

Effect of nutrition training on adolescent girls understanding of balanced diet

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ABSTRACT

With rising concerns about malnutrition and diet-related health issues among adolescent girls, there is a pressing need to enhance nutritional knowledge and promote healthy dietary habits. Therefore, a study was conducted to assess the effectiveness of nutrition training on understanding of balanced diet among rural adolescent girls aged between 15-18 years. Locale of the study was Dhodh panchayat Samiti of Rajasthan. A total of randomly selected 100 rural adolescent girls were the sample of the study. Data were collected using a questionnaire and analysed by using frequency, mean percentage and paired t-test. Findings revealed significant ($p \leq 0.05, 0.01$) improvement of knowledge of adolescent girls regarding balanced diet. This was because the training was participatory in nature and effective use of training methods and audio-visual aids.

Keywords : Adolescent girls, Nutrition empowerment, Balanced diet, Knowledge

INTRODUCTION

Adolescence marks a period of rapid physical growth and cognitive development. It is also a critical stage for socio-emotional changes. Within this demographic, adolescent girls represent a particularly vulnerable group, often facing unique challenges related to societal norms, body image perceptions, and nutritional needs. Nutritional requirements of adolescence are heightened to support overall health and well-being. However, this developmental stage is also characterized by increased autonomy and exposure to various environmental influences, including dietary choices tempted by peers, media, and cultural factors. Consequently, adolescents may adopt dietary patterns that deviate from recommended nutritional guidelines, predisposing them to nutritional deficiencies and associated health risks.

Training programmes tailored to the specific needs of adolescent girls have the power to ignite profound change, empowering them with knowledge, skills, and confidence to navigate the challenges they face. They have a transformative impact on adolescent girls making them realize their full potential, lead fulfilling lives, and contribute meaningfully to the world around them. By investing in their education, health, and empowerment, a ripple effect of positive change is created that benefits individuals, families, and societies as a whole.

Training adolescent girls on different aspects of nutrition is essential for promoting their health, empowering decision-making, preventing malnutrition and eating disorders, fostering positive body image, addressing gender-specific nutritional needs, promoting lifelong healthy habits, and empowering communities to create a culture of health and well-being. Therefore, a study was

conducted on effectiveness of nutrition training on adolescent girls understanding of balanced diet.

percentage, mean percentage and paired t-test.

METHODOLOGY

The study was conducted in the Dhod Panchayat Samiti of Sikar district, Rajasthan. Three government schools—Government Senior Secondary School Churoli-Khakoli, Sihot Chhoti, and Phagalawa—were selected randomly from a list provided by the District Education Officer. A total of 100 rural adolescent girls, aged 15-18, were selected randomly from these schools. Three days participatory training regarding balanced diet was organised. Each training consisted of 25 participants and total four trainings were conducted for the sample of 100 rural adolescent girls. This age group was chosen due to its significance as the typical age for marriage in rural areas and empowering girls in this demographic to make informed decisions for themselves and their families' well-being is crucial for community health and development. Data collection was done using a questionnaire. The knowledge test developed by Gupta (2006) was slightly modified and used. The questionnaire schedule consisted of multiple-choice questions and scoring was done on a 2 point-continuum i.e. correct and incorrect. Each correct response was assigned score one, while the incorrect response was assigned zero. Data were analysed using frequency,

RESULTS AND DISCUSSION

Knowledge about balanced diet is essential for adolescent girls as it empowers them to make informed choices about their nutrition, supports physical and mental well-being, and lays the foundation for a lifetime of good health. Results of knowledge test conducted before and after exposure to the training are presented in this section.

Overall knowledge of respondents about balanced diet

Table 1 indicates that before exposure to the training programme, almost half of the respondents (43% and 46%) possessed low and medium knowledge regarding balanced diet, while only 11 per cent respondents consisted high knowledge. Table further reveals that after exposure to training, most of the respondents (96%) shifted to high knowledge category, while only 4 per cent respondents had medium knowledge regarding balanced diet. Notably, after exposure to the training programme, none of the respondents possessed low knowledge about balanced diet. The MPS of gain in knowledge of respondents was 43 reflecting higher effect of training on the knowledge of respondents.

Further, paired t-test was performed and t-value of the test reveal that it was highly significant both at .05 and .01 per cent level of significance.

Table 1: Overall knowledge of respondents regarding balanced diet

Levels of knowledge	Knowledge			t-value
	Before exposure (%)	After exposure (%)	Gain (MPS)	
Low	43	0		
Medium	46	4		
High	11	96	43	23.812**
MPS	40.7	83.7		

** Significant at .05 and .01 percent

Results of the study are in confirmity with who assessed the effect of school menstrual education programme and observed significant improvement in the knowledge, beliefs and practices of menstrual hygiene among adolescent girls. Component wise knowledge of respondents regarding balanced diet

The whole idea of balanced diet was divided into four components i.e. significance of food and concept of balanced diet, different food groups and their functions, portion size and amount of food stuffs to be included in daily diet and deficiency diseases caused due to absence of nutrients in the diet. Component wise assessment of knowledge of respondents was done before and after exposure to the training programme.

i. **Significance of food and concept of balanced diet**

As presented in Table 2, before exposure to the training programme 70 per cent respondents were aware that food provides energy, while 62 per cent also knew that food is needed for proper growth and development, while half of the respondents (50%) were able to relate food with prevention from diseases. However, only 27 per cent of the respondents could explain the concept of balance diet before they were exposed to the training programme. Notably, after exposure to the training programme, most of the respondents (81-96 %) possessed knowledge about different functions of food and were able to explain the concept of balance diet.

