KNOWLEDGE, ATTITUDE AND PRACTICE OF CERVICAL CANCER SCREENING AMONG WOMEN AGED 15-49 YEARS IN BISHOFTU TOWN, EAST SHEWA ZONE, OROMIA REGION, ETHIOPIA, 2016

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ABSTRACT

BACKGROUND

Every year more than 270.000 women die from cervical cancer, most of the morbidities and mortalities are from low and middle-income countries. Like other developing countries, its burden is also high in Ethiopia and about 7, 095 new cases are diagnosed annually and 4,732 women die from the disease.

OBJECTIVE

This study aims at assessing the knowledge, attitude and practice of cervical cancer screening among women aged 15-49 years in Bishoftu town, East Shewa Zone, Oromia Region, Ethiopia.

METHOD AND MATERIALS:

A community based cross-sectional study was conducted using multistage sampling technique among 845 reproductive aged women in Bishoftu town. Structured questionnaire was pretested and administered by interviewer to collect data and it was analyzed using SPSS version 20 software. Bivariate analysis was conducted to examine association between dependent and independent variables; Odds Ratios (ORs) and their 95% Confidence Intervals (CIs) were calculated. Then, multivariable logistic regression analysis model was used to control for confounders. Statistical significance was set at p-value less than 0.05.

RESULTS

Among all study participants, 51.2% had good knowledge, 74.9% had favorable attitude, and 5.8% screened for cervical cancer. Level of education and source of information were associated with favorable attitude towards cervical cancer and its screening. Moreover, women who had good knowledge on cervical cancer and screening were more likely to have cervical cancer screening service uptake than those had poor knowledge (AOR=6.95, 95% CI (2.59-18.57)).

CONCLUSION

The study indicates that more than half of the study participants had good knowledge on causes, risk factors and preventive methods of cervical cancer and its screening. Majority of the participants have favorable attitude towards cervical cancer screening but, the practice of pre-cervical cancer screening is still low. Thus, awareness raising health education on cervical cancer and its screening should be given to the community by trained health workers and emphasis should be given for health promotion via masmedia.

KEYWORDS: Cervical cancer; screening; Bishoftu; Eastern Ethiopia

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INTRODUCTION

Cancer of the cervix is the fourth common cancer worldwide and the second commonest female cancer[1]. In Ethiopia, cervical cancer ranked as the second commonest female cancer among reproductive aged women[2]. Majority of cervical cancer is caused by sexually-acquired infection with Human Papillomavirus (HPV) worldwide and 70% of cases are caused by HPV types 16 and 18[3].

In low income countries, cervical cancer is associated with significant morbidity and mortality. This is mainly due to lack or poor access to screening options and treatment services[4,5].Cervical cancer screening is the testing for precancerous lesions. Currently, the available options of cervical cancer screening are Pap smear, Visual inspection with Acetic Acid and HPV testing for high risk HPV types. Early detection and treatment of precancerous lesions can prevent cervical cancers[6].

However, competing health care priorities, insufficient financial resources, weak health systems, and limited numbers of trained providers have made high coverage for cervical cancer screening difficult to achieve[7]. Globally, in 2012, there were nearly a billion eligible women for cervical cancer screening, most of whom have never been screened even once in their life[3]. In Ethiopia, only 0.6% of eligible women were screened for cervical cancer[2].

In Ethiopia to reduce the impact of cancer Recently, FMOH launches guideline for cancer control plan which aims to provide healthcare providers, implementing partners and other stake holders involved in the prevention and control of cervical cancer in the country with standardized cancer prevention and control health service delivery[8].

The success and benefits of screening at a national and regional level as a public health program to control and prevent cervical cancer depend to a great extent on the level of awareness of the potential beneficiaries. Ethiopia, still there is scanty information regarding knowledge, attitude, and practices related to cervical cancer and its screening. Because of numerous factors, the level of knowledge, Attitude and practice on cervical cancer is low in developing countries[4].

METHODS

A community based cross-sectional study design was employed using both quantitative and qualitative methods to assess the knowledge, attitude and practice on cervical cancer screening among women aged 15-49 years in Bishoftu town, Eastern Ethiopia.

