

# **Impact of Nutrition Education Programs on Nutritional Status Through Mass Media with Emphasis on Television**

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## **Abstract**

A descriptive cross sectional study was carried out amongst 150 mothers having under five children from different socio-economic groups of a rural area of Bangladesh. They were interviewed on health and nutrition related programs telecast by Bangladesh Television (BTV). Results of the research showed that the programs of mass media like television on nutritional aspect influence on the nutritional awareness of the respondents. Out of 150 respondents practiced weaning of whom 47% were influenced by television. Radio and television were the source of knowledge of nutritional disorders for most of the respondents. Again, mothers practiced extra diet during pregnancy of whom 63% were motivated by radio, newspapers and other sources while 52% by television. It was revealed that the higher socio-economic group possessed comparatively better nutritional status than the lower socio-economic group ( $p = 0.0000$ ). It was found that 91% of the mothers with monthly family income level Taka 7,500 and above was nutritionally normal in terms of Body Mass Index (BMI). Only 21% of the mothers were found to be nutritionally normal in the income level below Taka 2,500. In terms of mothers' education, it was observed that children of literate mothers possessed better nutritional status than the illiterate ones. Again, 34% children of literate mothers were found to possess normal nutritional status and 11% children of the illiterate mothers were normal.

*Key Words* : Nutrition Education; Bangladesh Television, Nutritional Status

## **Introduction**

Bangladesh is a developing country with 48% female literacy rate. Lack of nutritional knowledge amongst the mothers is virtually reflected among their children, of whom majority are malnourished.<sup>1,2,3</sup>

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An educated mother is an asset not only to herself, but also to her family and to her country. To be a good mother she must have proper education and should possess knowledge on common aspects of health and nutrition. According to Tones and Tilford<sup>4</sup>, the health education is an intentional activity which is designed to achieve health related learning. Its effectiveness is commonly assessed by measuring the extent to which it contributes to favourable changes in health related knowledge, attitudes or skills<sup>5</sup>. So, a mother with proper health and nutrition knowledge can maintain proper caring practices of her children.

To overcome this situation, the mothers have to be offered informal education specially on nutrition and health by various ways and means. Mass media specially radio and television can play an important role<sup>6</sup> to convey knowledge and information to improve nutritional knowledge leading to sound nutritional practice. In our country popular media are radio, television, newspaper, poster and leaflet. Because of the backwardness of the country's transportation system, newspaper can not reach remote villages. Moreover most of the village people are illiterate, consequently newspaper, poster and leaflet have little impact on them. Furthermore, the understandability and acceptability of telecast programs depend on her educational level, attitude and social environment etc.

Everyone likes and wants to be entertained and every culture uses some form of entertainment to teach social issues. No doubt, television is the best media for this purpose. The prominence of television has steadily grown over the recent decades.<sup>7</sup> It has also been found that the greater use of television is confined to those without a high school education and those whose income is below poverty level.<sup>8</sup> Nutrition messages can be incorporated in many forms of television and radio entertainment.<sup>9,10,11</sup> There is ample evidence that television transmits many indirect messages about health.<sup>12,13,14</sup> Gerbner and his colleagues drew attention to health related messages contained in television's drama and entertainment programming in order to understand the potential role of television in cultivating health related beliefs, attitudes and behaviour.<sup>15</sup>

So, in disseminating nutritional and health related knowledge, radio and television are very suitable media for our country. Total number of TV & Radio sets in our country is 6/1000 and 50/1000 population respectively.<sup>16</sup>

Every day Bangladesh Television telecasts about 20 minutes of package programs on health, nutrition, child and mother care, family planning, environment etc. These programs are arranged in various manners. Some times the programs are made up of drama, sometimes with meeting & advice and so on. The programs are *Pushti tathya*, *Shashtha tathya*, *Ma-o-shishu Samachar*, *Jibaner jannya*, *Mayeder jannya*, *Apnar dactar*, *Shasthya katha*, *Prescription*, *Shukher thikana*, *Janamat* and various television advertisements. The information and messages are mainly on breast feeding, immunization, complementary feedings, growth monitoring, antenatal care, care during child birth, post natal care, diarrhoeal diseases, acute respiratory infections and other diseases.

This study was designed to assess the impact of mass media with emphasis on Bangladesh Television programs on behavioural change of mothers towards nutrition and health as well as to assess nutritional status of respondents mothers and children.

### **Materials and Methods**

This study was conducted during November 1999 to January 2000 at a rural area of Sonargaon upazila under Narayanganj district among randomly selected 150 women of different socio-economic status, who were married and each had at least one under five child and had television or at least had the opportunity to be exposed on programs of television from their neighbours. Data were collected through a pre-tested questionnaire. Weight, height and mid-upper arm circumference (MUAC) of mothers and their youngest child were also collected.

