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Child to parent education in prevention of acute diarrhoeal and respiratory infections in rural school under rural health training centre

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Abstract

Aim: attempt to find out the effect of child to mother education particularly with regards to acute diarrhoeal diseases and acute respiratory diseases in rural area.

Material and Method: A pre-structured and pretested questionnaire was used to get the information regarding definition, causes, signs, symptoms, treatment, preparation of ORS, prevention of diarrhoeal and respiratory infections etc. Total 12 were questions were asked to assess KAP of which 4 for knowledge, 4 for attitude & 4 for practice for students from both standards & in case of mothers 13 were questions were asked to assess KAP of ADD of which 4 for knowledge, 5 for attitude & 4 for practice whereas 12 were questions were asked to assess KAP of ARI of which 4 for knowledge, 4 for attitude & 4 for practice. Scoring system was developed to assess both pre and post test performance of study and control group. Correct answer was given score 1 and wrong answer and uncertain answer 0. The grading of knowledge, attitude and practice was done as 0-1= Poor, 2=Average and 3-4 =Good. The grading for overall KAP was done as 0-3= Poor, 4-7=Average, 8-12= Good. This was done.

Result: Difference in two groups was found not significant. It was observed that two third of students (64%) belonged to middle class followed by lower (20%) and upper class. No significant difference for Socioeconomic status observed among both study and control group.

Conclusion: The child to parent education proved effective in educating parents & family members on various health aspects. So child to parent education tool helps in inculcating & spreading Knowledge to the family & community at large.

Keywords: Acute diarrhoeal, child to parent education, respiratory infections

Introduction

Every year some 12 million children in developing countries die before they reach their fifth birthday, many during the first year of life. Seven in ten of these deaths are due to acute respiratory infections (mostly Pneumonia), diarrhoea, measles, malaria, or malnutrition or a combination of these conditions ^[1]. Out of all the childhood illnesses, acute respiratory tract infections, diarrhoeal diseases and malnutrition are the principle causes of illness and death in the developing countries². The period below 5 years among the children is the most crucial period and if any infection occurs during this period, will affect the growth and development of child because maximum growth and development occurs in this period. Among the infectious diseases, acute respiratory infections (ARI) and acute diarrhoeal disease (ADD) are leading cause for childhood mortality and morbidity ^[3].

Diarrhoeal diseases are reported to be the 2nd leading cause of child morbidity and mortality⁴. Diarrhoeal disease continues to plague the developing world. Resulting in more than 3 million deaths, accounting for 17% of total childhood deaths i.e. under 5 years. India ranks 1st for three quarters of death due to diarrhoea in under five population in the developing regions of the world (2004)⁵. ARI estimated to be the responsible cause for 3.9 million deaths of children annually worldwide. Acute respiratory infections result in 1.9 million childhood deaths per year in developing countries, 20% of these deaths are from India ⁶. The incidence of ARTI is similar in developed and developing countries, but the incidence and severity of pneumonia is considerably higher in developing countries. The difference is due to high prevalence of malnutrition, low birth weight and indoor air pollution in developing countries ^[2].

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Various studies have indicated that maternal education, socioeconomic status and occupation of mother play important role in health and preventing diarrhoea and acute respiratory infections [4]. In the three-year demographic surveillance of that area, under-5 mortality from diarrhoea in children of literate and illiterate mothers was 43 per 1000 and 93 per 1000, respectively. There conclusions were mother is typically the primary caretaker of the family and is thus charged with teaching [5] her children proper health and hygiene practices. In light of these observations, future school based health and hygiene education programs should include strategies to involve family members, particularly mothers and siblings [9]. It is observed that because illiteracy, poverty, ignorance, misconception and superstition people of rural areas have developed undesirable health attitudes and practices [10].

Looking towards these figures, one can understand the prime need of improvement in health status by providing health education to the right person through the right mode. Mother is in very close contact with the children than father and she is the care taker of the family. So this study is an attempt to find out the effect of child to mother education particularly with regards to acute diarrhoeal diseases and acute respiratory diseases in rural area.