The source population was all reproductive (15-49) age women living in Bishoftu town and the study participants were all randomly selected women aged 15-49 years who live in selected kebeles of Bishoftu town. All sampled women aged 15-49 years, reside at least for six months in Bishoftu town and willing to participate in the study. Women who are seriously ill, who have been diagnosed for cervical cancer, who have hysterectomy and were health professional were excluded.

The required sample size for the quantitative study was determined by using Single Population Proportion formula based on the following assumptions. The proportion of attitude from similar study done in Kinshasa, the Democratic Republic of Congo was 52% (p=0.52, q=0.48), $Z_{\alpha/2}$= 1.96 (95% confidence interval) and d= 5% (0.05)[10]. Based on this assumption, the sample size become 384, but by considering design effect of 2 and none response rate of 10% the final sample size become 845.

Multistage sampling technique was used in this study. First, three out of nine Kebeles of Bishoftu Town were selected by simple random sampling technique. The sampling frame was prepared by using the house numbers and for households with more than one woman aged 15-49 years, only one woman was selected using lottery method. Then, individual household in the selected three Kebeles were selected using a simple random sampling technique. Finally, proportionate sample size allocation was used for each selected kebeles to get the final sample size. Closed houses during data collection were revisited by the interviewers three times at different intervals and those who were not available excluded from the survey and were replaced by the next nearest houses. Some incomplete data collected by the interviewers were completed in the next days on the field to achieve the maximum sample size.

A structured and pre-tested questionnaire was administered to collect data for the quantitative study. After reviewing similar studies, the questionnaire was originally prepared in English and was translated to regional working language, Afan Oromo, by professionals. Afan Oromo was translated back to English language in order to check its consistency. Fifteen female nurses were recruited and trained on procedures of data collection. All completed questionnaire was reviewed by the principal investigators.

Data entry was done using Epi-Info version 3.5.3 after checking for completeness. It was then cleaned and exported to SPSS Version 20 for analysis. Frequencies and other descriptive statistics were done. Bivariate analysis was used to examine the association between dependent and independent variables; Odds Ratios (ORs) and their 95% Confidence Intervals (CIs were calculated. Then, all variables that had P-value less than 0.2 in the bivariate analysis were included in the multivariate logistic regression analysis model to determine the factors associated with dependent variables. Statistical significance was set at p-value less than 0.05.

Three focus group discussions were conducted and a total of 30 reproductive aged women participated in the discussion. The total numbers of focus group discussion were determined by the level of saturation. The participants were selected purposively from selected zones (those who were not participated in the quantitative study) during data collection and a total of 9-11 participants were considered. Knowledge of the respondents on cervix cancer and pre-cancer cervical lesion screening was assessed by using some basic knowledge assessing questions. A total of 12 correct responses were documented from 8 multiple choice questions. Right and wrong responses were given 1 and 0 score respectively. The minimum score was 0 point and the maximum point was 12. Those respondents whose scored was less than the mean score were considered as they have poor knowledge and those respondents whose score is exceeds or equal to the mean score were assumed as they have good knowledge on cervical cancer and its screening.

Attitude of the study participants on cervical cancer and screening was assessed by using the following rules. First, seven questions with Likert scale were used. The questions on Likert's scale which ranges from strongly agree to strongly disagree had positive and negative responses. The responses were summed up and a total score was obtained for each respondent. A maximum and minimum score were expected to be 35 and 7 respectively. Finally, those whose score was exceeding or equal to the mean were considered favourable attitude and those whose scores is less than the mean was considered as unfavorable attitude.

The practice was assessed based on the respondents' experience towards screening for pre-cancer cervical lesion. Those respondents who screen for cervical cancer at least once and more were regarded as having practice and those respondents who were never screened for cervical cancer in life time were regarded as having no practice on screening.

For the qualitative study, audio recorder was used

as primary data collection tool with note taking during discussion process. Then, each discussion recorded with audio recorder, was transcribed and used for triangulation purpose.

The recorded data was transcribed to English language. Next, the raw qualitative data coded, categorized and labeled by using open code software and content analysis was employed to analyze the data. The codes used in open code software were categorized in to four different groups. Categories of groups were based on related ideas and concepts under some selected themes based on the guideline tools and the data summarized under the theme. Finally, the result used for triangulation purpose.

