

RESEARCH ARTICLE

Role of Print and Audiovisual Media in Cervical Cancer Prevention in Bangladesh

Ashrafun Nessa^{1*}, Muhammad Anwar Hussain², Mohammad Harun Ur Rashid³, Nargis Akhter², Joya Shree Roy⁴, Romena Afroz⁵

Abstract

Background: Visual inspection of cervix with acetic acid (VIA) is offered at 252 centers in 64 districts of Bangladesh. VIA+ve women are managed at colposcopy clinics of Bangabandhu Sheikh Mujib Medical University (BSMMU) and 14 Medical College Hospitals (MCHs). This research work has been supported by 'UICC Cancer Prevention Campaign' programme. **Objectives:** This study explored the role of print materials and electronic media to improve cervical cancer screening in the present socio-cultural context of Bangladesh. **Methods:** This study was performed from January to August 2011 at two upazilas of Bangladesh (Singair with screening facility and Sonargaon without screening facility). Data were collected by focus group discussion (FGD) with women, husbands and community people before and after intervention. Information on cervical cancer screening and VIA camps was disseminated using advertisement through local cable line of the television, microphone announcement, service providers and leaflet throughout the week prior to a VIA camp. Three-day VIA camps were organized at the upazila health complex (UHC) of both upazilas. Quantitative data was gathered from women at the camps on source of information on VIA and the best method of awareness creation. **Results:** The population was aware of "cancer" and a notable number knew about cervical cancer. Baseline awareness on prevention and VIA was low and it was negligible where screening services were unavailable. Awareness was increased fourfold in both upazilas after interventions and half of the women and the majority of the community people became aware of screening and available facilities. Cable line advertisement (25.5%), microphone announcement (21.4%), and discussion sessions (20.4%) were effective for awareness creation on VIA. Television was mentioned as the best method (37.4%) of awareness creation. **Conclusion:** Television should be used for nation-wide awareness creation. For local awareness creation, cable line advertisement, microphone announcements and health education at *Uthan Baithaks/ EPI sessions* can easily be adopted by the government.

Keywords: Audiovisual media - Bangladesh - print material - VIA - cervical cancer provention

Asian Pacific J Cancer Prev, 14 (5), 3131-3137

Introduction

In Bangladesh, the yearly burden of cervical cancer is about 17,686 and around 10,364 women die from cervical cancer each year (Ferlay et al., 2008). Hospital based data revealed that cervical cancer constitutes 22-29% of female cancer in Bangladesh (Akhter et al., 1998). Bangladesh is a developing country with limited resources. The Government of Bangladesh (GOB) is developing a cervical cancer screening programme through Visual Inspection of Cervix with Acetic Acid (VIA). GOB has a plan to make it a nation-wide program. VIA is performed at Maternal and Child Welfare Centres (MCWCs), District Hospitals (DHs), Medical College Hospitals (MCHs) and Bangabandhu Sheikh Mujib Medical University (BSMMU) by trained Family Welfare Visitors (FWVs),

Senior Staff Nurses (SSNs) and Doctors (Ahmed et al., 2008; Nessa et al., 2010).

The services for cervical and breast cancer screening are currently available as opportunistic screening at 252 facilities including BSMMU, 14 MCHs, 57 DHs, 61 MCWCs, 15 (out of 482) Upazila Health Complexes (UHC), 44 (out of 3725) Union Health & Family Welfare Centers (UH&FWC), 25 Urban Primary Health Care centers and 35 Non-Government Organizations (NGO). The trained persons use VIA technique to detect the pre-cancer or early stages of cervical cancer among women 30 years and above visiting the aforementioned centers. VIA positive women are referred to BSMMU and various government MCHs for colposcopic evaluation and necessary management. Development of this service is being supported by GOB, BSMMU and UNFPA.

