



ISSN (E): 2277-7695
ISSN (P): 2349-8242
NAAS Rating: 5.23
TPI 2023; 12(2): 1297-1300
© 2023 TPI

www.thepharmajournal.com

Received: 02-12-2022

Accepted: 04-01-2023

Manjula Patil

Scientist, All India Coordinated
Research Project-Women in
Agriculture, University of
Agricultural Sciences, Dharwad,
Karnataka, India

Patil SS

Junior Research Fellow, All
India Coordinated Research
Project-Women in Agriculture,
University of Agricultural
Sciences, Dharwad, Karnataka,
India

Optimizing knowledge on nutrition, health and hygiene among adolescents of farm families: An intervention study

Manjula Patil and Patil SS

Abstract

A study has been conducted at University of Agricultural Sciences, Dharwad, Karnataka during 2019-20. The adolescent girls of farm families under the age group of 12 to 25 years from six villages of Dharwad Taluk were interviewed to know their pre-knowledge regarding nutrition, health and hygiene using the structured tool on knowledge regarding nutrition, health and hygiene developed by AICRP (2004) and Socio-economic status scale developed by AICRP-CD, (2002). Educational package on nutrition, health and hygiene was developed for imparting intervention. Two post tests were conducted once in six months. The results revealed that their knowledge indices were 5.61 on nutrition and 41.48 on health and hygiene at pretest and on intervention through demonstration, slide shows, games, lectures for a period of one year resulted in an enhancement of knowledge to 13.70 indices on nutrition and 52.19 indices on health and hygiene which was statistically significant. Hence, the developed package and the intervention program proved to be effective in enhancing the knowledge of adolescent girls regarding nutrition, health, hygiene and child health.

Keywords: Knowledge, nutrition, health, hygiene, intervention

Introduction

Adolescence is a journey from the world of the child to the world of the adult. It is a time of physical and emotional change as the body matures and the mind becomes more questioning and independent. The World Health Organization (WHO) defines adolescents as young people aged 10-19 years. There are about 1.2 billion adolescents, a fifth of the world's population, and their numbers are increasing. The World Health Organization (WHO) pointed out that, when there is a shortage of food, most families know that they must make special efforts to ensure that babies are well nourished. It is less well understood that adolescent girls and boys have a need for extra nutrition as they grow rapidly and develop and that an inadequate diet can delay or impair healthy development. Stunting can occur in childhood or during adolescence. The WHO also point out that, in some cultures girls are fed last and fed least. In girls, poor nutrition can delay puberty and lead to the development of a small pelvis. Malnourished adolescent girls who have babies at a young age are more likely to experience and will be less able to withstand complications because the body has not yet reached maturity. Maternal mortality is higher in anemic women. Even when they survive, poorly nourished adolescent mothers are more likely to give birth to low birth-weight babies, perpetuating a cycle of health problems which pass from one generation to the next. Kumar (2012) ^[4] found that prevalence of stunting is 47 (19.2%) and wasting is 69 (28.2%). Prevalence of under nutrition was common among the girls in the late adolescent group. Alam *et al.* (2010) ^[1] suggest that community-based adolescent-friendly health and nutrition education and services and economic development will improve the overall health and nutritional knowledge and status of adolescents. Hence there is need on educational intervention on knowledge of adolescents regarding nutrition, health and hygiene with an emphasis on consumption of vegetables and fruits for sound health and normal development.

So, considering this as an issue of health concern, the study has been under taken with the objective to study the impact of educational intervention on knowledge of rural adolescents regarding nutrition, health and hygiene.

Material and Methods

Research Design: In order to observe the impact of educational intervention on knowledge of

Corresponding Author:

Manjula Patil

Scientist, All India Coordinated
Research Project-Women in
Agriculture, University of
Agricultural Sciences, Dharwad,
Karnataka, India

rural adolescents regarding nutrition, health and hygiene, an interrupted time series design- a quasi-experimental design was adopted.

Population and sample: Six villages from Dharwad taluk were selected for the study. Non school going adolescent girls under the age of 12-25 years formed the population of the study. As a high proportion of girls were non-school going, greater impetus was to empower them instead of the school going adolescents. A total sample of 216 adolescents of farm families were selected for pretesting. The girls were contacted prior to the selection and briefed with objectives of the research. During the study period (post testing) 12 girls were dropped due to migration after their marriage.

Procedure

Pre testing was carried out to assess the knowledge level of adolescents regarding nutrition, health and hygiene using the structured tool on Knowledge regarding nutrition, health and hygiene by AICRP (2004) and Socio-economic status scale developed by AICRP (CD) (2002). The scales were translated to regional language (Kannada) and administered to the enrolled girls in the Balika Kendra.

Educational package was developed for the intervention programme and presented through demonstrations, slide shows, games, and lectures for a period of one year, for about two hours per week. The package consists of knowledge pertaining to health and hygiene, child rearing practices, nutrients, food groups and sources, nutritional deficiency disorders and dietary treatment, recommended dietary allowances for adolescent girl and tips for nutritious cooking. The results of intervention was assessed through post tests once in six months and by calculating knowledge Index including nutrition, health and hygiene.

