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Impact of various sources of AIDS information among ever married men and women in Bangladesh

MMH Khan, M Kabir, Mitsuru Mori

Abstract

This study examined the impact of various sources of AIDS information among ever married men and women in Bangladesh using nationally representative data. Logistic regression analysis identified that television, radio, and newspaper/magazines were the effective way to disseminate the AIDS related information. Exposure to two or more sources of AIDS information were found highly effective compared with only one source. Therefore this study underscores the need for disseminating suitable AIDS messages from multiple sources simultaneously.

Key Words: AIDS, mass media, Television, Radio, Bangladesh.

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Introduction

Acquired immunodeficiency syndrome (AIDS) was first identified as a distinct entity in 1981 in the USA (Gottlieb et al, 1981) and then the number has increased rapidly all over the world (UNAIDS, 2002). It is one of the five well-established causes of death in the world (Piot et al, 2001; Quinn, 1996). Realizing the magnitude of the problem posed by Human Immunodeficiency Virus (HIV)/AIDS epidemic worldwide, the government of Bangladesh has responded at first by forming National AIDS Committee in 1985. Since then, multi-dimensional activities have been chronologically implemented to control and prevent HIV/AIDS transmission including the use of the mass media for disseminating AIDS information among the people (DGHS, 2000).

Although first AIDS case in Bangladesh was detected in 1989 (DGHS, 2000), little is known about HIV/AIDS awareness in Bangladesh (Khan, 2002). The over-populated country is still fortunate because of having low HIV/AIDS prevalence (less than 1 per 1000 adults) as compared to neighboring countries such as India, Nepal, Thailand, and Myanmar (PRB, 2002). But presence of many contextual, behavioral and biomedical factors indicated that Bangladesh is at the beginning of HIV/AIDS epidemic threat (Azim et al, 2000; Shah et al, 2000; Gibney et al, 1999a; Gibney et al, 1999b). High prevalence of STDs (Khan, 2002; Azim et al, 2000; Gibney et al, 1999b; Khan et al, 1997) including limited knowledge of STD/HIV/AIDS (Gibney et al, 1999a; Khan et al, 1997) coupled with high rates of illiteracy, poverty and low rate of condom use (Khan, 2002; Gibney et al, 1999a; Islam et al, 1999) may aggravate the HIV/AIDS situation.

Prevention such as condom use during sex is the best strategy for controlling HIV/AIDS. For improving the prevention activities among the general people some strategies like awareness creation and motivational activities are very important (Khan, 2002; Khan et al, 1997). Information and education on HIV/AIDS and STD prevention can help people take necessary decisions for their health and development (WHO/ROEM, 2001). Therefore World Health Organization (WHO) has advocated the role of education in spreading knowledge of AIDS transmission (al-Owaish et al, 1995). Mass media that includes radio, television (TV), newspapers, magazine, cinema, and press (Elkamel, 1996) has been used primarily as the most effective methods for disseminating HIV/AIDS prevention messages worldwide (Myhre and Flora, 2000). These medias are fighting against HIV/AIDS pandemic (Wolffers, 1997) by raising awareness and knowledge, changing attitudes and behaviors (WHO/EMRO, 2001; Elkamel, 1996). However, mass media effectiveness on AIDS knowledge and condom use in Bangladesh is almost unknown. It also remains unclear whether the exposures to AIDS messages through multiple media/source have greater impact than exposure to only one media/source. Therefore the main purpose of the study was to assess the effectiveness of various sources of AIDS information individually as well as by number of sources for disseminating AIDS and related information among ever married men and women. Hopefully the findings of the study would help policy makers, executing agents and health managers to formulate appropriate strategies to improve the STD/AIDS awareness and prevention activities.

Data source and Methodology

Data are derived from 1999-2000 Bangladesh Demographic and Health Survey (BDHS). It is a nationally representative survey that was implemented from November 1999 to March 2000 through a collaborative effort of three organizations namely National Institute of Population Research & Training (NIPORT), Mitra & Associates, and ORC Macro (USA). The survey employed two-stage stratified sample that was selected from the master sample maintained by the Bangladesh Bureau of Statistics. The master sample consisted of 500 primary sampling units (PSUs means areas), which were selected with probability proportional to size from the 1991 census frame.

