

Diet and Dialogue Skills: An Innovative Approach to Diet Demonstration by Medical Students of Lady Hardinge Medical College

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Abstract

Background: Nutrition is a very essential component of undergraduate teaching in MBBS curriculum. In this age of growing diet-consciousness and fitness, skill development of medical graduates in designing healthy and culturally appropriate diet is imperative. **Objective:** To demonstrate the effectiveness of Diet Demonstration Training technique in improving the knowledge about basic principles of nutrition in medical undergraduates. **Methodology:** A pilot pretest-posttest study was conducted among 16 undergraduate medical students participated in a pre-conference workshop. Steps of diet demonstration for Under-graduate students were performed and a pretest - posttest was conducted using a self designed self administered questionnaire. **Results:** The mean marks received by the students were 8.69 & 10.31 out of 15 in the pretest & post-test respectively (p value <0.017). Overall 56.3% & 93.6% students performed well in pre-test and post-test respectively. **Conclusion:** There was significant improvement in nutrition education of participated undergraduates.

Keywords: Diet demonstration, medical students, nutrition

INTRODUCTION

“Nutrition” is a very essential component of undergraduate teaching in MBBS curriculum. Didactic lectures and practical sessions in the form of diet surveys have been the mainstay of the nutritional education in most of the medical colleges all over India. However, in an age of growing diet-consciousness and fitness, skill development of medical graduates in designing healthy and culturally appropriate diet is imperative. A systematic review done in year 2019 reported that despite the centrality of nutrition to healthy lifestyle, medical students are not supported to provide high-quality, effective nutrition care.^[1-3] In the light of this, we at the Department of Community medicine, Lady Hardinge Medical College have been providing Medical Nutrition Education in the form of Diet Demonstration and creating awareness in the community about how to make a balanced diet with the available resources which would be cost effective and affordable to them.

Diet demonstration is a unique and interesting approach to teaching “Nutrition” wherein a blend of many teaching

methods are used and the teaching progresses in a graded manner. At the outset, a didactic teaching encompassing all basic principles of nutrition, concept of balanced diet during the first semester, diet demonstration in the class-room setting in the third semester followed by hands on training on diet demonstration in the community during the *Family Health Advisory Services* posting during the sixth semester. It was conceptualized way-back in the 1980s and since then it has been an integral component of practical teaching and training mandatory for all batches of under graduates. In this paper, our aim is to demonstrate the effectiveness of Diet Demonstration Training technique in improving the knowledge about basic principles of nutrition in medical undergraduates.

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How to cite this article: Thakur A, Laskar AR, Acharya AS, Rasanias SK, Jain A. Diet and dialogue skills: An innovative approach to diet demonstration by medical students of lady hardinge medical college. *Indian J Community Med* 2021;46:134-6.

Received: 12-03-20, **Accepted:** 07-12-20, **Published:** 01-03-21

Access this article online

Quick Response Code:



Website:
www.ijcm.org.in

DOI:
10.4103/ijcm.IJCM_157_20

The objectives of diet demonstration training were:

- To understand the importance of nutrition and balanced diet
- To plan a balanced low cost diet for individuals with various physiological needs, for vulnerable, and special groups
- To understand the concept of various food groups and quantitative estimates of different food items in raw and cooked forms.

METHODOLOGY

A pilot pretest-posttest study was conducted among undergraduate medical students who participated in a preconference workshop on “*Diet and Dialogue Skills: Progressing towards a Healthy Lifestyle*” organized by the Department of Community Medicine as part of the conference “*Medicus Conventus*” held at LHMC on March 29, 2019. Inclusion criteria were: MBBS students of any year and those willing to give written consent for the study and exclusion criteria were those submitting incomplete questionnaire and those who skip pre- or post-test.

In the workshop, totally 16 MBBS students from different Medical Colleges all over India participated in this conference. All of them (100.0%) gave consent for our pilot study. Furthermore, all the participants (100.0%) had filled the questionnaire completely so no participant was excluded from the study. Faculty from Community Medicine and Senior Dietician from Kalawati Saran Children’s Hospital were invited as resource persons in the said workshop.

Steps of diet demonstration for Under-graduate students: First, a briefing is undertaken on how to design a cost-effective balanced diet. Each batch of students is divided into smaller subgroups and each group is assigned a particular scenario, for example, diet for a toddler/adolescent/pregnant lady. This is followed by a group work under the supervision of the faculty members and residents in which various diets as per the recommended daily allowance (RDA) of the individual are planned. Three major and two minor meals, with appropriate timing of each meal, exact quantity of raw food corresponding to the cooked food are demonstrated along with the size of the vessels. Illustrative charts depicting macronutrient content of the planned diet, alternative diet, and cost of the diet for 1 day are also displayed. It is accompanied by catchy quotes and rhymes to address the community as the aim is not only to impart nutrition education but also to create awareness in the community on this topic. Before conclusion, the queries are addressed if any and a feedback is taken from the community. We would like to mention that in diet demonstration students are given few important challenges.

The biggest challenge is to strike a balance between nutrition and cost of the diet without compromising on the taste and cultural acceptance. At a time when the cost of vegetables, fruits, and many other food products are spiraling, to prepare an age-appropriate balanced diet with inclusion of most of the food groups in recommended quantities may sometimes

exceed the budget and is quite challenging. This issue is addressed using locally available and seasonal food items and use of exotic food items are strictly avoided. The regional or cultural preferences are also kept in mind. Frequent meals with small quantities are advisable for toddlers/under-fives to curb wastage.

The objective of this workshop was to describe the concept of balanced diet and develop appropriate skills to plan a balanced diet by the demonstration of a sample diet and engaging the participants in group activities. The diet of a “Reference Female” was demonstrated to make the concept clear and familiarize them with the skills used for this exercise. Followed by this, the participants were divided into three subgroups. Each subgroup was assigned three vulnerable groups (3-year-old boy, 65-year-old geriatric male, and 16-year-old adolescent girl with anemia) for diet preparation and a facilitator was allotted for each group. One volunteer from each group came forward to present the diet planned for the group assigned to them.

Both pre- and post-test were done with a set of self-designed questions on nutrition and diet plan and dialogue skills). The questions asked included RDA of Iron and calcium in pregnancy, standard size of a teaspoon and glass, servings of fruits and vegetables in a balanced diet, food item that facilitates iron absorption, increase in amount of cooked rice, RDA of reference man, additional protein requirement during pregnancy, prudent diet, percentage decrease in RDA after 65, consumption unit, malnutrition, factors considered while planning a diet, functions of proteins, considerations in RDA, and proximate principles.

The data were analyzed using the SPSS Statistics for Windows, version 16.0 (SPSS Inc., Chicago, Ill., USA). The total marks in pre- and posttest were analyzed using paired *t*-test. In addition, we have categorized student’s scores into good performance (>8) and bad performance (≤8). Qualitative data

Table 1: Mean difference between the total pre- and post-test scores

Test	<i>n</i>	Mean marks (SD)	Paired mean difference	<i>t</i>	<i>P</i> *
Pretest	16	8.69 (2.1)	-1.62	-2.687	0.017
Posttest	16	10.31 (1.7)			

t significant Critical value =2.131, df=15, *P* value < 0.05 Paired *t*-test. SD: Standard deviation

Table 2: Comparison of performance before and after intervention

Pretest performance	Posttest performance		Total, <i>n</i> (%)
	Poor, <i>n</i> (%)	Good, <i>n</i> (%)	
Poor	1 (14.3)	6 (85.7)	7 (43.7)
Good	0	9 (100.0)	9 (56.3)
Total	1 (6.4)	15 (93.6)	16 (100.0)

Poor performance ≤8 and good performance >8. McNemar’s test (*P*<0.031)

Table 3: Item wise comparison of accuracy before and after intervention

Items of questionnaire	Overall correct response		Discordant pair of response		P
	Correct pretest, n (%)	Correct posttest, n (%)	Correct posttest incorrect pretest, n (%)	Incorrect posttest correct pretest, n (%)	
RDA of iron and calcium in pregnancy	12 (75.0)	15 (93.8)	4 (25.0)	1 (6.25)	0.37
Standard size of a teaspoon and glass	13 (81.3)	16 (100.0)	3 (18.8)	0 (0.0)	0.25
Servings of fruits and vegetables in a balanced diet	2 (12.5)	13 (81.3)	11 (68.8)	0 (0.0)	0.001*
Food item that facilitates iron absorption	11 (73.3)	6 (37.5)	1 (6.25)	6 (37.5)	0.125
Increase in amount of cooked rice	7 (43.8)	15 (93.8)	8 (50.0)	0 (0.0)	0.008*
RDA of reference man	7 (43.8)	5 (31.3)	2 (12.5)	4 (25.0)	0.688
Additional protein requirement during pregnancy	7 (43.8)	11 (68.8)	7 (43.8)	3 (18.8)	0.344
Prudent diet	6 (37.5)	4 (25.0)	1 (6.25)	3 (18.8)	0.625
Percentage decrease in RDA after 65	9 (56.3)	8 (50.0)	4 (25.0)	5 (31.3)	1.000
Consumption unit	5 (31.3)	8 (50.0)	6 (37.5)	3 (18.8)	0.508
Malnutrition	8 (50.0)	8 (50.0)	3 (18.8)	3 (18.8)	1.000
Factors considered while planning a diet	16 (100.0)	16 (100.0)	0 (0.0)	0 (0.0)	1.000
Functions of proteins	16 (100.0)	15 (93.8)	0 (0.0)	1 (6.25)	1.000
Considerations in RDA	8 (50.0)	11 (68.8)	5 (31.3)	2 (12.5)	0.453
Proximate principles	12 (75.0)	14 (87.5)	4 (25.0)	2 (12.5)	0.688

*Statistically significant (McNemar's test). RDA: Recommended Daily Allowance

were assessed using McNemar's test. $P < 0.05$ was considered statistically significant.

RESULTS

A total of 16 students from different medical colleges attended the workshop. The mean marks received by the students were 8.69 out of 15. A significant difference in the marks was observed in the posttest with the mean marks of 10.31 ($P < 0.017$) [Table 1].

Overall 56.3% students performed well in pretest and 93.6% students performed well in posttest. Out of total 7 students who scored poor in pretest, 6 (85.7%) performed well in posttest. This difference was statistically significant ($P < 0.031$) [Table 2].

Table 3 shows question-wise accuracy in pre- and posttest. Difference in response for two questions "Servings of fruits and vegetables in a balanced diet" and "Increase in amount of cooked rice" were statistically significant ($P < 0.001$ and 0.008 , respectively). Furthermore, subjects showed improvement in 8 out of 15 questions though it was not statistically significant.

DISCUSSION

"I hear, and I forget/I see, and I remember/I do, and I understand."

This hands-on training of "Diet demonstration" is a perfect example of this. It serves dual benefits as compared to the traditional methods. On the one hand, it consolidates the facts taught in the theory and helps students to learn the practical application of the topic in an interesting manner. On the other hand, it also imparts health education to the community with regards to planning a balanced diet and raises their awareness level in this area. Although our sample size in this study

was very small to comment on the effectiveness of the diet demonstration technique still it throws light on a very important issue of medical nutrition education among undergraduates which is not given so much focus in the current medical curriculum.^[1-3]

CONCLUSION AND RECOMMENDATION

Our study concluded that there was significant improvement in nutrition education of participated undergraduates. So considering the importance of nutrition and balanced diet, it is imperative to adopt innovative teaching and training techniques such as diet demonstration as essential component of practical training in both MBBS and MD curriculum across all medical colleges of the country. This technique not only provides a thorough insight to the nuances of planning and designing a cost-effective and balanced diet but also polishes the soft skills of imparting health education to the community.

Financial support and sponsorship

Nil.

Conflicts of interest

There are no conflicts of interest.

REFERENCES

- Crowley J, Ball L, Hiddink GJ. Nutrition in medical education: A systematic review. *Lancet Planet Health* 2019;3:e379-89.
- Shankar PR. An urgent need to strengthen nutrition education among medical students in India. *Int J Med Sci Res Pract* 2014;1:64-5.
- Bajaj D, Bhutani J, Bhutani S. Undergraduate medical education in India: Role of nutrition. *J Med Nutr Nutraceut* 2014;3:45-6.