



International Journal of Nutrition and Agriculture Research

Journal home page: www.ijnar.com

<https://doi.org/10.36673/IJNAR.2021.v08.i02.A08>



A STUDY TO EVALUATE THE EFFECTIVENESS OF IEC ON NUTRITIONAL KNOWLEDGE AND DIETARY PRACTICE AMONG ADOLESCENT GIRLS AT TIRUPUR DISTRICT

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ABSTRACT

Aim and objective: An adolescent as any person between ages 10 to 19. An adolescent is the transitional period of growth and development between childhood and adulthood. Adolescent is the transitional period from childhood to adulthood. Maximum amount of physical, psychological and behavioral changes takes place in adolescent period. Adolescents are the most vulnerable group and are prone for nutritional deficiency disorders or malnutrition during this period. This study was conducted to evaluate the effectiveness of IEC on nutritional knowledge and practice among adolescent girls. **Materials and methods:** A cross-sectional study was conducted among 140 adolescent girls at Tirupur district. Purposive sampling technique was used to select the respondents.

Result: The result shows that, pre-test knowledge assessment the score of the subject has the mean \pm SD of 9.050 ± 3.050 and in the post-test level of knowledge assessment, the subject's score has the mean \pm SD of 13.80 ± 2.48 . The result was pre-test dietary practice assessment the score of the subject has the mean \pm SD of 17.97 ± 3.299 and in the post-test level of dietary practice mean \pm SD of 18.43 ± 2.896 . The research data revealed that there was an increase in knowledge and practice of the selected subject after the IEC module between pre and post-test assessment. The calculated value has the test of significance (t-value) which is less than 0.05. **Conclusion:** Hence it is concluded that the value obtained is highly significant. So, nutrition education imparted is more effective and useful to enhance the knowledge and practice of the selected respondents.

KEYWORDS

Adolescent girls, Nutritional knowledge and Dietary practice and IEC Module.

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INTRODUCTION

The world health organization defines an adolescent as any person between ages 10 to 19. An adolescent is the transitional period of growth and development between childhood and adulthood¹. According to UNICEF, in worldwide more than 1.2 billion are adolescents. India has the largest adolescent

population in the world, 253 million and every fifth person is between 10 to 19 years². The word “Adolescent” is derived from the Latin word “adolescence” which means to grow to maturity that indicates the defining features of adolescence. An adolescent belongs to a vital age group not only they are entrant population to parenthood but also they are the threshold they face various physiological, psychological, and cognitive developmental changes³.

Adolescent girls experience a rapid physical growth and development. This rapid physical development begins during the prior developmental stage called Puberty and continues during adolescence. Especially adolescent girls continue to develop muscle mass. During the adolescent period, the percentage of body fat will increase, relative to muscle mass. While their bodies are changing and growing teens and older adolescents need to maintain a healthy lifestyle that includes a balanced, nutrient-rich diet, with plenty of exercises, and adequate sleep. Maintaining this healthy balance helps to prevent medical problems such as obesity, under nutrition, and diabetes and also protects mental health⁴.

Statement of the problem

A study to evaluate the effectiveness of IEC on nutritional knowledge and dietary practice among adolescent girls at Tirupur district.

Objective

To assess the pre and post-test level of nutritional knowledge and dietary practice among adolescent girls.

To evaluate the effectiveness of IEC on nutritional knowledge and dietary practice among adolescent girls.

To find out the difference between pre and post-test levels of nutritional knowledge and dietary practice among adolescent girls.

To find out the association between the pretest level of nutritional knowledge and dietary practice and behavioral lifestyle among adolescent girls with selected socio-demographic variables.

Null Hypotheses

NH₁: There will be no significant association between behavioral lifestyle with selected socio-demographic variables.

NH₂: There will be no significant association between pre-test level of nutritional knowledge and dietary practice among adolescent girls with selected demographic variables.

NH₃: There will be no significant association between pre-test level of nutritional knowledge and dietary practice among adolescent girls with selected demographic variables.

Alternative Hypotheses

AH₁: There will be a significant association between behavioral lifestyle with selected socio-demographic variables.

AH₂: There will be a significant difference between the pre-test and post-test levels of nutritional knowledge and dietary practice among adolescent girls.

AH₃: There will be a significant association between pre-test level of nutritional knowledge and dietary practice among adolescent girls with selected demographic variables.

