

KNOWLEDGE, ATTITUDE AND PRACTICE OF MEDICAL INTERNS TOWARDS MEDICAL NUTRITIONAL THERAPY

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ABSTRACT

Nutritional therapy is an important component of management of diseases. Dietary modifications and restrictions not just helps in prevention of diseases but also prevents development of long term complications and also increases the efficacy of medications. However the current medical education curriculum does not provide much emphasis on the nutritional aspect of the disease management as a result majority of the physicians do not feel comfortable and confident to provide nutritional counselling to the patients. This may be attributed to lack of knowledge, attitude and practice towards medical nutritional therapy. This questionnaire based study was conducted in the medical interns of Era's Lucknow Medical College, Lucknow. The questionnaire was divided into 3 main subparts in order to assess the knowledge, attitude and practice of the interns towards medical nutritional therapy. This was a descriptive study design in which the data was represented as frequencies(%). A total of 123 responses were recorded. A mean knowledge score of 6 out of 10 was recorded. Most interns were not able to correctly define a term medical nutritional therapy. However, majority of the interns were able to identify the nutritional approach towards common medical diseases such as diabetes, Gastrointestinal reflux diseases(GERD), hypothyroidism and Nutritional anaemia. A positive attitude was seen in the interns towards the nutritional therapy. Looking at the practices it was observed that most of the participants would provide some degree of nutritional counselling to their patients but were not confident enough. Most of them would never refer their patients of a medical nutritionist. The study highlighted majority of medical graduates lack proper knowledge, attitude and practice towards medical nutritional therapy and there is a need to inculcate specific nutritional knowledge in the medical curriculum.

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INTRODUCTION

A healthy diet is a prerequisite for good health. It plays diverse roles ranging from providing energy, building our muscle mass, boosting immunity to mental well-being. There is a vast unmet need for balanced diet either because of limited resources, unavailability or lack of knowledge and awareness. Several nutritional deficiency diseases like scurvy, rickets, certain types of anaemias, endemic goitre, etc. can effectively be prevented by access to nutritional awareness and proper diet. Apart from medicines, our diet and nutrition has a very important implication on the very process of recovery from various diseases.

Dietary modification is usually the first line therapy for borderline lifestyle diseases such as diabetes mellitus, hypertension, etc.

In India many systems of medicine are practised, with some relying heavily on diet and nutritional therapy along with medications. Diet and nutrition has got

special attention in Ayurveda system of medicine, but in Allopathy; although there is documentation of nutritional deficiency diseases and possible food and drug interactions, importance of imparting knowledge about dietary modifications is not stressed much as evident from lack of any lectures on 'Nutrition and diet' in MBBS curriculum.

Most physicians are well aware of the management of the diseases but it has been suggested by many studies that most practicing physicians and medical students including interns are not well prepared to discuss specific dietary recommendations to their patients (1-7)

Physicians and medical students sometimes lack nutritional proficiency, which may be attributed to inadequate nutrition education during medical school. Previous research on allopathic medical students found that medical schools do not provide the recommended number of hours of nutrition education (8).

This study aimed at assessing the level of awareness about nutritional therapy and proficiency in recommending dietary advices in specific diseases among Interns & MBBS final year students at ERA's Lucknow Medical College & Hospital.

The findings of this study may prove useful in throwing light on the need of inculcating nutritional and dietary knowledge and awareness among Indian medical graduates (IMG) by adding lectures on the same in the MBBS curriculum leading to the efficient incorporation of the same in their clinical practice.

AIM OF THE STUDY:

To assess the knowledge, attitude and practices of medical interns towards the medical nutrition therapy

MATERIAL AND METHODS:

STUDY POPULATION:

The study was conducted in the month of May 2021 at Era's Lucknow Medical College, Lucknow, India. The study participants were the interns working at the medical college Hospital. The study questionnaire was designed using online Google form web application. An online questionnaire link was sent to 150 participants through a WhatsApp group out of which 123 responses were recorded.

ETHICAL CONSIDERATION:

The research topic was explained to the students, who were given the option to participate or refuse. The information received from the participants was kept secure in the database maintaining the confidentiality of the participants. The study was conducted in accordance with the declaration of Helsinki.

