ADDIS ABABA UNIVERSITY
COLLEGE OF HEALTH SCIENCES
SCHOOL OF PUBLIC HEALTH

Knowledge, attitude and practice (KAP) towards screening for cervical cancer among Adama University female students, Adama, Ethiopia, 2014

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A thesis submitted to the school of Graduate Studies of Addis Ababa University in partial fulfillment of the requirements for the Degree of Master of Public Health (MPH)

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ACRONYMS

AIDS	Acquired Immune Deficiency syndrome
ASTU	Adama Science and Technology University
AU	Adama University
CDC	Disease Control and Prevention
C.I	Confidence Interval
DOH	Department of Health
HPV	Human Papilloma virus
KAP	Knowledge, Attitude and Practice
MDG	Millennium Development Goals
MPH	Master of Public Health
NCD	Non Communicable Diseases
NCTTE	Nazareth College of Technical Teacher Education
PHD	Doctor of philosophy
TB	Tuberculosis
UK	United Kingdom
VIA	Visual Inspection with Acetic acid
W.H.O	World Health Organization

ABSTRACT

Background: Cervical cancer is a complication of Human Papillomavirus infection is the second most common cancer in women with 529,000 new cases each year worldwide. Eighty percent of the cases occur in low-resource countries. It is also a leading cause of mortality worldwide with 270 000 women every year, out of which 85% deaths occur in the developing world. According to the 2009 World Health Organization report, the age-adjusted incidence rate of cervical cancer in Ethiopia was 35.9 per 100,000 patients with 7619 annual number of new cases and 60-81 deaths every year. Despite this fact very few women receive screening services in Ethiopia.

Objective: The study aimed to assess the level of knowledge, attitude and practice concerning cervical cancer among female students at Adama University.

Methodology: An institutional based cross-sectional study was conducted from March -June 2014 among 667Adama Science and Technology University female students. Structured self administered questionnaire was used for data collection. Univariate,bivaraite and multivariate analysis were used.

Results: About 404(60.6%) of the participants heard about cervical cancer, 478 (71.7%) had positive attitude towards cervical cancer screening and only 15 (2.2%) participants were screened for cervical cancer. Lack of information about cervical cancer was the most reported reason for not attending cervical cancer screening. Level of knowledge of cervical carcinoma was associated with attitude on screening, those with good knowledge were more positive where as level of knowledge was not significantly associated with practice.

Conclusion and recommendation: The study showed that there is a lack of knowledge on cervical cancer and screening for premalignant cervical lesion. The reason for poor practice among others was lack of knowledge and information. There is a need to promote cervical cancer screening among women by informing them on their susceptibility to cervical cancer and encouraging a belief that active and regular screening can detect cervical cancer at the pre-cancerous stage, hence enabling the early treatment and prevention of cancer development.

1: INTRODUCTION

1.1 Background

Worldwide, cervical cancer is the second most common health problem in women. Approximately 80% of cervical cancer occurs in developing countries. It was estimated that there were 473,000 cases and 225,000 deaths due to cervical cancer in 2008 [1, 2]. It is also a leading cause of mortality worldwide with 270, 000 death among women every year and 85% of these deaths occur in the developing world [3].

According to the 2009 World Health Organization (WHO) report, the age-adjusted incidence rate of cervical cancer in Ethiopia was 35.9 per 100,000 women with 7,619 annual number of new cases and 60-81 deaths every year [4].

One major determinant for the prognosis of cervical cancer is the stage at which the patient presents [5]. Most patients in developing countries including Ethiopia present late with advanced stage disease, in which treatment may often involve multiple modalities including surgery, radiotherapy, chemotherapy, and has a markedly diminished chance of success [3]. Several factors such as educational status, financial capability, location, presence of health care facilities determine the stage at which patients with cancer present to the health facility. However, a common denominator of these factors is the level of awareness and attitude patients have about the diseases [6]. A study showed that, there is an increased chance of presenting early for treatment if patients have awareness about the disease [5].

1.2 Statement of the problem

According to the Cervical Cancer Crisis Card 2013, cervical cancer kills an estimated of 275,000 women every year and 500,000 new cases are reported worldwide. This entirely preventable disease is the second largest cancer killer of women in low and middle-income countries, with most women dying in the prime of life. Mortality rates highlights that, Africa is the most affected region with highest rate of cervical cancer. According to data from the WHO, United Nations and the World Bank , Ethiopia ranked 20th next to Japan with mortality rate of 14 per 100,000 with a total death of 3,235 due to cervical cancer in 2013 [6,7].

