

ORIGINAL ARTICLE**Knowledge, attitude and practice of screening for carcinoma of the cervix among reproductive health clients at three teaching hospitals, Addis Ababa, Ethiopia**¹Yifru Terefe and ²Asheber Gaym**Abstract**

Background: Carcinoma of the cervix is one of the commonest cancers of women. It represents about 12% of all cancers in females, and more than half of them die from it. There are clear evidences that cytological screening programmes are effective in reducing morbidity and mortality from the disease. Cancer prevention consciousness in developing countries is low and most patients seek consultation only at advanced stages.

Objective: This survey was undertaken to elicit information on the knowledge attitude and practice (KAP) of screening for carcinoma of the cervix (Pap smear) among reproductive health (RH) clients at three teaching hospitals in Addis Ababa, Ethiopia: Tikur Anbessa, St. Paul's and Ghandi Memorial.

Method: - A cross sectional descriptive KAP study was conducted on 276 RH clients attending emergency and regular out patient department (OPD), antenatal, postnatal, family planning and referral clinics at the three hospitals. A structured pre-tested questionnaire was prepared and the respondents were interviewed by the principal investigator.

Results: Most respondents (81.2%) had never heard of Pap smear screening. The source of information for those who had heard about this test were health institutions for 65.4% of the respondents. Women who had heard about Pap smear screening were younger than those who had never heard of it. Only 6.5% of all the respondents had ever had a Pap smear test. The reasons given for not having the test were: no gynecologic symptoms (41.2%); don't know the place where it was done (32.4%); wait till older (14.7%) and consider it was not important (11.8%). For those who had ever had the test, the indications for undergoing the test were doctor/nurse consultation (72.2%) and personal initiative (20.7%). Women who had a Pap smear test had higher level of education than those who never had a Pap smear. Almost all the respondents were willing to undergo the screening test in the future.

Conclusion: The awareness and practice of the screening procedure of cervical cancer (Pap smear) among RH clients in Addis Ababa is very low. There is a need for intensifying health education provision on cervical cancer screening in the city.

Keywords: Cervical cancer screening; Pap smear; KAP on cervical cancer

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Introduction

Cancer is the third leading cause of morbidity and mortality in developing countries followed by communicable and cardiovascular diseases (1). Globally, cancer of the cervix ranks second in frequency among all women's cancers. It is estimated that 500,000 cases of cervical cancer are diagnosed each year worldwide representing 12% of all cancers of women (2), and more than half of them die from it. Cervical cancer affects women of all races throughout their reproductive life and post reproductive period. A study done in Zimbabwe showed that cervical cancer accounts for 28.7% of all cancers in black women (3). It accounted for 80% of all reproductive system cancers, and it is responsible for about one third of all deaths due to cancer among women.

A number of studies showed the presence of an association between cancer of the cervix and multiple independent risk factors. Human papilloma virus (HPV) infection of the cervix has a strong association with cervical cancer. The prevalence of HPV infection was 93.5% in clients with squamous cell carcinoma of the cervix and 90.7% in those with cervical adeno-carcinoma compared to 9.2% among non-infected controls (4, 5).

After adjusting for the strong effect of HPV, the following risk factors remained to be strongly contributory among cases of cervical cancer: early age at the time of first sexual intercourse and pregnancy, increased number of sexual partners and parity and a decreased risk with a history of a previous Pap smear test (4, 5, 6). HIV infection is an ever increasing disease affecting all citizens.

It is well recognized that immunodeficiency predisposes to the development of neoplasia including cervical neoplasia. It has been estimated that the prevalence of cervical intra-epithelial neoplasia (CIN) in HIV infected women is 29%. Center for Diseases Control (CDC), USA expanded the case definition of AIDS to include HIV positive women with cervical cancer in 1993, and CDC currently recommends that all HIV positive women should have regular Pap smear screening at least every six months (6, 7).

The accessibility of the cervix to cell and tissue studies and to direct physical examination has permitted intensive investigation on the nature of malignant and premalignant lesions of the cervix. Their precursors may exist in a reversible phase of surface or *in situ* disease for many years, although this may be changing in some patients. Natural history of progression of cervical cancer takes 10 to 15 years to develop.

According to data from an American national survey, the mean age of patients with carcinoma is 15.6 years younger than that of patients with invasive squamous cell carcinoma of the cervix (8).

Although this early phase may be asymptomatic, they are detectable by currently available screening methods such as Pap smear and visual inspection with acetic acid (VIA). This concept of development of cervical malignancies has convinced many that control of the disease is possible with the institution of mass cervical cytological screening.

