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DESCRIPTIVE ANALYSIS OF QUALITY OF LIFE OF MEDICAL STUDENTS USING WHOQOL-BREF

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ABSTRACT

Background: The multifaceted nature of medical students' quality of life, significantly influenced by the rigorous demands of their education, highlights the crucial interplay between lifestyle factors such as nutritional habits and overall well-being.

Methods: Utilizing a cross-sectional design, this study surveyed MBBS students from public and private colleges, focusing on their demographic details, nutritional intake, and quality of life through a structured questionnaire and the WHOQOL questionnaire. The data collection spanned from September 1, 2023, to January 30, 2024, aiming to capture a comprehensive snapshot of the students' current well-being status.

Results: With 182 participants, the study found a predominance of female students and an overall high academic performance. Notably, many students reported poor nutritional habits, such as frequent skipping of breakfast and high consumption of fast food. Quality of life assessments indicated average to good perceptions among the majority, with significant gender differences observed across health domains. Additionally, the sector of the university (public vs.

private) appeared to influence QoL outcomes, with public university students reporting better health scores.

Conclusion: The findings underscore the detrimental impact of poor nutritional habits and the demanding nature of medical education on students' quality of life. It highlights the importance of comprehensive strategies, including educational interventions and support systems, to improve their dietary habits and, consequently, their overall well-being. Future studies should further investigate the impact of targeted interventions on enhancing the quality of life and nutritional status of medical students.

Key Words: Descriptive, Quality life

INTRODUCTION

The quality of life (QoL) of medical students is a multifaceted issue that encompasses physical, emotional, and social well-being.(1) The demanding nature of medical education, characterized by intensive study, clinical rotations, and high-performance expectations, significantly impacts students' lifestyles and health behaviors, including their nutritional intake. Recent studies have highlighted the concerning prevalence of stress, anxiety, and depression among medical students, attributing these conditions to the pressures of medical training.(2)

Nutritional habits, often overlooked, play a critical role in students' academic performance, energy levels, and overall health. A balanced diet is crucial for cognitive function, emotional balance, and physical stamina, which are essential for coping with the demands of medical education (3, 4). However, irregular eating patterns, reliance on fast food, and insufficient intake of fruits and vegetables have been reported among medical students, raising concerns about their potential long-term health implications (5).

The interplay between quality of life and nutritional intake is evident, yet underexplored. While some studies have assessed these factors independently, comprehensive research examining their correlation is scarce (6). This gap underscores the need for a holistic approach to understanding how nutritional behaviors influence medical students' well-being and academic success.

Globally, the quality of life of medical students has been the subject of numerous studies, revealing significant variations across different cultural and educational contexts. For instance, research conducted in Asian medical schools found higher levels of academic stress compared to their Western counterparts, attributing these differences to cultural expectations and educational systems (7, 8). Similarly, studies on nutritional habits have identified regional dietary trends, with students in some areas having limited access to healthy food options on campus, further compromising their nutritional status (9).

A systematic review revealed that physical activity and exercise are positively associated with the quality of life and can mitigate burnout among medical students (10). Furthermore, research at the Faculty of Medicine in Nis has shown that quality of life studies, focusing on the subjective experience and personal perception of individuals, have drawn global attention, underscoring the importance of incorporating personal experiences of those suffering from illness into future scientific projects (11).

The impact of these challenges on future healthcare professionals is profound. Not only do they affect students' immediate academic performance and health, but they also have potential long-term effects on their professional practice and personal well-being. For instance, the development of unhealthy coping mechanisms, such as poor eating habits, may persist into their medical careers, affecting their ability to provide optimal patient care (12, 13).

This research aims to bridge the gap by assessing both the quality of life and nutritional intake among medical students, exploring the extent to which these factors are interrelated and how they collectively impact students' academic and personal lives. By employing a comprehensive survey and nutritional assessment, this study will provide insights into the challenges faced by medical students and offer evidence-based recommendations for interventions that can enhance their well-being and academic performance.

METHOD:

This study employed a cross-sectional design to assess the quality of life and nutritional intake among MBBS students from public and private sector colleges. The cross-sectional approach was chosen for its effectiveness in providing a snapshot of the students' current status regarding these variables within a defined time frame.

