

Health Education Intervention as a Measure to Disseminate Knowledge

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Abstract—Health is an essential factor in determining the vital rates of a country. To reduce the long term nutritional problems, it is necessary to educate children on the importance of proper health care aspects. Education at school, at home, and in community centers can solidify the understanding that nutrient dense foods can help fight many health disorders. Adolescence is an age where major physiological and psychological developments take place and developing appropriate practices at this time can become life-long habits. Hence, the study was conducted to know the impact of education intervention on seventy five early adolescent rural boys and girls of high school of Dharwad district of Karnataka. The lessons were prepared and delivered on selected five topics of health including personal health, community health, school health, protein energy malnutrition and deficiency diseases.

The study revealed that there was a highly significant improvement in the knowledge of the students regarding health after the intervention. Gain in knowledge was found more with respect to community health (36.00%), followed by protein energy malnutrition (34.67%), personal health (29.33%), school health (25.33%) and deficiency diseases (22.67%). Majority of the students were noticed to be in the high knowledge level after the education intervention irrespective of the gender which seemed to have no influence on the learning abilities of the students. Thus it can be concluded that health education intervention had a significant impact on the knowledge of students.

Keywords: Adolescents, education intervention, empowerment, health, knowledge

1. INTRODUCTION

The word education has undergone many evolutionary changes since its birth, from informal education to formal system of education, in the methods of teaching and the teacher-pupil relations. As part of this the methods have moved from teacher-dominated, teacher-directed and teacher-controlled system to teacher-pupil interactive system through practical exposures and field experiences. This can be done in the schools by way of systematic planning of instruction. It also needs appropriate usage of method or technology to be adopted in teaching the concepts of the subjects in the school.

In every nation, the welfare of the entire community depends on the health and welfare of the youth. Educational intervention programmes can help in creating and promoting

awareness among the youth. A study by Dongre et. al. (2006) showed a significant improvement in personal hygiene of students and concluded that the school health education program with active involvement of school teacher lead to improvement in personal hygiene in school children and reduction in related morbidities.

Thus, it is necessary to educate children on the importance of proper health care aspects to reduce the long term nutritional problems. Hence, an effort was made to assess the impact of health education intervention in school students with the following objectives:

- 1) To study the profile of the selected students.
- 2) To develop the educational referrals and the audio-visual aids on selected topic.
- 3) To assess the knowledge gain of the students on selected topics.

2. MATERIALS AND METHODS

A baseline survey was conducted to know the total number of English medium schools in Dharwad taluk. The information was obtained from the Block Education Office and finally with due permission of the authority an English Medium School–Alnavar Education Society’s “Smt. Annapoorna Chandrashekharyya Hiremath English Medium School” established in Alnavar village was selected. The study was carried out on purposively selected 8th and 9th standard students including both boys and girls. The total number of students on roll was eighty in the selected standards. Based on the regularity of the students attending the school seventy five students were selected for the study.

General information like age, education, ordinal position, type of family, size of family, academic performance, financial assistance and awards received to assess the socio-personal profile of the students was collected with the help of pre structured schedule by interviewing each student. To know the impact of education intervention, a schedule including questions on health was prepared and pre-tested in a non-study area to locate any ambiguity in the questions. After pre-testing

certain modifications were made in the schedule by consulting the specialists in the selected topics and related literatures. Finalized schedule was used for data collection. Before and after type of experimental design was adopted for assessing the impact of the intervention.

The pre test was conducted to assess the potential knowledge of the students regarding health. The lessons were prepared and delivered on selected topics including personal health, community health, school health, protein energy malnutrition and deficiency diseases. Each of the five lessons was delivered for forty minutes with the use of power point presentation and flash cards. Post test was conducted immediately after lecture was delivered. Subsequently hand outs of the delivered lecture were provided to each student for further reference.

The selected variables on socio-personal characteristics were analyzed using frequencies and percentages. The gain in knowledge was assessed by knowledge index. The scores of both pre test and post test was compared with the paired t test.

3. RESULTS AND DISCUSSION

The details of the booklet developed for the education intervention is presented in Table 1. The selected syllabus for health covered the major aspects of general health like personal, community and school health along with protein energy malnutrition and deficiency diseases. At the end of each chapter, sample questions in the form of multiple choice questions and true/false type was provided.

