

DETERMINANTS OF EXPOSURE TO MASS MEDIA FAMILY PLANNING MESSAGES AMONG INDIGENOUS PEOPLE IN BANGLADESH: A STUDY ON THE GARO

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Summary. This paper evaluates exposure to mass media family planning (FP) messages among the Garo, an indigenous community in Bangladesh. A sample of 223 currently married Garo women were selected purposively from two districts where most of the Garo population live. The analysis demonstrated that television was the most significant form of mass media to disseminate FP messages among the recipients – more so than radio and newspapers. About 80·6% of the respondents had heard of FP messages through television, while for the radio and newspapers the percentages were 55·3% and 22·7% respectively. The contraceptive prevalence rate is much higher (79·5%) in the study area than the national level (55·8%). A linear logistic regression model was employed to identify the confluence of different demographic and socioeconomic characteristics on mass media FP messages. Regarding exposure to FP messages, four independent variables out of six had significant effects on the exposure to FP messages through any one of the types of media, i.e. radio, television and newspapers. These independent variables were age, level of education, occupation and number of children.

Introduction

Mass media are creating opportunities for more people than ever before. With their broad reach and powerful influence, mass media can help to improve reproductive health practices, in particular by sending family planning (FP) messages to large numbers of people. As people are exposed to new information, ideas and values related to contraception and fertility control, many become increasingly aware, and eventually some decide to take action (Robby & Stauffer, 1995).

Although Bangladesh is one of the world's poorest countries, the success rate of fertility decline over the past three decades is enviable compared with that of other poor countries. The country's Total Fertility Rate (TFR) came down from 6·3 in 1975 to 2·7 in

2007. The corresponding Contraceptive Prevalence Rate (CPR) has increased from 7.7% to 55.8%, which is more than seven-fold (Bangladesh Demographic and Health Survey, 2007). In spite of this success, every year about 1.1 million new couples are entering into married life (Kabir & Islam, 2000). In such circumstances, mass media can play a pivotal role in achieving demographic goals through the dissemination of FP messages.

The broadcasting of FP messages through the radio seems to be quite popular in Bangladesh. According to UNFPA, the population programmes on Bangladeshi radio are probably the best in the whole of South Asia, and even the entire third world (UNFPA, 1990). In Bangladesh, access to radio through ownership and listening at a neighbour's house or a public place is higher than access to television (Rahman & Ali, 1991; Islam & Kabir, 1998). Television is the second most important form of mass media (Ahmed, 1988; Rabbani *et al.*, 1989; Kabir & Islam, 2000). In terms of coverage and deep penetration, radio is considered the most effective medium of mass communication (Piotrow *et al.*, 1990).

Television ownership in many developing countries is low, but is rising dramatically (Robby & Stauffer, 1995). In Bangladesh, about 75% of urban people watch television at least once a week, but it is less important in rural areas (Mitra *et al.*, 1995). Television offers a more dramatic message environment than radio because of its visual dimension. Recently in Bangladesh, the television drama *Shabuj Chhaya* was found to be very successful in motivating couples to discuss family planning and to receive antenatal care (de Fossard & Lande, 2008). On the other hand, radio can offer more attractions than printed materials (Manoff, 1985). Moreover, radio provides substantial indirect exposure to family planning messages, specifically for contraceptive use (Boulay *et al.*, 2002). Printed materials can send messages to people through illustration, which can serve as a guide to contraceptive users in most countries, sometimes in conjunction with radio (Cathleen & Geller, 1989).

Mass media are very powerful, reaching targeted people more quickly than any other medium and with a wide coverage. They can fight rumour, but this is a gradual process that needs proper planning and appropriate design and evaluation of the effect of a particular FP message on the changing behaviour of the target population (Cathleen & Geller, 1989). Mass media, particularly radio and television, have a great influence on people's awareness, attitude and behaviour regarding reproductive health through different entertainment/educational programmes (Noar, 2006; Salem *et al.*, 2008). Although the impact of mass media on any one individual may be slight, their cumulative effect on an entire population may be substantial (Gilluly, 1986).

This paper attempts to understand the exposure to mass media FP programmes among the Garo, an indigenous community in Bangladesh. The three main types of mass media through which the study population received FP messages, namely radio, television and newspapers, were considered. This paper further investigates the demographic and socioeconomic factors that have influences on the exposure to mass media FP messages.

