



IMPACT OF NUTRITION EDUCATION ON ADOLSCENT GIRLS IN TERMS OF THEIR KNOWLEDGE ADOPTION BEHAVIOR

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ABSTRACT

The present investigation was carried out in eight villages which were selected from four talukas of Nagpur district of Vidarbha region of Maharashtra State during the year 2012-2014 and the research work was undertaken to study the knowledge of adolescent girls about reproduction health care nutritional awareness also to evaluate an impact of educational training in knowledge of subject due to nutrition education imparted to them. Nutrition awareness and nutritional status of each of the respondent was assessed both before and after, nutrition education program. The study adopted a pretest-post test design with in an intervention for a specific period. A total of 400 adolescent girls in the Nagpur district Impact of the training programme was the most important part of evaluation. The study was impact of nutrition education training among the rural adolescent girls which was studied and measured as adoption behavior in terms of knowledge of trainees which were examined before and after training about nutrition education. It was observed that the mean scores of knowledge [49.76] obtained before imparting of training was increased to 92.56. The gain in knowledge scores and the per cent change was 42.80 and 86.01 %, respectively.

KeyWords: Impact, Nutrition Education, Adolescent Girls and Knowledge.

INTRODUCTION

Adolescence is a transition from dependent childhood to independent and responsible adulthood. This is the period when an individual's social relation expands from a family to wider community and its members. It is a cross road in life when choices and decisions made become

crucial for the future of an individual (Baral and Onta, 2009). Adolescence is a crucial period for healthy development in both psychological and physical terms. It is a stage of development transition, i.e. a bridge between childhood and adulthood. It is the stage of development of adult mental process and about adult



identity and transition from total socio-economic dependent to relative independent. The WHO has defined adolescence as:- a) Progression from appearance of secondary sex characteristics (puberty) to sexual and reproductive maturity. b) Development of adult mental processes and adult identity. (Shirur, 2000).

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 a tendency to reject conventional dietary habits. This period is very crucial since these are formative years in the life of an individual when major physical, psychological and behavioral changes take place (Patil *et al.*, 2009). Adolescent may represent a window of opportunity to prepare nutritionally for a healthy adult life (Kaur *et al.*, 2007).

Adolescence is a period of transition when the individual changes physically and

psychologically from a child into adult. Adolescence in contrast to puberty, is not a single stage but a range of 13 to 18 years. The period of adolescence is accomplished by its profound changes in growth rates, body compositions and marked physiological and endocrinal changes. The velocity of physical growth is second only to the rate of growth during infancy. The dramatic physical changes of body include increase in height and weight, deposition and redistribution of fat, increased lean body mass and enlargement of many organs including the sexual components. Adolescent girls are very important section of our society as they are our potential mothers and future home makers. Adolescents aged between 10-19 years account for more than one fifth of the world's population. In India this age group forms 21.4 per cent of total population (Saroja Prabhakaran, 2003).

Adolescent nutritional problems are common throughout the country. They have to encounter a series of serious



nutritional challenges not only affecting their growth and development but also their livelihood as adults. Yet adolescents remain a largely neglected and hard to reach population especially girls. Thus it is not surprising that adolescent girl population who are “mother to be” is if considers as the most important section on which the future of nation depends (Measham, A.R., 2000 and Rao, S., 1996). The poor nutritional status of girls has important implication in terms of physical work capacity and adverse reproductive outcome.

Nutrition education has been defined as educational measures for inducing desirable behavioral changes for the ultimate improvement in the nutritional status of all nutrition intervention programmes. The importance of nutrition education as a means for improving the health and nutrition of community in the developing countries has been increasingly realized during recent years. Lack of knowledge of the dietary requirements and the

nutritive value of different foods is the main contributory cause for the widespread occurrence of many diseases in developing countries. Nutrition education, which is practical and adopted to suit the socio-economic conditions, food habits and local food resources, can tackle the problem to a great extent. Adolescent are one of the most important groups of any society because they have an influential effect of the future social economic and cultural status of society. Nutritionally, this age is very vulnerable because of double demand of growth and activity. So there is need to promote nutrition education (Sinha et al., 2012).

MATERIALS AND METHODS

The present investigation was carried out in eight villages which were selected from four talukas of Nagpur district of Vidarbha region of Maharashtra state during the year 2012-2014 four hundred samples of rural adolescent girls. A dependent variable considered for the study



was the impact of nutrition education on adolescent girls.