Data collection for this study was conducted from the 1st of September to the 30th of January, 2024. This period was selected to ensure a comprehensive assessment across different academic terms, capturing a diverse range of experiences and challenges faced by medical students.

The target population comprised MBBS students enrolled in public and private sector medical colleges. This demographic was chosen to explore potential differences in quality of life and nutritional intake based on the type of institution, thereby providing insights into various environmental and educational contexts.

The sampling method utilized for this study was non-probability consecutive sampling. This method was selected to facilitate the inclusion of every subject meeting the inclusion criteria during the specified time frame, thereby maximizing the sample size and enhancing the representativeness of the study findings within the logistical constraints.

Data were collected using a structured questionnaire, which comprised three main sections: demographic details, nutritional intake details, and the World Health Organization Quality of Life (WHOQOL) questionnaire. Demographic Details: This section collected basic information about the participants, including age, gender, year of study, and whether they were from a public or private sector college. These data were essential for understanding the background of the participants and for conducting subgroup analyses. Questions in this part of the questionnaire were designed to assess the dietary habits of the participants, including frequency of meals, types of food consumed, and specific dietary patterns or restrictions. This information was crucial for evaluating the nutritional status of the medical students.

WHOQOL Questionnaire: The WHOQOL questionnaire, a standardized instrument for measuring quality of life, was employed to assess the overall well-being of the participants.

RESULTS

The demographic and academic characteristics of the study population, consists of 182 participants. The gender distribution showed a predominance of female participants, representing 75.8% (n=138), compared to males at 24.2% (n=44). The average age of participants was 22.61 years with a standard deviation of 2.075. The mean cumulative GPA (cGPA) was 3.47, with a standard deviation of 0.47, indicating a generally high academic performance across the study group.

In terms of marital status, the majority of participants were single (86.3%, n=157), followed by those engaged (8.8%, n=16), and married (4.9%, n=9). When considering the university sector, participants were primarily from the public sector (68.7%, n=125) as opposed to the private sector (31.3%, n=57).

The distribution of participants across professional years highlighted that the final year students formed the largest group at 41.2% (n=75), followed by third-year students (24.7%, n=45), fourth-year students (14.3%, n=26), second-year students (9.9%, n=18), and first-year students (6%, n=11). A small fraction of participants were doing their house job, accounting for 3.8% (n=7) of the study population. Table-1

Variable		**N (%)**
Gender	Male	44 (24.2%)
	Female	138 (75.8%)
Age	MEAN ± SD	22.61 ± 2.075
cGPA	MEAN ± SD	3.47 ± 0.47
Marital Status	Single	157 (86.3%)
	Engaged	16 (8.8%)
	Married	9 (4.9%)

University Sector	Public Sector	125 (68.7%)
	Private Sector	57 (31.3%)
Professional Year	First year	11 (6%)
	Second year	18 (9.9%)
	Third Year	45 (24.7%)
	Forth Year	26 (14.3%)
	Final year	75 (41.2%)
	House Job	7 (3.8%)

Table 1: Demographics & Educational characteristics of study participants

The results of nutritional intake indicate that the average number of meals eaten by medical students per day is approximately 2.38, with a tendency to frequently miss breakfast (51.6%). A significant majority (78%) reported snacking between meals. Less than half (37.9%) take dietary supplements or vitamins. The quality of meals was predominantly rated as fair (41.8%) or good (40.7%), with a small percentage considering their meal quality as excellent (5.5%). Fruit and vegetable consumption was variable, with 35.7% consuming them sometimes and 34.6% often. Fast food or processed food consumption showed that 40.7% of students consume them sometimes, while 35.7% do so often

Nutritional Intake of Medical Students		
How many meals do you eat in a day	**Mean** ± SD	2.38 ± 0.668
Do you miss your breakfast frequently ?	**Yes N(%)**	94 (51.6%)
	No N(%)	88 (48.4%)
Do you usually have snacks between meals?	**Yes N(%)**	142 (78%)
	No N(%)	40 (22%)
Do you take any dietary supplements or vitamins?	**Yes N(%)**	69 (37.9%)