Results and Discussion

Characteristics of the adolescents selected for the study:

The distribution of the sample according to age is presented in table 1.

Table 1: Distribution of the sample according to age of adolescents

Age group	Frequency	Percentage
12-15 yr	43	19.5
15-18 yr	116	52.5
>18 yrs	62	28.0
Total	221	100

Majority of the adolescents (52.5%) were of the age group 15-18 years followed by more than 18 years (28.0) and 19.5 percent were of between 12-15 years. The minimum age was 12 years and maximum was 25 years.

Table 2: Distribution of sample by education of adolescents

Education level	Frequency	Percentage
Illiterate	39	18.14
5-7 th standard	16	7.04
S.S.L.C	139	64.65
PUC-I & PUC-II	19	8.84
Graduate	02	0.93
Total	215	100

The educational level of the adolescents ranged from illiteracy to graduation. Majority of them had high school education

(64.65%) followed by illiterate (18.14%). About 9 percent had completed PUC and 0.93 per cent were graduates (Table 2).

Knowledge regarding nutrition, health and hygiene of the adolescents- The mean scores of knowledge regarding nutrition, health and hygiene of the adolescents at pre- test are presented in Table 3.

Table 3: Mean scores of knowledge components

Variables	Pre test scores		Index
	Mean	SD	
Health and hygiene	11.99	6.08	41.48
Nutrition	3.16	3.46	27.91
Child health	5.75	3.99	5.61

The mean indices of knowledge were least on nutrition followed by child health and health & hygiene. The indices ranged from 5.61 to 41.48 percent. This indicated that there was an imperative need to intervene in order to educate the rural adolescents on nutrition, Health and hygiene for the better quality of life. Saibaba *et al.* (2002) [8] assessed nutritional status of 2500 adolescent girls living in urban slums and methods to improve their nutritional knowledge and practices through Information, Education and Communication (IEC). Results revealed that, their heights and weights at any given age were far below the standards and deficit increased with age. Iron deficiency anaemia was found to be the most common nutritional problem observed in them. After IEC intervention significant proportion of girls could correctly identify the foods rich in various important nutrients. A marked increase in the intake of finger millet or 'Ragi' was observed, which is a very rich source of calcium as well as iron. The IEC intervention resulted in improvement of nutritional knowledge of adolescent girls as envisaged by better cooking methods and increase in the consumption of nutrient rich foods.

Relation of age and education with knowledge- An attempt was made to know the relation of age and education of adolescent with knowledge on nutrition, health and hygiene.

Table 4: Relation of age and education with knowledge components

Parameters	Age	Education
Health/Hygiene	.304**	.401**
Nutrition	.135	.185
Child health	.316**	.196*

*Significant at 5% level **Significant at 1% level

Table 4 shows the relationship between age and education with knowledge components. It was found that, health and hygiene and child health was significantly related to adolescents' age. Similarly education was also found to be significantly related to adolescents' knowledge on health/hygiene and child health. Nutrition was not significantly related with adolescents' age and education. Rafia *et al.* (2013) [7] showed that there was a statistically significant difference found in the scores of the nutrition and non-nutrition students for knowledge of food groups (P=0.025); Knowledge of nutrients (P = 0.000), Knowledge of food labels (P = 0.003) and Attitude and practice score. Results of another study by (Laura, 2011) [5] concluded that Knowledge scores were highest on questions concerning food habits and

lowest on questions concerning health beliefs.

Impact of Intervention on Knowledge Components: The impact of intervention was assessed with two post tests and through 'paired t' test. The results of the post testing is presented in table 5 and 6.

Table 5: Impact of Intervention on Knowledge Components (Paired 't' test)

Variables	Pretest		Post test		t-value
	Mean	SD	Mean	SD	
Health/Hygiene	11.58	6.87	14.20	6.83	2.13*
Nutrition	3.69	4.67	6.37	4.86	3.18**
Child health	6.57	4.41	9.00	5.78	2.86**
Total Knowledge	98.88	31.08	125.24	36.58	4.56**

*Significant at 5% level **Significant at 1% level

Table 5 indicates the impact of intervention on knowledge components. The comparison of the intervention programme was made using paired t- test. The gain in the knowledge regarding health/hygiene, nutrition and child health was found to be significant. This indicates that there is an improvement on adolescents' knowledge and the educational intervention is effective. Arora *et al.* (2013) [3] Studied the existing level of status of hygiene, knowledge and practices regarding menstruation among adolescent school girls and to assess the change in their knowledge level and practices after health education. Results showed that, in the pre-test, menstrual perceptions amongst them were found to be poor and practices incorrect while in the post-test, there was a significant difference in the level of knowledge ($P < 0.05$).

