

A Study on the impact of nutrition education programme conducted for adolescent girls and parents of Changanacherry Taluk of Kottayam district

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Abstract- The present study was conducted to assess the nutritional knowledge of the adolescent girls participating in the nutritional awareness programme in Anganwadis of Changanacherry Taluk of Kottayam district and to educate the girls and parents about the importance and the ways to achieve optimum nutrition during adolescence. Data on the dietary pattern and anthropometric assessments like height and weight were collected using a pre-structured interview schedule. It is clear from the results that majority of the subjects were assessed to have either poor or fair levels of awareness about the importance of nutrition. Hence during nutrition education, emphasis was given to the dietary guidelines during adolescence as diet influences the future nutritional status.

Index Terms- Nutrition education, Adolescence, Dietary guidelines, Anthropometric assessment, Growth spurt and growth velocity

I. INTRODUCTION

Adolescence is the period of transition from childhood to adulthood with accelerated physical, mental and emotional development (Srilakshmi, 2002). During this period, the final growth spurt occurs. There are many body changes occur due to the influence of hormones and with profound growth there is increased demands for energy, proteins, minerals and vitamins. The process of maturation becomes rapid from the puberty stage, that is from 11 to 13 years (Easwaran and Poorani, 1991). To strengthen any nation, there is need of healthy mothers as they only can produce healthy citizens (Elizebeth, 2000).

According to the Society for Nutrition Education and Behavior, nutrition education is any combination of educational strategies, accompanied by environmental supports, designed to facilitate voluntary adoptions of food choices and other food and nutrition related behaviors conducive to health and well being. Nutrition education is delivered through multiple venues and involves activities at the individual, community and policy levels (Jones and Bartlett, 2007). The importance of nutrition education as a means for improving the nutrition of the community in the developing countries, has been increasingly realized during recent years.

Anganwadis functions under the Integrated Child Development Service programmes conducted basic health-care activities which include contraceptive counseling and supply, nutrition education and supplementation, as well as pre-school activities (National Population Policy, 2008). Studies have

documented the high prevalence of unhealthy dietary behaviors among adolescent girls (Felts et al., 1996). Hence nutrition education was given to both girls and parents to increase the awareness regarding the role of diet and to find out the effectiveness of nutrition education.

II. MATERIALS AND METHODS

30 Adolescent girls (12 to 16 years) and parents were selected purposively from Anganwadis as a part of execution of Kishori Shakti Yojana {KSY} under Ministry of Women and Child Development. The area selected was the Anganwadis of Changanacherry Taluk of Kottayam district. Anthropometric measurements like weight and height, data on socio economic status and dietary assessment were done using a prestructured interview schedule. Nutrition education was given using developed pamphlet and charts showing the necessary dietary guidelines and importance of nutrition during adolescence. To find out the effectiveness of nutrition education, a simple questionnaire was distributed among the subjects to answer, before and after nutrition education. The parents were also oriented regarding the physiological and mental changes during adolescence.

The nutrition education was given using colourful charts and pamphlets and the class was very simple for the subjects to understand. The content of the class were as follows:

- 1 Growth velocity is maximum for girls between 10 to 13 years
- 2 Adequate well balanced nutritious foods should be taken to prevent under nutrition or obesity.
- 3 No meal of the day should be missed, especially breakfast which is regarded as the 'food for brain'
- 4 Calorie and protein rich foods should be taken to support the growth spurt
- 5 The girls need to ensure adequate intake of iron as they lose 0.5mg/day by way of menstruation (if this lost iron is not replaced, it predisposes to iron deficiency anemia)
- 6 Bone growth during adolescence demands more calcium as the deficiency causes susceptibility for osteoporosis later in their life
- 7 Include fruits and vegetables in the diet to meet the vitamins, minerals and fibre requirements
- 8 Home based diets are best for children's growth
- 9 Avoid foods which uses unpermitted colours or flavours
- 10 Avoid empty calorie foods such as carbonated beverages

- 11 Parents should encourage the adolescents to cook at home, nutritious and tasty food
- 12 Adolescents need to be encouraged to do physical activities as it regulates appetite

III. RESULT AND DISCUSSION

From the height and weight taken, BMI (Body Mass Index) was measured According to Visweswara Rao (1999), BMI is one of the best set of indices found useful for nutritional status of adolescents.