	No N(%)	113 (62.1%)
How would you describe the quality of your meals?	**Poor**	22 (12.1%)
	Fair	76 (41.8%)
	Good	74 (40.7%)
	Excellent	10 (5.5%)
How often do you consume fruits and vegetables?	**Rarely**	34 (18.7%)
	Sometimes	65 (35.7%)
	Often	63 (34.6%)
	Always	20 (11%)
How often do you consume fast food or processed foods?	**Rarely**	23 (12.6%)
	Sometimes	74 (40.7%)
	Often	65 (35.7%)
	Always	20 (11%)

Table 2: Nutritional habits of medical students

The survey showed a Cronbach alpha of 0.888 showing a good inter-item reliability of the questionnaire. Out of 182 respondents, a majority perceived the overall quality of life as average (43.4%) or good (42.9%). A smaller proportion rated it as very good (8.8%), while the percentage of those who rated it as poor was the least (4.9%). When it came to overall satisfaction with their health, the results showed that 38.5% of respondents were neither satisfied nor dissatisfied, suggesting a neutral perception of their health. Meanwhile, 35.7% reported being satisfied, and a very small fraction (2.2%) expressed being very satisfied. On the other end of the spectrum, 19.2% of respondents were fairly dissatisfied, and 4.4% were very dissatisfied. The combined dissatisfied responses (23.6%) are notably less than the combined satisfied and very satisfied responses (37.9%), indicating a more positive lean in overall satisfaction.

The analysis revealed significant gender differences in all health domains. Males reported lower mean scores compared to females in physical health (63.82 ± 16.63 vs. 73.19 ± 15.11), social health (37.18 ± 9.47 vs. 43.07 ± 10.15), and notably in environmental health (47.00 ± 26.98 vs. 62.74 ± 21.87). Psychological health scores were slightly lower for males (58.91 ± 14.37) than females (59.16 ± 15.45), indicating a lesser, albeit present, gender disparity in this domain. Marital status also appeared to influence health outcomes. Engaged students reported higher psychological (61.50 ± 12.55) and social health scores (48.75 ± 6.40) compared to single and married counterparts. Single students showed

relatively higher physical (71.34 ± 15.49) and environmental health scores (59.68 ± 24.49) than those who were married, highlighting the potential stress and health impacts associated with marital responsibilities.

Students from public sector universities scored higher in all health domains than their private sector counterparts, with mean scores indicating better physical (72.52 ± 15.64 vs. 67.42 ± 16.22), psychological (60.93 ± 15.86 vs. 55.09 ± 12.74), social (42.53 ± 10.57 vs. 39.72 ± 9.44), and environmental health (59.33 ± 25.69 vs. 58.07 ± 20.35). This suggests that the environment and possibly the resources available in public universities may be more conducive to student health. The analysis across professional years revealed interesting trends. First-year students displayed the highest physical health scores (74.09 ± 20.60), while third-year students reported the highest environmental health scores (70.27 ± 16.56). Psychological health peaked in the first year (66.18 ± 19.95) and tended to decrease as students progressed through their education, with a slight increase in the final year. Table-3

Students who reported not missing breakfast frequently showed significantly higher mean scores in all health domains: physical (76.02 ± 15.20), psychological (62.91 ± 14.65), social (43.82 ± 12.10), and environmental health (63.20 ± 24.45), compared to those who frequently missed breakfast. This underscores the importance of regular breakfast consumption for overall health and well-being.Table-3

Independent Variable		**Physical Health**	**Psychological Health**	**Social Health**	**Environmental Health**
		Mean ± SD	**Mean ± SD**	**Mean ± SD**	**Mean ± SD**
Gender	**Male**	63.82 ± 16.63	58.91 ± 14.37	37.18 ± 9.47	47.00 ± 26.98
	Female	73.19 ± 15.11	59.16 ± 15.45	43.07 ± 10.15	62.74 ± 21.87
Marital Status	**Single**	71.34 ± 15.49	58.96 ± 15.83	40.87 ± 10.59	59.68 ± 24.49
	Engaged	71.25 ± 20.42	61.50 ± 12.55	48.75 ± 6.40	54.00 ± 26.89
	Married	63.00 ± 15.10	57.33 ± 2.00	42.67 ± 4.00	54.67 ± 2.00
University	**Public**	72.52 ± 15.64	60.93 ± 15.86	42.53 ± 10.57	59.33 ± 25.69