Materials and Methods

This is a Community based interventional study on school going children and their mothers in rural health training centre. Kasegaon under the Dept. of Community medicine. All the students from 8th & 9th standard were included in study after applying exclusion criteria. From both standards equal numbers of students were randomly selected to include in study & control group. Total 148 students from 8th standard and 150 from 9th standard were found eligible for study and 75 each students were taken as study and control group for 8th standard and 74 each students were taken as study and control group for 9th standard. Students from 8th standard and their mothers were selected to assess the impact of health education in relation with diarrheal diseases, whereas students of 9th standard and their mothers were selected to assess the impact of health education in relation with acute respiratory infection.

A pre-structured and pretested questionnaire was used to get the information regarding definition, causes, signs, symptoms, treatment, preparation of ORS, prevention of diarrheal and respiratory infections etc. Total 12 were questions were asked to assess KAP of which 4 for knowledge, 4 for attitude & 4 for practice for students from both standards & in case of mothers 13 were questions were asked to assess KAP of ADD of which 4 for knowledge, 5 for attitude & 4 for practice whereas 12 were questions were asked to assess KAP of ARI of which 4 for knowledge, 4 for attitude & 4 for practice. Scoring system was developed to assess both pre and post test performance of study and control group. Correct answer was given score 1 and wrong answer and uncertain answer 0. The grading of knowledge, attitude and practice was done as 0-1= Poor, 2=Average and 3-4 =Good. The grading for overall KAP was done as 0-3= Poor, 4-7=Average, 8-12= Good. This was done in consultation with statistician & with the help of reference studies number 52. 39 Data was collected related to knowledge, attitude, practice on diarrhoeal diseases among 8th students and mothers in predesigned and pretested questionnaire for both study and control groups. Data related to knowledge, attitude, practice on acute respiratory infections among 9th students and mothers will be collected in

predesigned and pretested questionnaire for both study and control. The mothers were interviewed personally. Children of study group was educated regarding causes, symptoms, signs, treatment and prevention of ARI and diarrheal diseases with the help of study instruments (charts, posters, demonstrations etc.).

Demonstration on detection of dehydration, danger signals of ARTI and preparation of ORS was given in school to study subjects and assignment was given to them to perform same at home with the help of mother. The health education session was carried out 4 times in a month for 1 hour for study groups of each standard. Different teaching techniques like experiments, drawing was used to impart health education to study group. Health education sessions were not conducted for control group. After completing health education sessions post test questionnaire was asked to be filled by children of both study and control group & post test interview of mothers both group were carried out.

Result

Maximum number of children in both was having age of groups 14yrs and 13yrs whereas male gender (boys) which was found in maximum number compared to female (girls) in both groups. The difference between two groups was not found statistically significant. ($p>0.05$).

Majority of parents had school education (Mothers 57.3% and Father 56%) whereas illiterate mothers were more than one third (36%). But the difference in both study and control group found statistically not significant. More than one fourth mothers of both groups were engaged in one or the other form of work. Majority of them were engaged in farm work (46.6%) followed by labour work (30.6%). Similarly 90% of fathers were engaged in farming and 30% in labour work.

Difference in two groups was found not significant. It was observed that two third of students (64%) belonged to middle class followed by lower (20%) and upper class.

No significant difference for Socioeconomic status observed among both study and control group.

Table 1: Distribution according to parents Education, Occupation & Socioeconomic Status