Collected data were processed after proper editing. Data were analyzed using Software package Epi Info version 6.04.

### **Results**

Out of 150 mothers participated in the study, 90% of the respondents were housewives and 4% were in service. 38% husbands were farmers and equal number of husbands were engaged in service. Further 18% were day labourer and small traders. Again, 37.3% mothers were literate. In case of primary education--the percentage was 16.0 whereas in secondary level it was 6.7% only. Furthermore, 3.3% were graduates.

Among 98 respondents who did not possess TV, of them 52 preferred to use neighbour's house, 10 nearby shop and 32 local club to enjoy the TV Programs. This was a multiple answer question.

**Table 1. Distribution of respondents having ability to tell the exact name of current health and nutrition programs of BTV**

	<b>Pushti Tathya</b>	<b>Shashtha Tathya</b>	<b>Ma-O-Shishu</b>
Able	92(61.3%)	81(54%)	34(22.7%)
Unable	58(38.7%)	69(46%)	116(77.3%)

Out of 150 respondents, considerable number could tell the exact name of the health and nutritional programs of television (Table 1).

**Table 2. Source of knowledge regarding food among the respondents**

<b>Source</b>	<b>Frequency</b>	<b>Precent</b>
TV	107	71.3
Radio	38	25.3
Newspaper	10	6.7
Others	64	42.7

The source of knowledge regarding food, TV was the source for 71.3% respondents whereas Radio was the source for only 25.3% respondents. For 6.7% respondents, who were obviously educated, Newspaper was the source. Other sources like Health workers, Physicians, Nutritionists of government as well as non-governmental organizations (NGOs) sector were the source for 42.7% respondents (Table 2).

All mothers offered supplementary food to their child. But at different age - most of them practiced at 4 months of age (40 %), next common age is at 5 months (33.3%).

Regarding the source of knowledge on supplementary food intake, TV was the source for 47.3% respondents whereas Radio was the source for only 6% respondents. For 6% respondents, who were obviously educated, Newspaper was the source. Other sources like Health workers, Physicians, Nutritionists of

government as well as non governmental organizations (NGOs) sector were the source for 17.3% respondents (Table 3).

**Table 3. Source of knowledge regarding supplementary food intake**

Source	Frequency	Precent
TV	71	47.3
Radio	9	6.0
Newspaper	26	17.3
Others	80	53.3

Regarding the source of knowledge regarding food intake during lactation, it was found that, TV was the source for 52.0% respondents whereas Radio was the source for only 28.7% respondents. For 12 ( 8.0%) respondents, who were obviously educated. Newspaper was the source. Other sources like Health workers, Physicians, Nutritionists of government as well as non governmental organizations (NGOs) sector were the source for 27.3% respondents (Table 4).

**Table 4. Source of knowledge regarding food intake during lactation**

Source	Frequency	Percent
TV	78	52.0
Radio	43	28.7
Newspaper	12	8.0
Others	41	27.3

134 respondents were aware of malnutrition. They were informed about nutritional disorders from different sources. Regarding the source of knowledge, TV was the source for 52.0% respondents whereas Radio was the source for only 28.7% respondents .

Using Mid Upper Arm Circumference, it was found that 52.7 % children were nutritionally normal, 26.4 % were at risk and 20.6% malnourished .In case of maternal nutrition, only 48.7% were well nourished, 46% were marginally malnourished and 7.3% were found malnourished. Using the

body mass index(BMI). 51.2% mothers were normally nourished, 23.3% respondents were marginally nourished and rest 19.3% suffering from different grades of malnutrition. According to Gomez classification (Weight for age) 70% of children were malnourished and 30% were well nourished. In the malnourished group 37.3% mild, (1st degree), 26% moderate (2nd degree) and 6.7% were suffering from severe (3rd degree) malnutrition. The nutritional status of under 5 according to Waterlow classification (Height for age and Weight for height), it can be noted from this figure that 45.7% of under five children were normal. 26% stunted, 18.3% wasted and 10% were both stunted and wasted.

**Table 5. Relation between income level and mothers nutritional status**

Monthly income (TK.)	Malnutrition	Normal	Total
< 2500	45 (78.9%)	12 (21%)	57 (100%)
2500-4999	10 (31.2%)	22 (68.7%)	32 (100%)
5000-7499	8 (20.5%)	31 (79.5%)	39 (100%)
7500 +	2 (9.1%)	20 (90.9%)	22 (100%)
Total	65 (43.3%)	85 (56.6%)	150 (100%)

RR = 0.22, 95% CI 0.13- 0.40,  $\chi^2 = 45.35$ ,  $p = 0.0000$

Nutritional status of the respondents was found better with the increase of income level 91% respondents were found nutritionally normal among the families whose monthly income was Tk. 7500 and above. Risk of getting malnutrition is very high to the family having monthly income less than TK. 2500 compared to those families who have monthly income TK. 5000 and above (Table 5).