TABLE I
BMI of the subjects

N=30

BMI	Grade/Diagnosis	Number	percentage
<18.5	Undernourished	14	47
18.5-25	Normal	15	50
25-30	Overweight	1	3
>30	Obese	-	-
Total		30	100

Table- 1 clearly depicts that 50% of the subjects belonged to normal weight category, 47% were under nourished and only 3% overweight. That is proper nutrition or nutritional awareness is still lacking among certain groups

Most of the subjects were non vegetarians (80%), 11% ovovegetarians and 9% pisovegetarians. No subjects had the habit of regular outside food consumption. Mean nutrient intake of samples shows that there is a deficit intake in case of vitamin C and Iron by -13 and -8.33 respectively. Most of the subjects

Source: NIN, Hyderabad

had the habit of skipping meals especially breakfast (89%). Anaemia was prevalent in a small number of subjects; the requirement for iron is higher in adolescent girls than boys' to combat the menstrual loss. So the importance of the inclusion of locally available iron rich foods like green leafy vegetables was emphasized during lectures.

Table-II
Details on the socioeconomic status of the subjects

Criteria	Number	Percentage
A) Religion		
Hindu	17	56
Christian	13	40
Muslim	1	4
Total	30	100
B) Type of family		
Joint	6	20
Nuclear	24	80
Total	30	100

N=30

Table I clearly depicts the socioeconomic status of the target group. Majority of the subjects selected were Hindus (56 per cent) and (40 per cent) were Christians and only 4 per cent were Muslims. Of the 30 subjects, 80 per cent came from nuclear family, while only 20 per cent were from joint family. Only 17

percent from middle income families with family income of Rs.4500-7500 per month. Nobody belonged to high income families, 30 percent from low income families and 53 percent had a family income of less than Rs.2100, which is, below poverty line as per HUDCO classification, 2002

TABLE III

Details of the marks obtained by the subjects for the distributed questionnaire

N=30

Marks Obtained	Before nutrition education		After nutrition education	
	Number of subjects	%	Number of subjects	%
0-5	22	73	-	-
5-10	7	23	2	7
10-15	1	4	18	60
15-20	-	-	10	33
Total	30	100	30	100

The table clearly shows that the nutrition education was very much effective for the subjects to increase their nutritional awareness and to make necessary dietary modifications during adolescence. For the questionnaire distributed among the subjects, 73 per cent of the subjects had only 0-5 marks before nutrition education, and after the classes no one belonged to this category. Only four per cent got 10-15 marks and none had 15-20 marks before nutrition education, which is replaced by 60 and 33 per cent respectively.

To find out whether there is statistical significance in the increase in nutritional awareness after nutrition education, t-test has been applied. Since the calculated t-value is (10.80) greater than the table value (2.58 which is significant at 0.01 level) there exist significant difference between the groups which means the effect of nutrition education on the adolescent girls and parents was statistically significant. That is, the nutrition education was effective in elevating the nutritional knowledge of the subjects.

IV. CONCLUSION

The nutrition education programme was reached the real beneficiaries as most of the Indian women and girl's diet is lacking in many nutrients and having low haemoglobin levels (Greger and Divilabiss, 1979 and Jondhale et al., 1999). So the nutrition education was given to adolescent girls and parents regarding the importance of nutrition, well balanced diet, calcium and iron rich foods, break fast and exercise. Diet in adolescence is very crucial because it influences the future nutritional status.

So it is important to conduct awareness programmes on food choices and nutritional requirements on a regular basis especially among low income groups.

REFERENCES

- [1] Easwaran PP and Poorani R, The Indian Journal of Nutrition and Dietetics, 1991, 28, p. 207-213
- [2] Elizabeth B M, Developmental Psychology: a lifespan approach, 5th ed., Tata McGraw Hill, 2000
- [3] Felts MW, Parillo A, Chenier T, Dunn P. Adolescent's Perceptions of relative weight and self-reported weight loss activities: Analysis of YRBS National data. Journal of Adolescent health, 1996; 18: 20-
- [4] Greger J L and Divilabiss L, Indian Journal of Ecology of Food and Nutrition, 1979, no. 4, p. 213-218 Nutrition Education: Linking search, theory and practice, Jones and Bartlett, 2007
- [5] Sri lakshmi. B, Dietetics New Age International (P) Limited, 5th ed., 2006.
- [6] Visweswara Rao. K, Bio statistics, Jaypee brothers, Medical publishers (P) Ltd, New delhi.

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