MATERIAL AND METHODS

Quantitative approach was used for this study to assess the effectiveness of the IEC on nutritional Knowledge and dietary practice among adolescent girls at Tirupur district. The cross-sectional study design was adopted to identify the nutritional knowledge and dietary practice among adolescent girls. The sample for the study, consist of adolescent girls in the age 10-18 year old were selected around Tirupur district. School going adolescent girls were cautiously selected by adopting the purposive sampling technique. The data have been collected from 140 informants and it lasted for 60 days.

Description of the tool

A semi structured questionnaire was prepared in both English and local language for collecting data from the respondents the tool consists two phase

Phase I

In which phase I depicts age, height, weight, BMI, Family income, father's education, mother's

education, family type (Anthropometric assessment, Clinical assessment, Dietary assessment)

Phase II

Depicts the nutritional knowledge and dietary practice questionnaire

Scoring and interpretation

Scoring Key for Nutritional knowledge

It consisted of 25 semi-structured questionnaire. The correct answer was given '1' mark and wrong answer was given '0'.

Scoring Key for Dietary practice

It consisted of 10 semi-structured questionnaires frequent option given 3 marks, Sometimes 2, Rare 1.

Ethical consideration

The study objective, Intervention and data collection procedure will be approved by the research and ethical committee of the institution. Informed consent will be obtained from the individual adolescent girls in oral form. The adolescent girl had the freedom to leave the study at their own will without assigning any reason. The nutritional knowledge and ill effects of unhealthy dietary practice were explained to the adolescent girls involved in the study.

Statistical analysis

The data obtained through the questionnaire were coded, classified and entered into MS Excel sheets for further statistical analysis. Data recorded were analyzed using SPSS version 21.0. Descriptive statistical techniques were used to provide a summary of data in the form of mean, median and standard deviation for almost all the quantitative data. The Association between the Socio-demographic characteristics and the adolescent girls nutritional knowledge and dietary practice performed using cross-tabulation: Chi-square test. Descriptive statistical analysis was used to present the general details and responses. Statistical Significance of $p < .05$ was used for all tests.

RESULTS AND DISCUSSION

Among 140 adolescents, the majority of the population were belonged to the age 16-18 years with 39%, followed by 13-15 were belongs to 34% and 10-12 were belongs to 28%. According to the religion majority of girls were Hindu 60%, Christian

were 28% and Muslim were 12% Hinduism is professed by much of the population in India and it was evidenced in the survey with 60 %. The majority of family were nuclear with 64% and remaining are joint family 36%.

The majority of father's hold a High school, Higher secondary with 50%, followed by the Literate, <middle school, Middle school with 27%, 13 % of them complete Graduate (or) Post Graduate, 6% fathers were illiterate and Only 3% held a professional degree. According to the mothers education, the majority of the respondents mothers were Literate, <middle school, Middle school, followed by High school, Higher secondary were 37%, Graduate (or) Post Graduate 15%, 2% were held Professional degree and Only 1% were Illiterate. Regarding Occupation of the head, the majority of the respondents were Craft and related trade workers, plant machine operators and assemblers 30% , followed by Technicians, associate professional and clerks were 25 %, Skilled workers and shop, market sales work, and skilled agricultural and fishery were 24%, 8% were Elementary occupation and unemployed, 7% were Legislator, senior officials, managers and professional Family income 36% were 10,110 – 15,159, followed by 28% were belongs to 15,160 – 20,209, 16% were belongs to 20,210 - 40,429 and 6060 – 10,109, ≤ 2020 , 4% were belongs to $\geq 40,430$. Socio economic belongs to majority of the respondents were lower middle income 37% followed by 30% upper middle only 33% were lower income.

The majority of the respondents were above 140cm with 45% of height, remaining were 120-140cm were belongs to 33 %, 100-120cm were belongs to 22%. According to the weight, the majority of the respondents were above 50kg with 37%, followed by 40-50kg with 33 %, 30-40 were belongs to 30%. According to body mass index 42.5 were belongs to overweight with 42%, followed by 34% were belongs to normal weight, 16% were belongs to underweight and only 8% were belongs to obesity.