¹Department of Obstetrics and Gynaecology, ²Department of Obstetrics and Gynaecology, ³Colposcopy clinic, Bangabandhu Sheikh Mujib Medical University, Shahbag, ⁴Directorate General of Health Services, Mohakhali, ⁵Department of Obstetrics and Gynaecology, Dhaka Medical College Hospital, Dhaka, Bangladesh *For correspondence: ashra58@yahoo.co.uk

However, only three lakh women have received screening services during the last five years. During evaluation of the ‘Cervical Cancer Screening Programme of Bangladesh’ low coverage of the target population was observed (Basu et al., 2010). Lack of awareness about cervical cancer and its prevention, low availability of services may be underlying factors for this low intake of services. In fact, several studies have mentioned that the uptake of screening in developing countries is poor (RTCOC and JHPIEGO Corporation Cervical Cancer, 2003; Sangwa-Lugoma et al., 2006). Lack of awareness of cervical cancer has been identified as one of the factors contributing to the high prevalence of this condition in the developing world compared to the developed world (WHO consultation Report, 2002; Tiwari et al., 2011). Different print and audiovisual media may play important role by providing information on cervical cancer prevention to influence the behavior of health professionals and target population. This intervention type of study was designed to explore the role of print materials and electronic media to improve cervical cancer screening in the socio-cultural context of Bangladesh. This research has been supported by a grant received from UICC under the “UICC Cancer Prevention Campaign”.

Materials and Methods

Bangladesh is a middle-income country with a total population of about 160 million. The country is divided into 64 districts and 484 upazila (sub-districts). This cross sectional descriptive study was conducted by the Department of Obstetrics and Gynaecology of BSMMU from January 2011 to August 2011 at two selected upazilas of Bangladesh located within 100 kilometers of BSMMU. Singair upazila of Manikganj district with existing cervical cancer screening facilities at district and Upazila level and Sonargaon upazila of Narayanganj district with existing cervical cancer screening facilities only at district level were selected for the study. Among 11 unions of Singair, three unions (Boyra, Baldhara, Singair sadar union) and among 11 unions of Sonargaon, three unions (Pirozpur, Baiderbazar, Aminpur) close to the UHCs were selected for data collection (Figure 1).

Qualitative data were collected from women, husbands and community leaders by Focus Group Discussions (FGDs) on the awareness of cervical cancer, its prevention,

ways of improving awareness about its prevention including role of print and audiovisual media and the available screening services. Guidelines and checklists for the FGDs (Table 1) were developed and a two-day training programme was organized for the data collection team at the Department of Obstetrics and Gynaecology of BSMMU. The team was trained on specific aspects of data collection related to the study, methodologies of this research and qualitative research techniques. During training, the team also practiced FGDs at BSMMU. After obtaining permission from the directorate general of health services (DGHS) and discussion meetings with administration of the UHCs, pre-testing was performed at a village in Singair to practice FGDs in the actual situation. The UHCs provide primary health care in community with particular attention on underprivileged women and children.

Baseline Survey

During baseline survey the team conducted 8-10 FGDs with women (Singair 80 women, Sonargaon 96 women) from different villages in selected unions. Each FGD comprised 10-15 women. FGDs were performed at the *Uthan Baithaks* (meeting at the premises of household), *Extended Programme on Immunization (EPI)* sessions or among groups of women gathered by field level health staff. The women were well-informed about FGDs and

Table 1. Socio-economic Characteristics of Women Attending FGDs

Characteristics	Singair		Sonargaon	
	Pre-Intervention (n=80)	Post-Intervention (n=80)	Pre-Intervention (n=96)	Post-Intervention (n=96)
Age Group				
<25 years	13 (16.3)	11 (13.8)	17 (17.7)	19 (19.8)
26-35 years	39 (48.8)	25 (31.3)	47 (49.0)	30 (31.3)
36-45 years	15 (18.8)	24 (30.0)	20 (20.8)	35 (36.5)
>46 years	13 (16.3)	20 (25.0)	12 (12.5)	12 (12.5)
Mean age	32.89	39.51	33.48	36.03
Educational Qualification				
No Education	31 (38.8)	38 (47.5)	50 (52.1)	53 (55.2)
Primary	38 (47.5)	31 (38.8)	38 (39.6)	34 (35.4)
Secondary	7 (8.8)	10 (12.5)	8 (8.3)	9 (9.4)
Graduation and above	4 (5.0)	1 (1.3)	0 (0)	0 (0)
Occupation of participants				
House Wife	76 (95.0)	77 (96.3)	96 (100.0)	94 (97.9)
Service Holders	4 (5.0)	3 (3.8)	0 (0)	2 (2.1)