QUESTIONNAIRE:

The study questionnaire had the details of the participants like Name, Age, Gender and MBBS batch in the first column and the next part had a total of 20 questions divided into 3 subparts of Knowledge, Attitude and Practices towards the Medical Nutritional therapy (MNT).

The correct answer scored one point and the incorrect answer scored zero point.

In order to determine the knowledge of the participants a 10 points questionnaire was designed, each question was specific to the nutritional knowledge of a particular chronic disease like Diabetes, Hypertension, Hypothyroidism, GERD etc. A correct response scored one point and a wrong response scored a zero. Score in response to 10 questions were added (zero to ten) score from zero to four was poor knowledge, five to seven was taken some knowledge and score above seven was taken as good knowledge.

The attitude towards Medical Nutritional therapy was assessed by four questions framed using a modified Likert scale. The response options were as follows: agree (2 points), disagree (1 point) and Neutral (0 point). Score between zero to four was taken as poor attitude and score between five to eight was taken as good attitude.

In order to measure the practices of the participants a 6-point questionnaire was taken. A correct response scored one point while an incorrect response scored zero points, with a total score ranging from zero to six points. Using three as the cutoff point, poor practices were classified according to a score ranging from zero to three, and good practices were classified according to a score ranging from four to six points.

At the end of the questionnaire a feedback column was provided to the participant. (Annexure 1)

RESULTS:

A total of 123 interns participated in the study. The basic demographic characteristics shown in Table 1. The median age of the participants were 23 years with age range of 22 to 26 years. A total of 52% participants were females and 47.9% were males. 102 students were from MBBS batch 2016-17 and 21 students were from batch 2015-16

Study variables	N (%)
Age (years)	
22 years	30(24.3%)
23 years	41(33.3%)
24 years	22(17.8%)
25 years	18(14.6%)
26 years	12 (9.7%)
Gender	
Male	59(47.9%)
Female	64(52%)
Batch	
2015-16	21 (17%)
2016-17	102 (82.9%)

Tab. 1: Demographic Characteristics of the Participants

KNOWLEDGE:

The mean knowledge score of the students was 6/10. The specific score for each question is highlighted in Table 2. Majority of students were not able to correctly define the term Medical nutritional therapy. Majority of students (n=40) believed that medical nutritional therapy is treatment of chronic disease through a universal approach. Only 18%(n=23) were able to correctly define the term.

Majority of the participants had a notion that medical nutritional therapy is aimed to prevent the occurrence of the disease (n=48;39.02%) whereas the correct aspect of MNT is to prevent, treat, reduce chances of occurrence of complication as well as increasing the effectiveness of the medications.

Talking about the knowledge related to specific diseases the students had a much better understanding. Most of the students were able to identify the nutritional goal in Diabetes mellitus. (n=50;40.6%) and also were able to identify the foods to be avoided in diabetes.

Talking about hypertension, the students had poor knowledge. A higher percentage of interns answered that diet with low sodium as well as low potassium should be avoided in hypertension (n=46;37.39%)

Dietary restrictions in hypothyroidism, GERD and hyperuricemia were correctly identified by most of the students. The interns were able to answer the common foods to be taken in iron deficiency anemia. However strikingly majority of the interns believed that vegetarian foods are better source of haem iron (N=68;55.28%) than the non-vegetarian foods.

ATTITUDE:

Majority of the respondents agreed to the fact that nutritional therapy in medicine provided a clinical benefit in lifestyle diseases (n=91;73.9%) and agreed to the fact that regular dietary regulations and lifestyle modifications are important steps to maintain a good

glycemic control in a patient of diabetes (n=50;40.65%)

However, it was noted that the attitude towards prescribing multivitamins in healthy individuals was incorrect. Most responses showed that adding multivitamins to the healthy individuals will provide additional benefit (n=63)

Most of the respondents (n=70;56.9%) agreed to the point that lectures on specific nutritional therapy in chronic/life style diseases should be incorporated in the medical curriculum. (Table 3)

PRACTICES:

Looking at the practices of the interns it was noted that most of them would provide some degree of the nutritional counselling to the patients. (n=70;56.9%) Majority of the respondents (n=70;56.9%) had some idea about the caloric values of common Indian foods.