Discussion

This chapter deals with the discussion part according to the results, obtained from statistical analysis based on the data of the study, the reviewed literature,

hypothesis which was selected for the study. The present study was conducted to evaluate the effectiveness of IEC on nutritional knowledge and dietary practice among adolescent girls at Tirupur district.

The first objective was to assess the pre and post-test level of nutritional knowledge and dietary practice among adolescent girls. In the Pre-test nutritional knowledge score shows 14(10%) respondents poor knowledge, 86 (61.4%) had average knowledge, 35(25%) had good knowledge and 5(3.5%) had excellent knowledge. Pre-test dietary practice shows that in the pre-test 54(38.3%) respondents had average practice and 86(61.6%) had good dietary practice.

The second objective was to evaluate the effectiveness of IEC practice on nutritional knowledge and dietary practice among adolescent girls. With regard to nutritional knowledge, the paired 't' value was 26.100 at the level of $p = .0001\#$. Hence, the alternative hypothesis was accepted and null hypothesis was rejected. With regard to the dietary practice, the paired 't' value was 2.613 at the level of $p = .0208^*$. Hence, the alternative hypothesis was accepted and null hypothesis was rejected.

T.N. Khan *et al*, (2018) conducted a cross sectional study with 300 adolescent girls were surveyed. They were divided into two groups ie control (150) and experimental (150). The selected subjects were personally interviewed for knowledge, aptitude and practice with the help of questionnaire. The IEC programme was conducted to the experimental group. The nutrition knowledge was imparted through messages, charts, posters, talk and demonstration, etc. After imparting the IEC programme, the impact of IEC programme was evaluated by appropriate statistical methods. The results indicated that there was a significant increase in the haemoglobin content and nutrient intake of experimental group after IEC programme. Similarly the improvement in the existing knowledge, aptitude and practice was observed⁵.

The third objective was to find out the difference between pre and post- test level of nutritional knowledge and dietary practice among adolescent girls. In the post-test nutritional knowledge score

shows that none had poor knowledge, 10(7.1%) respondents had average knowledge, 79(56.4%) respondents had good knowledge and 51(36.4%) had excellent knowledge. In the post test, 37(26.6%) respondents had average practice and 103(73.5%) respondents had good dietary practice.

The fourth objective was to find out the association between the pretest level of nutritional knowledge and dietary practice and behavioral lifestyle among adolescent girls with selected socio-demographic variables. With regard, association between Behavior and lifestyle characteristic with age. The screening time ($p = .00001\#$), menstrual cycle ($p=.00001\#$) shows 1% level of significance and Sleeping hours ($p= 0.000124^*$) shows 5% level of significance with their age. Hence alternative hypothesis was accepted and null hypothesis was rejected.

Susmita Ghosh *et al*, (2020) conducted a study with 485 adolescent school girls. The results from the study revealed that more than half of the students did not have good knowledge about a balanced diet, 42.8% had a positive attitude. 41.1% of students were underweight; more than 60% of respondent's mothers did not have an education higher than secondary school and were mostly unemployed housewives. Parent's education, mother's occupation, and types of school have a strong association with KAP; however, father's education and occupation showed an association of varying degrees. Being knowledgeable was related to positive attitudes, and students with good knowledge had more likely to have positive attitudes towards a balanced diet. Interventions and programs can be designed to improve knowledge, attitude, and more specifically the practice at the household level so that adolescent girls⁶.

With regard, association between Behavior and lifestyle characteristic with BMI. The sleeping hours ($p=.000827\#$) shows 1% level of significance, Physical activity ($p=.00158^*$) and menstrual cycle ($p=.01299^*$) shows 5% level of significance with their BMI. Hence alternative hypothesis was accepted and null hypothesis was rejected.

With regard, association between Behavior and lifestyle characteristic with socioeconomic status. The screening time ($p=.00071\#$) shows 1% level of

significance, Physical activity ($p=.00167^*$), Skipping meals ($p=.05656^*$) shows 5% level of significance with their socioeconomic status. Hence alternative hypothesis was accepted and null hypothesis was rejected.

The association between pre-test Nutritional knowledge among adolescent girls with their demographic variables. The chi-square value of the demographic variables, such as Age ($p=.00001\#$) shows 1% of significance, Mothers education ($p = .0132^*$) shows 5% level of significance.