Every year in Ethiopia, between 60 to 81 women die from cervical cancer, and age at which women are dying seemed to be getting younger with the youngest between the age-group 20 to 24. Low level of awareness, lack of effective screening programs, overshadowed by other health priorities (such as AIDS, TB, malaria) and insufficient attention to women's health are the possible factors for the observed higher incidence rate of cervical cancer in the country[7,8].

While numerous tools and technologies exist to prevent cervical cancer, these interventions remain largely inaccessible to girls and women who need them most. Despite the proven link between the Human Papillomavirus (HPV) and cervical cancer, HPV vaccines are not yet widely available and screening rates remain low in much of the world. Lack of awareness and deep seated stigma associated with the disease also pose significant barriers to access [7, 9].

Projections show that by 2030, almost half a million women will die of cervical cancer, with over 98% of these deaths expected to occur in low and middle-income countries [9].

If the world followed Australia's example of rolling out comprehensive vaccination, screening and treatment, we would see morbidity rates and the death rates dramatically reduce. For early screening of pre-cancers the Pap-smear (colposcopy), visual inspection with acetic acid (VIA) and HPV testing can help diagnose early cancerous cells [10].

1.3 Significance of the study

Over the years, the Ministry of Health has been trying to deal with this problem by providing resources at its Family Guidance Clinics as well as the laboratories and training its staffs especially, the staff nurses to be certified in conducting Pap smear screenings so as to help reduce the incidence of cervical cancer [11]. Despite this fact very few women receive screening services in Ethiopia [12].

Although there is no national cancer registry, reports from retrospective review of biopsy results have shown that cervical cancer is the most prevalent cancer among women in the country followed by breast cancer [13].

Data on knowledge of Ethiopian female college students regarding cervical cancer is scarce and this limits the development and effectiveness of cancer prevention efforts. This study aimed to assess knowledge, attitude, practice and associated factors of cervical cancer among female college students at Adama University so as to develop ways to improve the awareness and practice towards cervical cancer in Ethiopia. Further, finding can assist program planners and health educators to target and tailor prevention programs.

2: LITERATURE REVIEW

2.1 Burden of cervical cancer

Globally, cervical cancer is second to breast cancer as the commonest female cancer but in the developing countries, it is the leading cause of gynaecological cancer related morbidity and mortality. An estimated 500,000 new cases and 250,000 deaths occur worldwide annually with vast majority (80%) of these in developing countries [14].

In the United Kingdom (UK), cervical screening programs have been successful in securing participation of a high proportion of targeted women and have seen a fall in mortality rates of those suffering from cervical cancer. However, there remains a significant proportion of unscreened women and, of women in whom an abnormality is detected; many will not attend for Colposcopy (15). Despite the positive factors of Pap smear in America, every year, about 14,000 American women are diagnosed with cervical cancer and about 3,900 die from it. This shows that even though, great strides against cervical cancer have been achieved in America, it still proves fatal for many women [16].

The reduction of cervical cancer in the US has not been equally distributed among the different ethnic groups. Latinos, African-American and Vietnamese women have a high risk of cervical cancer and present with later stage disease as compared to Whites [16]. Cervical cancer is the 6th most common cancer in women in Australia where it contributes about 350 deaths in a year. About 150,000 smears are taken each year in Ireland opportunistically in a variety of locations, Maternal Health Clinics, Genitourinary Medical Clinics and Community Clinics [3].

About 65% of women in Ireland between the ages of 18 and 60 years are estimated to have had cervical smear test. However, uptake varied significantly by age, employment status, education experience, geographical locations and social class (15). The introduction of pap smear in Sweden, three decades ago, has reduced the incidence of invasive cervical cancer by about 50%, however, it is indicated that a much larger reduction would be within reach if compliance with screening programs are improved [17].