The Garo people and their socio-demographic status

The original place of residence of the Garos and their migration from Tibet has no authentic historical root (Marak, 1985), though some anthropologists argue that the

original home of the Garos was in Assam of India (Dalton, 1872; Playfair, 1975). The Garos migrated towards the valley of Assam (now adjacent to the Mymensingh district of Bangladesh) and Burma from the uplands of the Himalayas during the early years of 1000 BC (Marak, 1985). The origin of the name 'Garó' is a debated issue and different views are expressed about its meaning. The tribe itself is known as 'Garó' but the Garos call themselves *A'chik* or *Mande* (Marak, 1985). Playfair says that the Gara or Granching sub-tribes first received their designation of 'Gara' and that the name was extended to all the inhabitants of the hills, when it became corrupted from 'Gara' to 'Garó'. He also says that 'the Garos never use the name except in conversation with a foreigner, but always call themselves *A'chik* (hill man), *Mande* (the man) or *A'chik Mande* (Playfair, 1975).

Since there is no ethnographical survey of the indigenous people of Bangladesh, it is very difficult to present an accurate count of their number. The indigenous people constitute roughly 1.3% of the total people of Bangladesh (Bangladesh Bureau of Statistics, 1994). They exist and live almost all over Bangladesh. According to the government population census of 1991, the total number of indigenous people was estimated to be 1.2 million (Bangladesh Bureau of Statistics, 1994). Unfortunately, the last population census in 2001 did not count indigenous people separately. In this regard it is not very easy to obtain the exact number of Garo people in Bangladesh. The total number of Garo people in Mymensingh and Tangail districts was estimated to be 97,695, of which 70,376 were Catholic, 22,403 Baptists, 3624 Church of Bangladesh and 1292 Seventh-day Adventists (Diocese of Mymensingh, 2006). The majority of Garos are Christians. There are very few Garos who still follow their traditional Animist-Hindu beliefs. Most of the Garo people of Bangladesh live in different areas of Mymensingh district and Modhupur in Tangail district. Some Garo people also live in Dhaka, Rangpur, Jamalpur, Netrokona, Sylhet, Moulovibazar and Bogra districts, though they are few in number. There are two chief classes among Garos locally known as *Achhick* or Hill Garo and *Lamdani* or Plain Garo (Sattar, 1983). The Garos are one of the few remaining matrilineal societies in the world. Individuals take their clan titles from their mothers. Property is passed from mother to daughters, with sons receiving no share. After getting married, the man lives in his wife's house, but they take decisions equally.

Methods

The data used in this study are from primary sources collected from fifteen villages of Haluaghat in Mymensingh district and five villages of Modhupur in Tangail district, which were selected purposively as Garo people mostly live in these areas (Singha, 2002). The reason for the purposive sampling was the non-availability of a sampling frame, which is the basis of any probabilistic sampling scheme. A total of 223 currently married women having at least one child aged less than five years were selected, of which 158 were from Haluaghat and 65 from Modhupur. The instrument used for collecting the primary information for the study was an interview schedule. This included both closed- and open-ended questions, which were prepared keeping the objectives of the study in view. Data were collected by three female Garo university students. The data collection process took place between 21st December

2007 and 7th February 2008. Finally, the collected data were summarized, tabulated and analysed using SPSS. Bivariate analysis and a logistic regression model were employed to identify the determinants of exposure to mass media FP messages.

Logistic regression model

When the dependent variable is dichotomous, i.e. it can take two values (an event occurring or not occurring), a logistic regression model is used. Let Y_i denote the dependent variable for the i^{th} observation and $Y_i=1$ if the i^{th} individual is a success and $Y_i=0$ if the i^{th} individual is a failure. Suppose for each of the n individuals, k independent variables, $X_{i1}, X_{i2} \dots X_{ik}$, are measured. In the linear logistic model as suggested by Cox (1970), the dependence of the probability of success of independent variables is assumed to be:

$$P_i = P_r(Y_i = 1) = \frac{\exp[\sum b_j X_{ij}]}{1 + \exp[\sum b_j X_{ij}]} \quad (1)$$

or

$$1 - P_i = P_r(Y_i = 0) = \frac{1}{1 + \exp[\sum b_j X_{ij}]} \quad (2)$$

where $X_{i0}=1$ and b_j s are the unknown regression coefficients. From the above two equations we get:

$$\frac{P_i}{1 - P_i} = \exp[\sum b_j X_{ij}]$$

or

$$\text{Log} \frac{P_i}{1 - P_i} = \sum b_j X_{ij}. \quad (3)$$

Equation (3) expresses the linear logistic regression model in which the parameters are estimated by the maximum likelihood method.