Keeping this theoretical orientation in view, the concept of impact of training, in the context of the present study, has been operationalised as the adoption behaviour of the adolescent girls about NITs as a consequent of training imparted to them. Adoption behaviour is a composite measure of knowledge, attitude and practice and therefore, change in adoption behaviour, as an impact of training, means the change in knowledge, change in attitude and change in practice of an individual.

The questionnaire which was developed by the investigator comprises of general information such as name, age and educational level for assessment of nutritional knowledge, the questions were asked under the following headings-

- ✓ Basics in nutrition
- ✓ Nutrients recipes
- ✓ Removing toxins methods

✓ Methods of food preservation.

In order to measure the knowledge in quantitative terms, a teacher made knowledge test was developed. The knowledge test consisted of 21 items with regard to NITs programme. Then, these items were converted into the statements relating, to-the practices of the NITs programme. The statements of the knowledge test were administered to the respondent trainees to elicit their responses about the possession of information by them. The responses were measured on a three point continuum i.e. Complete knowledge, Partial knowledge and No knowledge by assigning the score of 3, 2 and 1 respectively.

Then the training with regard to the practices of NITs was imparted to the respondents in phases. After the training was over the same knowledge test was administered again to the respondent trainees and their knowledge was assessed in quantitative term.



The scores on all the statements were summed up so as to have the knowledge score for the individual.

Total score likely to be earned by an individual respondent had range of 63 (maximum) and 21 (minimum) score only.

The respondents were categorized on the basis of mean \pm S.D. into three categories as below:

Knowledge level	Score range
Low	Upto 25
Medium	25 to 30
High	Above 30

The difference in the scores of the knowledge of the respondent was worked out and thus computed, indicates the impact of training imparted to the trainee with regard to NITs. This difference of scores in Pre and Post training was taken for granted as the effect attributed by the training in terms of change in the level of knowledge about NITs.

On the basis of the difference of change in the knowledge of the respondents,

percent change was worked out for all the respondents with the following formula.

$$\text{Per cent change in knowledge score} = \frac{\text{Post training knowledge score} - \text{Pre training knowledge score}}{\text{Pre training knowledge score}} \times 100$$

The changes often desired in people after conducting the training to them, are the changes in the knowledge. Thus, the changes occurred on the adoption behaviour i.e. change in the knowledge about NITs among the adolescent girls as an effect of training imparted to them have been studied and measured dimension wise in terms of per cent change. Per cent change was computed for all the dimensions of adoption behaviour i.e. knowledge, with the help of formula, as below:



Impact in terms of percentage change	Sum of post training score on all three dimensions	Sum of pre training score on all three dimensions	X
			10
			0

RESULTS AND DISCUSSION

Knowledge of trainees were examined before and after training about NITs and categorized and presented in the Table 1.

The data presented in Table 1 revealed and depicted in Fig.1, that 53.75 per cent and 44.00 per cent of the respondent's knowledge level was in medium and low category, respectively before training programme. Whereas, only 2.25 per cent respondents were in high level of knowledge before training programme.

After the training programme, 89.25 per cent adolescent girls were got in the high knowledge level, 2.75 per cent in the low level and 8.00 per cent were in the medium knowledge level.

Similar results were found by B. Thanuja and V. Ramya (2007) and stated that, provision

of nutrition education had a significant impact on nutrition knowledge among sub samples. So it can be concluded that nutrition education plays a vital role in improving the nutritional knowledge, which in turn will improve the nutritional status of the respondents and their family members. Hence it could say that training was effective in providing knowledge about NITs to adolescent girls. It was the evidence of success of trainers as well as organizers for creating effective learning environment and motivating the trainees for acquiring more knowledge.

Gupta and Kochar (2009) found that, the effectiveness of the nutrition education among the respondents, which was measured in terms of gain in scores. The mean scores 12.41+ 1.56 obtained in pre-test was increased to 19.92 + 1.4 after giving nutrition education. The gain in knowledge of nutrition education score was 7.51 and the quantum of improvement was 1.605 times. Thus, imparting nutrition



education was found to be effective for improving the level of nutrition education among the adolescent girls in the present study.

With a view to examine the effect of training in terms of change in knowledge if any, the means of knowledge before and after training were worked out and furnished in Table 2.

The statistical analysis of the data further revealed the effectiveness of the nutrition education among the respondents which was measured in terms of gain in scores (Table 2). It was observed that the mean scores of knowledge (49.76 %) obtained before imparting of training was increased to 92.56 %. The gain in knowledge scores was 42.80 %.

