



ORIGINAL RESEARCH PAPER

Community Medicine

UNDERGRADUATE MEDICAL STUDENTS' PERCEPTION ON DIET SURVEY TECHNIQUE

KEY WORDS: Nutrition education, Diet survey technique, Medical Students

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ABSTRACT

Competency based medical education is emphasize on student centric learning, their opinion will also help in making a suitable framework for nutrition education for undergraduate medical students. Hence, the objective of this study is to assess the perception of undergraduate medical students about diet survey analysis. A cross-sectional study was conducted among 140 final-year MBBS students. Perception was assessed using a five-point Likert scale and expressed in percentages. Majority (77.9%) of the study participants agreed or strongly agree that nutrition education is relevant in MBBS course. Among the study participants, 45% of the respondents reported that nutrition is more theoretical than practical, and 67.9% agreed that it is difficult to conduct diet survey technique using 24-hour recall method. 69.3% agree or strongly agree that diet counselling is important. Participants generally perceived nutrition education as relevant and didn't find survey techniques overly challenging, there were variations in perceptions based on age and gender, particularly regarding the practical application and recollection of nutritional concepts.

INTRODUCTION

Nutrition has an inevitable role in disease prevention and control [1,2]. Nutritional assessment is one of the pillars of nutritional care [3]. Regular nutritional assessment and nutritional counselling will help to prevent a myriad of health problems. However, application of nutrition and diet counselling for patient care by health professionals is insufficient and there are various perceptions about nutritional education and diet counselling among medical fraternity globally [4-6]. Inadequate training in nutrition during undergraduate period leads to lack of interest and confidence in dietary assessment and counselling in their future clinical practice. In spite of inadequate nutrition training, medical students acknowledge that nutrition and diet counselling have a paramount role in disease prevention [7]. This study was aimed to assess the perception of undergraduate medical students about diet analysis during MBBS curriculum.

MATERIAL AND METHOD

A cross-sectional study was conducted in Government TD Medical College, Alappuzha, Kerala during January 2019 to March 2019. Phase 3 medical students posted at Community Medicine were participated in this study. Those students who were completely absent during Community Medicine practical classes were excluded from the study. Total sample size was 140.

A 17 -item questionnaire with five-point Likert scale ranging from 1 (Strongly Disagree) to 5 (Strongly agree) was used to measure the perception. The questionnaire was prepared based on diet survey techniques taught during the course. This study was approved by Institutional Ethical Committee (EC19/2019), Government Medical College, Alappuzha.

Data was entered in Microsoft Excel 2016 and analyzed using Jamovi version 2.3.28. Perception was expressed in proportion as strongly disagree, disagree, neutral, agree & strongly agree. Normality testing was done before bivariate analysis. Mann-Whitney U test was used to test the association between age (≤ 22 years & > 22 years) and gender with perception. P value less 0.05 was considered as statistical significance.

RESULTS

The response rate was 93.33%. Majority (78.6%) of the study participants were in the age group of 22 to 23 years. Median

age was 22.0 (IQR 1.00). Out of 140 participants, 77 (55%) and 63(45%) were females and males respectively. A majority of participants (77.9%) agree or strongly agree that nutrition education is relevant in the MBBS course. A significant portion (45%) either agree or strongly agree that nutrition is more theoretical than practical. The majority (65.7%) either agree or strongly agree that the principles of a balanced diet are difficult to understand. A substantial portion (56.4%) agree or strongly agree that nutritional requirement calculation is difficult to recollect. A majority (66.5%) agree or strongly agree that recommended daily allowances of common nutrients are difficult to recollect. Most participants (76.4%) agree or strongly agree that memorizing the nutritive values of all food items is difficult. A slight majority (71.5%) agree or strongly agree that they can recollect approximate nutritive values of common food items consumed by people. A majority (62.1%) either disagree or strongly disagree that the diet survey technique using the 24-hour recall method is difficult to understand. A majority (67.9%) agree or strongly agree that the diet survey technique using the 24-hour recall method is difficult to conduct. A significant majority (60%) agree or strongly agree that it is difficult to quantify each food item consumed by a person using the 24-hour recall method. A significant majority (49.2%) agree or strongly agree that it is difficult to calculate the calorie and protein of each food item. A majority (45%) agree or strongly agree that the time allotted for learning the diet survey technique is too short. A slight majority (65.7%) either agree or strongly agree that one family (one individual) allotted for taking diet survey analysis is enough for learning the technique. A majority (64.3%) agree or strongly agree that interpretation of diet analysis is difficult. A majority (61.4%) either agree or strongly agree that learning dietary modification on disease condition is difficult. A significant majority (62.2%) agree or strongly agree that missing one practical class on diet will affect understanding diet survey technique and analysis. A majority (69.3%) either disagree or strongly disagree that as a practicing doctor, diet analysis and counselling have no use. Both age and gender significantly affect perception about recommended daily allowance of common nutrients are difficult to recollect (Q5) and quantify food items(Q10). (p value <0.05) Showed in the Table 1 & 2.