Table 1: Course outline of Health syllabus

Name of the lesson	Particulars
I. Personal Health	<ul style="list-style-type: none"> ➤ Introduction ➤ Personal Cleanliness: Bathing, Care of Hair, Cleanliness of hands feet and nails, Care of eyes and ears, Cleaning mouth and teeth, Rest and Sleep, Exercise Fatigue and Posture ➤ Habits: Eating habits and smoking habits ➤ Substance Abuse: alcohol and drugs ➤ Clothes and Footwear. <p>Sample Questions: Multiple Choice and True /False type</p>
II. Community Health	<ul style="list-style-type: none"> ➤ Introduction ➤ Categories of Community Health ➤ Primary health care: Water facility, Measures to get Safe drinking water ➤ Waste disposal: Steps in Garbage Disposal, Methods of disposal ➤ Using Toilets ➤ Secondary Health Care: Draining of puddles, Clearing Bushes, Spraying Insecticides or Fumigation, Disposal of garbage in community. <p>Sample Questions: Multiple Choice and True /False type</p>

III. School Health	<ul style="list-style-type: none"> ➤ Introduction ➤ Objectives of School Health ➤ Components of School health: Environmental factors-Physical and Psychosocial, School Health Check-ups, Special Services, Supervisory Services, Health Education , Record <p>Sample Questions: Multiple Choice and True /False type</p>
IV. Protein Energy Malnutrition	<ul style="list-style-type: none"> ➤ Introduction ➤ Causes ➤ Types ➤ Symptoms of Kwashiorkar and Marasmus ➤ Treatment <p>Sample Questions: Multiple Choice and True /False type</p>
V. Deficiency Diseases	<ul style="list-style-type: none"> ➤ Introduction ➤ Night blindness ➤ Rickets ➤ Ber-beri ➤ Angular Stomatitis ➤ Scurvy ➤ Goitre ➤ Anaemia <p>Sample Questions: Multiple Choice and True /False type</p>

Table 2 depicts the socio-personal characteristics of the selected respondents. It can be concluded that 86.67 per cent of respondents were of the age between 13 to 14 years followed by 9.33 per cent of respondents in the age group of 15-16 years and the remaining 4 per cent were in the age group of 11-12 years. With regard to gender, a total of 42.67 per cent of the sample were girls, where 25.33 per cent girls were from Std. 8 and 17.34 per cent were girls of Std. 9. Among boys, 29.33 per cent were from std. 8 and 28 per cent boys belonged to Std. 9 making 57.33 per cent of total sample. More number of students belonged to a medium family size (56.00%), followed by small family (42.67%) and large family (1.33). Among family type, majority of the students were from nuclear family (88.00%) followed by joint family (8.00%) and extended family (4.00%).

Table 2: Socio personal characteristics of the selected respondents
N=75

Sl. No.	Demographic Characteristics	Categories	F	%
1.	Age	11-12	03	4.00
		13-14	65	86.67
		15-16	07	9.33
2.	Girls	Std 8	19	25.33
		Std 9	13	17.34
	Boys	Std 8	22	29.33
		Std 9	21	28.00
3.	Family Size	Small (1-4 members)	32	42.67
		Medium (5-7 members)	42	56.00
		Large (more than 7)	01	1.33
4.	Family type	Nuclear	66	88.00
		Joint	06	8.00
		Extended	03	4.00

5.	Ordinal Position	First Born	32	42.67
		Middle Born	17	22.67
		Last Born	26	34.66
6.	Academic Grade	50%-60%	05	6.67
		60%-70%	13	17.33
		70%-80%	16	21.33
		80%-90%	24	32.00
		90%-100%	17	22.67
7.	Awards	School Level	30	40.00
		Taluk Level	17	22.67
		District Level	05	6.66
		National Level	03	4.00
		None	20	26.67
8.	Financial Assistance	Yes	05	6.67
		No	70	93.33

Regarding ordinal position it can be elucidated from Table 2 that 42.67 per cent of students were first born in their family which was followed by 34.66 per cent of last born children and remaining 22.67 per cent children were middle born. A close observation of the academic grades of the students revealed that 32.00 per cent students between the grades of 80-90 per cent followed by 22.67 per cent students in the grade level of 90-100 per cent which was further closely followed by 21.33 per cent students in the grade of 70-80 per cent. The remaining students were found to be in the grades of 60-70 per cent and 50 -60 per cent with 17.33 per cent and 6.67 per cent of students respectively. From the observation of the awards received by the students, it was found that majority of the students received awards at school level (40.00%), followed by 22.67 per cent at taluk level, 6.66 per cent at district level and 4.00 per cent at national level. Only 6.67 per cent of students receive financial assistance from school.

Table 3 shows the chapter wise gain in knowledge of respondents after the education intervention with regard to health. Maximum gain in knowledge was found regarding community health (36.00%), followed by protein energy malnutrition (34.67%), personal health (29.33%), school health (25.33%) and deficiency diseases (22.67%). The gain in knowledge in all the chapters can be accorded to the education intervention provided to the students. Specifically, the gain was higher in community health and protein energy malnutrition which may be due to the students being less exposed to these areas previously. The possible reason may be that the students' had higher interest to know such areas which were unexplored earlier.