Hence the alternative hypothesis was accepted and null hypothesis was rejected. The association between pre-test Dietary practices among adolescent girls with their demographic variables. The chi-square value of the demographic variables, such as, Age ($p=.0007\#$) shows 1% level of significance, Mothers education ($p = .0243^*$), Socio economic status ($p = .0365^*$) shows 5% level of significance. Hence the alternative hypothesis was accepted and null hypothesis was rejected.

Scoring Key for Nutritional knowledge

Scoring Interpretation

S.No	Interpretation	Nutritional knowledge
1	1-5	Poor
2	6-10	Average
3	11-15	Good
4	16-25	Excellent

Scoring Key for Dietary practice

Scoring Interpretation

S.No	Interpretation	Dietary practice
1	1-15	Average
2	16-30	Good

Results

Table No.1: Frequency and Percentage distribution of Nutritional knowledge pre-test and post-test score among adolescent girls N=140

S.No	Nutritional knowledge	Respondents nutritional knowledge			
		Pre-test		Post-test	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	Poor	14	10	0	0
2	Average	86	61.4	10	7.1
3	Good	35	25	79	56.4
4	Excellent	5	3.5	51	36.4

Table No.2: Range, Mean, Standard deviation and Mean percentage of Nutritional knowledge pre-test and post-test score among adolescent girls N=140

S.No	Knowledge Domain	Maximum score	Respondent							
			Pre-test				Post-test			
			Range	Mean	SD	Mean %	Range	Mean	SD	Mean %
1	Nutritional knowledge	5	13	9.050	3.050	45.25	10	13.80	2.48	69

Table No.3: Frequency and Percentage distribution of Dietary practice pre-test and post-test score among adolescent girls N=140

S.No	Dietary practice	Respondents knowledge			
		Pre-test		Post-test	
		Frequency	Percentage (%)	Frequency	Percentage (%)
1	Average	54	38.5	37	26.6
2	Good	86	61.4	103	73.5

Table No.4: Range, Mean, Standard deviation and Mean percentage of Nutritional knowledge pre-test and post-test score among adolescent girls N=140

S.No	Dietary practice domain	Maximum score	Respondent							
			Pretest				Posttest			
			Range	Mean	SD	Mean %	Range	Mean	SD	Mean %
1	Dietary practice	30	14	17.97	3.299	59.9	12	18.43	2.896	61.43

Table No.5: Range, Mean, Standard deviation and Mean score percentage of gain in Nutritional knowledge statistical significance N=140

S.No	Aspects of nutritional knowledge	Max. Score	Enhancement				Paired 't' value	P Value
			Range	Mean	SD	Mean (%)		
1	Nutritional knowledge	25	10	4.750	1.410	47	26.100	p= .0001#

*5% level of significance, #1% level of significance

Table No.6: Range, Mean, Standard deviation and Mean score percentage of gain in Dietary practice statistical significance N=140

S.No	Aspects of dietary practice	Max. Score	Enhancement				Paired 't' value	P Value
			Range	Mean	SD	Mean (%)		
1	Dietary practice	30	14	4.67	1.387	27%	2.613	P = .0208*

*5% level of significance, #1% level of significance

LIMITATION

The study was limited to assess the effectiveness of IEC on nutritional knowledge and dietary practice among adolescent girls.

The study is limited to 60 days only.

CONCLUSION

The majority of adolescent girls had poor nutritional knowledge and average dietary practice. After providing IEC booklet (Information, education, communication) was found to be effective to improve their nutritional knowledge from poor to excellent and their dietary practice from average to good.

SOURCE OF SUPPORT

None

CONFLICT OF INTEREST

None declared

ACKNOWLEDGEMENT

The author of this study would like to express the deepest appreciation to all participants who cooperated with me during the study. Without whose contribution the present research would not have been completed. I gratefully acknowledge the assistance of all my mentors who guided me and provide constant encouragement throughout the study.

CONTRIBUTORS

VJ: Conceptualization of the study, collection, analysis of the data, writing the manuscript, finalized the manuscript and will act as the guarantor of the paper; **JS, PP:** Edited and critically evaluated the manuscript.

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Please cite this article in press as: Vinothini J *et al.* A study to evaluate the effectiveness of iec on nutritional knowledge and dietary practice among adolescent girls at Tirupur District, *International Journal of Nutrition and Agriculture Research*, 8(2), 2021, 50-56.