For the 1999-2000 BDHS, a sub-total of 341 PSUs (99 from urban areas and 242 from rural areas) from the master sample was selected again with equal probability proportional to size. Mitra & Associates conducted a household listing operation in all the selected PSUs from September to December 1999. A systematic sample of 10,268 households was then selected from 341 PSUs, of which 9,854 households were interviewed successfully (response rate: 99.3%). Every third household was also selected for men's survey. In the interviewed households, 10,885 ever married women (10 to 49) and 2817 ever married men (15 to 59) were identified as eligible for interview, of which 10,544 women (response rate: 97%) and 2,556 men (response rate: 90.7%) were interviewed successfully. For detailed information please see the national report of NIPORT et al (2001). Though the survey collected a lot of information, the present study used only some of the selected variables related to AIDS.

Determining knowledge to avoid AIDS

The following information (answers), either coded as 0 (no) or 1 (yes), were used to determine the knowledge of AIDS of the respondent:

- abstain from sex
- use condoms during sex
- limit sex within marriage
- limit sex with one/trusted partner
- avoid sex with prostitutes
- avoid sex with partners who have many partners
- avoid sex with homosexuals
- avoid sex with persons who inject drugs intravenously
- avoid unsafe blood transfusions
- avoid non-sterilized injections/use disposable injections
- avoid sharing razor blades
- others

We added all the above-mentioned answers for each person at first and then we determine whether he/she knew at least one way (having some knowledge) to avoid AIDS using total score. Total score '0' indicated that he/she did not have any idea (had no knowledge) to avoid AIDS. In contrast, total score '1 or more' indicated that he/she knew at least one way (had some knowledge) to avoid AIDS.

Statistical analysis included simple tabular analysis as well as logistic regression analysis. Logistic regression analysis was applied for four dichotomous (yes vs. no) dependent variables: (1) whether they knew at least one way to avoid getting AIDS, (2) whether they were currently using condom, (3) whether they discussed with their partners about the ways to prevent AIDS, and (4) whether they had ever heard STDs. All variables used in the logistic regression analysis were categorized except age and only adjusted odds ratio (OR) and corresponding 95% confidence interval (CI) are presented.

Results

Table 1 reveals that the mean age of men and women were 38.6 years and 29.8 years respectively and about 70% of them were living in rural areas. About 33% men and 43% women were illiterate. Percent of watching television, listening radio and reading newspapers every week was higher among men than women. About 54% men and 35% women had ever heard AIDS. Ever heard STDs was reported even low for both men (25%) and women (14%). Condom use was extremely low in both sexes (7% in men and 5% in women).

Table 1: Basic characteristics of the respondents of BDHS 1999-2000

Characteristics	Men, n=2556	Women, n=10544
Mean Age (in years)	38.55	29.8
Mean number of children ever born per respondent	3.36	3.03
Living in rural areas (%)	1785 (69.8)	7394 (70.1)
Illiterate respondents (%)	839 (32.8)	4575 (43.4)
Muslim by religion (%)	2187 (85.6)	9135 (86.7)
Watching TV every week (%)	1412 (55.2)	4156 (39.4)
Listening to radio every week (%)	1332 (52.1)	3095 (29.4)
Reading newspaper every week (%)	749 (29.3)	1148 (10.9)
Ever heard AIDS (%)	1383 (54.1)	3660 (34.7)
Ever talked with partner about ways to avoid AIDS (%)	404 (15.8)	867 (8.2)
Ever heard STDs (%)	629 (24.6)	1421 (13.5)
Currently using condom (%)	169 (6.6)	479 (4.5)
Currently not using any contraceptives (%)	924 (36.2)	5236 (49.7)