Uganda and other developing countries, cervical cancer is the most common cancer in women with an estimated incidence of 30 per 100,000 women. Over 80% of patients diagnosed with cervical

cancer in Mulago Hospital, in Uganda presented with advanced disease [18]. Women of low socio-economic status may be less likely to have been screened, and there is also evidence of ethnic-minority women, particularly those of Asian origin, are less likely to participate in screening programs. Pap smear screening, on opportunistic rather than systematic basis, is offered free in the gynaecological outpatients' clinic and the postnatal/family planning clinics. The knowledge among the medical workers of Mulago hospital indicated that attitude and practices towards Pap smear screening were negative [18].

A KAP study conducted in 2008 in Addis Ababa in three hospitals showed that, most respondents had never heard of Pap smear screening. The source of information for those who were aware of the test, were health institutions. The younger population was better informed than their older counter parts [11].

2.2 Risks Factors of Cervical Cancer

A study done in German 2005,reported that sexually active adolescents may be at particularly high risk of developing cervical dysplasia because of earlier initiation of sexual intercourse, having multiple sexual partners also has an increased incidence of sexually transmitted infection(STI) and smoking and the possibility that the cervix may be more vulnerable to the acquisition of STI and carcinogenesis [19]. Certain strains (HPV16 andHPV18) of HPV are central to the etiology of cervical cancer. The study concluded that the risk factors for cervical cancer include multiple sexual partners, multi-parity, and sexual activity at an early age, smoking, use of birth control pills and family history [19].

A study done in Yemen in 2012 reported that, HPV infection (42.3%) as a cause of cervical cancer. Vaginal bleeding (77.2%), pelvic pain (43.9%), menstrual disturbances (35.1%) were the commonest symptoms Screening (59%) and HPV vaccine (18%) were methods reported for prevention of cervical cancer (20).

A study in Uganda reported that, persistent infection with high risk HPV is the most important risk factor for cervical cancer. HPV is transmitted sexually, so women who have had multiple partners or a high risk partner or who began having intercourse at an early age are more at risk for HPV infection than others. Not every women infected with HPV will develop cervical cancer, however, research indicates that women with HPV who smoke, have used birth control pills for more than 5

years, or have a weakened immune system have a greater chance of developing cervical cancer [18].

2.3 Knowledge about Cervical Cancer

An assessment of women's knowledge of cervical screening was considered important as up to 92% of those dying from this form of cancer have never been tested. It has been noted that some women lack the knowledge about Pap smear tests and its indications. Many women do not have a clear understanding of the meaning of an abnormal smear or the concept of pre-cancerous changes and many believe that the purpose of the Pap smear test is to detect cancer [15].

A study on an adolescent group in Boston showed the overall knowledge about pelvic examinations and Pap smear was poor (21). It has been reported by another study that 10% of women in Queensland and 13% in Victoria with cervical cancer had previous abnormality which was not treated. Women need full information about treatment if they are to be fully protected. Other problems identified are lack of follow-up system for women who have been treated to ensure that they are re-screened, lack of monitoring to ensure that treatment is effective and lack of management services for some women who live in remote areas [22].

A study conducted in Botswana revealed limited knowledge among women of low socioeconomic status and the reasons for this limited knowledge included cultural norms of secrecy, providers not informing the public and policy-makers limited attention to cervical cancer [23]. A study conducted in Kenya in 2003 showed that about 51% of respondents were aware of cervical cancer and 32% knew about Pap smear testing. The source of information was health care providers in 82%. Only 22% ever had a Pap smear test [24].

A study done in Cameroon reported that, 48 (28%) had prior knowledge of cervical cancer [25]. In a study done in Lagos, 81.7% of patients with advanced cervical cancer had never heard of cervical cancer before, and 20%, 30% and 10%, respectively, thought the symptoms they had were due to resumption of menses, lower genital infection and irregular menses [26].In another study in Nigeria, conducted on women aged 20 to 65 years, only 15% had heard of cervical cancer [27].

2.4 Attitude towards cervical cancer and screening

A study done in UK showed that some women consider Pap smear test is unnecessary or of no benefit and considered themselves not to be at risk of developing cervical cancer. Additionally, they expressed that feelings of embarrassment and/or pain during Pap-smear test. The receipt of an abnormal result and referral for colposcopy causes high levels of distress, especially fear. Many women are frightened of medical procedures and believe that the abnormal smear is indicative of cancer and that their reproductive ability will be threatened. The resulting anxiety can have a severe effect on day to day functioning leading to depressed mood, decreased libido, low self esteem with feeling of less attractive, tarnished, defiled or contaminated and dirty [15]. Apart from women not having regular pap smears because of their cultural, ethnicity and socio-economic backgrounds, historically, they have tendered to look to family and economic needs first and placed their own welfare as least priority. The needs of family or extended families compete with the need to have regular pap smear test performed or, indeed, any other aspect of preventative health [22].