Results

Demographic and socioeconomic characteristics

Table 1 shows that more than 70% (72.2%) of respondents belong to the age group 25–35. The literacy rate was 88.8%, of which 26.5% and 42.2% had primary and secondary education respectively. Only 6.7% of the respondents had more than higher secondary education. All of the respondents were Christian. About a quarter of the respondents were in paid employment, whereas 72.6% were involved either in household/domestic work or agriculture.

Table 1. Exposure to mass media family planning messages among respondents by different demographic and socioeconomic characteristics

Characteristics	N	Percentage exposed/not exposed to mass media					
		Radio		Television		Newspapers	
		Yes	No	Yes	No	Yes	No
Place of residence ^b							
Haluaghat	158	50.6	49.4	84.2	15.8	31.6	68.4
Modhupur	65	60.0	40.0	76.9	23.1	13.8	86.2
Age ^b							
<25	34	55.9	44.1	73.5	26.5	5.9	94.1
25–35	161	53.4	46.6	83.9	16.1	30.4	69.6
≥36	28	50.0	50.0	82.1	17.9	28.6	71.4
Level of education ^{ab}							
None	25	52.0	48.0	72.0	28.0	4.0	96.0
1–5 years	59	44.1	55.9	71.2	28.8	1.7	98.3
6–10 years	94	59.6	40.4	87.2	12.8	24.5	75.5
Higher secondary	30	53.3	46.7	86.7	13.3	66.7	33.3
Hon. degree/masters	15	53.3	46.7	100.0	0.0	93.3	6.7
Occupation ^{ab}							
Housewife	141	48.2	51.8	79.4	20.6	14.9	85.1
Agriculture	21	57.1	42.9	61.9	38.1	4.8	95.2
Business	8	75.0	25.0	87.5	12.5	25.0	75.0
Service ^c	53	62.3	37.7	96.2	3.8	66.0	34.0
No. children ^{ab}							
1	54	55.6	44.4	87.0	13.0	40.7	59.3
2	74	52.7	47.3	79.7	20.3	28.4	71.6
3	50	64.0	36.0	90.0	10.0	30.0	70.0
4+	45	40.0	60.0	71.1	28.9	2.2	97.8
Current use of FP							
Using	176	52.3	47.7	84.1	15.9	27.8	72.2
Not using	47	57.4	42.6	74.5	25.5	21.3	78.7

Note: row percentages under each column variable add up to 100%.

^aVariables significantly associated with exposure to television (χ^2 test).

^bVariables significantly associated with exposure to newspapers (χ^2 test).

^cPaid work in the government or NGO sector.

Exposure to mass media

In this study, exposure to mass media was assessed in terms of access to radio, television and newspapers. Table 1 demonstrates that respondents from Modhupur (60.0%) were more exposed to radio FP messages than those from Haluaghat (50.6%). The scenario was the opposite in the case of exposure to television and newspaper messages, where respondents from Haluaghat exhibited more exposure to television (84.2%) and newspaper (31.6%) FP messages; the corresponding values for Modhupur

Table 2. Current use of contraception by methods among respondents

Method	Percentage	
	Garos	National ^a
Non-use	20.5	44.2
Use		
Permanent ^b	7.6	5.7
Condom	2.3	4.5
Pill	49.2	28.5
IUD	0.6	0.9
Implants	1.0	0.7
Injectables	9.4	7.0
Periodic abstinence	9.4	4.9
Withdrawal	—	2.9
Other	—	0.7

^aSource: Bangladesh Demographic and Health Survey, 2007.

^bIncludes both female sterilization and male sterilization.

were 76.9% for television and 13.8% for newspapers. Exposure to radio FP messages was highest among respondents aged less than 25 years (55.9%), while those in the age group 25–35 were more exposed to television (83.9%) and newspaper (30.4%) FP messages.

Exposure to radio FP messages was found to be higher among respondents who had completed secondary education than those with less education. However, in the case of highly educated respondents, exposure to television and newspaper FP messages was a little higher than exposure to radio messages. Those involved either in business or service (paid work in the government or NGO sector) had higher exposure to mass media FP messages than those employed in agriculture or housewives.

Exposure to radio and television FP messages was higher among respondents with three children than those with any other number of children, whereas exposure to newspaper FP messages was higher among the respondents with only one child. Exposure to FP messages through all forms of media was not significantly associated with current use of contraception, there only being a slight difference between those currently using and those not currently using contraceptives.