Most respondents would not send their patients for specific nutritional counseling by a qualified medical nutritionist. Various factors have been attributed towards nutritional practices of an individual like the socioeconomic factors, availability of foods, literacy and awareness. However, most respondents believed that socio economic factor is most important (50;40.65%) while implementing the nutritional therapy in individuals.

Most respondents (n=76;61.7%) would personally implement the nutritional therapy in their lives if there is necessity for wellbeing. (Table 4)

		N (%)
K1	What do you mean by the term Medical Nutritional Therapy	
	a. Dietary approach for the treatment of chronic diseases through a universal approach	40(32.52%)
	b. Dietary approach for the treatment of chronic diseases through an individualized approach *	23(18.69%)
	c. Planning a healthy diet for an individual by a medical nutritionist	20(16.20%)
	d. All options are correct	40(32.52%)
K2	Medical Nutritional therapy may help in which of the following ways	
	a.Prevent development of disease	48 (39.02%)
	b.Management of disease	20(16.2%)
	c.Enhance the effectiveness of the medications	12 (9.75%)
	d.Prevent long term complication of disease	17 (13.8%)
	e.All of the above*	26(21.1%)

Tab. 2: Knowledge of Participants Towards Medical Nutritional Therapy

K3	What do you think should be the nutritional goal in a diabetic patient? a.Complete elimination of carbohydrates from the diet b.Carbohydrates should not be more than 45% of daily dietary intake c.Adding extra carbohydrates to the diet d.Aggressive weight loss programme through dietary restrictions	23(17.9%) 50(40.6%) 2 (1.6%) 48 (39.02%)
K4	What should be the dietary approach in a patient of hypertension a.Low sodium diet, high in potassium* b.Low in sodium and potassium c.Low carbohydrate diet d.Diet deficient in calcium and magnesium	33(26.8%) 46(37.39%) 09(7.31%) 35(28.4%)
K5	According to you what should be the nutritional approach for a patient of GERD a.A diet rich in dietary fibers b.Low salt diet c.Avoiding spice and pickled food d.All of the above options are correct	12(9.75%) 38(30.8%) 60(48.7%) 13(10.56%)
K6	What foods should be avoided in a patient of hypothyroidism a.Cabbage/broccoli b.Stale rice c.Curd/yoghurt d.All of the above	20(16.2%) 32(26.01%) 31 (25.2%) 40(32.5%)
K7	Which of the following is a rich source of haem iron? a.Non vegetarian sources: Liver, fish and meat b.Vegetarian sources: green leafy vegetable, soybean, tofu	68 (55.28%) 55 (44.71%)
K8	Which foods should be restricted in patient with moderate/severe gouty arthritis? a.High calorie food b.Fat rich food c.High fat diet d.Protein rich diet	23(18.6%) 14(11.38%) 32(26.01%) 41(33.3%)
K9	What type of NON-VEGETARIAN diet should be advised in a patient of diabetes with dyslipidemia a.Red meat b.Offal c.Fish and sea foods	14(11.38%) 23(19.16%) 86(69.9%)
K10	Which foods should be advised to vegetarian people suffering from mild to moderate anemia with no other comorbidities? a.Jaggery b.Dark green leafy vegetables such as spinach c.Tofu d.All of the above	30(24.39%) 23(18.69%) 12(9.75%) 58(47.1%)

Cont. Tab. 2: Knowledge of Participants Towards Medical Nutritional Therapy

		N (%)
A1	Do you think that nutritional therapy may provide clinical benefit in patients of chronic/lifestyle diseases? A.Agree (2) B.Disagree (1) C.Neutral (0)	91(73.9%) 25(20.3%) 7(5.6%)
A2	Do you think that regular dietary regulations and lifestyle modifications are important steps to maintain a good glycemic control in a patient of diabetes? A.Agree (2) B.Disagree (1) C.Neutral (0)	100(81.3%) 4(3.25%) 19(15.4%)
A3	Do you think that prescribing Health supplements (Multivitamins) in healthy individuals will not provide some additional benefit? A.Agree (2) B.Disagree (1) C.Neutral (0)	50(40.65%) 63(51.21%) 10(8.3%)
A4	Do you feel that lectures on specific nutritional therapy in chronic/lifestyle diseases should be incorporated in the medical curriculum? A.Agree (2) B.Disagree (1) C.Neutral (0)	70(56.9%) 50(40.6%) 3(2.46%)