Table 2: Distribution of men and women by reported sources of AIDS information*

	Men n =2556 (%)	Women n=10536 (%)
Reported sources of AIDS information (individual):		
Radio	611 (23.9)	1192 (11.3)
TV	931 (36.5)	2693 (25.6)
Newspapers/magazines	537 (21.0)	639 (6.1)
Pamphlets/posters	167 (6.5)	211 (2.0)
Health workers	187 (7.3)	269 (2.6)
Mosques/church/temples	6 (0.2)	1 (0.0)
School/teachers	11 (0.4)	18 (0.2)
Community meetings	42 (1.6)	43 (0.4)
Friends/relatives	543 (21.3)	1341 (12.7)
Work place	106 (4.2)	57 (0.5)
Billboards	88 (3.4)	62 (0.6)
Others	63 (2.5)	178 (1.7)
No source	1173 (45.9)	
Reported sources for AIDS information (multiple):		
no source	1173 (45.9)	6884 (65.3)
1 source	329 (12.9)	1666 (15.8)
2 sources	462 (18.1)	1212 (11.5)
3 sources	406 (15.9)	561 (5.3)
4 sources	133 (5.2)	154 (1.5)
5 and more sources	53 (2.1)	59 (0.6)

* Multiple answers were recorded.

Table 2 presents the percent of men and women by sources of AIDS information. Television was the main source of AIDS information (37% among men and 26% among women). Radio, friends/relatives, newspapers/magazines were the other important sources of AIDS information. Health workers were reported very low. By number of sources, higher percent of men compared with women reported 2 or more sources of AIDS information.

Table 3: What can a person do to avoid getting AIDS?

Responses	Men		Women	
	n=2556	%	n=10544	%
Abstain from sex	0.0	0.0	0	0.0
Use condoms during sex	260	10.2	601	5.7
Limit sex within marriage	84	3.3	230	2.2
Limit sex with one/trusted partner	140	5.5	266	2.5
Avoid sex with prostitutes	595	23.3	707	6.7
Avoid sex with partners who have many partners	307	12.0	538	5.1
Avoid sex with homosexuals	38	1.5	27	0.3
Avoid sex with persons who inject drugs intravenously	28	1.1	48	0.5
Avoid unsafe blood transfusions	39	1.5	105	1.0
Avoid non-sterilized/use disposable injections	172	6.7	392	3.7
Avoid sharing razor blades	39	1.5	30	0.3
Others	59	2.3	191	1.8
Avoid kissing*	18	0.7	19	0.2
Avoid mosquito bites*	5	0.2	18	0.2
Seek protection from traditional healers*	23	0.9	25	0.2
Knowledge categories to avoid getting AIDS:				
Had no knowledge	1707	66.8	8794	83.4
Had misconception	44	1.7	59	0.6
Reported at least one correct way	805	31.4	1691	16.0
Number of ways correctly reported:				
1	264	10.3	753	7.1
2	285	11.2	595	5.6
3	150	5.9	237	2.2
4	74	2.9	70	0.7
5+	32	1.3	36	0.3

* Controversial and taken as misconception

Table 3 showed the information regarding the question ‘what can a person do to avoid getting AIDS’? Majority of men (67%) and women (83%) had no knowledge about the ways to avoid AIDS. Avoid sex with prostitutes, avoid sex with partners who had many partners, use condom during sex, avoid non-sterilized injections, limit sex with trusted partners, limit sex with marriage were the major answers by them who knew at least one way.

Table 4: Percent distribution of men and women for four dependent variables by sources of AIDS information (only for them who reported at least one source).