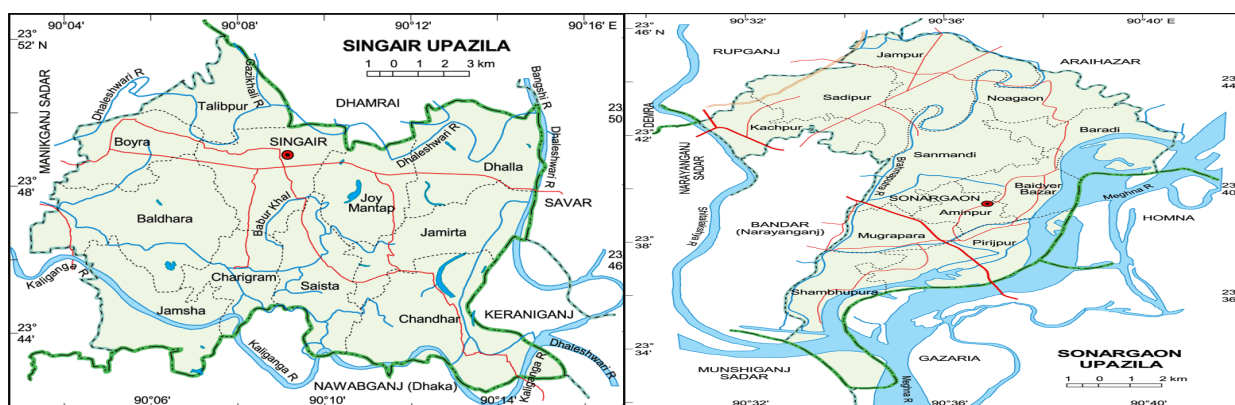


Figure 1. Distributions of Unions of Singair and Sonargaon



Figure 2. Different Activities/Interventions of Research Work

after being invited, they participated voluntarily. The FGDs generally took place on the veranda of a house or in the space selected for *Uthan Baithaks* or EPI sessions. Each group had two female moderators and two note takers.

In Singair, 22 and in Sonargaon 24 husbands participated in FGDs (two FGDs in each upazila) both before and after the intervention. The team also conducted four FGDs with community leaders (School teachers, college teachers and other influential persons) in both Singair and Sonargaon. After the intervention, similar FGDs were arranged in both the Upazillas.

Interventions

A plan for intervention was finalized considering the obtained baseline data results. VIA camps (three days long) were organized by 15-20 service providers from the local VIA centre and BSMMU in both the UHCs with facilities of registration, counseling and screening facilities. Further management and follow up were offered as necessary at the Department of Obstetrics and Gynaecology, BSMMU. Information regarding cervical cancer prevention and VIA camp was widely disseminated within the upazila using advertisement through local cable line of the television and use of mike announcement throughout one week prior to the VIA camp at both the Upazillas. Separate leaflets were developed for each upazila and distributed at UHCs, *Uthan Baithaks*, EPI meetings, schools, colleges, during mike announcement etc and field service providers were requested to inform women about cervical cancer prevention and VIA Camp. The leaflets, advertisement through cable line and announcement by mike all stated that cervical cancer is a common cause of death of Bangladeshi women. Regular examination of cervix is needed to prevent cervical cancer once women is 30 years or more, VIA test is done free of cost at UHCs and the time and dates of VIA camp at UHCs were also announced. In Sonargaon UHCs, there was no VIA centre before initiation of this study. One doctor and one senior nurse of Sonargaon UHC were trained on VIA and CBE prior to VIA camp.

Post-intervention survey

During VIA camp, quantitative data were collected on the source of information of VIA test and their conception on the best method of awareness creation about cervical cancer prevention. Qualitative data were collected two-three months after the VIA camp from women, husbands and community leaders of the selected unions at least one kilometer from pre-intervention FGDs.

Data Analysis

After completing data collection, it was checked with the team, open ended answers categorized and coded by the Investigators and the Research Assistant. The texts were analyzed and categorized by key elements of the content. Most of the data were descriptive and the research assistants, the note takers and the investigators worked together with the data operators.

Results

Mean age of the women participated in FGDs ranged between 32 to 39 years. About 40% of them had primary, 10.6% had secondary education and above. Majority of them were housewives (Table 1). About half of the husbands had primary education and 10% had secondary education or above.