It is also possible to decrease deaths from cervical cancer by the screening methods available and their therapeutic options (3, 8).

Cancer control is an evidence based activity consisting of primary prevention, early detection, treatment and rehabilitation. However, effective national cancer screenings programs in low resource settings such as sub-Saharan Africa are few. There is convincing evidence that cytological screening programmes are effective in reducing mortality from cervical cancer. However, cervical cancer remains the leading cause of cancer deaths in developing countries where these screening programmes are not available (2). The American College of Obstetrics and Gynecology (ACOG) recommends that all women who are or have been sexually active undergo annual cervical cancer screening (8). In developing countries there is a low cancer prevention consciousness and most cancer patients seek consultation at advanced stages.

In view of this, cervical cancer is of public health importance because it has a high prevalence in developing countries and it is a disease that is potentially preventable and can be detected early by simple low cost technology (3). Cervical cancer screening is an important health care programme where precancerous cases could be treated more successfully than the cancer itself and the programme is cost effective (2,9).

In Ethiopia, it is difficult to find any study done on the incidence of cervical cancer. But one can presume that it is perhaps a major health problem from the high prevalence of its risk factors. A community based study has indicated that more than 50% of women 30 years

or older had their first birth in their teens; 27% of women age 20 to 49 years have had sexual intercourse by age 15 (64% by age 18) and that the median age at the first intercourse for women age 20 to 49 is 16 (10) . The survey also indicated that among men who had sexual intercourse 12 months preceding the survey, 3% self reported that they had had sexually transmitted infections (STIs) or experience a genital disease or sore/ulcer.

Considering the prevalence of the risk factors for cancer of the cervix, the need for a cervical cancer screening programme is evident.

As yet there is no national cervical cancer prevention screening program in the country and whatever screening being undertaken is opportunistic and provider initiated for the most part. In addition to preparation of the essential infrastructural and manpower requirements for such screening, knowledge, attitude and of practice (KAP) of clients is important in accessing such screening programs. In Ethiopia, there are no studies, which address the KAP of eligible women towards this important health prevention activity. The objectives of this study were to assess the KAP of screening for cervical cancer (Pap smear testing) among RH clients at three teaching hospitals in Addis Ababa, Ethiopia and to identify socio-demographic variables affecting Pap smear testing knowledge and practice.

Methods and Materials

The study was a cross sectional descriptive study on the KAP of screening for carcinoma of the cervix (Pap smear) involving among RH clients at three teaching hospitals in Addis Ababa,

Ethiopia.

Tikur Anbessa, Saint Paul's and Gandhi Memorial Hospitals serve as referral hospitals for all health institutions in the country but mainly serve the population of Addis Ababa. During the study period, a total of about 15 senior consultants worked at the three hospitals, and the average annual deliveries at the three hospitals were 10,000. The departments of obstetrics and gynecology at these hospitals provide different services including emergency and regular gynecologic outpatient services (OPD), antenatal (ANC), postnatal (PNC) and family planning (FP) including specialty referral clinics. The study was undertaken from August to September 2006.

Informed consent was obtained from each participant for participation into the study. All RH clients attending emergency and regular gynecologic OPD, ANC, PNC, FP and referral clinic in the three teaching hospitals and who gave consent were included in the study. Women who were not willing to give consent, women who were critically ill and unable to be interviewed were excluded from the study. As there is no study conducted in Ethiopia, we used the study done in Kenya to calculate sample size. This study showed that 22% of all patients had a Pap smear test (11). Using the single population proportion formula for calculating sample size with a standard normal deviate z of 1.96 and a degree of precision of 0.05 a sample size of 264 was calculated.

A structured pre-tested questionnaire was used to collect information from all RH clients in the three teaching hospitals until the sample size was reached. One third of the sample size was taken from

each hospital. The clients were approached individually and briefed about the study and asked for their consent. For those who consented, data was collected by the principal investigator. Data was coded, entered, cleaned and analyzed using EPI INFO version 6 statistical packages.

Ethical clearance for conduct of the study was obtained from the Department of Obstetrics and Gynecology Research and Publication Committee, Addis Ababa University. Personal identifiers were omitted from the questionnaire to protect the privacy of participants.

Results

A total of 276 RH clients attending emergency and regular gynecologic OPD, ANC, PNC, FP and referral clinics in the three teaching hospitals were interviewed.

