

Impact of nutrition education on adolescent girls of Purna Maharashtra

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ABSTRACT

The present research work was undertaken to study the knowledge of adolescent girls about reproduction, health care, nutritional awareness. Also to evaluate an impact of educational training in knowledge, attitude and behavior of subject due to nutrition education imparted to them. About 240 adolescent girls, in the age group of 11 to 15 were selected at random, divided into 12 various batches of 20 girls in each batch. The nutrition education and package of activities were provided to these subjects. The inferences were drawn with the help of suitable statistical tools wherever felt necessary. It is clear from the results that majority of the sample adolescent girls assessed to have either poor or fair levels of awareness about the component included on reproductive health care and nutritional awareness. However, after receiving training regarding reproductive health care, nutritional awareness for a period of 2 months, highly significant improvement was noticed in their awareness and behavior in respect to the components dealt in training their percentages increased significantly in fair and good categories of awareness.

Key words: Reproductive & nutritional awareness, Health habits & Scientific information.

INTRODUCTION

The word adolescent is derived from the Latin word 'Adolescere' which means 'to grow' or 'become mature'. The process of maturation becomes rapid from the puberty stage that is from 11 to 13 yrs [Easwaran & Poorani, 1991].

Therefore it is need to train these vulnerable group regarding reproductive, health and nutritional awareness. Especially for girl and woman it is essential to educate this population because, today girls are future mothers. To strengthen any nation there is need of healthy mothers. Only healthy mothers can produce health citizens [Eelizabeth, 2000]

As health is no doubt fundamental to human progress, girls, boys and newly married couples are the threshold of married life, which should have prior idea about conception, pregnancy and associated wastage. The consequences like malnourished babies, anemia, deterioration of health etc. Girl's age at marriage considerably influences her reproductive health outcome i.e. anemic and malnourished adolescent girls give birth to malnourished babies only, which has to be rectified at this stage only. Therefore reproductive health and nutritional awareness should be given priority in health care to have healthy mothers to get healthy children. After several years of independence, India is far behind in maintaining good health as indicated through parameters as IMR, MMR, HIV infected persons, diseased conditions of family members etc.

Second factor nutritional awareness is also important today in India, many young girls and woman are malnourished and anemic [Chawal et. al. 2005]. They do not have proper knowledge about their nutritional requirement; inadequate knowledge may cause various health problems.

Most of the Indian woman and girl's diet is lacking in many nutrients and having low Hb levels [Greger & Divilabiss, 1979, Jondhale et. al. 1999]. Therefore it is needed to educate and trained these adolescent girls regarding reproductive health and nutritional awareness with following objectives.

- To give scientific information to adolescent girls on reproductive health care effectively and intensively for quality.
- To give scientific information to adolescent girls on nutrition awareness for good health.
- To assist the impact on attitude, values and behavior changes of the trainees after attending it (Pre and post testing).

MATERIALS AND METHODS

Nearly 240 adolescent girls in the age of group 11 to 15 yrs were randomly selected from Purna town of Parbhani district in Marathwada region of Maharashtra state. Nutrition education and package of activities was provided on various aspects of health care, puberty changes, functioning of female, male reproductive system, pregnancy, nutrients and their functions to the subjects. Various teaching methods and aids were used for through understanding of the content material. Questionnaire was employed to collect the required information collected data was pooled and analyzed with appropriate statistical methods.

Background information: Majority of the subjects were form nuclear families (63.33%), nearly 72.91% student were having family size up to 4 to 8 members, majority of subjects parents were labors (26.66%) followed by teachers (25.41%).

RESULTS AND DISCUSSION

Table 1 indicates impact of training on nutrient awareness of 240 enrolled adolescent girls in 12 batches. About 61% of adolescent girls were assessed to have fair level of awareness about carbohydrates and its function at the time of pre testing. After having training, awareness increased to good level (82.5%) and fair level (10%) with regard to awareness about fat and oil and its function 63.75% adolescent girls were having fair knowledge followed by for awareness (31.25%).

After training majority of adolescent girls knowledge level improved to good level. Majority adolescent girls (71.66%) knowledge about protein and its function was fair level followed by poor level (18.75%). After training majority girls (84.16 %) knowledge was improved to good level. About 50% of adolescent girl's awareness about all vitamins was fair followed by poor (37.5%). After training maximum girls (79.16%) gain good knowledge about function of vita-A and its sources was observed fair followed by poor (27%). After completion of the training majority of adolescent girls knowledge level improved up to good level (86.6%). Regarding vit-C function and sources 56.66% adolescent girls were having fair knowledge followed poor (31.16%) knowledge.

After training majority of adolescent girls knowledge increased up to good levels 61% about function of vit-D and its sources was completion of training adolescent girl's knowledge improved at good level (82.5%). Adolescent girl awareness about dietary minerals was found fair (63.33%) followed by poor (28.33%). Hence knowledge improved at good level (44.5%) after completion of the training. Awareness regarding calcium, iron and iodine, majority of adolescent girl's knowledge was found at fair levels 70, 75 and 55% respectively at pre testing. It was improved to good level 85.83%, 85.0 and 75.83% respectively at post testing.