Sources	Number of respondents by sources	Having knowledge to avoid AIDS (yes)	Ever talked with partners (yes)	Currently Condom use (yes)	Ever heard STDs (yes)
	n	%	%	%	%
Men (any source)	1383	58.1	29.3	10.4	37.4
Radio	611	66.9	39.2	12.4	43.5
TV	931	69.1	35.8	12.2	41.5
Newspapers/magazines	537	81.6	42.9	14.7	54.0
Pamphlets/posters	167	81.4	43.1	15.6	62.3
Health workers	187	53.5	40.9	7.0	39.0
Friends/relatives	543	47.0	24.0	8.7	31.5
Others sources	285	60.7	31.6	11.9	42.5
Reported number of sources for AIDS information:					
1 source	329	34.3	10.4	5.8	22.5
2 sources	462	51.1	22.3	9.3	29.2
3 sources	406	73.2	42.1	13.1	48.8
4 sources	133	82.0	50.4	15.8	57.9
5 and more sources	53	81.1	56.6	15.1	62.3
Women (any source)	3652	48.2	25.2	9.4	24.7
Radio	1192	56.9	32.2	12.3	26.6
TV	2693	53.5	27.9	10.9	26.1
Newspapers/magazines	639	79.7	45.5	19.2	40.8
Pamphlets/posters	211	71.6	41.9	11.8	36.5
Health workers	269	50.2	35.5	4.5	32.7
Friends/relatives	1341	41.2	25.6	9.0	24.2
Others	354	48.3	34.3	8.7	30.7
No. of sources for AIDS information:					
1 source	1666	37.8	15.3	5.9	20.0
2 sources	1212	49.4	26.3	10.1	24.6
3 sources	561	69.7	40.8	15.5	31.2
4 sources	154	77.3	54.0	17.5	43.5
5 and more sources	59	83.1	49.1	13.6	49.2

Table 4 provided distribution of respondents by sources of AIDS information who had ever heard AIDS for four dependent variables. In all respects, newspapers/magazines, pamphlets/posters, TV and radio were the effective sources of information. Health workers as well as friends/relatives were seemed ineffective or less effective. The data strongly suggested the usefulness of exposures to multiple sources.

Table 5 (for men) and Table 6 (for women) presented the results of logistic regression analysis only for those who had ever heard AIDS. The variables considered in the analysis included age, place of residence, region of residence, religion, education, whether watched TV every week, whether listened to radio every week and whether read newspaper every week.

Table 5: Logistic regression[†] estimates of adjusted OR and 95% CI for four selected dependent variables by sources of information (only for men who ever heard AIDS)

Sources of AIDS information	Having correct knowledge to avoid AIDS (yes vs. no)	Ever talked with partner about ways to prevent AIDS (yes vs. no)	Currently using condom (yes vs. no)	Ever heard STDs (yes vs. no)
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Radio (yes/no[‡])	1.76 (1.33-2.32)***	2.14 (1.65-2.78)***	1.44 (0.99-2.08)	1.45 (1.13-1.87)**
TV (yes/no[‡])	2.25 (1.67-3.02)***	1.76 (1.26-2.47)**	1.19 (0.73-1.96)	1.26 (0.93-1.70)
Newspaper/magazine. (yes/no[‡])	2.26 (1.63-3.15)***	1.35 (0.99-1.85)	0.97 (0.62-1.51)	1.751 (1.30-2.35)***
Pamphlet/posters (yes/no[‡]):	1.56 (0.98-2.49)	1.12 (0.78-1.61)	1.09 (0.67-1.77)	2.139 (1.49-3.07)***
Health workers (yes/no[‡]):	0.77 (0.54-1.11)	2.06 (1.45-2.93)***	0.69 (0.37-1.27)	1.019 (0.72-1.44)
Friends/relatives (yes/no[‡]):	0.63 (0.49-0.82)**	0.90 (0.69-1.17)	0.88 (0.59-1.30)	0.891 (0.69-1.14)
All others:[§] (yes/no[‡])	1.06 (0.77-1.47)	1.14 (0.84-1.56)	1.16 (0.76-1.78)	1.245 (0.93-1.66)
No. of sources for AIDS information:				
1[‡]	1	1	1	1
2	1.39 (1.01-1.93)*	1.95 (1.27-3.01)**	1.33 (0.74-2.40)	1.16 (0.82-1.64)
3	2.20 (1.52-3.18)***	3.73 (2.40-5.80)***	1.42 (0.76-2.62)	2.14 (1.48-3.10)***
4	2.54 (1.44-4.49)**	4.45 (2.60-7.63)***	1.41 (0.68-2.93)	2.66 (1.64-4.32)***
5+	5.62 (1.79-17.68)**	5.31 (2.60-10.85)***	1.29 (0.48-3.42)	2.87 (1.46-5.63)**