Particulars	Study N=75 (%)	Controls N=75(%)	Total N=150 (%)	X ² value	p value
Mother Education					
1) Illiterate	24(32)	30(40)	54(36)	1.25	0.534
2) School Education	45(60)	41(54.7)	86(57.3)		
3) College Education	6(8)	4(5.3)	10(6.7)		
Mother Occupation					
1) Housewife	10(13.3)	11(14.7)	21(14)	2.43	0.488
2) Farmer	39(52)	31(41.3)	70(46.6)		
3) Labour	19(25.3)	27(36)	46(30.6)		
4) Professional	7(9.3)	6(8)	13(8.67)		
Father Education					
1) Illiterate	16(21.3)	23(30.7)	39(26)	4.034	0.116
2) School Education	41(54.6)	43(57.3)	84(56)		
3) College Education	18(24)	9(12)	27(18)		
Father Occupation					
1) Farmer	49(65.3)	41(54.7)	90(60)	2.102	0.349
2) Labour	19(25.3)	27(36)	46(30.7)		
3) Professional	7(9.3)	7(9.3)	14(9.3)		
Socioeconomic Status					
1) Upper Class	14(18.6)	10(13.4)	24(16)	3.718	0.155
2) Middle Class	51(68)	46(61.3)	97(64)		
3) Lower Class	10(13.4)	19(25.3)	29(20)		

Discussion

Generally the mother is the primary caretaker of the family and is thus charged with teaching her children proper health and hygiene practices. An illiterate or uneducated mother even though she takes care of her family, she may be less

knowledgeable about teaching her children proper hygienic practices, subsequently leading to increased rates of infection and disease amongst her children. Hence teaching mother through her children is one of the very good options to increase the awareness and good practice regarding health care of the family members. In the current study it was planned to see that child to parent education is effective tool. So children of both 8th standard and 9th standard were selected in this study and hence to inculcate healthy habits in them, in their homes, their friends and in the community.

General and social profile of Acute Diarrhoeal Diseases and Acute Respiratory Infection.

According to age group and gender, mean age of 8th standard students was 13 yrs (range: 12-14). Majority of them were boys constituting 74.7% in study group and 70.7% in control group whereas only about 1/4th girls population was constituted in study & control group (25.3% & 29.3% respectively). In 9th standard, mean age was 15 yrs (range: 13-15). Majority of them were boys constituting 75.7% in study group as well as 71.6% in control group, girls constituted 24.3% in study group and 28.4% in control. There was no difference in study and control groups. Regarding maternal occupation in both 8th & 9th standard, majority of mothers were farmers & labourers whereas only minimum proportion were housewives & professionals in both groups.

Pre and post test results in Acute Diarrhoeal Diseases and Acute Respiratory Infections among Children.

The percentage of correct answers given by children in pre test and later in post test was observed significantly improved in study group than control group. Distribution according to grades in knowledge, attitude, practice and overall KAP of children in current study showed that in maximum proportion of study & control group were having average knowledge (56% vs. 50.7%), poor attitude (74.7% vs. 76%) and poor practice (82.7% vs. 85.3%) in pre test regarding Acute diarrhoeal diseases whereas in post test there is significant change in K,A,P of study group (Good = 94.7%, 97.3%, 93.3%) compared to control group which remained same or slightly increased. Similarly children in study group & control group showed average Knowledge (51.4% vs. 66.2%), poor Attitude (77% vs. 87.6%) & poor Practice (79.7% vs. 90.5%) in pretest regarding Acute Respiratory infections whereas in post test there is significant increase in K, A, P of study group (good = 82.4%, 87.8%, 82.4%) compared to control group which remained same or slightly increased in post test. these finding are almost similar to the studies of A. Tragler & I.O.Fawole *et al.* in which significant increase in Knowledge, Attitude, Practice after experiment (Health education) was observed.

The proportion of correct answers among mothers in pre test and later in post test showed significant increase in study group while in control group there was mild or almost no change suggesting that the children of study group have passed right message to the mothers. Similarly Danielle Ferreira de Magalhães *et al.* observed the less proportion of correct answers by family members before the intervention. At the final follow-up they found increased proportions of correct answers which were significant among intervention group compared to control group. Distribution according to grades of knowledge, attitude and practice and overall KAP among mothers in current study showed that maximum proportion were having poor Knowledge (65.9% vs. 72%), poor attitude (82.7% vs. 84%) & poor Practice (89.3% vs. 88%) regarding

Acute ^[12] diarrhoeal diseases in pre test whereas in post test found significant increase in level of Knowledge, Attitude, Practice among mothers of study group (Good = 82 66.7%, 65.3%, 70.7%) compared to control group. It was observed that slight change in knowledge, attitude and practice in control group in post test may be due to transmission of information from study group to control group. This can be considered or used in the positive way to transmit information from child to child ^[11].