Table 1: Impact of training on nutrient awareness of adolescent girls

Particular awareness	Number and percentage of adolescent girls				
	Pre test N= 240		Post test N= 240		'Z' value
Carbohydrates and its function					
Poor	74	30.83	06	2.5	3.69578**
Fair	146	60.83	24	10	6.953463**
Good	20	60.83	198	82.5	1.3162**
Very good	-	-	12	5.00	-
Fat and oil and its function					
Poor	75	31.25	08	3.33	3.475781**
Fair	152	63.75	42	17.55	6.492302**
Good	12	5.00	182	3.33	10.0808**
Very good	-	-	08	17.5	-
Protein and its function					
Poor	45	18.75	04	1.66	1.863748*
Fair	172	71.66	20	8.33	9.187882**
Good	15	6.25	202	84.16	11.7252**
Very good	08	3.33	14	5.86	0.34264NS
All vitamins					
Poor	90	37.5	08	3.33	4.30846**
Fair	120	50.00	42	17.55	4.277089**
Good	36	15.00	190	79.16	9.63215**
Very good	-	-	-	-	-
Function of vit-A and its sources					
Poor	64	26.66	12	5.00	2.622391**
Fair	156	65.00	34	14.16	7.212843**
Good	16	6.06	182	75.86	10.4036**
Very good	04	1.66	12	5.00	0.31875NS
Function of vit-C and its sources					
Poor	82	31.16	04	1.66	3.346727**
Fair	136	56.66	24	10.00	11.89954**
Good	24	10.00	208	86.66	11.7509**
Very good	08	3.33	04	1.66	0.108227NS
Function of vit-D and its sources					
Poor	80	33.33	12	5.00	3.415121**
Fair	146	60.33	15	6.25	7.491873**
Good	09	3.75	198	82.5	11.1955**
Very good	05	2.08	15	6.25	0.45644 NS
Dietary minerals					
Poor	68	28.33	16	6.66	2.504003**
Fair	152	63.33	21	8.75	7.325745**
Good	34	14.16	186	77.5	9.22009**
Very good	06	2.5	17	0.08	0.349927NS
Calcium and its sources					
Poor	26	10.83	10	4.16	0.802671NS
Fair	168	70.00	12	5.00	9.006664**
Good	38	15.83	206	85.83	10.9039**
Very good	08	3.33	12	5.00	0.22948NS
Iron and its sources					
Poor	20	8.33	01	0.41	1.318761**
Fair	180	75.00	21	8.75	9.388738**
Good	22	9.16	204	85.00	11.5261**
Very good	18	7.5	24	10.00	0.34953NS
Iodine and its sources					
Poor	70	29.16	10	4.16	3.035844**
Fair	132	55	33	13.75	5.516673**
Good	28	11.66	182	75.83	9.26309**
Very good	10	4.16	15	6.25	0.22942 NS

NS=Non Significant *Significant at P<0.05

**P<0.01

Table 2 showed an impact of training on reproductive awareness of adolescent girls. About 67% adolescent girls awareness about physical changes during puberty was fair, followed by poor levels 30.30%. After completion of training majority of adolescent girls awareness was improved to good level 87%. Regarding awareness about physiological changes during puberty 55% adolescent girls awareness was found fair level followed by poor level 45%. At post testing majority (86.25%) of adolescent girl's awareness improved to good levels. Awareness

regarding personal care and hygiene during menstrual cycle 55% girl's knowledge was fair followed by poor (33.33). After undergoing training 72% adolescent girls had good knowledge. Majority of adolescent girls (80%) awareness about structure and function of uterus was observed poor followed by fair 20.41%. Whereas majority of adolescent girls (80%) knowledge about fertilization was observed poor (80%) followed by fair (20%) level. After undergoing training 73% adolescent girls had good knowledge followed by very good knowledge 14.16%. Nearly 90% of adolescent girls knowledge about contraceptives was observed poor after training, it was improved to fair level (60.83%) followed by poor level (35.83%). Majority of adolescent girls (86%) awareness about pre-natal stages was poor after having training it improved to fair level (50.83%). Only 10 % adolescent girls had good knowledge regarding this component. Majority of adolescent girl's (76%) awareness about care during pregnancy was seen poor followed by fair (24.16%). This knowledge was improved to fair (63.33%) level after training. Maximum girls (80%) knowledge about vaccination during childhood was observed poor. It was improved to fair level (77%) after undergoing training.