*** P<0.001, ** P<0.01, * P<0.05; [a] only the women have ever heard AIDS

[†] adjusted for age, religion, place of residence, education, region of residence, watched radio every week, listened to radio every week and read newspaper every week

[‡] Reference category

[§] all others included mosques/church/temples, school/teachers, community meetings, work place, billboard and others

Table 5 indicated that Radio, TV, and newspapers/magazines were positively and significantly associated with knowledge of ways to avoid AIDS but surprisingly friends/relatives were negatively associated. Three sources such as radio, TV and health workers were positively and significantly associated with ever talked with partners about ways to prevent AIDS. Radio, newspapers/magazines, and pamphlets/posters were also significantly associated with ever heard STDs. Condom use was not significantly related with any sources of AIDS information for men.

Table 6: Logistic regression[†] estimates of OR and 95% CI for four selected dependent variables by sources of information (only for women who ever heard AIDS)

Sources of AIDS information	Having correct knowledge to avoid AIDS (yes vs. no)	Ever talked with partner about ways to prevent AIDS (yes vs. no)	Currently using condom (yes vs. no)	Ever heard STDs (yes vs. no)
	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Radio (yes/no[‡])	1.77 (1.50-2.09)***	1.50 (1.25-1.79)***	1.45(1.12-1.87)**	1.04 (0.87-1.24)**
TV (yes/no[‡])	2.92 (1.57-2.35)***	1.19 (0.94-1.51)	1.29 (0.88-1.88)	1.06 (0.85-1.33)
Newspaper/magazine (yes/no[‡])	2.79 (2.20-3.52)***	2.14 (1.72-2.67)***	1.68 (1.25-2.26)**	1.78 (1.43-2.21)***
Pamphlet/posters (yes/no[‡]):	1.72 (1.22-2.41)**	1.49 (1.09-2.02)*	0.76 (0.48-1.21)	1.33 (0.98-1.81)
Health workers (yes/no[‡]):	1.56 (1.18-2.06)**	1.95 (1.47-2.58)***	0.49 (0.27-0.90)*	1.72 (1.30-2.27)***
Friends/relatives (yes/no[‡]):	0.75 (0.65-0.87)***	1.09 (0.92-1.28)	0.95 (0.75-1.21)	0.98 (0.84-1.16)
All others:[§] (yes/no[‡])	1.30 (1.02-1.66)*	1.80 (1.40-2.33)***	1.12 (0.75-1.68)	1.36 (1.06-1.74)*
No. of sources for AIDS information:				
1[‡]	1	1	1	1
2	1.47 (1.25-1.74)***	1.64 (1.34-2.00)***	1.22 (0.91-1.63)	1.11 (0.92-1.34)
3	2.83 (2.25-3.56)***	2.78 (2.19-3.53)***	1.61 (1.15-2.25)**	1.42 (1.12-1.80)**
4	3.13 (2.05-4.77)***	4.19 (2.88-6.09)***	1.58 (0.95-2.63)	2.04 (1.41-2.96)***
5+	3.86 (1.87-7.96)***	3.00 (1.69-5.31)***	1.29 (0.51-2.60)	2.35 (1.35-4.09)**

*** P<0.001, **P<0.01, *P<0.05; [a] only the women have ever heard AIDS

[†]adjusted for age, religion, place of residence, education, region of residence, watched radio every week, listened to radio every week and read newspaper every week

[‡] Reference category

[§]all others included mosques/church/temples, school/teachers, community meetings, work place, billboard and others

For women Table 6 revealed that all sources except friends/relatives were found positively and significantly related with knowledge of ways to avoid AIDS. Except TV and friends/relatives, all sources were significantly associated with ever talked with partners about ways to prevent AIDS. Radio, newspapers/magazines, and health workers were significantly related with ever heard of STDs. Condom use was found significantly related with radio, newspapers/magazines and health workers. For all dependent variables except currently condom use in men, we found significantly higher to higher OR with increasing number of exposed sources.