Perception Questions (PQ2 & PQ12) were statistically significant with Gender (Mann-Whitney U test, df 138, p value <0.05), and PQ4 & PQ13 were statistically significant with Age category (Mann-Whitney U test, df 138, p value <0.05). No

statistically significant results were obtained for the other perception questions.

Table -1 Association between Age category(≤22 years &>22 years) and Perception

Perception question number	Statistics*	p-value
5	1733	0.026
10	1739	0.030

*Mann-Whitney U test. df 138 p < .05 significant

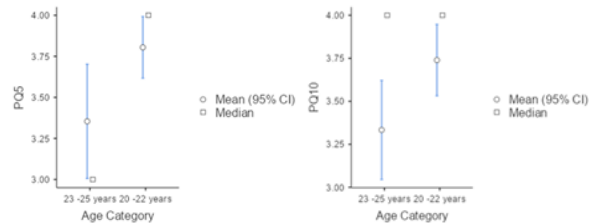


Figure -1 Descriptive plots showing the association between age category & Perception (PQ5 & PQ10)

Table – 2 Association Between Gender And Perception

Perception question number	Statistics*	p-value
5	1571	< .001
10	1875	0.015

*Mann-Whitney U test. df 138 p < .05 significant

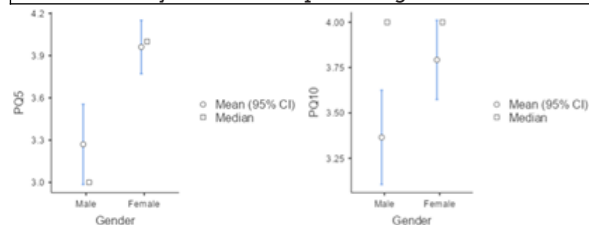


Figure -2 Descriptive plots showing the association between Gender & Perception(PQ5&PQ10)

DISCUSSION

According to this study majority of the participants agree that nutrition is a relevant topic in the medical curriculum. Similar result was found in W. Long, P. Neild study [8], in which, 75% of the medical students agreed that strong understanding of nutrition is an important aspect of a doctor’s job and 71% of students agreed that nutrition should be included in the undergraduate medical curriculum. Majority of the participants of revealed the fact that doctor plays an important role in diet calculation and counselling.

According to the study, one third of the participants agreed that current practice of teaching nutrition is more theoretical than practical. Current nutrition related teaching and learning methods are structured to ramp up knowledge, but not to scale up skills like communication, attitude and counselling. Hence, it is more essential to move away from the knowledge dominated learning method to more skill-oriented teaching method. Competency based Medical Education will ensure skill-based teaching and learning [9].

More than half of the students felt that it is difficult to recollect RDA of common nutrients and 3/4th of the participants also held the opinion that memorizing the nutritive values of all food items were also difficult. Morge et al reported that students felt that their knowledge and skills in nutrition could be improved if nutrition as a theme was incorporated early in their training and maintained throughout entire curriculum [8]. As our medical curriculum has fixed time schedule, a longitudinal integrated approach in training will be beneficial for students to learn diet assessment and counselling.

In this study 40% of medical students agreed to the statement that “I am confident in giving diet counselling”. A study

conducted by Natalie et al in 2017 revealed that there was limited nutritional education in medical schools and students felt that they learned nutritional biochemistry but not basic nutrition knowledge to counsel patients. Since the nutrition course work was limited, they were not confident to provide nutritional counselling to patients in clinical setting. In spite of knowledge acquired, students said that they need more training on nutrition and exposure to counselling [8]. W. Long and P. Neild reported that only 50% of clinicians were confident in managing nutrition related problems and the study also revealed the fact that among the confident clinicians, 63.4% acquired confidence after one year practice [10].

CONCLUSIONS

To tackle food quantification challenges in diet surveys, educators must prioritize practical skills like portion estimation and food measurement. Hands-on training and guidance on effective data collection enhance survey proficiency. Nutrition education should stress interdisciplinary collaboration among healthcare professionals for comprehensive patient care. Encouraging teamwork and communication among physicians, dietitians, and allied health professionals is crucial. Further research is needed to explore factors influencing nutrition education perceptions and assess educational interventions’ long-term impact on practice and patient outcomes. Continuous program evaluation ensures high-quality education.

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