Table 3: Chapter wise gain in knowledge of respondents with regard to Health

N=75

Sl. No.	Chapters of Part B	Education Intervention				Change in knowledge	
		Correct answer Before		Correct answer After			
		F	%	F	%	F	%
		1	Personal Health	30	40.00	52	69.33

2	Community Health	12	16.00	39	52.00	27	36.00
3	School Health	26	34.67	45	60.00	19	25.33
4	Protein Energy Malnutrition	15	20.00	41	54.67	26	34.67
5	Deficiency Diseases	22	29.33	39	52.00	17	22.67

Assessment of knowledge level of students about health (Table 4) showed that 93.17 per cent of the students in Std. 8 and 47.06 per cent students in Std. 9 were in low knowledge level prior to the intervention. After the health education intervention none of the students were observed in low knowledge level in both the classes. Rather, cent per cent students in Std. 9 and 97.56 per cent students of Std. 8 were found to be in the category of high knowledge level. This increase in knowledge may be due to the exposure of the students to the health related lessons in the form of lecture and educational materials. The health related messages were reinforced with the help of relevant pictures and photographs which further increased their reception of knowledge. Hence, the present study revealed that there was a significant improvement in the knowledge of students regarding health (Table 4) which is in accordance with the results of a study of Patnam *et.al.* (2010) where the adolescent girls of Hingoli district of Maharashtra were found to have significantly improved knowledge regarding personal and environmental hygiene after the education intervention.

Table 4: Knowledge level of respondents before and after education intervention about health

N=75

Class	Total number of student	Knowledge level					
		Before education intervention			After education intervention		
		Low (less than 70)	Medium (Between 70-75)	High (More than 75)	Low (less than 70)	Medium (Between 70-75)	High (More than 75)
Std. 8	41	30 (93.17)	5 (12.20)	6 (14.63)	-	1 (2.44)	40 (97.56)
Std. 9	34	16 (47.06)	10 (29.41)	8 (23.53)	-	-	34 (100.00)
Over all	75	46 (61.33)	15 (20.00)	14 (18.67)	-	1 (1.33)	74 (98.67)

Values in parenthesis indicate percentage

Close observation of Table 5 revealed the gender wise impact of the education intervention which was found to be similar for both boys and girls. There was a significant difference in the mean scores of boys and girls before the education intervention which seems to vanish after the education intervention. Thus, it can be said that gender does not influence the learning ability of the students. All the students, irrespective of gender showed an improvement which may be

attributed to the similar learning situation to which both the genders were exposed. The individual differences do occur based on the different intelligence quotient of the students but the effect of gender cannot be concluded if similar treatment is provided to both. These results are in line with the findings of Pujar (2006).

Table 5: Gender wise impact of education intervention regarding health

N=75

Stages of intervention	Boys (n=40)		Girls (n=35)		t-value
	Mean	SD	Mean	SD	
Pre Test	71.00	4.89	67.37	5.29	3.08**
Post Test	85.88	4.70	83.77	4.35	2.00

** Significant at 1 per cent level

Impact of education intervention was ascertained by paired t-test and the results are presented in Table 6. There was an increase in the mean score of the students in each of the five chapters. The t-value showed that there was a highly significant difference in the mean scores in all the chapters after the intervention. The change in the knowledge of the students was not by chance but due to their participation in the intervention programme. The increase in scores of post-intervention test showed the change in knowledge in a desired manner thus indicating the positive impact of the education intervention. Similar gain in mean score was observed by Gopichandran *et. al.* (2010) through a study on ninth grade students in Vellore regarding various aspects of tuberculosis by exposing them to a thirty minute audio visual presentation and distribution of pamphlets.

Table 6: Impact of education intervention on knowledge about health

N=75

Chapters	Pre test		Post test		t-value
	Mean	SD	Mean	SD	
Personal health	15.36	1.38	19.12	1.37	3.83**
Community health	13.47	1.31	16.53	1.60	14.21**
School health	14.17	1.86	17.55	1.49	14.67**
Deficiency diseases	12.65	1.63	16.36	1.40	17.77**
Protein energy malnutrition	13.65	2.05	16.29	1.58	13.05**

** Significant at 1 per cent level

4. CONCLUSION

Educational interventions can help change the attitudes of students for their betterment. Since during adolescence the children have a wide range of choices of food available to them and also the health is of major concern during this period. Thus, a suitably designed intervention can help the students to make a healthy choice with respect to food and improve their health status. Enhanced knowledge regarding any topic can improve the depth of understanding of the subject, thus empowering the students.

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