**Table 6. Mothers' education level and nutritional status of the children**

Level of education	Malnutrition n%	Normal n %	Row total
Illiterate	39 ( 78)	11 (22)	50 (100)
Literate	66 (66)	34 (34)	100 (100)
Column total	105 (70)	45 (30)	150 (100)

$\chi^2 = 2.29$   $p = 0.13$

This table shows the relation between mothers education and children's nutritional status. 34% children of literate mothers were found possessing normal nutritional status while this figure for illiterate mothers was 22%. There is no significant difference in respect to child malnutrition between the literate and illiterate group of mothers (Table 6).

## **Discussion**

The use of mass media as a tool for health education is extremely powerful<sup>7</sup>. This study has explored a range of nutritional knowledge of mothers of a rural Bangladesh who were viewing the state run Television i.e. Bangladesh Television (BTV) and the nutritional status of both mothers and children and have also tried to ascertain the extent of the role of BTV in enhancing awareness on health and nutrition among people particularly women of child bearing age group -- the prime target audience.

53 respondents had knowledge about breast feeding as a content of these programs on BTV. Among the television viewers 78 respondents were found to understand about the diet for pregnant and lactating mothers as a content of nutrition programs. But it may be mentioned that maximum number of respondents did not know the exact names of health and nutrition programs of radio and television.

In the present study it was found that 66.6% mothers practiced colostrum feeding and 33.4% rejected the colostrum. Studies showed colostrum feeding among mothers motivating through radio and television could not contribute much in comparison to other sources (59 responses) i.e. Physicians, Health workers, Husbands, Self study etc .

In this study it was observed that all mothers had given supplementary food to their children of whom 14.7% at proper time (at complete 5 months). Rest at early time with most frequent age of supplementation at 4 months. Other study also revealed that this mean age of supplementation was 6.4 months<sup>17</sup>. So, late supplementation is common in our country that is to be modified by proper nutrition education to the mothers. In this study it was observed that television provided the helpful messages of supplementary food to 71 respondents .

Pregnancy is an important female reproductive period when mothers should take additional diet for the proper fetal development. In this study, it was found 76% mothers had taken extra diet during pregnancy. The reason for taking extra diet as expressed by mothers was for fetal development, for the betterment of their own health or to keep the advice of Physicians and Health workers. Again the reason for not taking extra diet (82%) was due to superstition, carelessness and financial inability. It was noted that television served as a good medium (30 respondents) in propagating beneficial effect of extra diet during pregnancy .

Lactation is particularly important for the baby. In order to produce sufficient milk for the new born, the mother has to take extra diet. In this study, it was found that more rural mothers (74.7%) had taken extra diet in lactation. With respect to intake to extra food items during lactation, Television was the source of the messages of extra diet during lactation for 52% respondents.

The findings of this study regarding improvement of knowledge on health and nutrition is consistent with the other evaluation studies on television programs<sup>7,18,19,20,21,22</sup>. Gunter et al. in evaluating public perceptions of the role of television in raising AIDS awareness found that majority respondents' knowledge and interest on AIDS had been improved<sup>23</sup>.

52% respondents of television received their knowledge about nutritional disorders and rest of the respondents had their knowledge from other sources. It may be noted that those possessed right idea about the nutritional disorders were literate respondents. Prevention of the nutritional disorders is also important for the large number of country's children, but in this case radio and television were found not to serve to the expected level. Most of the respondents learned the preventive measures of nutritional disorders from other sources like Physicians, Health workers, Relatives and through Self study.

The acceptability of the radio and television programs among the respondents is an important factor in spreading the nutritional knowledge amongst them. The respondents expressed different opinions for greater



acceptability of the programs. There were 94 respondents who opined for repetition of the programs so that it may become more popular. Furthermore 77 respondents were found expressing the views to introduce popular artists in the existing programs. So that they may find interest having their favorite artists in these programs. Almost similar findings were reported by Gunter et al and Dickinson.<sup>23,24</sup>

It was found that 90.9% of the mothers from monthly income level TK. 7500/- and above were nutritionally normal. Only 21% of the mothers were found nutritionally normal in the income level below TK. 2500/-. Other study showed the prevalence of malnutrition had a tendency to decrease with the increase in family income<sup>10</sup>. The income level of the population is one of the vital factors for achieving nutritional standard.