Ethical clearance was obtained from the Research Ethics Review Committee(RERC) of Wollega University. Bishoftu town health office was informed on study aim and objective and study permission were obtained. After informing the purpose and objective of the study, written informed consent was obtained from each study participants. Additionally, written consent was obtained from guardians for those aged below 18 years. The participants were assured that the information that they have given would be used only for the purpose of the study. Confidentiality was assured by not recording interviewee name on the questionnaire.

RESULTS

A total of 845 reproductive aged women participated in the quantitative study, which yields a response rate of 100%. The age of the study participants ranges from 15-49 years with mean age of the 32 years (SD±6.8). Majority of the participants were married (73.3%), self-employed (43.4%), More than half of the participants (67.5%) had given birth one to four children and (94.2 %) had formal education.

The age at first sexual intercourse ranged from 14 to 29 years with the mean of 20 years(SD±2.4). One hundred-seven (13.4%) of the study participants had first sexual intercourse before 18 years. On the other hand, 8(1.0%) of respondents had more than one sexual partner. Majority of the respondents 602(71.2%) used modern contraceptive. Among the respondents who used modern contraceptive, 92 (15.3%) of them were 'current users' of oral contraceptive pills (OCP), 22(23.9%) of them used the OCP for 5 or more years. Of all the participants, 5(0.6%) had cigarette smoking habit. Seven hundred -ninety (93.5%) respondents were tested for HIV/AIDS and 23(2.9%) were HIV positive (Table1).

Table 1: Risk exposure among the study participants, Bishoftu, 2016

Variables	Frequency	Percentage
Age at first sexual intercourse (n=798)		
<18 years	107	13.4
≥18 years	691	86.6
Number of sexual partners(n=798)		
One	790	99.0
Two or more	8	1.0
Hormonal contraception use		
Yes	602	71.2
No	243	28.8
Smoking habit		
Yes	5	0.6
No	840	99.4
HIV test result (n=790)		
Non-reactive	767	97.1
Reactive	23	2.9

A 23 years old student participant stated that: "Since HIV/AIDS reduce our immunity and invite opportunistic infection, it also can be risk factor for cervical cancer." While another one stated that: "I heard about the risk factors for cervical cancer from FM radio first. I remembered that smoking, early sexual intercourse and a virus which is called HPV or similar to this name where broadcast through the radio and I learned that."

Of all the participants 650(76.9%) had heard about cancer in general while 619 (73.3%) had heard about cervical cancer in particular. The major source of information on cervical cancer were the media (n=312, 50.4%) and health professionals1(n=49, 24.1%). Ninety-eight (11.6%) knew that someone with cervical cancer. Among the participants who knew someone with cervical cancer, 20(20.4%) were their family members, 33 (33.7%) were their relatively and 28(28.6%) were their friends. In general, four hundred thirty -three (51.2%) had good and 412(48.8%) had poor knowledge.

A 34 years old mother participant stated that, she learned about cervical cancer first ".... at a church when the pastor preaches us. He told us it is a disease caused by having multiple sexual partners and due to not be faithful for our marriage."

A 22 years old computer science college student participant expressed her experience with a cervical patient as follows:
"I remembered how my aunt died after suffering for more than 5 years with cervical cancer. Before she died she told me that cervical cancer is caused by virus during sexual intercourse. I remember her every day and every night how she suffered. Due to that, I am scared to start relationship and sexual intercourse with anyone."

Regarding the causes of the disease, 228(25.8%) knew that two and more causes of cervical cancer. Among the respondents who knew causes of cervical cancer, majority 325(38.5%) were respond that cervical cancer caused by having multiple sexual partners. 338(40.5%) stated that vaginal bleeding as a symptom of cervical cancer and 368(43.6%) said vaginal foul smelling as a symptom of cervical cancer (Table 2).

Table 2: knowledge on causes and symptoms of cervical cancer, Bishoftu, 2016

Variables		Frequency	Percentage
Knowledge on cause of cervical cancer			
Having multiple sexual partner	Yes	325	38.5
	No	520	61.5
Early sexual intercourse	Yes	291	34.4
	No	554	65.6
Acquiring HPV virus	Yes	47	5.6
	No	798	94.4
Cigarette smoking	Yes	60	7.1
	No	785	92.9
Symptom of cervical cancer			
Vaginal bleeding	Yes	338	40.0
	No	507	60.0
Vaginal foul-smelling discharge	Yes	368	43.6
	No	477	56.4

A 45 years old mother participant stated that: "In my opinion, cervical cancer is caused by lack of personal hygiene. If we properly protect our personal hygiene on daily base, we can prevent it."

