Volume : 2 | Issue : 8 | August 2013 • ISSN No 2277 - 8179

Research Paper

Comparision of Nutrition Knowledge And Awareness Among Junior and Senior Medical Students Before and After Teaching Done In Nutrition

Medical Science

KEYWORDS : Nutritional knowledge, eating habits, awareness, dietary issues

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ABSTRACT

Introduction: Nutrition remains the cornerstone in strategies for disease prevention and health promotion1. The present study indicates lack of nutrition knowledge in medical students.

Materials and Methodology: A cross sectional study conducted on 2nd semester (junior) and 6th semester (senior) medical students from December 2012 to Feb 2013.Total 200 students were interviewed by a pretested and predesigned questionnaire.

Results: In this study (91%) 6th semester students have shown interest in nutrition topic compared to (49%) 2nd semester students which is statistically significant.69.75% of 6th semester students correctly answered questions compared to 43.56% of 2nd semester students.100% students of 6th semester know about major health problems associated with nutrition compared to 34% of 2nd semester students, which is statistically significant (p<0.001%).

Introduction:
Nutrition interferes significantly with every field of medicine1 Nutrition is an important component in the treatment of acute and chronic diseases and plays an important role in the etiology of many diseases2.Despite the acknowledged importance of nutrition, there is evidence to indicate that nutrition training of medical students is inadequate in both quality and quantity. The solution to above dilemma is to raise awareness through training of medical students regarding importance of concepts of nutrition.

Objectives:
1. The study aimed to collect baseline data regarding knowledge of nutrition and nutrition related major health problems in medical students
2. To find out the effect of intervention in form of lectures in nutrition on nutrition knowledge and awareness among senior and junior medical students.

Materials and Methodology:
It was a cross sectional study conducted on 2nd and 6th semester under graduate medical students of B. J. Medical College, Ahmedabad from December 2012 to Feb 2013.Firstly the questionnaire was pretested in a pilot study according to which the prevalence of nutrition knowledge is around 70%. So, according to the formula 4pq/l2, taking 20% as dropout the sample size comes to be 200.Randomly 200 students (100 from 6th semester and 100 from 2nd semester) were given a pretested and predesigned questionnaire to assess their knowledge and awareness of diseases associated with nutrition. The questionnaire contained 16 multiple choice questions each with three possible answers.

Data was analysed in Epi-info software (version 3.5).

Results:
Interest: 6th semester students have shown more interest (91%) compared to 2nd semester (49%) students which is statistically significant (p<0.05). More interest is for subtopic protein (32%) followed by carbohydrates (24%) then vitamins (11.5%). Same interest for fat subtopic is by both semesters which is poor (mean3%).In combination more interest is shown for carbohydrates and protein subtopic.

Sources of information: 6th Semester students have more knowledge (98%) than 2nd semester students (68%). They have learned nutrition from p.s.m lectures (54%) followed by newspapers (24.5%) and internet. 2nd semester students have also learned nutrition from 1st year subjects. In combination maximum information they are getting from lectures and internet.

Knowledge Assessment: 16 multiple choice questions, each with three possible answers were asked to assess their knowledge on nutrition topic included in their study course. (Table 1)

Awareness of major health problems: 100% students of 6th semester know about major health problems associated with nutrition compared to 34% of 2nd semester students which is statistically significant (p<0.001%). (Table 2)

Table (1) shows the mean score in the current study for correctly answered questions by 6th semester was 69.75% and by 2nd semester was 43.56%.The mean score for correctly answered questions by 6th semester was relatively similar to score achieved in the survey of Nutrition Knowledge of physicians in Canada (67%) by Temple et al11 and was much higher to the score of (50.7%) which was reported by Kirby et al.12 in a study on family practice residents in Texas.

Table (2) shows 31% students know that sugar is associated with D.M., 24% Know That Salt Is associated with H.T., 12% know about fat association with obesity.