In relation with mothers education level it was observed that children of literate mothers possessed good nutritional status than the illiterate ones. As such 34% children of literate mothers were found possessing normal nutritional status .Whereas this figure for illiterate mothers were 11% only.. So in attaining optimum child nutritional status mothers' education should be given priority .

A combination of planned nutritional awareness programs through radio and television should be undertaken. Furthermore, urban, slum and rural areas have their own socio - economic limitations which influenced the respondents of this study.

Finally, in terms of evaluating the short term and long term impact of any programs of BTV or other TV, a large scale study should be undertaken with base line information as well as a comparison with both groups exposed and non-exposed to the programs.

This small scale study only showed definite indications that radio and television can influence behavior. A large scale study is thus suggested for assessment of impact of national level nutrition education programs through radio and television along with other press media in future. This type of research may also supplement the overall policies of the country to achieve health for all.

## References

1. National Nutrition Survey, 1981-82. Institute of Nutrition and Food Science. University of Dhaka, Dhaka. 1983.
2. Talukder MQ. K and Hassan MQ. Maternal. Nutrition and Breast feeding Bangladesh Journal of Child Health 1992 : 16 : 95-98 .
3. National Nutrition Survey, 1995-96. Institute of Nutrition and Food Science. University of Dhaka. Dhaka.
4. Tones K and Tilford S. Health education: Effectiveness, Efficacy and Equity. 2nd Edn. London: Chapman & Hall, 1994.
5. Reid D. How effective is health education via mass communications? Health Education Journal, 1996 : 55 : 332-44.
6. Thramn S. Big media Little media, Chapter 6, Media to Supplement the School Education, Washington. 1995 : 67-71.
7. Wallace S. Evaluation of the BBC/HEA Health Show. Health Education Journal, 1993 : 52 : 221-26.
8. Delacote G. Communicating science to the public. In: Science and Scientists: public perception and attitude. New York, John Wiley and Sons Inc, 1987, 41-48.
9. Coleman P L and Meyer R C. (Eds.)The Enter-Educate Conference : Entertainment for social change. Proceedings. Baltimore,. Johns Hopkins University, Centre for Communication Programs, 1990 : 80.
10. Katz E , Wedell G, Pilsworth M and Shinar D. Broadcasting in the Third world: Promise and Performance. Cambridge Massachusetts, Harvard University press. 1977 : 321.
11. Valbuena V T. Philippines folk media in development communication. Asian Mass Communication Research and Information Centre. 1986 :130 .
12. Cassata M B, Skill T D, Boadu S O. In sickness, and in health. Journal of Communication. 1979 : 29 : 73-80.
- 13 Karpf A. Doctoring the media:The reporting of health and medicine. London: Routledge, 1988.
14. Turrow J. and Coe L. Curing television's ills : the portrayal of health care. Journal of Communication. 1985 : 35: 36-57.
15. Gerbner G, Morgan M and Signorielli N. Programming health portrayals :What viewers see, say and do. In D Pearl, Bouthilet and J Lazer (Eds.) Television and Behaviour, Vol. 2. Rockville, Maryland, National Institute of Mental Health. 1982.

16. The State of the World's Children, 2000, New York, UNICEF, 2000.
17. Karim R. A study on infant feeding practice in a hilly area of Bangladesh. M.Sc. Thesis Session 1990-91. Institute of Nutrition and Food Science. University of Dhaka.
18. Puska P, WHO J, Mc Alister A *et al*. Planned use of mass media in national health promotion : the 'Keys to Health' TV Program in 1982 in Finland. *Canadian Journal of Public Health*, 1985 ; 76 : 336-42.
19. Katz D. Cable television and health promotion : a feasibility study with arthritis patients. *Health Education Quarterly*, 1985 ; 12 : 379-89.
20. Palmer E L. Television's role in communication on AIDS. *Health Education Research*, 1988 ; 3 : 117-9.
21. Chapman S, Fahey P, Clift S and Millar B. Using television 'info-tainment' to promote health : evaluation of a programme to reduce dietary sodium intake. *Health Education Research*, 1990 ; 5 : 343-51.
22. Wober J M. Taking television further. London Independent Broadcasting Authority, 1986 (Research department working paper).
23. Gunter B, Aldridge J S and Moss R. Public Perceptions of the role of television in raising AIDS awareness. *Health Education Journal*, 1993 ; 52 : 19-27.
24. Dickinson R. Beyond the moral panic: AIDS the mass media and mass communication research. *Communication*, 1990 ; 15: 21-36.