Similarly mothers in study group & control group showed poor Knowledge (68.9% vs. 68.9%), poor Attitude (68.9% vs. 74.3%) & poor Practice (68.9% vs. 70.3%) in pre-test regarding Acute Respiratory infections whereas in post test there is significant increase in Knowledge, Attitude, Practice of study group (good = 60.8%, 55.4%, 68.9%) compared to control group which remained same or slightly increased.

The above results of current study were similar to study conducted by Huda M. Haroun *et al.* 58 reported that due to health education there was significant change in post test of parents i.e. knowledge of mothers pertaining to definition of diarrhoea, its dangers, when to seek medical help, and the three rules of home management.

Paired t test comparison between pre test and post test of study group of both children and mother showed there was significant difference in both pre test and post test due to intervention (health education) i.e. in acute diarrhoeal disease intervention regarding children knowledge, attitude, practice, overall KAP & in mother's knowledge, attitude, practice, Overall KAP. But paired test in control group in pre test and post test among both children and parent showed no significant difference. Similar changes observed in 9th standard students among acute respiratory infection 83 intervened children's knowledge, attitude, practice, overall KAP & in mother, knowledge, attitude, practice, Overall KAP ^[10].

Independent t test carried between study group and control group in both children and mother of acute diarrhoeal disease and acute respiratory infection groups ^[9]. In pre test it was observed that there is no significant difference in the mean KAP on Acute diarrhoeal disease and mean KAP on Acute respiratory infection group among students and their mothers of study as well as control group but in post test both children and mother showed significant difference in study group but no such difference was observed among control group and their mothers of 8th & 9th standard. So it suggests that child to parent education had taken place and is the main reason for changes in knowledge, attitude and practice of both children and mothers.

Lloyd, Angela reported that the baseline scoring on acute diarrhoeal diseases, the literate mothers already had knowledge, attitude and practice. Hence the risk of acute diarrhoeal diseases was less in their children as compared to illiterate mothers among whom risk was high. Socioeconomic status was found significantly associated with mother knowledge, attitude and practice. Those belonging to upper class had good knowledge, attitude and practice as compared to those belonging to middle 85 and lower class similarly mother's Knowledge, attitude, practice was significantly associated with child's knowledge, attitude and overall KAP, while mother's practice was not associated with child's practice. This difference might be due to social and cultural factors which have been followed in the family. Seter Siziya *et al.* 67 also showed that poor socioeconomic status was associated with incidence of diarrhoea. Datta V *et al.* 59 observed that the incidence of diarrhoea was found to be more

among low socioeconomic status as compared to upper class. The results were similar to the current study.

Conclusion

The general and social profile of both study and control groups of 8th and 9th standards were almost similar and no significant difference was seen. In pre test of children and their mothers of both groups scored almost similar grades and percentages of correct answers. Hence no significant difference was seen in both the groups. There was negative impact of mother's education, socioeconomic status and her KAP with children's knowledge, attitude & practice regarding acute diarrhoeal and respiratory infections. But once the health education was given about acute diarrhoeal diseases and acute respiratory infection respectively to 8th & 9th standards the results in post test were varied. It was observed that there was increased proportion of correct answers to the questions by the children and their mothers in post test as compared to pre test whereas there was very less increase in proportion among the children and mothers of control group. This suggest that, the child to parent education have taken place & showed effectiveness in improvement in a level of Knowledge, Attitude & Practice of mothers towards the improvement on ADD & ARI. Thus this is concluded from the above findings that the child to parent education proved effective in educating parents & family members on various health aspects. So child to parent education tool helps in inculcating & spreading Knowledge to the family & community at large.

Conflict of interest: No conflict of interest

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