Discussion: In this study knowledge about protein subtopic is more in both semesters followed by carbohydrate then vitamin and fats. Nutrition knowledge among 6th semester medical students is more compared to 2nd semester medical students due to lectures conducted by the p.s.m department as separate topic.2nd semester students also know about nutrition subtopics due to lectures in physiology and biochemistry but about 50% do not know why nutrition knowledge is important. In a similar study done by Shama Shaikh et al3among medical students, interns and postgraduate students of Moti Lal Nehru Government Medical College, Allahabad found that 55% were less knowledgeable which is similar to our study. Similar findings on the knowledge of doctors in Hissar (Haryana) were observed by Suneja and Bhat4 in which the correct responses in therapeutic nutrition ranged from 38% to 66% in government doctors and 18% to 49% in private doctors. A study on 528 senior medical students from nine medical colleges in Taiwan examined a higher percentage of correct answers, which is 60% and 52% respectively in general nutrition and clinical nutrition6.In our study 69 to 49% senior students gave correct answers.

As per a study done by Kartik et al7 baseline knowledge of doctors in Bikaner district of Rajasthan was low, that is 36.2 In this study (29.4%) of final year students were knowledgeable about nutrition .In our study the knowledge level about nutrition among senior medical students is better than this study.

Overall results indicate that there are serious gaps in nutrition

Volume : 2 | Issue : 8 | August 2013 • ISSN No 2277 - 8179

knowledge among 2nd semester medical students. Many are not aware of major nutrition related health problems.

Similarly Winick10 identified the barriers in nutrition education and found that most American medical schools claim severe limitations in teaching time and lack faculty for teaching nutrition as nutrition is perceived as a soft topic. Similar findings by Boker et al1 underscores the need of having qualified and active nutrition faculty members for training future clinicians.

Conclusions:

On the whole the evidence from the study clearly indicate that nutrition should be the part of medical curriculum in all semesters to increase awareness about major nutrition related health problems and basics of nutrition. Strengthening of subtopics of nutrition. Conducting c.m.e.It seems that the knowledge about fats is poor among both junior and senior medical students. Looking to the etiology of lifestyle diseases there is need of strengthening the knowledge about fats. Teaching of nutrition should be in interesting way. Conroy et al3 showed that the confidence of Harvard medical students significantly improved after the nutrition course ($p<0.001$) which included innovative teaching methods such as problem-based learning tutorials, simulated cases to teach counseling skills, and self-assessment exercises in nutrition. The limitation of the study is that findings cannot be generalized as this study was done in one medical college using small sample size. More studies are needed to describe the state of nutrition education in medical colleges to recommend improvements that might be necessary to determine immediate and long term impact on their knowledge and performance.

Table 1: KNOWLEDGE ASSSESSMENT

QUESTIONS	CORRECT ANS	6^{TH} semester (n=100)	2^{nd} semester (n=100)
Beriberi is caused by deficiency of which vitamin	Thiamine	100	85
Highest unsaturated fatty acid is present in which oil	Ground nut oil	55	36
Nutrient which prevents thrombosis	Omega-3 fat	73	62
Adequate level of calcium for adults	600mg/d	47	32
Type of fat in coconut oil	Saturated fat	45	2
Hydrogenated fat contains	More trans fat	77	28
Which nutrient is protective against hypertension	potassium	78	60
Which vitamin causes toxicity in excess	Vitamin A	76	51
Concentrated source of vitamin B12	Meat	87	31
Calorie requirement for 1yr child	1000 calories	59	36
Reference protein	egg	78	41
Lowest value of B.M.I. for diagnosing obesity	>30	64	60
Number of kilocalories from 1gm of fat	9kilocalories	65	47
Which is not antioxidant	zinc	69	38
Nutrient which prevents N.T.Ds	Folic acid	93	54
Why short term diet plans lose weight	Causes body to lose water	52	4

Table 2: Awareness of major health problems

Answered About Major Health Problems	Disease	6^{th} semester (n=100)	2^{nd} semester (n=100)
YES	Is Sugar Associated With Diabetes	46	16
	Is Fat Associated With Obesity	34	14
	Is Salt Consumption Associated With H.T.	20	4
NO		0	66

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