A mere quantitative superiority of the mean score of the trainee after exposure to the training over the mean score of the trainee before imparting training is not a conclusive proof of its superiority. Hence, the ratio between observed difference between two sample means and the sampling factor i.e. ratio

between experimental variance and error variance was computed i.e. the data were subjected to 't' test i.e. testing the significance of difference between the means of same group of individuals taking a pretest (before training) and after exposing to a treatment and then retested (After training) to determine whether the influence of training was statistically significant.

The 't' values presented in the Table 2 with respect to knowledge (53.81) found to be highly significant at 0.01 level of probability. It could, therefore, be stated that the training did increase the knowledge among the rural adolescent girls who had undergone the training. The 't' test have indicated rather strong evidence that the treatment i.e. training about NITs had made the difference of gain in knowledge among the rural adolescent girls.

It was also observed from Table 2 that per cent change in Knowledge was 86.01. It could be clearly stated that the nutrition



education training had been found to be most popular among the adolescent girl trainees to the extent of 75.78 per cent change over and above.

CONCLUSION

Thus, it can be concluded from the study that well designed training programme based on the needs of the trainees would result in gain in their knowledge substantially which ultimately lead to adoption. Adolescent girls, target group of the study, would realize the fact that improvement in nutritional status of the whole family is very essential to achieve good health, which should be the first priority in our life. They are also aware about nutrition improvement technologies, their importance in making the family 'healthy'.

Adequate nutritious and balanced diets 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 training. Hence, we can conclude from the present investigation that nutrition improvement technology training is 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 of the adolescent girls. It would not only improve the health of adolescent girls, but future generation will also influence, as adolescent girls are would be mothers.

The study recommends that Government and NGOs to extend their financial support to those who desires to organize similar training programmes related to various technologies needed for empowerment of women. i.e. nutrition improvement, drudgery reducing, eco-friendly.



Table 1: Distribution of respondents according to knowledge level (Before and after)

S.N.	Particulars of treatment	Knowledge level		
		L	M	H
1	Before nutrition education	176 (44.00)	215 (53.75)	9 (2.25)
2	After nutrition education	11 (2.75)	32 (8.00)	357 (89.25)

The figures in the parenthesis indicate percentage

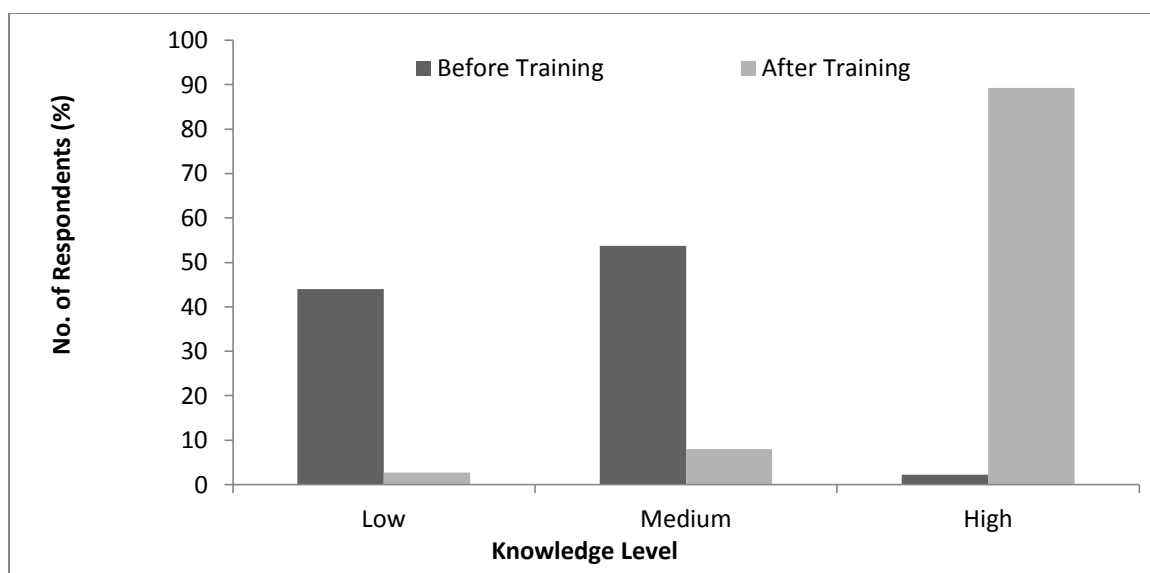


Fig. 1: Distribution of respondents according to knowledge level

Table 2: Impact and Knowledge before and after training.

S.N.	Variable	Mean score (%)		Gain in scores (%)	Per cent change	't' value
		Before	After			
1	Knowledge	49.76	92.56	42.80	86.01	53.81**

** Significant at 0.01 level of probability

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