A 27 years old mother participant stated that; "I heard from media that recurrent abnormal bleeding between menstruations is a major symptom for cervical cancer."

Of all the participants, 208(27.8%) knew two or more prevention methods for cervical cancer: 339(40.1%) knew avoiding multiple sexual partners as prevention method for cervical cancer. More than half of the respondents (n=527, 62.4%) knew that cervical cancer cured at early stage and 240(28.4%) believed the availability of screening procedure. Concerning treatment option for cervical cancer, only 61(7.2%) of the study participant knew two or more treatment options. From these respondents only 22(4.2%) believed that herbal remedies are treatment option for cervical cancer. 90(37.5%) knew that once every three years' cervical cancer screening done and 186(77.5%) stated that the screening procedure appropriate for women of aged 21 and more. 633 (74.9%) had favorable attitude and 212 (25.1%) had unfavorable attitude towards cervical cancer screening.

Almost half of the respondents 377 (44%) agreed and strongly agreed that cervical cancer was highly preventable and among the leading causes of death in our country. One hundred forty-eight (17.5%) of the respondents were strongly believe that any woman can acquire cervical cancer, 179 (21.2%) strongly agreed that screening helps in the prevention of cervical cancer and 207 (24.5%) of women were willing to undergo cervical cancer screening if it is charge free and the procedure cannot cause any harm. About, 268 (31.7%) of the respondents agreed that cervical cancer cannot transmitted from one person to another.

Of all the study participants, 49(5.8%) were screened and 796(94.2%) were not screened for cervical cancer. Among 49 respondents who screened for pre-cancer cervical lesion, 38(77.6%) were screened once and 30(61.2%) were screened within the past

3 years. Main reasons for not being screened f were: 302(37.9%) "they are healthy", 286(35.9%) "they don't have information or knowledge on cervical cancer screening" and 85(10.7%) did not decided to be screened. (Figure 1)

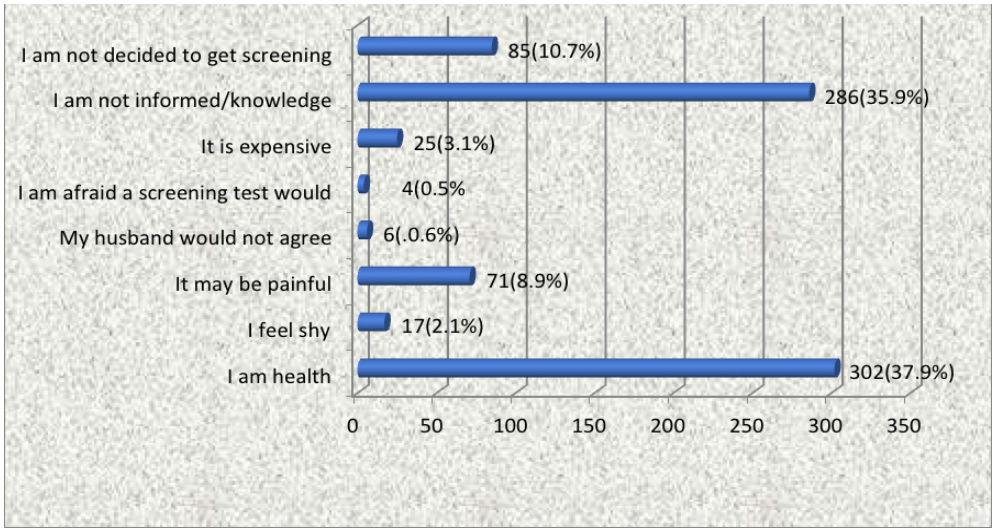

Figure 1: Reason for not screened for cervical cancer mentioned by study participants, Bishoftu,2016

Majority of study participants, 619 (73.3%), had information on cervical cancer. But 51.2% and 48.8% had good and poor knowledge score respectively. On the other hand, 46.7% and 47.2% of participants did not know the cause and prevention methods of cervical cancer respectively. Majority, 85%, reported availability of treatment options for cervical cancer. But, only 28.4% knew availability of screening methods. Among the total 845 study participants, only 5.8% were screened for cervical cancer. The main reason mentioned were lack of awareness about its screening (Table 3).