The socio-demographic characteristics of the respondents are shown in Table I. The mean age of the respondents' was 28.4 years (range 18-53 years). Most of the respondents (91.9%) were parous. The religion of the respondents was variable, most being Orthodox (62.3%) followed by Muslims (20.7%). The respondents were from different ethnic groups: Amhara (47.8%), Oromo (23.2%), Tigre (12.7%), Guragie (12.0%) and others (4.3%). Their educational level varies from no formal education to tertiary level. With no formal education 9.4%, with primary 20.7%; with secondary 52.2%, and with tertiary 17.8%. Most of the respondents (81.5%) were married; the remainder were single (8.7%), divorced (6.2%) and widowed (3.6%). Most the respondents (59.9%) have monthly income less than 1000 Birr (about 100 USD).

Table 1: Socio-demographic characteristics of RH clients at the three teaching hospitals in Addis Ababa, Ethiopia, August - September 2006 (n = 276).

Variables	No (Frequency)	%
1.Age (years)		
<20	12	4.3
20-24	44	15.9
25-29	88	31.9
30-34	52	18.8
35-39	42	15.2
40-44	12	4.3
>45	26	9.4
Total	276	100
2. Parity		
Nullipara	50	18.1
Para I	68	24.6
Para II-IV	137	49.6
Grand multipara	21	7.6
Total	276	100
3.Religion		
Orthodox	172	62.3
Protestant	40	14.5
Muslim	57	20.7
others	7	2.5
Total	276	100
4.Ethnicity		
Amhara	132	47.8
Oromo	64	23.2
Tigre	35	12.7
Guragie	33	12.0
Others	12	4.3
Total	276	100
7.Income (Birr/month)		
<1000	164	59.4
1000-2000	82	29.7
>2000	30	10.8
Total	276	100

Most respondents (81.2%) had never heard of Pap smear testing. From those who had heard of Pap smear, only 38 out of 52 (27.0%) had reasonably detailed knowledge of Pap smear testing. Five questions in the questionnaire were used to assess the knowledge of the respondents; and grade was given according to the number of correct answers: very poor for one correct answer, poor for two correct answers, good for three correct answers, and very good for four or five correct answers. The source of information for those who had

heard of Pap smear were health institutions in most respondents (65.4%); the other significant sources of information were families/friends (19.2%) and radio/ TV/ magazine/newspapers (15.4%) (Table2). The women who had heard about Pap smear were younger than those who had never heard of Pap smear (P-value 0.01). The other socio-demographic characteristics of the respondents were not found to affect their knowledge about Pap smear.

Table 2: Source of information about Pap smear for RH clients at three teaching hospitals in Addis Ababa, August - September 2006 (n = 52).

Information source	Frequency	%
1. Radio/TV	5	9.6
2. Hospital/ Health worker	34	65.4
3. Newspaper/ Magazine	3	5.8
4. Friends/Family	10	19.2
Total	52	100

Only 6.5% of all the respondents ever had a Pap smear screening test. In other words, from 52 women who had heard of Pap smear only 34.6% ever had a Pap smear test. The rest 65.4 % never had Pap smear test. The reasons given for not

having the test were: no gynecologic symptoms (41.2%), don't know the place where it is done (32.4%), wait till getting older (14.7%) and considering that it is not important (11.8%) (Table 3).

Table 3- Reasons for not undertaking a Pap smear test at three teaching hospitals in Addis Ababa, August -September 2006 (n =34).

Response	Frequency	(%)
1. Don't know where it is done	11	32.4
2. Don't consider it is important	4	11.2
3. Wait till I am older	5	14.7
4. Absence of disease symptoms	14	41.2

For those who ever had the test, the indications for undergoing the test were doctor/nurse consultation (72.2%) and personal initiative (27.7%) (Table 4). Women who had a Pap smear showed a higher level of education than those who never had a Pap smear (P-value 0.01). The

other socio-demographic characteristics of the respondents were not found to affect client's practice about Pap smear. All the respondents were willing to undergo the screening test in the future when information was provided on the importance of the test.

Table 4: Indications for undergoing Pap smear testing among respondents at the three teaching hospitals in Addis Ababa, August -September 2006 (n = 18).