A study in Boston showed that, most adolescents perceived their health concerns about STI, pregnancy, breast cancer, abnormal Pap smear or cervical cancer and smoking. All of them reported that prevention and early diagnosis are benefits of Pap smear testing. Their perceived barriers include pain or discomfort, embarrassment, fear of finding a problem, fear of the unknowns, denial, poor communication or rapport with the provider, not wanting to look for trouble, lack of knowledge and peers advise [21]. Beliefs about health and cancers have altered predictors of adherence among white women with abnormal pap smears but these were not applicable to other groups because health beliefs can vary by ethnicity. In some studies, Latinos and women of Asian descent endorsed more misconceptions about cancer and fatalistic beliefs [16].

Analysis of data from a study conducted in Netherlands showed that women's beliefs about cervical screening and attendance are the best predictors of screening uptake [28]. A study from Nigeria suggested that only 6% of all women interviewed reported ever receiving cervical cytology testing. The main reasons for not screening were lack of awareness of cytology testing (48%), dislike of pelvic examinations (47%) and absence of symptoms (17% rural, 31% urban. Long distance travel to service delivery points was also reported as a barrier by rural women (62%) [14].

2.5 Practice towards pap smear screening

A study conducted in the UK revealed that reasons for not participation in screening programs include administrative failures, particularly, incorrect addresses. Although, many GPs made use of opportunistic screening, this was often performed during contraceptive or obstetric consultations and resulted in post-menopausal women being overlooked. It has also been revealed that most post-menopausal women are less likely to be screened regularly, and their non-participation may be a result of uncertainty as to whether the smear test is appropriate for their age and also the belief that part of their body is "finished with'. Many women also do not participate due to unavailability of female screeners and also appointments being only during working hours [15].

In America, the question is how to reach those women who do not get Pap smear teats. The answer is most likely a complicated mixture of many factors, including limited or sporadic access to health care and cultural attitudes that are fatalistic toward diseases such as cancer [29].

A study conducted in India on women who were non compliant with pap smear screening revealed that most of them have lower literacy rate compared to those who were compliant. Most common reasons cited for non-attendance were being reluctant to go for test in the absence of any symptoms and apprehension to have a test that detects cancer. For those women who were willing to go, the most common hurdles were inability to leave household chores, pre-occupation with family problems and lack of approval from husbands [30].

The major findings in a study in Nigeria among female health workers showed that Pap smear utilization was very low and there was a wide gap between their personal knowledge and uptake of Pap test. Polygamous setting and superstition and inappropriate belief were the commonest excuse for not having a Pap smear test [14]. In Uganda, only 19% of female health workers have ever had a cervical cancer screening and reasons for this included not feeling at risk, lack of symptoms, carelessness, fear of vaginal examinations, lack of interest and test being unpleasant[20].

3: OBJECTIVES

3.1 General objective

The objective of this research is to assess the level of knowledge, attitude and practice concerning cervical cancer among Adama University female students

3.2 Specific objective

- To assess the level of knowledge towards cervical cancer.
- To assess the level of attitude of screening test for cervical cancer.
- To assess the level of practice of screening test for cervical cancer.
- To assess factors associated with knowledge, attitude and practice of cervical cancer.

4: MATERIALS AND METHODS

4.1. Study area and period

The study was conducted at Adama University which is found 100 km to East of Addis Ababa. it has two campuses found in Adama and Asella towns. The University was established in 1993 as Nazareth Technical College (NTC), and was later renamed as Nazareth College of Technical Teacher Education (NCTTE), specializing in training technical teachers until 2003. The same college became a University, namely Adama University (AU), in 2006. Five years later, the university once again changed its name to Adama Science and Technology University (ASTU). Currently, the University is located in two different towns-in Adama, the main campus, and Asella, home to the two different campuses hosting the School of Agriculture and School of Health Sciences. The study was conducted from January 2013 to May 2014.