Awareness on cancer, cervical cancer and its treatment

During the baseline study, majority of the women and husbands were aware of the ward 'cancer' irrespective of location of cancer in the body and about one fourth of them in Singair and half of them in Sonargaon knew about cervical and breast cancer. After the intervention their knowledge about cervical cancer was doubled and most of them came to know about cervical cancer. During the baseline study, only about 10-12% of the women participating FGDs knew that if this cancer is detected earlier and treated properly, more life could be saved. After the intervention, this knowledge was improved by four fold in both the upazillas and about half of them came to know about early detection and treatment.

Only two to three of the husbands in each study area before intervention were aware of early detection and treatment of cervical cancer and this awareness was not improved after intervention. Baseline awareness level among community leaders was high and all 22 community leaders knew about different types of cancers of the body and more than half of them knew about cervical cancer. After the intervention all of them knew it.

Knowledge on pre-cancer of cervix, VIA and its source

During the baseline study, in both the upazila, none of them knew about the term 'pre-cancer of the cervix'. However, about one tenth of them in Singair knew about 'VIA' from doctors, posters and neighbours. In Sonargaon, where facility of VIA was unavailable, only one of 96 women knew about VIA from a doctor of Narayanganj DH. After the intervention, about half of the women at FGDs in both the upazila knew about the test for cervical cancer from advertisement through cable line of television,

Mike announcement, discussions, leaflet/poster, relatives and neighbours. About two-third of them could not remember the name as 'VIA' and explained the test as test for cancer of uterus or cancer of neck of the womb. Most of them who knew about the test also knew that the test can be done at UHC. In Singair, only three of them learned about it through local cable line and they mentioned that about one-third of the area of Singair didn't have electricity. In Sonargaon, about one third of them saw it through local cable line advertisement on television. They mentioned that electricity supply is good all over Sonargaon and cable line is well used by them.

The husbands were almost unaware of pre-cancer of the cervix and this knowledge on prevention of cervical cancer was unchanged after intervention. Baseline awareness level on pre-cancer of the cervix and the test for its prevention was higher among community leaders in areas with cervical cancer screening facilities and three could mention the term 'VIA'. In Sonargaon with no cervical cancer screening facilities, only one knew about VIA from her neighbor. After intervention, all of them in both the places knew about VIA test except two.

Opinion on ways of improving knowledge about cervical cancer prevention

Many women of both the upazilas mentioned that people can be informed about VIA by television (drama serials, advertisement through cable line), Mike announcement and health education/discussion sessions at Uthan Baithaks/EPI meetings/community clinics.

Many women in Sonargaon mentioned that 'during leisure time frequently people watch movie telecast through local cable line and 'repeatedly advertisement on different goods and services are shown by the local cable companies along with the movies'. So information on cancer awareness and available services can be propagated locally through cable line advertisement, they emphasized. 'A drama serial focusing health services at national television was popular several years back' husbands told and mentioned that in Sonargaon 90% population watch TV' several mentioned. Women in Singair mentioned more about Mike announcement which is frequently used for propagating information among community.

Women, husbands and community leaders of both upazilas emphasized on health education/discussion sessions at Uthan Baithak/ EPI sessions/ community clinics for awareness creation. 'Health worker can tell us about cancer and check-up' women said. 'Discussion is good method to inform women about cancer prevention as women can ask questions if they don't understand' husbands mentioned. 'Rural people can be sensitized through health workers like the EPI programme - 'they visit door to door' they emphasized.

Community leaders also mentioned about awareness creation on VIA by health workers in village areas and orientation programme for field level health workers to enlighten them on VIA. Apart from that they stressed on poster, leaflet, school, college, mosques, temple, incorporation of cervical cancer prevention programme in education curriculum, placement of billboard at important places and hospitals, inclusion of cervical cancer screening

facilities in the citizen's charter in front of the UHC improving awareness. Community leaders emphasized on improvement of hospital services. They said 'doctors are unavailable and services are not always good'. With awareness creation, 'adequate services must be provided and service providers must be available' they expressed.

Community leaders also suggested about awareness creation meeting at *Ma Dibosh* (day when mothers of the school children are called in the school on a particular day of the year) at schools to inform mothers on cervical cancer prevention programme. School/college students can be supplied with leaflets for their mother. Information on cervical cancer can be incorporated in education curriculum from class nine.