Discussion

Our study demonstrated that (1) both men and women were having low knowledge and awareness about AIDS, (ii) among the available sources TV, radio, and newspaper/magazines were the main and effective sources of AIDS information, and (iii) access to the more sources of information revealed better knowledge of AIDS and related things as compared to only one source. The possible reasons of the low awareness may be limited access to sexual health information and unavailability of adequate health care services, poor literacy, poverty, and

unemployment (Khan, 2002). The results were more worrying in all regards (Table 1) especially for women. For example, most of the women in Bangladesh did not hear about AIDS despite of intensive campaigns through multi media since many years. Knowledge about STDs was even worse because only 25% men and 14% women had ever heard STDs. Gender differences may be due to that women are less educated, less empowered and restricted to move outside alone and hence less exposure to mass media. Similar to our findings TV, radio, newspapers/magazines were also identified as the main sources of AIDS information by other studies (Panford et al, 2001; Lagarde et al, 1998). TV was found as a rich source of information for promoting AIDS awareness and safer sex to the general public. Radio was reported as powerful, credible and entertainment medium in most developing countries because of its big and diverse audiences even in rural places due to affordability, accessibility and move ability (Nicolson, 2003; Panford et al, 2001; Lagarde et al, 1998). However, use of mass media such as radio, TV, newspapers/magazines, pamphlets/posters is very limited in Bangladesh especially in rural areas as compared to urban areas. Only 32% and 13% of the women owned radio and TV in rural areas though the rate was 50% and 48% in urban areas respectively (data are not shown here). These figures clearly indicated that only mass media are not enough for disseminating the HIV/AIDS information in rural areas. Thus some additional programs such as face-to-face communication (Kiragu, 2001) and sexual education at institutions may be effective in Bangladesh.

Though WHO/ROEM (2002) reported that adequate, well-trained and motivated human resources such as religious leaders, teachers, and community leaders are important for achieving success in HIV/AIDS/STD interventions at all levels, unfortunately in Bangladesh the performance of health workers, school/teachers, mosques/church/temples in disseminating AIDS information is very poor although they are widely available all over the country. To improve the situation, HIV/AIDS campaigns will have to pay a lot attention to educate religious and traditional leaders (Wolffers, 1997). Health workers should be trained and education sector should address STD/HIV/AIDS prevention strategy. As an Islamic country, every community/village has at least one mosque where many people gather 5 times in a day for praying. Since religious as well as cultural spirits (al-Owaish et al, 1995; WHO/ROEM, 2001) can play an important role in preventing STD/AIDS (Elfituri et al, 1999), greater involvement of religious leaders in the development of national strategies (WHO/ROEM, 2002) including the implementation of religious codes (which discourage extramarital sexual relationships) and social rules (Khan et al, 1997) may be helpful for the prevention of STD/AIDS in Bangladesh. Work place as a source of AIDS information is also important because comprehensive workplace AIDS education programs can reinforce worker's knowledge about HIV transmission and foster more favorable views toward coworkers with AIDS (Barr et al, 1992).

Condom is the only contraceptive method that can protect both pregnancy and HIV transmission. So increasing condom use is crucial in controlling the spread of HIV/AIDS (Khan, 2002; Kiragu, 2001; Khan et al, 1997). Unfortunately the use of condom is very low in Bangladesh. It is reported that condoms makes sex less enjoyable (Amirkhanian et al, 2001; Merakou et al, 2002). Some more reasons may be the possible breakage of the condom during sex, lack of trust (Amirkhanian et al, 2001), and readily unavailable to use (Gilmour et al, 2000). It should be noted here that those who were using condom during this survey, 77% of them purchased from shop or pharmacy (not shown here). The limited distribution of condom through health workers as well as the cost of purchasing from shop/pharmacy, and shyness when buying them may be some other obstacles of condom use. Therefore vigorous campaigns about condom use and distribution of it through multiple sources could be a successful strategy to improve the situation.

Logistic regression model were adjusted by age, religion, education, place of residence, region of residence, watching TV, listening Radio, and reading newspaper for all dependent variables because almost all these variables were found associated with any of the four dependent variables by other studies (Khan, 2002; Jato et al, 1999; Khan et al, 1997).