4.2 Study design:

Cross-sectional study was conducted**.**

4.3 Study population

4.3.1 Source population: All Adama University regular under graduate female students who were registered for academic year of 2013/2014.

4.3.2. Study subject: Female students randomly selected from seven departments of seven schools.

4.3.3 Eligibility

Inclusion Criteria: All female students registered as a regular and willing to participate in the study were included.

Exclusion Criteria: Those who are critically ill during data collection time were excluded from the study. In addition extension, summer, distance education and post graduate students were also excluded from this study.

4.3.4 Sample size determination

Sample size was calculated using single proportion formula.

$$n = \frac{(Z_{\alpha/2})^2 P(1-P)}{d^2}$$

Where Z= 95% confidence interval (1.96)

d = Marginal error =3%

n = sample size

P=estimated proportion

$Z_{\alpha/2}$=Critical value

.

From a study done on KAP of cervical cancer among reproductive health clients at three teaching hospitals in Addis Ababa, the prevalence of knowledge was 19% [11]. Assuming that somehow socio-demographic factors are similar to reproductive health clients at three teaching hospitals in Addis Ababa we took p=19%, at marginal error of 3% with 95% confidence level the required sample size was 690.

4.3.5 Sampling Technique / procedure

Multi stage sampling technique was used to select the respondents of the study. First, one department was selected from each seven schools of Adama University by using simple random sampling methods. Sample size was proportionally allocated for each selected department for each academic years student based on their class size. Secondly, using the students list obtained from the office of registrar as a sampling frame, the respondents were selected by a simple random sampling method. The sampling procedure is presented on figure 1 below