Knowledge about VIA Camp

Post-intervention FGDs at villages showed that about half of the women and husbands knew about VIA Camp in both the places from advertisement through cable line of TV, Mike announcement, Uthan Baithak/EPI meeting, neighbours and seeing women going there. Several knew it from leaflets and hospital staffs. In Sonargaon, more women came to know from advertisement through cable line of television. However the husbands in both the upazilla remained unaware about pre-cancer of the cervix. 'We heard about the camp for check-up of cancer of womb at UHC and saw women were going there - but could not realize the reason behind it' several mentioned. One of them said that his wife availed the test from the camp and she knew it from Uthan Baithak. After intervention, all of the community leaders in both the places knew about VIA camp and VIA test except two.

Reason of not availing VIA test at VIA Camp

In both the upazilas, about half of the women at post intervention FGDs knew about VIA camp and about one tenth of women who knew about VIA Camp availed the test at VIA Camp. In both the places many women could not avail the test due to crowd and several did not go due to hesitation, shyness and fear.

Attitude of women and family about VIA test

Majority of the women and husbands showed interest of availing VIA test and mentioned that there will be no resistance from the family. One woman in Singair mentioned that there should be a target of coverage for VIA test like the target of EPI programme and field health workers need to send them for the test to the UHC or other nearer VIA centres. The husbands emphasized that the service providers should be female.

Performance of VIA camp

Remarkable response was observed from women of the surrounding areas on the days of VIA Camp. In Singair UHC, 394 VIA tests were performed during the camp and among them 21 (5.32%) women were VIA positive and one had cervical cancer. In Sonargaon 627 VIA tests were performed and among them 26 (4.14%) were VIA positive. In Singair, about 100 more and in Sonargaon, about 300-400 women were counseled and advised to attend at a later time to avail the service. More women

Table 2. Source of Information about VIA Camp

	Singair No. (%)	Sonargaon No. (%)	Total No. (%)
Cable line advertisement in TV	8 (2.0)	252 (40.2)	260 (25.5)
Mike announcement	82 (20.8)	137 (21.9)	219 (21.4)
Discussion (Uthan Baithak/EPI session FGDs)	120 (30.5)	88 (14.0)	208 (20.4)
Neighbor/ relatives	136 (34.5)	56 (8.9)	192 (18.8)
Leaflet	39 (9.9)	65 (10.4)	104 (10.2)
Leaflet & Hospital staff	9 (2.3)	19 (3.0)	28 (2.7)
Teachers	0 (0.0)	10 (1.6)	10 (1.0)
Total	394 (100)	627 (100)	1021 (100)

Table 3. Opinion from Women on Best Method for Community Awareness

Name of Media	Singair No. (%)	Sonargaon No. (%)	Total No. (%)
Television	90 (22.8)	264 (42.1)	354 (34.7)
Mike announcement	121 (30.7)	171 (27.3)	292 (28.6)
Uthan Baithak	112 (28.4)	125 (19.9)	237 (23.2)
Leaflet	25 (6.3)	9 (1.4)	34 (3.3)
Poster	16 (4.1)	7 (1.1)	23 (2.3)
VIA camp	7 (1.8)	29 (4.6)	36 (3.5)
Neighbor	8 (2.0)	2 (0.3)	10 (1.0)
Doctor / Hospital/ Nurse/FWV	12 (3.2)	9 (1.4)	21 (2.1)
SMS in mobile	3 (0.8)	11 (1.8)	14 (1.4)
Total	394 (100)	627 (100)	1021 (100)

attended from the nearer unions of UHCs.

Source of Information of VIA Camp

Women attending VIA Camp received information (Table 2) from cable line of television (25.5%), mike announcement (21.4%), FGDs/Uthan Baithaks (20.4%), and neighbours (18.8%). Women who attended VIA camp on 1st and 2nd day or knew about the camp informed neighbours and relatives about the test and the camp. In Singair a good number of women came to know from neighbours (34.5%). In Sonargaon, more women knew it from cable line advertisement in TV (40.2%). About 10-13% of them at both the areas received information from leaflet (Table 2).

Opinion from women on best method for community awareness

At the VIA camp, 34.7% mentioned television as the best method of awareness creation among population (Table 3). Mike announcement (28.6%) was the second popular method followed by Uthan Baithak (23.2%).