Sector	**Sector**				
	Private Sector	67.42 ± 16.22	55.09 ± 12.74	39.72 ± 9.44	58.07 ± 20.35
Professional Year	**First Year**	74.09 ± 20.60	66.18 ± 19.95	46.55 ± 12.56	50.18 ± 24.16
	Second Year	64.33 ± 13.16	61.11 ± 11.13	38.22 ± 7.42	34.44 ± 29.65
	Third Year	75.27 ± 16.12	60.62 ± 18.03	44.09 ± 9.85	70.27 ± 16.56
	Forth Year	66.69 ± 12.54	55.23 ± 15.39	37.38 ± 10.67	54.38 ± 21.84
	Final Year	71.75 ± 15.59	58.29 ± 13.11	41.28 ± 10.30	61.04 ± 21.15
	House job	61.86 ± 21.38	56.00 ± 14.97	46.86 ± 6.41	57.14 ± 38.49
Do you miss your breakfast frequently?	**No**	76.02 ± 15.20	62.91 ± 14.65	43.82 ± 12.10	63.20 ± 24.45
	Yes	66.15 ± 15.23	55.53 ± 14.83	39.62 ± 7.76	54.94 ± 23.18

Table 3 Correlation of WHOQoL-BREF scoring with demographics & Nutritional variable

DISCUSSION

The present cross-sectional study aimed to comprehensively describe the relationship between quality of life (QoL) and nutritional intake in an academic demographic known for its demanding academic environment, medical students. A significant proportion of medical students reported poor nutritional habits (including a high frequency of breakfast skipping and a preference for snacking between meals). They also acknowledged the diverse impact of nutritional intake on QoL domains (including gender differences in health perceptions and the role of the university sector on QoL scores).

Dietary habits, particularly the consumption of fast foods and carbonated drinks, have been observed to significantly influence the nutritional status of medical students. Grygiel-Górniak et al. (14)found that

dietary habits were improperly balanced among medical students, characterized by high amounts of total and animal protein and insufficient intake of carbohydrates, dietary fiber, and essential vitamins. This study also noted an association between dietary habits and physical activity levels, suggesting a complex interaction between lifestyle factors and nutritional status.

An important factor affecting nutritional status is the level of nutritional knowledge among students. Perlstein et al. (15) explored medical students' perceptions of the importance of nutritional knowledge and found that while students recognized the significance of nutrition in disease management, they reported limited confidence in their nutritional management knowledge. This lack of confidence underscores the necessity for enhanced nutrition education within medical curricula.

These findings are supported by recent studies indicating that the demanding nature of medical education can significantly impact students' lifestyles and health behaviors, including their nutritional intake, ultimately affecting their QoL (16, 17). Stressful academic workload, irregular eating patterns, and insufficient intake of healthy foods have been consistently reported among medical students, raising concerns about their potential long-term health implications(18, 19).

The challenges and pressures of studying medicine have always been known to impact the QoL of students. This complex matter involves aspects such, as health, mental wellness, social connections and environmental influences. Recent studies, including the insights shared in the accompanying article highlight how dietary choices can greatly influence these areas of life quality for students.

The gender differences observed in QoL domains align with existing literature, which often reports lower physical and psychological well-being among female students compared to their male counterparts (20, 21). This disparity underscores the necessity for gender-sensitive interventions in medical education and student wellness programs.

Furthermore, the study's insights into the influence of the university sector on students' QoL suggest that the resources available and the environment in public universities may be more conducive to student health (22, 23). This finding prompts a reevaluation of resource allocation and support systems in private institutions to enhance student well-being.

The correlation between poor nutritional habits and reduced QoL emphasizes the need for comprehensive strategies aimed at improving medical students' diets and lifestyle choices. Interventions such as curriculum modifications to include nutritional education, stress management programs, and increased access to healthy food options on campus could potentially mitigate some of the adverse effects observed (24, 25).

CONCLUSION

The relationship, between the eating habits and quality of life of students is intricate and multifaceted. This research adds to the growing body of knowledge indicating that the intense demands of training can have effects on students well-being. By emphasizing the important role nutrition plays in this dynamic it calls for targeted efforts to address both the mental aspects of student health. Future studies should focus on tracking the effects of interventions aimed at enhancing eating habits and overall well-being among students, over time thus supporting their path to becoming skilled and healthy healthcare professionals.

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