Table 3: Attitude towards cervical cancer and screening, Bishoftu, 2016

Variables	Attitude status of the study participant on Likert scale				
	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
Cancer of the cervix is highly prevalent in Ethiopia and is one of leading cause of death from cancer	124(14.7)	253(29.9)	20(2.4)	335(39.6)	113(13.4)
Any adult women including you can acquire cervical cancer	148(17.5)	422(49.9)	18(2.1%)	217(25.7)	40(4.1)
Cancer of the cervix cannot be transmitted from one person to other	124(14.7)	268(31.7)	41(4.9)	313(37.0)	99(11.7)
Screening helps in prevention of cancer of the cervix	179(21.2)	518(61.3)	25(3.0)	87(10.3)	36(4.3)
Screening causes no harm to the client	154(18.2)	401(47.5)	21(2.5)	220(26.0)	49(5.8)
Screening for pre-cancer cervical lesions is not expensive	110(13.0)	273(32.3)	48(5.7)	382(45.2)	32(3.8)
If screening is free and causes no harm, will you screen?	207(24.5)	495(58.6)	38(4.5)	90(10.7)	15(1.8)

The result of multiple logistic regression models revealed that, level of education and source of information, were significantly associated with knowledge score. Women who are not formally educated (AOR=0.04, 95% CI (0.01-0.19)) and those women educated primary school (AOR=0.39, 95% CI (0.22-0.71)) were more likely to have poor knowledge than those had higher education. Those women who got information form health professional (AOR=3.12, 95%CI (1.74-5.59)) and medias (AOR=2.49, 95% CI (1.52-4.12)) on cervical cancer and screening were more likely to have good knowledge score than those got information from religious leaders, family members and teachers.

Women with no formal education (AOR=0.63, 95%CI (0.014-0.289)) and those women who had primary education (AOR=0.130, 95%CI (0.045-0.373)) were less likely to have favorable attitude. There was also positive association between source of information from media and positive attitude. Women's who got information from medias (AOR=3.021, 95%CI (1.644-5.551)) and health professional (AOR=2.167, 95%CI (1.079-4.325)) were more likely to have favorable attitude than those got information from family, religious leader and teacher.

Women who know someone diagnosed with cervical cancer were 2.88 times more likely to have practice on cervical cancer screening than those women who do not know someone diagnosed with cervical cancer (AOR=2.88, 95%CI (1.47-5.61). Women who had good knowledge on cervical cancer and its screening were more likely to have cervical cancer screening service uptake than those who had poor knowledge on cervical cancer screening service (AOR=6.95, 95% CI (2.59-18.57) (Table4).

Table 4: Association between practice on cervical cancer screening and different characteristics, Bishoftu, 2016

Variables	Practice on cervical cancer screening		COR, 95% CI	AOR, 95% CI
	No practice (%)	Practice (%)		
Age				
15-24	97(100)	0	0.000	
25-34	392(93.3)	28(6.7)	1.04(0.58-1.87)	
35-49	307(93.3)	21(6.7)	1	NA
Educational status				
No formal/primary	297(97.1)	9(2.9)	1	1
Secondary	301(93.8)	20(6.2)	2.19 (0.98-4.89)	1.31(0.56-3.02)
Higher education	198(90.8)	20(9.2)	3.33(1.49-7.89) *	
Age at first sex				**1.51(0.63-3.59)**
< 18 years	100(93.5)	7(6.5)	1	1
≥18 years	650(94.1)	41(5.9)	0.90 (0.39-2.06)	
Knowing someone diagnosed with cervical cancer				
Yes	83(84.7)	15(15.3)	3.79 (1.98-7.25) *	2.88 (1.47-5.61) *
No	713(95.4)	34(4.6)	1	
Knowledge score				
Poor	407(98.8)	5(1.2)	1	1
Good	389(89.8)	44(10.2)	9.21 (3.61-23.46) *	6.95 (2.59-18.57) *
Attitude				
Favorable	206(97.2)	6(2.8)	1	1
unfavorable	590(93.2)	43(6.8)	2.50 (1.05-5.96) *	1.20 (0.47-3.07)