Discussion

Perceptions and acceptability of cervical screening and influence of audiovisual and print media on cervical cancer screening were assessed among two communities of Bangladesh. The baseline data revealed that about one forth to half of the women knew about cervical and breast cancer. At the sub-district level where facilities of screening was unavailable, the awareness level on early detection, 'pre-cancer of the cervix' and VIA was negligible. However, about one tenth of the women at

the sub-district level where facilities of screening were available knew about screening. This indicates that availability of screening services influences awareness level about screening among the people. Another study in Bangladeshi rural community showed that limited availability of the services was related to less knowledge on prevention and screening tests (Ansink et al., 2008). Government has a strong health infrastructure and it is already adopting cervical and breast cancer screening programme in Bangladesh. Scale up of the screening services towards majority of the existing facilities of the primary health care of the upazila and union level will improve awareness and acceptance of the services.

In this study, one tenth in Singair and negligible number in Sonargaon had knowledge on cancer screening. One community based cancer screening study in Mumbai Slums showed in spite of high level of knowledge about cancer (84.6%), only 35.1% had knowledge of cancer screening (Yogesh et al., 2011). The high level of knowledge on cancer screening among population of Mumbai slum might be related to higher level of secondary education (44%) in comparison to this study (10%) and higher exposure to mass media (print and audio visual 50%) in the urban slums. In this study, the awareness about screening and available facilities were increased by fourfold in both the upazilas after the intervention using mass media such as advertisement through cable line of television, mike announcement, leaflet and poster and half of the women in the study areas became aware of screening and available facilities. These findings indicate that high education level and use of mass media influence the spread of awareness among the community.

Randomized controlled clinical trials with health care professionals, patients and the general public showed that mass media was effective in influencing the use of health care interventions (Grilli et al., 2002). Population surveys also showed that mass media are the leading source of information about health issues to the public, particularly in the area of prevention (Chapman et al., 1994).

Our study findings revealed that audiovisual materials such as cable line advertisement (25.5%) and mike announcement (21.4%) were more effective for increasing awareness than the print media (12.9%). Television was mentioned as the best method of awareness creation for preventing cervical cancer by 37.4% of women attending VIA Camp. In Bangladesh television is watched by a large number of population and in year 2002 about 61% of population used to watch television (BCCP, SMC, National Media Survey, 2002). Therefore in this country introduction of any form of awareness creation programme in television will contribute in awareness creation. Mother's exposure to media (newspaper, television or radio) improved the status of coverage of vaccination both in rural and urban areas in Bangladesh (Nasrin et al., 2012). Therefore active steps from the GOB and NGOs should be the use of mass media to spread awareness on cervical cancer prevention. This study also found that about half of the population cannot read and therefore, this may be related to the low preference of print media. Other study identified that people with low level of education sometimes may not understand simple text; for

them graphic or visual information are more important. (Michielutte et al., 1992). Therefore advertisement, drama or discussion sessions on awareness creation activities by national and other television channel could be useful. A study determining cancer awareness among low socio-economic women in Mumbai urban Slums revealed stronger role of audio visual media (35.2%) than Print media (14.8%) (Yogesh et al., 2011). This is also true for Bangladesh, due to low level of literacy, individuals learn more from oral forms of communication. About 12.9% of the women at VIA Camp were informed by leaflets and only about 5.6% of them thought print materials as best methods of awareness creation. Therefore the influence of print media was about one-fourth that of the audiovisual media. Nevertheless leaflets can be distributed among educated population particularly such as school/college students for their mother after introduction of VIA centre at the primary health care level.

It is important to identify appropriate method of awareness creation for particular areas. In places such as Singair where electricity supply and television are less available, mike announcement contribute in awareness creation. Mike announcement was mentioned at FGDs by both women and husbands as important method of awareness creation. At the VIA camp, 28.6% of the women specified mike announcement as the best method of awareness creation. Mike announcement is a combination of electronic and oral form of communication. This method of awareness creation can be used up to very interior areas of the villages. However this method is expensive, time consuming and it requires equipment, transport and manpower cost.