Tab. 3: Attitude of Participants Towards Medical Nutritional Therapy

		N (%)
P1	Do you routinely provide a dietary counselling to a patient of lifestyle disease? A.Yes B.No	70(56.9%) 53(43.08%)
P2	Do you refer a patient of uncontrolled diabetes mellitus to a dietician for specific nutritional therapy? A.Yes B. No	60 (48.7%) 63(51.2%)
P3	Do you have any idea about the caloric values of common Indian foods? A. Have Idea B. Some idea C. No idea	15(12.19%) 70(56.9%) 40(32.5%)

Tab. 4: Practices of Participants Towards Medical Nutritional Therapy

P4	Which of the following factors do you find most important during dietary modifications in a patient of lifestyle disease? (select the most appropriate choice) A. Availability of foods B. Socio economic status of patient C. Patient literacy D. Awareness in the patient	20(16.2%) 50(40.65%) 43(34.9%) 10(8.1%)
P5	What is your approach in a prehypertensive individual without any other comorbidity? A. Early medical intervention B. Dietary restrictions/modifications C. Regular blood pressure monitoring only	50 (40.6%) 43(34.9%) 30(24.3%)
P6	Do you think that major change in dietary habits would be possible to implement for yourself in case of lifestyle diseases? A. Yes B. No	76(61.7%) 47(38.2%)

Cont. Tab. 4: Practices of Participants Towards Medical Nutritional Therapy

DISCUSSION

Adequate and balanced nutrition plays a key role in disease prevention and treatment. Many patients/attendants understand this link and expect physicians for guidance on diet and physical activity. But in actual practice, however, the physician is often not fully confident in addressing the nutrition aspects of diseases such as diabetes, thyroid disorders, hypertension, GERD etc. Physicians do not feel confident, comfortable or adequately prepared to provide nutrition counselling, which may be attributed to lack of knowledge of basic nutrition science, and understanding of potential nutrition interventions. Historically, nutrition education has been underrepresented at many medical schools and residency programs.

Our study show that most medical students were not fully aware about nutritional therapies prescribed in different diseases. Also there are several studies which show the reluctance of medical schools in ensuring adequate nutrition education, and they are not producing graduates with the nutrition competencies required in medical practice (1-4)

Tanis V Mihalynuk et al., 2003 reported that there is poor proficiency of the practicing family physicians in the nutritional knowledge and practices(5)

Marigold Castillo, 2016 showed that the medical graduates joining the Paediatric residency programme were deficient in basic nutritional knowledge (6)

A national survey conducted by Kelly M Adams, 2010 in the united states across 108 medical institutions concluded that medical students received only 19.6

contact hours of nutrition instruction during their medical school careers which is insufficient(8)

Jonathan Broad, 2018 reported a similar finding in the medical graduates of the United Kingdom. The author suggest that an elective course dedicated to nutritional knowledge can improve the competency of the medical graduates. (9)

Leah M Gramlich et al., 2010 conducted a similar study in the Students of a Canadian medical school. It was concluded that a significant number of students are dissatisfied with the nutrition education they receive and their ability to provide relevant and appropriate nutrition counselling. (10)

Majority of the studies conducted in the past were from the western countries like the United States(US), United Kingdom(UK) and Canada. Our study was unique in this aspect as it was able to highlight the aspect of nutritional knowledge in the Indian medical graduates.

These findings of our study showed willingness and level of positive 'attitude' and 'practice' among IMGs towards MNT. The only area they are lacking is the level of 'knowledge and skill' while prescribing dietary modifications or recommendations in some commonly occurring chronic lifestyle and metabolism disorders.

CONCLUSION

Thus, we can conclude that the medical graduates lack sound knowledge about the nutritional aspect of medicine, most interns do not feel confident enough to provide nutritional guidance to the patients. Thus, medical curriculum must emphasize more on nutritional aspect of diseases.

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