Response	Frequency	(%)
1. Doctor/ nurse consultation	13	72.2
2. Personal initiative	5	27.8

Discussion

Knowledge of the respondents about Pap smear at the three teaching hospitals was very poor compared to other reported studies including those from sub-Saharan Africa. Only 18.8% of the respondents had ever heard of Pap smear testing. From those who had heard of Pap smear only 27% had sufficiently good knowledge of the testing. This is much less than the findings in some developing countries including Kenya (32%) and South Africa (63.6%)(11,12). This may be attributed to insufficient publicity of the disease and the limited availability of the screening test in Ethiopia. The source of information for those who had heard of Pap smear was health institutions in most respondents. This may indicate that the other potential sources of information are not well utilized. As the health care

coverage in Ethiopia is low and the test is to be conducted on healthy women, health institutions are not the most efficient venues for raising public awareness about the test. Even from those who had heard of the test, very few had adequate knowledge, and this may be due to the inappropriate or incomplete information delivered by health workers. A KAP study of Pap smear among nurses in Addis Ababa, which showed a low knowledge among these groups of health care providers, may be evidence for this (13).

A study done on KAP of 538 rural women in South Africa in 2003 regarding Pap smear showed that approximately two-third (63.6%) of these women had heard about Pap smear screening (12).

These women were significantly older (median 42 years vs. 33.5 years, $P < 0.001$), had higher parity (median 3 vs. 2, $P < 0.001$) and higher level of education (median grade 9 vs. grade 8, $P < 0.001$) compared to those who had not heard of Pap smear. Of those who had heard about the Pap smear only 55.5% had the test. The main reasons given for not having a Pap smear for the rest were that it was not suggested by the doctor or nurse (40.4%), the woman was not ill felt that it was unnecessary (37.8%) and fear of some sort or another (32.5%).

In another study conducted in Kenyatta National Hospital, Nairobi, Kenya, on patients about knowledge and practice of Pap smear testing; only 51% of respondents were aware of cervical cancer and 32% knew about Pap smear testing (11). In this study the source of information was health care providers in 82% of the cases. Only 22% of all patients ever had a Pap smear.

In rural Mexico, a study on barriers to cervical cancer screening showed that the most frequent reason for not having had a Pap smear testing was anxiety regarding physical privacy (50%), and 18% percent lacked the knowledge about the test and 14% have a difficulty in accessing healthcare (14). Women who had delivered children were significantly more likely to have received a Pap smear test (71%) than women who had no children (10%, $P < 0.05$) (14). A case control study among Filipino cervical cancer cases and their control revealed that only 61% of women had heard or read about Pap smear testing (15).

In a study of knowledge and practice of cervical cancer screening among Korean-American women, 26% had never heard of the Pap smear test and only 34%

reported having had a Pap smear test, and the most frequent reason for not having the test was absence of symptoms (16). A study conducted on cervical cancer screening among South Asian women in Canada showed that low level of knowledge about Pap smear testing behavior was significantly correlated ($P < 0.001$) with low level of formal education (17). A population based study of women in Sweden on knowledge and practice about Pap smear screening program revealed knowledge and concern is age dependent, and 95% stated that they knew the purpose of screening but only 62% could indicate which type of cancer the screening actually examined (18). A study in women to assess attitude and awareness of Pap smear test and cervical cancer in UK on randomly selected women revealed 91.7% of women were of the attitude that cancer can be treated if detected early enough (19).

Younger women had better awareness of Pap smear. This is in contrast to the study done in South Africa detailed above, which showed that those women with information were significantly older. This could be due to education and more exposure to other source of information like magazine and newspapers among our younger age group of clients.

As the commonest source of information of Pap smear in our clients were health institutions. It appears that we need to utilize other important outlets such as the media to disseminate information about this important health prevention strategy.

The fact that this study showed a very low rate of knowledge and utilization of Pap smear in Addis Ababa which is the largest urban center with more educated population than in the countryside, it

indicative that the situation is much worse in the rural parts of the country.

The practice of Pap smear testing among our clients is very low (6.5%); even much lower than the other studies done in Africa: 22% of all patients in Kenya, and 55.5% of the woman in South Africa had a Pap smear test (11, 12). Only 34.6% of those who had heard of Pap smear ever had a Pap smear test. This low practice of Pap smear may be explained by the incomplete knowledge about Pap smear as most respondents give absence of gynecologic symptoms and wait till older as a reason for not having a Pap smear. Additionally, the limited availability of the screening programme may contribute to this low practice rate. Encouragingly, all the respondents were willing to undergo the screening test in the future.

In conclusion, the awareness of the screening procedure of cervical cancer (Pap smear) in our study population is very low but there are a lot of opportunities to increase the awareness of the Pap smear. Intensive health education of the population to increase awareness of screening procedure should be undertaken. It is also essential to employ other alternative sources of information to build appropriate awareness of Pap smear such as mass media outlets.

In order to popularize a Pap smear screening programmes in the country, important considerations have to be taken regarding the cost of the programme and the availability of infrastructure, manpower and referral linkages necessary to manage women with abnormal smears.

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