Current use of contraception

The current CPR is 55.8% in Bangladesh (Bangladesh Demographic and Health Survey, 2007), while among the Garo people this rate is much higher (79.5%) (see Table 2). Of the different modern and traditional methods the pill ranked first and accounted for about half (49.2%) of the currently married women using the method, which was almost double the national level. Among Garo couples condom use was about half the national level, while periodic abstinence was almost double. The rates of use of injectables and permanent methods were 9.4% and 7.6% respectively, which

Table 3. Linear logistic regression estimates of the effect of demographic and socioeconomic characteristics on exposure to family planning messages through radio, television and newspapers

Independent variables	β		
	Model 1 for radio	Model 2 for television	Model 3 for newspapers
Place of residence (Ref.=Haluaghat)			
Modhupur	0.430	0.037	-0.323
Age (Ref.=<25)			
25-35	-0.173	0.629	1.082
≥ 36	-0.115	0.770	2.620**
Level of education (Ref.=none)			
1-5 years	-0.273	0.108	-0.942
6-10 years	0.279	0.871	1.727
Higher secondary	-0.131	0.025	3.091**
Hon. degree/masters	-0.365	18.691	4.172**
Occupation (Ref.=housewife)			
Agriculture	0.063	-0.918	-0.438
Business	1.163	0.202	0.967
Service ^a	0.760*	1.637**	1.789***
No. children (Ref.=1)			
2	-0.174	-0.491	-0.069
3	0.298	0.668	0.306
4+	-0.467	-0.607	-3.695***
Current use of FP (Ref.=not using)			
Using	-0.316	0.390	0.134
Constant	0.316	0.344	-4.245***

*** $p < 0.01$; ** $p < 0.05$; * $p < 0.10$.

^aPaid work in the government or NGO sector.

Ref., reference category.

are a little higher than the national values, although the other methods resembled the national figures. The practice of withdrawal as a FP method was absent among the respondents.

Multivariate analysis

A linear logistic regression model was employed to identify the effects of different demographic and socioeconomic characteristics on exposure to mass media FP messages. Analysis of data revealed that exposure to radio FP messages was significantly higher among service-holders than housewives (Model 1, Table 3). This is similar for exposure to television FP messages (Model 2, Table 3).

Model 3 (Table 3) demonstrates that elderly respondents were found to be exposed to newspaper FP messages more than their younger counterparts aged less than

25 years. As expected, exposure to newspaper FP messages increased significantly with increase in level of education. Occupation had a similar impact on exposure to newspaper FP messages as found for radio and television. The analysis suggests that respondents with more than three children had less exposure to newspaper FP messages than those with only one child.

Discussion and Conclusions

By and large, the Garo people are socially and economically more backward than the Bengali people in Bangladesh. But the influence of Christianity and its modern education are contributing to enhance their reproductive health behaviour. In this study, a sample of 223 respondents was used to investigate their exposure to mass media FP messages. The study revealed that about 90% of respondents were literate, which was much higher than the national level (Bangladesh Demographic and Health Survey, 2007). More than two-third of the respondents were involved in unpaid employment. The common forms of mass media used to disseminate family planning messages are radio, television, film, mobile cinema, newspapers/magazines, posters/signboards and traditional folk events. But in the present study only radio, television and newspapers were considered. The analysis suggests that the Garo people are more highly exposed to television FP messages than radio and newspaper messages, which does not concur with other studies (Ahmed, 1988; Rabbani *et al.*, 1989; Kabir & Islam, 2000). The study also demonstrated that more than three-quarters of currently married women were current users of contraceptives, which is much higher than the national level. This may be a result of the high literacy rate among women in the study area. Another reason might be the easy access of the respondents to health care services centres, such as the Christian Missionaries Hospital, as well as different NGOs; in particular, World Vision is working substantially in the study area.

A linear logistic regression model was fitted to identify the determinants of exposure to mass media FP messages. Analysis revealed that age, level of education, occupation and number of children were found to be the significant determinants of exposure to mass media FP messages. Older respondents had better exposure to newspaper FP messages. This may be because older women are more likely to be involved in income-generating activities, which are closely related to their mobility. Furthermore, older women are more concerned about their reproductive health. The analysis also suggests that exposure to newspaper FP messages increases with an increase in education. Occupation had a significant impact on exposure to radio, television and newspaper FP messages. Respondents with more than three children had less exposure to newspaper FP messages, which may be due to the cohort effect.

This study suggests that, along with socioeconomic development, family planning programmes with a special emphasis on mass media – particularly television – may have a significant influence on current use of contraceptives and relevant health care seeking behaviour among the Garo people.

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