Among the other print materials, community leaders mentioned about placement of billboard at important places and hospitals, inclusion of cervical cancer screening facilities in the citizen's charter in front of the service centres. This method of awareness creation can be adopted by the government as government has already developed cervical cancer screening centre at all government medical college hospitals, district hospitals and MCWCs of 64 districts. Information regarding cervical cancer prevention can be incorporated in education curriculum from class nine as per suggestion of community leaders. This can be adopted by GOB and may have slow but long term influence in awareness creation.

Though this study was planned to identify influence of audiovisual and print materials, oral form of communication such as discussion or health education sessions by field level service providers were found as important method of awareness creation. This form of communication can be adopted during *Uthan Baithaks*, EPI meetings and can motivate women for cervical cancer prevention. This method of awareness creation is particularly important for places with inadequate electricity supply and low literacy level. At FGDs women, husbands and community leaders mentioned discussion sessions as important method of community awareness creation. Also 20.4% of the women availing VIA at the VIA camp were informed from FGDs, *Uthan Baithaks*, EPI meetings and 23.4% of the women availing VIA at the VIA camp specified the *Uthan Baithak/EPI meetings* as the best method of awareness

creation. Several women during FGDs mentioned that they did not go due to hesitation, shyness and fear and this means that repeated and more in-depth counseling is necessary for some of the women. Therefore face-to-face communication, listening to women, providing more background information may help to reduce hesitation and able to motivate more to avail the test. A programme in rural India arranged community education involving women self-help groups created increasing community awareness leading to an incremental increase of uptake of screening (Rita et al., 2012).

Community leaders suggested for orientation of field level health workers on awareness creation activities and this may have long term positive influence as health workers are in close contact with the community through *Uthan Baithak*, EPI programme and family planning related activities. Field level service providers can motivate women and send them to the UHC or other VIA centres and in this way screening coverage can be improved. Studies indicated that low coverage of screening in India and South Africa was related to less contact of women with the health care system (ACCP. Cervical Cancer Prevention Issues in Depth, 2004). Therefore improvement of contact between health worker and community is vital for improving coverage. According to suggestion of community leader's awareness creation meeting at "*Ma Dibosh*" at schools can inform mothers on cervical cancer prevention programme and improve community awareness.

One woman mentioned about setting target like EPI coverage to improve performance of cervical cancer screening services. Moreover during FGDs majority of the women, husbands and community leaders showed positive attitude towards VIA test and expressed that there will be no resistance from the family once they become aware about prevention of cervical cancer. Government and civil societies should use these findings using television at national level and mike announcement, discussion sessions and leaflet at local level to create awareness on cervical cancer screening.

The remarkable response at VIA Camp indicated positive attitude of women of having an examination for prevention of a disease. VIA camp has a synergistic effect on community, women attended VIA camp on 1st and 2nd day informed others about the test and availability of the service at UHC. Routine VIA Camp can be arranged after set-up a new VIA facility or in areas of poor performances. Though many women could not avail the test due to crowd, the camp and crowd still helps in awareness creation. About half of the women at post intervention FGDs knew about VIA camp and about one-tenth of them availed the test from the VIA Camp. It will take certain time to observe the effect of awareness creation including uptake of screening.

Baseline awareness level about pre-cancer of the cervix and its prevention among community leaders was higher in places where facilities of cervical cancer screening were available. Interventions improved their awareness level to almost cent percent with little effort which may be related to their high education level. Involvement of community leaders at different levels of

the society should be utilized for spreading awareness among the community. After establishing the VIA facility, community leaders particularly teachers of schools and colleges, Chairman and Members of upazilla parishad, local and regional government officials, representatives from local nongovernmental organizations, Clinicians and Technologists must be involved to aware and scale up the screening services.

In conclusion, The population was aware of 'cancer' and a noticeable number knew about 'cervical cancer'. Baseline awareness on pre-cancer of cervix and VIA was low and it was even lower where screening services were unavailable. Scale up of the screening services towards grass root level will improve awareness and acceptance of the services. For local awareness creation, audiovisual media (advertisement through cable line and mike announcement) are more effective to increase awareness than the print media. Television was mentioned as the best method of awareness creation for preventing cervical cancer and should be used for nation-wide awareness creation. Health policy makers need to adopt different intervention program such as use of cable line advertisement, mike announcement, distribution of leaflets, and placement of billboard at important places after introduction of VIA centre for improving local awareness. Inclusions of cervical cancer screening facilities need to be included in the citizen's charter in front of the service centres. Health education at *Uthan Baithaks*/EPI sessions and orientation programme for all field health related service providers can easily be adopted by the government for increasing awareness on VIA and cervical cancer prevention. Routine VIA Camp can be arranged after set-up a new VIA facility or in areas of poor performances.

