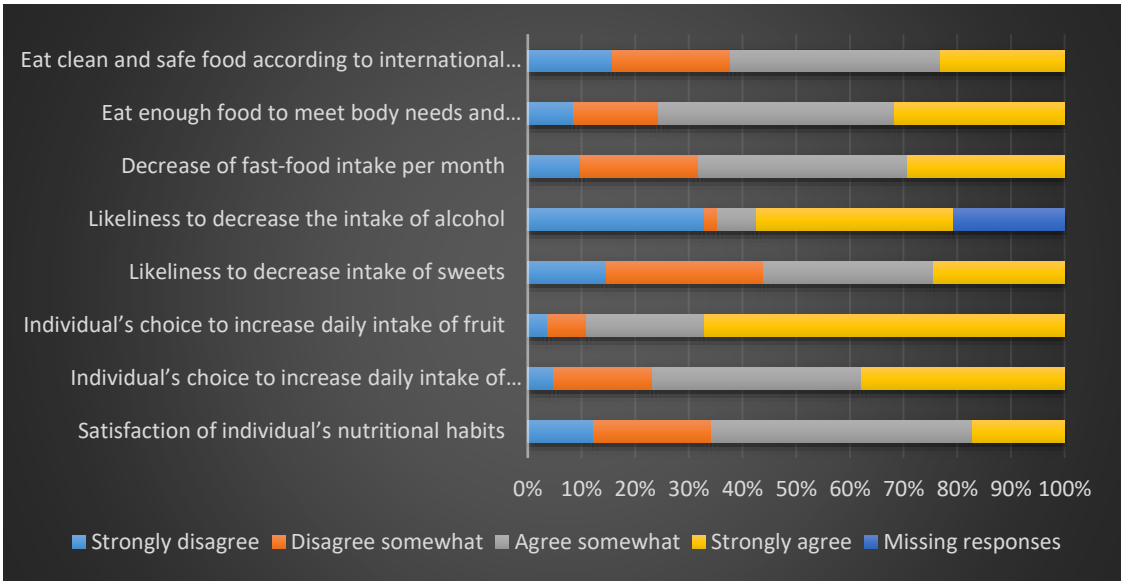

Figure-1 Claims of Nutritional Habits

Most of the students n=36 (43.9%) agreed to the claim of performing physical activity every day of a week. When asked if they like to spend their leisure time doing exercise, n=22 (26.8%) strongly agreed while n=26 (31.7%) agreed to somewhat extent. The details of the students' responses to claims regarding physical activity are shown in Figure-2.

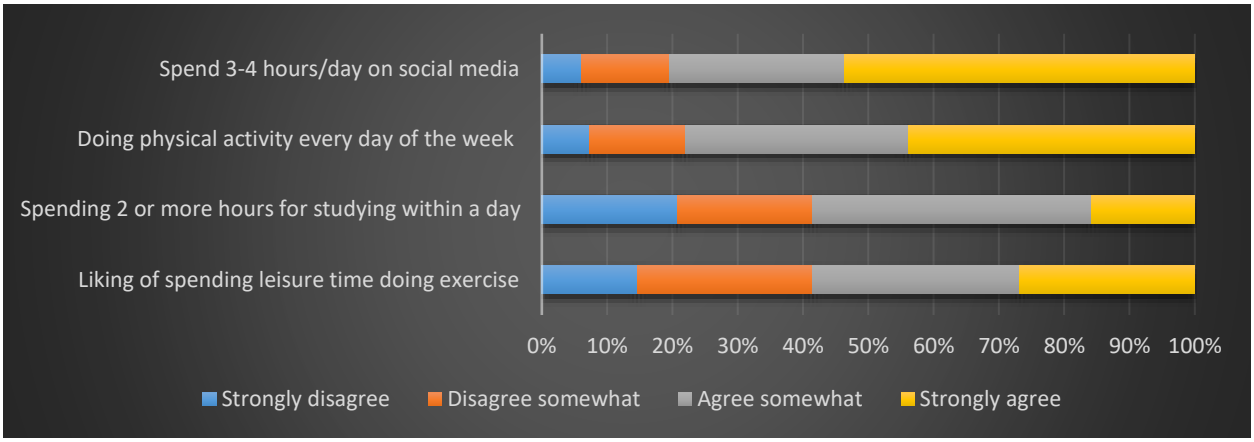

Figure-2 Claims of Physical Activity

The practical implementation of students regarding nutritional habits and physical activity was a little contrary to their level of awareness. The breakfast intake was reported by only 11.0% of the students for 7 days a week, whereas majority of the students 40.2% reported the intake 4 times a week. Furthermore, 31.7% students reported consuming fast food for almost half a months. When inquired about physical activity practices, only 20.4% exercised for 30 minutes a day (Supplementary File).