Table 6: Impact of Intervention on knowledge (with two Post- tests)

Variables	Pre test	Post test		Significance		
	(A)	I (B)	II (C)	A&B	A&C	B&C
Health/Hygiene	5.17	8.68	15.95	*	**	NS
Nutrition	46.11	49.85	56.41	NS	NS	NS
Child health	22.43	35.96	48.13	**	**	NS
Total Knowledge	32.25	40.95	46.69	**	**	*

*Significant at 5% level **Significant at 1% level

From the table 6, it is observed that there was a significant change in knowledge with respect to child health, health and hygiene. There was an improvement in knowledge with respect to health/hygiene, nutrition and child health from pretest to post test and again from post test I to II. Significant change in knowledge was found in health/ hygiene and child health. Puri, *et al.* (2007) [6] studied the impact of a training package on the subjects regarding diet and nutrition showed overall poor nutritional status of them along with poor dietary habits. Interventional programmes promoted the pattern of healthy diet. Study revealed that there was a gap between the awareness pertaining to nutritious diet and the practice of consuming, that the interventional steps so taken did increase the knowledge of balanced diet along with hazards of unbalanced diet.

Table 7: Impact gain of intervention on Knowledge Index

Components	Pretest	Post test	Impact gain
Health/Hygiene	43.22	57.67	14.44
Nutrition	27.20	44.78	17.09
Child health	47.96	57.60	9.64
Total Knowledge	31.93	44.56	12.63

Table 7 represents the impact gain of intervention on knowledge adolescents, component wise. The impact gain ranged from 9.64 in child health, 17.09 in nutrition and 14.44 in health and hygiene. The total knowledge gain was 12.63. Study conducted by Alyssa *et al.* (2010) [2] evaluated the knowledge, attitudes, and practices (KAP) of hygiene among rural school children in Ethiopia and assessed the extent to which proper knowledge of hygiene was associated with personal hygiene characteristics. Study findings underscore the need for more hand washing and hygiene education in schools; and provide objective evidence that may guide the development of comprehensive health and hygiene intervention programs in rural Ethiopian schools. Successful implementation of these programs is likely to substantially attenuate the transmissible disease burden borne by school children in rural settings.

Conclusion

The intervention program for enhancing the knowledge of adolescent girls regarding nutrition, health, hygiene and reproductive health, proved to be effective in enhancing their knowledge on each of the components. The developed package was found to be effective. Technological empowerment for better quality life on storage of vegetables, reproductive health measures, were appreciated and desired to be utilized.

Recommendations

The intervention module is effective in enhancing the knowledge regarding nutrition, health care and hygiene. The educational package developed for the purpose needs to be multiplied for use by the extension functionaries for the adolescents' welfare programmes. It is evident that the adolescent's nutrition is important due to its role in future generation's health. Majority of the adolescents agreed on the importance of nutrition in the health aspects but many are neglecting it due financial and other reasons. So peer-based nutrition and health programmes has to be imparted for capacity building and knowledge of the target groups.

References

1. Alam N, Roy SR, Ahmed T, Shamsir Ahmed AM. Nutritional Status, Dietary Intake, and Relevant Knowledge of Adolescent Girls in Rural Bangladesh, *J Health Popul Nutr.* 2010;28(1):86-94.
2. Alyssa Vivasa, Bizu Gelayea, Nigusu Abosetb, Abera Kumiec, Yemane Berhaneb C, Michelle Williamsa A. Knowledge, Attitudes, and Practices (KAP) of Hygiene among School Children in Angolela, Ethiopia *J Prev Med Hyg.* 2010;51(2):73-79.
3. Arora A, Mittal A, Pathania D, Singh J, Mehta C, Bungler R. Impact of health education on knowledge and practices about menstruation among adolescent school girls of rural part of district Ambala, Haryana. *Ind J Comm Health.* 2013;25(4):492-497
4. Kumar AT. Nutritional status of adolescent girls in rural Tamil Nadu, *Nat. J Res. Com. Med.* 2012;1(1):1-6.
5. Laura McArthur H, Karen Greathouse R, Erskine Smith R, Donald Holbert. A Quantitative Assessment of the Cultural Knowledge, Attitudes, and Experiences of Junior and Senior Dietetics Students. *Journal of Nutrition Education and Behavior.* 2011;43(6):464-472
6. Puri S, Bhatia V, Swami H, Rai S, Mangat C. Impact of a

diet and nutrition related education package on the awareness and practices of school children of Chandigarh. The Internet Journal of Epidemiology. 2007;6(1):1-7.

7. Rafia Bano, Eyad Alshammari, Syeda Bushra Fatima. A comparative study of Knowledge, Attitude, Practice of nutrition and non-nutrition student towards a balanced diet in Hail University. Journal of Nursing and Health Science. 2013;2(3):2320-1959.
8. Saibaba M, Mohan Ram GV, Ramana Rao, Uma Devi TS, Syamala. Nutritional status of adolescent girls of urban slums and the impact of iec on their nutritional knowledge and practices. Indian Journal of Community Medicine. 2002;XXVII(4):151-156.
9. World Health Organization. Adolescent Friendly Health Services- An Agenda for change, Geneva, Who Publications, 2002, 5-9.