Number of children				
Nulliparous	192(95.5)	9(4.5)	1	NA
1-4 children	532(93.3)	38(6.7)	1.52(0.72-3.21)	
≥5 children	72(97.3)	2(2.7)	0.59(0.12-2.81)	
Religion				
Orthodox	517(95.5)	26(4.8)	0.56(0.30-1.06)	
Catholic	13(92.9)	1(7.1)	0.86(0.10-7.01)	
Muslim	75(93.8)	5(6.2)	0.74(0.26-2.10)	
Protestant	191(91.8)	17(8.2)	1	NA

COR: crude odds ratio: odds ratio by bivariate analysis. 95% CI: confidence interval at the 95% level.

**: p –value ≤0.05, AOR-Adjusted OR: odds ratio by multiple logistic regression*

**: NA -not applicable*

DISCUSSION

In this study majority (73.3%) of the study participants were heard about cervical cancer. This result is higher than studies done in Kenya [11],29%, and south Ghana,68.4% [12] which might be due to the current improved awareness creation about cervical cancer in Ethiopia. About 51.2% had good knowledge on cervical cancer and its screening. This finding is higher than study done in Congo and Northwest Ethiopia [7,11]. This discrepancy might be due to time difference on study period and the growing awareness on cervical cancer screening.

In this study, the major sources of information were mass media 60.8% and health professionals 34.9%. This result is consistent with study done in Ogun state, Nigeria where health professionals and mass media were commonest source of information for cervical cancer and its screening[13]. Like study conducted in Democratic Republic of Congo[10] and Ethiopia[4], higher level of education, information obtained from mass medias and health professionals were associated with increased level of knowledge about cervical cancer and its screening. This highlights the importance of educating the community and awareness creation via mass medias and health professionals.

This study showed that knowledge about risk factors of cervical cancer like smoking, having multiple sexual partner, sexual intercourse at early stage, multiparty and low socioeconomic status was very low (46.7%), among reproductive aged women of Bishoftu town. This finding is higher than studies done in Nigeria,5%, and Ghana ,8%,[12,13]. This could be explained by their difference in educational status. But it is lower than the study done in South Africa which showed that 64.0% of the respondents know at least one risk factors[12]. The difference might be attributed to the fact that South Africa is relatively fast-growing country with better socio-economic status[14].

In the presence of effective screening options, vaccination and effective treatment options for precancerous lesions, cervical cancer is preventable disease. In this study only 52.8% of participants mention the presence of at least one preventive option for cervical cancer. This is lower than other study done in Ethiopia,63.9%, and south Africa,57%[4, 14].The odd of getting good knowledge was 3 times more likely among women got information from health professionals and Medias than those got information from religious leader, family and teacher. This is consistent with study done in Tanzania[19].

In this study, 74.9% of study participants had favorable attitude towards cervical cancer screening. This finding is lower than another study conducted in Northeast Ethiopia,80%,[7] and India ,83.8%[15]. Higher level of education and source of information from mass medias and

health professionals were significantly associated with favorable attitude toward cervical cancer and its screening.

This study revealed that, only 5.8% of the respondents were tested for precancerous lesions of the cervix. The finding is consistent with other studies done in sub-Saharan Africa and other developing countries[4, 7,11, 16,17]. Women with good knowledge score and who know someone diagnosed with cervical cancer were more likely to have cervical cancer screening. This result is similar with study done in Ethiopia and Tanzania[7,18,19].

The study also revealed that women's knowledge is also implicated in screening practice. Women who had poor knowledge on cervical cancer and its screening were7.2 times less likely to avail for screening services than women who had good knowledge. Which is consistent with other studies conducted in Mekele, Tanzania and Songea state[18, 19,20]. Perceive oneself healthy (37.9%) and lack of information (35.9%) on cervical cancer screening were among the reason for not seek Pap test.

This study indicated that more than half of the study participants had good knowledge on causes, risk factors and preventive methods of cervical cancer and its screening. Majority of women have favorable attitude towards cervical cancer screening but, the practice of pre-cervical cancer screening is still low. Thus, awareness raising health education on cervical cancer and its screening should be given to the community by trained health workers and emphasis should be given for health promotion via using mass Medias like Television and Radio.

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