Discussion

Our research findings revealed that a significant percentage of the student population, precisely 67.1%, expressed a willingness to increase their daily fruit consumption. Similarly, most students, accounting for 43.9%, acknowledged the importance of engaging in physical activity every day of the week. Regarding leisure time preferences, 26.8% strongly agreed that they enjoyed spending their free time exercising, while an additional 31.7% agreed to some extent. Despite these positive attitudes and intentions, the practical implementation of healthy habits among students deviated somewhat from their stated awareness. For instance, only 11.0% of students reported consistently having breakfast daily, with a more significant percentage (40.2%) indicating a frequency of four times a week. Furthermore, a notable portion, comprising 31.7% of students, reported consuming fast food almost half of the month.

When exploring physical activity practices among different literatures, our study uncovered that only 20.4% of students exercised for at least 30 minutes daily. This disconnection between intentions and actions emphasizes the need for targeted interventions to bridge the gap and promote healthier lifestyle choices among the student population. Similar results were reported in a 2016 study by Saranya et al. that focused on how medical students practically applied their knowledge of nutrition and physical activity. Four hundred and thirty-eight medical students participated in the study, which found that while 97% of participants reported having a high awareness of the benefits of a balanced diet, only 42.9% of them followed through on these dietary recommendations. Furthermore, 9.4% of students said they regularly consume junk food. The study found a strong correlation between daily junk food consumption habits and obesity. It's interesting to note that over 95% of the students in the study said they regularly participated in physical activity[14]. In another study conducted in 2023 by Zaheer et al. on University students (day scholars vs. hostelites), similar results were reported regarding the dietary pattern. The data show a significant incidence of psychological discomfort, poor dietary patterns, poor sleep quality, and lifestyle behaviours that require attention and correction. A comparison of day scholars and students dwelling in hostels revealed that persons in hostel accommodations have higher levels of psychological discomfort, display lower sleep quality, and demonstrate unhealthy eating habits[15].

Most of the university students in our study were satisfied with their nutritional habits. They claimed to eat enough clean and safe food to meet their body needs and to maintain healthy body weight as recommended. Students wanted to increase their daily intake of fruits and

vegetables, although most of them consumed fruits and vegetables at least one time a day. At the same time, more consumption is considered necessary for a balanced diet. However, awareness and implementation are two distinct aspects, as all aware people do not implement good habits. In a North Cyprus study, students knew of good nutritional habits but needed to practice themselves[16-17]. Another study by Kljajević et al. found intermediate physical activity levels among university students due to cultural diversity[18]. Another study conducted in Germany revealed that students enrolled in core subjects like natural sciences and mathematics were living an unhealthy lifestyle[19]. These findings showed that most university students know the benefits of an excellent dietary pattern, but physical activity does not convert that knowledge into practical forms. The reason might be lack of time, educational burden, cultural context, etc. Hence, there is a need to formulate awareness programs for promoting good dietary patterns and physical activity and guidelines for universities to ensure students' engagement in extra-curricular activities to improve their health-related fitness.

Conclusion

The findings disclosed that students had adequate awareness of the significance of eating a balanced diet and getting regular exercise, the application of this knowledge in their day-to-day lives appeared to be lacking. The discrepancy between awareness and action was particularly evident in areas such as breakfast intake, where only a small percentage reported consistent daily habits. Similarly, despite acknowledging the significance of regular exercise and expressing a willingness to increase fruit consumption, the actual implementation of these practices was not as prevalent as their awareness might suggest.

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Conflict of Interest

None.

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None.

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AUTHORS' CONTRIBUTION

The following authors have made substantial contributions to the manuscript as under:

Conception or Design: Umar R

Acquisition, Analysis or Interpretation of Data: Umar R, Umar MA

Manuscript Writing & Approval: Umar R, Umar F

All the authors agree to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved.