

## EFFECTIVENESS OF NUTRITION EDUCATION AND TEACHING METHODS ON ADOLESCENT GIRLS NUTRITIONAL KNOWLEDGE

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### ABSTRACT

Adolescents are tomorrow's adult population, and their health and well-being are crucial. For adolescents proper nutrition supports not only physical health but also learning, growth and development. Therefore it is need to train this group regarding health and nutritional awareness especially for girls, who are future mothers. The present investigation was conducted to study the knowledge of adolescent girls about health care, eating habits, nutritional awareness. Also to evaluate an impact of educational training and teaching methods on knowledge of adolescents. About 300 adolescent girls, in the age group of 13 to 15 were selected at random. The nutrition education was imparted to these subjects through different teaching methods along with audio visual aids. The inferences were drawn with the help of suitable statistical tools wherever felt necessary. Results indicated that majority of the sample adolescent girls assessed to have either poor or fair levels of awareness about the components included on health care and nutritional awareness. And it was noticed that the six week nutrition education programme had significant improvement in their awareness and behavior in respect to the components dealt in nutrition education training.

**KEYWORDS:** Adolescents, Food Habits, Health Care, Nutritional Awareness, Nutritional Awareness

### INTRODUCTION

Adolescence is a period of rapid physical growth calling for adequate nutrient intake to meet body growth requirement. It is also a period of emotional and psychological changes during which there is tendency to reject conventional dietary habits. Eating patterns are frequently erratic in adolescents and this may be a common factor of nutritional risk. Adolescent nutrition problems are common throughout the country. They have to encounter a series of seniors nutritional challenges not only affecting their growth and development but also their livelihood as adults. The future of the nation depends on adolescent group.

Number of adolescents in India particularly girls live under suboptimal conditions marked by poor nutritional status and high level of morbidity and mortality. The next generation of our country will be effected if adolescent girls who are would be mothers would have ill health and poor nutritional status. The poor nutritional status of girls has important implication interms of physical work capacity and adverse reproductive outcome. (WHO 2006)

Nutritional deficiency during adolescence is likely to be due to increased nutritional requirements for growth and development and blood loss during menstruation (Gibson RS. 2002) Addressing the needs of adolescent girls and women

can improve their nutritional status and has a range of positive effects because a healthy women can full fill their multiple roles- generating income, ensuring their families nutrition and having healthy children-more effectively and thereby help advance countries socioeconomic development.

Nutrition education is an important measure to improve dietary habits and food choices. Since poor dietary habits are the main reason for poor nutritional status for adolescents.

Nutrition education can be defined as “The process of helping individuals to develop the knowledge, skills and motivation needed to make appropriate food choices throughout the life”. Better nutritional knowledge of women improves the nutritional status of family and good health can be maintained.

## **PURPOSE OF STUDY**

This paper focuses on the impact of nutrition education intervention on adolescent girls and also the effectiveness of teaching methods in improving the nutrition knowledge of adolescent girls. This work was designed to promote healthy dietary practices among adolescent girls. The specific objectives were to examine the gain in nutrition knowledge (before and after intervention) among adolescent girls.

## **MATERIALS AND METHODS**

### **Sampling and Design of the Study**

This study was conducted on a representative group of 300 adolescent girls of age range 13-15 years. The study sample was a sub sample from a larger study conducted in Tirupati.

This study was interventional in design and all girls received nutrition education.

### **Tool for the Study**

A KAP (Knowledge, Attitude and Practices) questionnaire was created in local language considering the important aspect of nutrition.

The schedule was pretested on 10 subjects. It was conducted to find out the drawbacks. On the basis of outcome of the pre-testing results, it was modified to obtain the final questionnaire.

### **Pre- Knowledge Test**

The knowledge regarding nutrition –balanced diet, functions of various nutrients, nutrient deficiency’s, food choices, fast foods and snacking pattern was assessed by KAP questionnaire. To assess the participants primary knowledge they were guided to fill in the questionnaire individually. They were given 30 minutes time to complete the test and the filled in forms were collected for evaluation.

## **NUTRITION EDUCATION INTERVENTION**

To study the effectiveness of nutrition education, the adolescent girls were imparted special sessions for a period of six weeks (4 days in a week). The topics of nutrition education intervention were

- Balanced Diet
- Macro and Micro Nutrients

- Deficiency symptoms of nutrients
- Rich food sources
- Food choices
- Food hygiene
- Exercise

The teaching methods used were (1) Lecture method- most basic presentation style for factual material in direct logical manner. This method was combined with discussion like students questions and clarifications. (2) Role playing (3) Video presentation and displaying (4) Power point and over head transparencies presentation (5) Internet (6) Electronic Mail.

It is generally accepted that the best learning takes place when the greatest number of senses are stimulated. The use of different teaching methods with audio-visual material will stimulate greatest number of senses. The internet is increasingly being used as an educational tool, now a days. There is a sharp increase in the number of schools connected to the internet. The internet allows students to learn by doing. Electronic mail also very useful to send message fast, digital files can be attached like video chips, photos. E-mail is widely used in everyday life as well as in teaching and learning contexts. In the present study e-mail used to send nutritional messages and web links which will provide nutritional information to students.

The participants of the nutrition education were provided with teaching material on the topics covered in nutrition education intervention. The nutrition education intervention was given in addition to the class room based teaching of the regular curriculum.