Misconception about getting AIDS through mosquito bites, kissing, and sharing razors were found by our study like other studies (Khan et al, 1997; Khan, 2002; WHO/ROEM, 2001). Therefore serious efforts should be made to improve awareness and to clarify misconceptions about AIDS by using all possible sources of

information. Talking about AIDS with the partners of the knowledgeable persons is one of the important ways to spread the knowledge of AIDS in the society. In Bangladesh couples rarely discuss matters related to sexual and reproductive health. Our data showed that only 16% men and 8% women had talked with their partners. Logistic regression showed that radio, TV, and health workers were the significant ways in this regard. Newspapers/magazines, pamphlets/posters, friends/relatives and others were found ineffective. Our findings indicated that persons with more exposure to AIDS information were significantly more likely to discuss AIDS with their partners.

In brief, disseminating AIDS and related information through multiple sources rather than emphasizing one or two sources are needed in Bangladesh to prevent AIDS more effectively. However these sources should be coordinated properly and the educational messages should be well planned, culturally acceptable, affordable, and suitable for exhibition because it is reported that well planned campaigns and professionally designed mass media and entertainment material can achieve remarkable results in raising awareness, increasing knowledge, changing attitudes and social norms and changing behavior, including the use of condoms (Elkamel, 1996). For effective use of mass media, it requires careful planning, audience research, message development, pre-testing, dissemination strategy, evaluation, co-ordination with existing services, and linking mass media with interpersonal communication (Church and Coller, 1989). The role of international health and development organizations in promoting, supporting and advocating the use of well-planned mass media campaigns can also make a significant difference (Elkamel, 1996). All possible venues such as workplace, schools, mosques/church/temples, etc should be targeted to intensify health promotion and education activities. Social and religious values and attitudes should be maximized for creating more supportive environments for HIV/AIDS prevention (WHO/ROEM, 2002, Wolffers, 1997). Health planners and policy makers should consider the wide promotion of condom use. People should be educated not only on the effectiveness of condoms in preventing STD/AIDS but also on how to use them, who should use them, how to store and dispose of them and where to procure them.

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References:

al-Owaish RA, Moussa MAA, Anwar S, Al-Shoumer HA, Sharma P. 1995. Knowledge, attitudes, beliefs and practices of the population in Kuwait about AIDS-a pilot study. Eastern Mediterranean Health Journal (EMHJ). 1:235-40.

Amirkhanian YA, Kelly JA, Issayev DD. 2001. AIDS knowledge, attitudes, and behavior in Russia: results of a population-based, random digit telephone survey in St Petersburg. International Journal STD & AIDS. 12:50-57.

Azim T, Islam M N, Bogaerts J, Mian AH, Sarker MS, Fattah KR, et al. 2000. Prevalence of HIV and syphilis among high-risk groups in Bangladesh. AIDS. 14:210.

Barr JK, Waring JM, Warshaw LJ. 1992. Knowledge and attitudes about AIDS among corporate and public service employees. American Journal of Public Health. 82:225-8.

Church CA, Coller J. 1989. Lights, camera, action: promoting family planning with TV, video and film. Population Reports (Series J). 38:1-31

DGHS. Strategic plan of the national AIDS programme of Bangladesh 1997-2002. Bangladesh AIDS prevention and control programme. Directorate General of Health Services, Ministry of Health and Family Welfare, Government of the People's Republic of Bangladesh, Dhaka, 2000.

Elfituri AA, Elmahaishi MS, MacDonald TH. 1999. Role of health education programmes within the Libyan community. Eastern Mediterranean Health Journal (EMHJ). 5:268-76.

Elkamel FM. 1996. Can mass media prevent AIDS: the need for well planned behavior change communication programmes. Eastern Mediterranean Health Journal. 2:449-58.

Gibney L, Choudhury P, Khawaja Z, Sarker M, Vermund SH. 1999a. Behavioral risk factors for HIV/AIDS in a low-HIV prevalence Muslim Nation: Bangladesh. International Journal STD & AIDS. 10:186-94.

Gibney L, Choudhury P, Khawaja Z. Sarker MM, Islam N, Vermund SH. 1999b. HIV/AIDS in Bangladesh: an assessment of biomedical risk factors for transmission. International Journal STD & AIDS. 10:338-46.