Table 2 : Distribution of respondents by their knowledge about functions of food and concept of balanced diet

		n=100	
S. No.	Items	Knowledge	
		Before exposure f / (%)	After exposure f / (%)
1.	Significance of food		
	a. Provide energy	70	92
	b. Proper growth and development	62	93
	c. Prevention from disease	50	96
2.	Concept of balanced diet		
	Diet that provides all nutrients in required amounts and proper proportions.	27	81

Fariba *et.al* (2021) reported the similar results that significant improvement in the mean percent score of knowledge, attitude and practices as a result of intervention of blended educational programme on iron deficiency anaemia among adolescent girls.

ii. **Different food groups and their functions**

Data presented in Table 3 reveal that before exposure to the training programme, more than half of the

respondents (50-62%) had knowledge about functions of cereals, millets and pulses. Similarly, before getting exposed to the training programme, 40 per cent respondents confirmed that fruits and vegetables help in blood formation, 49 per cent respondents knew that milk and animal products are important for proper growth and development and 53 per cent respondents also possessed the knowledge that oils, fats and nuts are

necessary for healthy skin and tissues. However, it can be inferred from the table that only less than 40 per cent respondents had knowledge about rest of the functions of milk and animal foods, fruits and vegetables, and oils, fats and nuts. Further, it can be observed from the

table that after exposure to the training, there was drastic gain in knowledge of the respondents regarding all aspects of food groups and their functions. Table 3 also asserts that more than 80 per cent of the respondents had knowledge regarding different food groups and their functions.

Table 3 : Distribution of respondents by their knowledge about different food groups and their functions

S. No.	Items	Knowledge	
		Before exposure	After exposure
		f / (%)	f / (%)
1.	Cereals, Millets and Pulses		
	a. Provide energy / Strength	62	96
	b. Rich source of dietary fibre	50	100
2.	Milk and Animal Foods		
	a. Proper growth and development	49	88
	b. Repair and maintenance of body tissues	21	79
	c. Strong bones and teeth	36	89
3.	Fruits and Vegetables		
	a. Help in blood formation	40	92
	b. Protect the body from diseases	30	89
	c. Prevent constipation	29	86
4.	Oils, Fats and Nuts		
	a. Provide energy	21	83
	b. Help fight diseases	25	80
	c. Healthy skin and tissues	53	84

iii. Portion size and amount of food stuffs to be included in daily diet

Knowledge of the respondents was assessed regarding portion size and amount of food stuffs to be included in daily diet and found that prior to exposure to the training, almost 40

percent of the respondents possessed knowledge regarding amount of food stuff to be consumed in daily diet. The table further confirms that after being exposed to the training, over 80 per cent of the respondents were found to have gained knowledge about amount of food stuffs to be consumed in daily diet.

Table 4 : Distribution of respondents by their knowledge about portion size and amount of food stuffs to be included in daily diet

		n=100	
S. No.	Items	Knowledge	
		Before exposure f / (%)	After exposure f / (%)
1.	Cereals, millets and pulses	36	87
2.	Milk and animal foods	39	91
3.	Fruits and vegetables	43	82
4.	Oils, fats and nuts	41	86

iv. Deficiency diseases caused due to absence of nutrients in the diet

Insufficient intake of essential nutrients can lead to various deficiency diseases such as Vitamin A deficiency, anaemia, and Protein Energy Malnutrition (PEM). According to Table 4, before receiving the training, only 46 percent of the

respondents had knowledge about anaemia, while 39 percent knew about Vitamin A deficiency, and merely 21 percent had awareness regarding PEM. However, after the training session, an overwhelming percentage of the respondents (more than 86%) gained knowledge about these deficiency diseases.

Table 5 : Distribution of respondents by their knowledge about deficiency diseases caused due to absence of nutrients in the diet

		n=100	
S. No.	Items	Knowledge	
		f / (%)	f / (%)
	Deficiency diseases		
1.	Protein-Energy Malnutrition	23	86
2.	Anaemia	46	89
3.	Vitamin A deficiency	39	87

Results of the study are supported by Rana and Kaur (2019) who also concluded positive impact of nutrition education on knowledge scores of adolescent girls regarding different aspects of nutrition during lifecycle.

Conclusion

The results of the study conclude that the training was effective in educating the respondents about the importance of a healthy balanced diet and the types of food that can contribute to good health. The

participatory nature of the training program and the use of appropriate training were very effective for success of training program. The training program actively engaged the participants in the learning process, which enabled them to better understand the information being presented. The use of effective training methods such as interactive sessions and audio-visual aids made the training program more engaging and impactful, resulting in a higher level of knowledge among the respondents.

REFERENCES

- Yadav, S., & Manju, M. (2023). Participation and Role of Women in Dairy Farming, Jaipur district, Rajasthan. *Sustainability, Agri, Food and Environmental Research*, 11.
- Haque, S. E., Rahman, M., Itsuko, K., Mutahara, M., & Sakisaka, K. (2014). The effect of a school-based educational intervention on menstrual health: An intervention study among adolescent girls in Bangladesh. *BMJ Open*, 4 (7) , e 0 0 4 6 0 7 . <https://doi.org/10.1136/bmjopen-2013-004607>
- Fariba, P., Shamsaddin, N., & Fatemeh, A. (2021). The impact of a blended education package on the knowledge, attitude, and practice of adolescent girls in preventing iron deficiency anemia. *Journal of Nursing Education*, 10(5), 1-10.
- Rana, R., & Kaur, P. (2019). Role of nutrition education in improving awareness among school going adolescent girls (14 to 17 years). *International Journal of Health Sciences*, 5(2), 10-12. doi: www.homesciencejournal.com