After imparting nutrition education questionnaire was employed to collect the required information, collected data was pooled and statistical calculation was applied where ever felt necessary.

## **RESULTS AND DISCUSSIONS**

### **Characteristics of Participants**

The current study was carried out among 300 adolescent girls of 3 secondary schools in Tirupati. Among the participants 27.3 percent, 37 percent and 35.7 percent were in class VIII, IX and X respectively. The age wise distribution of participants was 13 years (26%), 14 years (41.7%) and 15 years (52.3%). Majority of the participants were from the official (37.6%) families and 30% were from business families.

### **Information on the Basis of Pre-Knowledge Test**

Based on the data collected through KAP questionnaire before intervention, it was found that most of the respondents (61%) had a view that breakfast is important, skipping breakfast was not good for health 52 percent know about the balanced diet and only 42 percent mentioned the foods that are low in fat. 39 percent attitude was that a good way to live healthy was to skip breakfast. Majority of the respondents (66%) indicated that they don't like to eat vegetables. More than half of the (68%) subjects had an opinion that meat, eggs, legumes nuts and oil seed are hot food and fruits, butter milk and cold foods. Rests of the participants (32%) were not agreeing with this statement. Fifty six percent of the respondents stated the taste of food is more important than its nutrient content.

41 percent of the participants were also to tell about nutrient deficiency diseases and functions of various nutrients. Less than half (43 percent) of the participants were of the opinion that there is no need for fruits and vegetables daily. Over half of the participants (60.3%) ate fast foods at least twice/thrice in a week along with soft drinks. 37 percent of participants had knowledge about food hygiene and only 46 percent could able to tell about rich sources of various nutrients.

### **EFFECT OF NUTRITION EDUCATION**

The distribution of the scores obtained before and after imparting nutrition education is presented in table 1. Before imparting nutrition education, majority of the respondents (65%) scored between 10-15 on the level of nutrition education whereas (28%) of the respondents gained between 5 and 10 on the level of nutrition education only 7 % of the respondents obtained between 15-20. None of the respondents were so proficient to achieve the maximum level of scores.

After imparting the nutrition education, the score board gets changes as no respondent had score between 5-10. Most of the respondents (45%) scored between 15-20 and 21.3% scored between 20-25 and there were 2.7% of the respondents who achieved scores on the level of nutrition education up to the mark that is 25-30.

The statistical analysis of the data further revealed the effectiveness of the nutrition education among the respondents, which was measured interns of gain in scores.

### **VIEWS OF PARTICIPANTS ON NUTRITIONAL EDUCATION AND EFFECTIVENESS OF TEACHING METHODS**

According to participants, the most interesting topic was that on nutrients and their main sources. Food hygiene session was also mentioned by 87 percent of the participants. All the participants (100%) stated that the posters and charts displayed in classrooms and other common areas, wall writings on nutrition were more useful and advantageous, songs on healthy eating also stated as very useful and interesting by 3/4<sup>th</sup> of the total participants.

Various teaching methods use in Nutrition Education has been recognized as an effective method for children and grownups. Teens are naturally at greater nutritional risk (Whiteny 2001). Therefore any method which may promote a better nutritional habits among teenagers should actively pursued( Grodner 2000).

Administering a nutrition education programme is an effective way to introduce healthy eating habits among adolescents. In this case, as educators have agreed, teaching methods play important roles in positively affecting teen's behavioral changes (Kubik 2001).

The participants were asked to rate the effectiveness of teaching methods. Rating was done on a scale of 1-5. 1 –being the last interesting and 5 being the most interesting teaching method.

The teaching methods role play and Internet surfing of nutrition related websites were ranked as most effective methods by 87 percent of the participants. Video presentation and displaying were attracted by 72 percent, PowerPoint and over head transparencies presentation by 73 percent, lecture method ranked by 68 percent and learning through e-mails hold to interest of 66 percent of adolescents. All the participants positively opined that the posters, charts used were very effective and useful.

In the present study there was significant gain in the nutritional knowledge of adolescent girls after Nutrition Education programme. The results of this study are in concurrence with the study of Chawla(1992)and Guptha (2008) who reported significant improvement in knowledge and attitudes of the females of Ludhiana and kurnkhetra after imparting Nutrition Education. The increase in knowledge could also attributed to the use of various teaching methods.

## CONCLUSIONS

Adequate nutrition's and balanced diets and right food choices along with maintenance of health are the chief requirements in a society. There was significant improvement in the nutritional knowledge of the subjects after Nutrition Education combined with effective teaching methods. Nutrition Education in an important measure to improve dietary habits and food choices of the adolescent girls as poor dietary habits and ignorance are the main reason for poor nutritional status.

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## APPENDICES

**Table 1: Knowledge Score Obtained by the Subjects before and after Imparting Nutrition Education**

Scores	Pre-Test (T <sub>1</sub> ) Before Imparting Nutrition Education		Post -Test (T <sub>2</sub> ) After Imparting Nutrition Education	
	Number	Percent	Number	Percent
5 to 10	84	28	-	-
10 to 15	195	65	93	31
15 to 20	21	7	135	45
20 to 25	-	-	64	21.3
25 to 30	-	-	8	2.7

**Table 2: Knowledge Scores Obtained by the Subjects**

	Mean	N	Std. Deviation	Mean Difference	Percentage Increase	t-Value	p-Value
Pre	11.739	300	3.006	5.266	44.86%	32.313**	0.000
Post	17.006	300	3.805				