Acknowledgements

We are grateful to the UICC (Union for International Cancer Control) for their financial and valuable technical support. We would further like to express our gratitude to the women, doctors and paramedics related to the cervical cancer prevention programme for their support.

References

Ahmed T, Ashrafunnessa, Rahman J (2008). Development of a visual inspection programme for cervical cancer prevention in Bangladesh. *Reproductive Hlth Matters*, **16**, 78-85.

Akhter PS, Uddin MM, Sharma SK (1998). Patterns of malignant neoplasm: a three year study. *Bangladesh Med J*, **27**, 29-32.

Alliance for Cervical Cancer Prevention (2004). Improving Screening Coverage Rates of Cervical Cancer Prevention Programs: A Focus on Communities. Seattle: ACCP, Cervical Cancer Prevention Issues in Depth, No. 4.

Ansink AC, Tolhurst R, Haque R, et al (2008). Cervical cancer in Bangladesh: community perceptions of cervical cancer and cervical cancer screening. *Trans R Soc Trop Hyg*, **102**, 499-505.

Bangladesh Center for Communication Program, Social Marketing Company (2003). National Media Survey 2002. Dhaka, Associates for Community and Population Research, pp 1-35.

Basu P, Nessa A, Majid M et al (2010). Evaluation of the National Cervical Cancer Screening Programme of Bangladesh and the formulation of quality assurance guidelines. *J Fam Plann Reprod Hlth Care*, **36**, 131-4.

Chapman S, Lupton D (1994). The Fight for Public Health: Principles and Practice of Media Advocacy. London: BMJ Publishing Group, 1-270.

Ferlay J, Shin HR, Bray F, et al (2010). GLOBOCAN 2008: cancer incidence and mortality worldwide. IARC Cancer Base. No. 10 Lyon, France: IARC Press; <http://globocan.iarc.fr>.

Grilli R, Ramsay C, Minozzi S (2002). Mass media interventions: effects on health services utilization. *Cochrane Database of Systematic Reviews*, **1**, 389.

Isaac R, Finkel M, Olver I, et al (2012). Translating evidence into practice in low resource settings: Cervical cancer screening tests are only part of the solution in rural India. *Asian Pac J Cancer Prev*, **13**, 4169-72.

Michielutte R, Bahnson J, Dignan, MB, et al (1992). The use of illustrations and narrative text style to improve readability of a health education brochure. *J Cancer Educ*, **7**, 251-260.

Nasrin A, Begum Z (2012). Determinants and Status of Vaccination in Bangladesh. Dhaka Univ. *J Sci*, **60**, 47-51.

Nessa A, Hussain MA, Rahman JN, et al (2010). Screening for cervical neoplasia in Bangladesh using visual inspection with acetic acid. *Int J Gynaecol Obstet*, **111**, 115-8.

Royal Thai college of Obstetricians and Gynaecologist (RTCOCG) and the JHPIEGO Corporation Cervical Cancer (2003). Safety, acceptability and feasibility of a single-visit approach to cervical -cancer prevention in rural Thailand: a demonstration project. *Lancet*, **361**, 814-9.

Sangwa-Lugoma G, Mahmud S, Nasr SH, et al (2006). Visual inspection as a cervical cancer screening method in a primary health care setting in Africa. *Int J Cancer*, **119**, 1389-95.

Tiwari A, Kishore J, Tiwari A (2011). Perceptions and concerns of women undergoing pap smear examination in a tertiary care hospital of India. *Indian J Cancer*, **48**, 477-82.

World Health Organization (2002). Cervical Cancer Screening in Developing Countries: Report of a WHO consultation. France: WHO Publications, 1-75.

Yogesh SK, Gauravi M, Subhadra G et al (2011). Level of cancer awareness among women of low socioeconomic status in Mumbai Slums. *Asian Pac J Cancer Prev*, **12**, 1295-8.