Table 2: Impact of training on reproductive awareness of adolescent girls

Particular reproductive awareness	Number and Percentage of adolescent girls				
	Per test N= 240		Per test 'Z' value N= 240		
Physical changes during puberty					
Poor	72	30.00	08	3.33	3.335071
Fair	160	60.66	16	10.66	8.12696
Good	08	3.83	210	87.50	13.2099
Very good	—	—	06	2.50	----
Physiological changes during puberty					
Poor	108	31.25	08	3.33	5.059644
Fair	132	55.00	16	6.66	6.226027
Good	—	—	207	86.25	----
Very good	—	—	05	2.08	----
Personal care and hygiene during menstrual cycle					
Poor	80	33.33	06	2.5	3.438127
Fair	132	55.00	20	8.33	6.306027
Good	28	11.66	172	71.66	8.53361
Very good	—	—	42	17.50	----
Structure and function of uterus					
Poor	191	79.58	10	4.16	11.11214
Fair	49	20.41	18	7.50	1.981512
Good	—	—	155	64.58	----
Very good	—	—	57	23.75	----
Knowledge about fertilization					
Poor	192	80.00	14	5.83	10.61276
Fair	48	20.00	16	6.66	1.511007
Good	—	—	176	73.33	----
Very good	—	—	34	14.16	----
Knowledge about contraceptives					
Poor	218	90.83	86	35.83	9.951173
Fair	22	9.16	1.46	60.83	7.10785
Good	—	—	08	3.33	----
Very good	—	—	—	—	----
Knowledge about pre-natural stages of development					
Poor	206	85.83	94	39.16	8.420672
Fair	34	14.16	122	50.83	4.94896
Good	—	—	24	10.00	----
Very good	—	—	—	—	----
Care during pregnancy					
Poor	182	75.83	66	27.5	7.908262
Fair	58	24.06	152	63.33	5.70186
Good	—	—	22	9.16	----
Very good	—	—	—	—	----
Knowledge about vaccination					
Poor	193	80.41	20	8.33	10.72239
Fair	47	90.58	186	77.50	8.81745
Good	—	—	34	14.16	----
Very good	—	—	—	—	----

NS=Non Significant *Significant at P<0.05 **P<0.01

Table 3 illustrates health awareness and habits of adolescent girls. Before the training 88% adolescent girls have habit of tooth brushing daily. After training all adolescent girls 100% develop this habit. Regarding nail cutting weekly 53% adolescent girls use to follow this habit after training all adolescent girls cut their nails once a week. Bathing daily was seen in 92% adolescent girls, after training all adolescent girls follow the habit of bathing daily. Maximum girls 83% wash head once a week. After training all adolescent girls 100% use to practice this habit. Head bathing twice a week was seen in 46% girls after training 71% adolescent girls develop this habit. Healthy habits of washing hands after each use of toilet were observed in 88% adolescent girls. 34% adolescent girls was taking care about cleanliness of nose, ears, eyes and hair at pretesting while 97% were observed for taking care of the same at post testing. Regarding wearing clean school uniform it was observed that only 32% adolescent girls were wear clean school uniform. This awareness improved to 94% at post testing.

Before the training playing games and sports regularly was observed in only 13%, later it was improved to 52%. Regarding daily exercise or yoga only 10% adolescent girls found to follow this practice, later it was improved to 22%. The habit of keeping school bag, shoes and uniform at proper place at home was observed in 25%, it was found improved to 81% adolescent girls at post testing. Before the training 30% adolescent girls had the habit of mouth washing after each meal, it improved to 93% at post testing. All above findings are in line with the findings [Prista et. al. 2003].

Helping in household work was a found in 87% adolescent girl at pre testing it was improved to 97% adolescent girls at post testing. Before the training 38% adolescent girls use to listen carefully towards elderly after training 82% adolescent girls follow this habit.

Particular health habits	Number and Percentage of adolescent girls				
	Per test N= 240		Per test N= 240		
Tooth brushing daily	212	88.33	240	100	5.37672**
Nail cutting weekly	126	52.5	240	100	10.5705**
Bathing daily	222	92.5	240	100	4.08775**
Head bathing a week	196	81.66	240	100	6.5593**
Head bathing twice a week	110	45.83	170	70.83	4.24439**
Washing hands before every meal	186	77.5	240	100	7.24303**
Washing hands with soap after each use of latrine	68	28.33	212	88.33	10.1962**
Takes care about the cleanliness of nose, ears, eyes and hairs	82	34.16	232	96.66	11.7762**
Always use school uniform	76	31.66	226	94.16	11.1128**
Always use clean shoes and shocks	72	30	232	96.6	12.1475**
Wash school bag and tiffin bag regularly	62	25.83	180	75	7.61096**
Play games and sports regularly	228	95.00	110	45.83	9.866297**
Does exercise/yoga regularly	31	12.91	124	51.66	5.18331**
Keep school bag, shoes and uniform at proper place	24	10	52	21.66	1.42918
Wash mouth after each meal	58	24.16	194	80.83	9.08301
Helps in household work	72	30	224	93.33	11.1243
Listen carefully towards elderly	208	86.66	232	96.66	3.8657
	92	38.33	197	82.08	7.64771

NS=Non Significant *Significant at $P<0.05$

** $P<0.01$

CONCLUSION

It is from the result that, majority of the sample adolescent girls assessed to have either poor or fair levels of awareness about the components included on reproductive health care and nutritional awareness and health awareness and habits. However, after receiving training regarding reproductive health care and nutritional awareness for a period of 2 months, highly significant improvement was noticed in their awareness and behavior in respect to the all components dealt in training as their percentages increased significantly in fair and good categories of awareness and habits.

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