Gilmour E, Karim SS, Fourie HJ. 2000. Availability of condoms in urban and rural areas of KwaZulu Natal, South Africa. Sexually Transmitted Diseases. 27:353-57.

Gottlieb MS, Schroff R, Schanker HM, Weisman JD, Fan PT, Wolf RA, Saxon A. 1981. Pneumocystis carinii pneumonia and mucosal candidiasis in previously healthy homosexual men: evidence of a new acquired cellular immunodeficiency. New England Journal of Medicine. 305:1425-31.

Islam M, Mitra AK, Mian AH, Vermund SH. 1999. HIV/AIDS in Bangladesh: a national surveillance (short report). International Journal STD & AIDS. 10:471- 4.

Jato MN, Simbakalia C, Tarasevich JM, Awasum DN, Kihinga CNB, Ngirwamungu E. 1999. The impact of multimedia family planning promotion on the contraceptive behavior of women in Tanzania. International Family Planning Perspectives. 25:60-67.

Khan MA, Rahman M, Khanam PA, Khuda BE, Kane TT, Ashraf A. 1997. Awareness of sexually transmitted diseases among women and service providers in rural Bangladesh. International Journal STD & AIDS. 8:688-96.

Khan MA. 2002. Knowledge on AIDS among female adolescents in Bangladesh: evidence from the Bangladesh Demographic and Health Survey data. Journal of Health and Popul Nutrition. 20:130-37.

Kiragu K. Youth and HIV/AIDS: Can we avoid Catastrophe? Population Reports, Series L (20). Baltimore, The John Hopkins University Bloomberg School of Public Health, Fall, 2001.

Lagarde E, Pison G, Enel C. 1998. Risk behaviors and AIDS knowledge in a rural community of Senegal: relationship with sources of AIDS information. International Journal of Epidemiology. 27:890-96.

Merakou K, Costopoulos C, Marcopoulou J, Kourea-Kremastinou J. 2002. Knowledge, attitudes and behavior after 15 years of HIV/AIDS prevention in schools. European Journal of Public Health. 12:90-93.

Myhre SL, Flora JA. 2000. HIV/AIDS communication campaigns: progress and prospects. Journal of Health Communication. 5 (Suppl):29-45.

National Institute of Population Research and Training (NIPORT), Mitra and Associates (MA), and ORC Macro (ORCM). Bangladesh Demographic and Health Survey 1999-2000. Dhaka, Bangladesh and Calverton, Maryland, USA, 2001.

Nicolson DJ. 2003. Television coverage of AIDS and transmission of AIDS virus. Sexually Transmitted Infection. 79:170

Panford S, Nyancy MO, Amoah SO, Aidoo NG. 2001. Using folk media in HIV/AIDS prevention in rural Ghana. American Journal of Public Health. 91:1559-1562

Piot P, Bartos M, Ghys PD, Walker N, Schwartlander B. 2001. The global impact of HIV/AIDS. Nature. 410:968-73.

Population Reference Bureau (PRB). 2002 World Population Data Sheet of the Population Reference Bureau. Demographic Data and Estimates for the Countries and Regions of the World, Washington, DC, 2002.

Quinn TC. 1996. Global burden of the HIV pandemic. The Lancet. 348:99-106.

Shah SA, Kristensen S, Khan OA. 2000. Behavioral and biomedical risk factors for the transmission of HIV/AIDS in Bangladesh. International Journal STD & AIDS. 11:133-34.

UNAIDS. AIDS epidemic update. UNAIDS and WHO. Geneva, 2002.

WHO/ROEM. 2001. World AIDS campaign 2001. Men and AIDS. WHO Regional Office for the Eastern Mediterranean, Cairo, 2001.

WHO/ROEM. 2002. Improving health sector response to HIV/AIDS and STD in the countries of the Eastern Mediterranean Region of WHO. Regional Strategic Plan 2002-2005. WHO Regional Office for the Eastern Mediterranean, Cairo, 2002.

Wolffers I. 1997. Culture, media, and HIV/AIDS in Asia. The Lancet. 349:52-54.