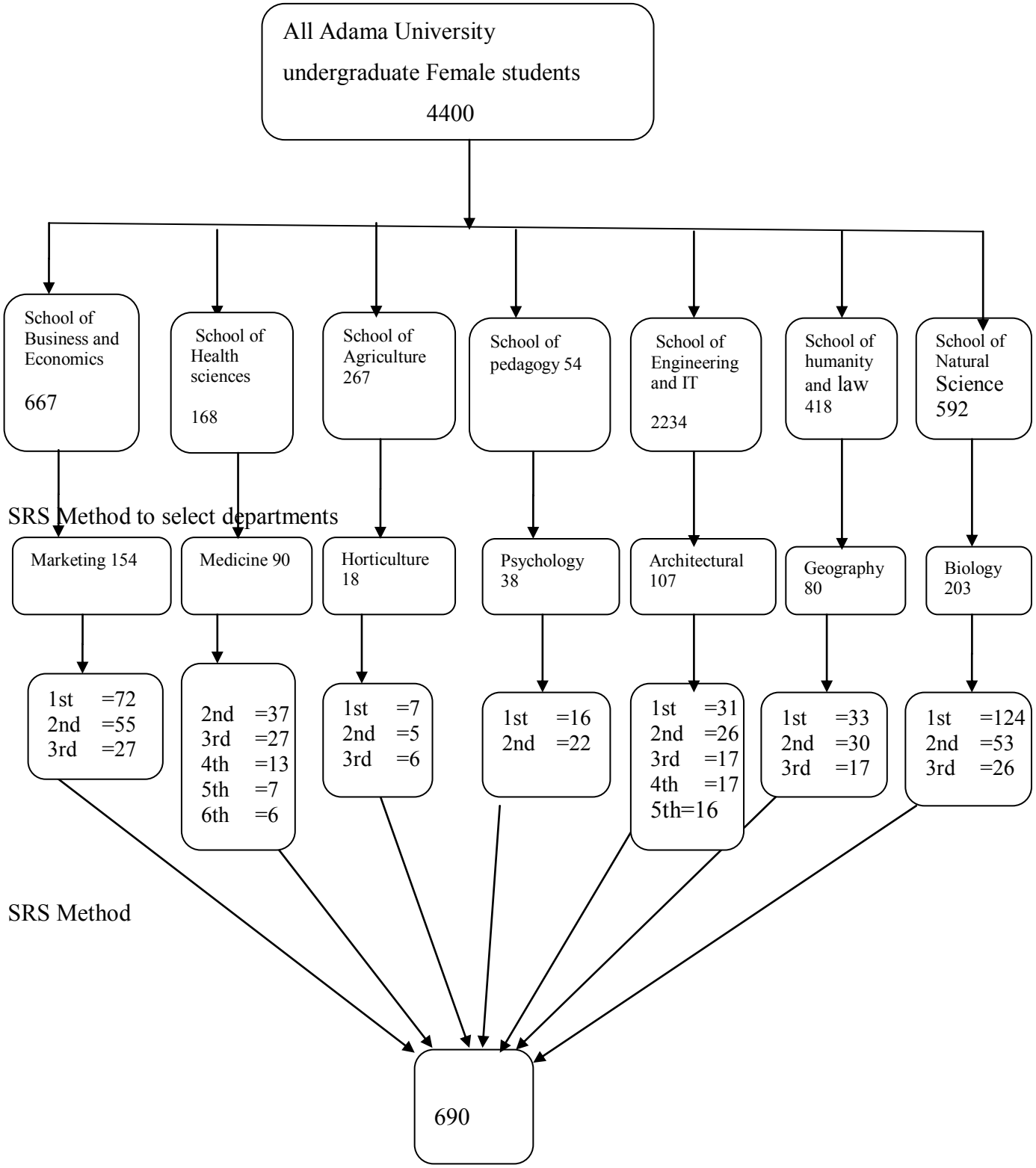

Figure 1Schematic Presentation of Sampling Procedure

4.4 Data Collection Procedures

4.4.1 Study Variables

Dependent Variables

Level of knowledge, attitude and practice

Independent Variable

Age, marital status, education, religion, ethnicity, pocket money, Condom use with first sex, no of partner

4.4.2 Data Collection tools

A structured questionnaire was prepared in English literature on the subject. The questionnaire had two parts. The first part contains general information including socio demographic characteristics of the students. The second part contains knowledge, attitude, and practice. Two version of the questionnaire were used: an English version and an Amharic version. An Amharic version was made available to students.

Data were collected using a self administered questionnaire, facilitated by four female nurses and supervised by two health officers. University instructors who had class at the time of data collection were informed about the study through telephone and a letter of support from the department for permission was provided before beginning the class. The identification number of the selected students in the study was posted in the class. Then the data collectors described to the students about the objective of the study and administered the questionnaire by crosschecking their identification number. Finally, the data collectors collected the filled questionnaires and supervisors cross checked the completeness of the questionnaire.

4.4.3 Data quality control

The quality of data was controlled starting from the time of questionnaires preparations. Training was given for supervisors and data collectors on the purpose of study and procedures of data collection for two days prior to study. After completing the training, a pre-test was done at non-study subject in similar population 5% from the department of plant science and Health officer students.

Finally, discussion was made on problems encountered during the pre-testing and corrective measures were taken. During data collection, supervisors were received questionnaires from data collectors and reviewed for completeness, accuracy, and consistency. Correction measures were taken by discussing with the research team.

4.5 Data processing and analysis

The collected data were entered into SPSS version 21 for analysis. After the entrance and completeness of all data, cleaning was done. Descriptive analysis using frequency, mean, median, standard deviation and percentages was done. Chi-square test was used to assess association between knowledge and attitude, knowledge and practice. Binary logistic regression was used to assess relationship between independent variables with outcome variables to control confounding effect and to determine adjusted odds ratio (AOR).The variables included in the binary logistic regression were variables produced p value of =<0.3 on the bivariate analysis. The results of the final model were expressed in terms of Odd Ratio (OR) and 95% confidence intervals (CI) and statistical significance was declared if the P-value is less than 0.05.

4.6 OPERATIONAL DEFINITIONS

4.6.1 Knowledge assessment

The knowledge of the cervix cancer and screening for premalignant cervical lesion was assessed using an 11 points scale. There were eight multiple choice questions that carried a total of 11 correct responses. Each correct response was given a score of 1 and a wrong response a score of 0. Total points to be scored were 11 and the minimum was 0. Points were about risk factors for acquiring the disease (any 2 points - early sexual intercourse, smoking cigarette, multiple sexual partners, and infectious agent-HPV), symptoms of carcinoma of the cervix (2 points – vaginal bleeding and vaginal foul smelling discharges), preventive measures (any two correct responses among quit smoking, avoid early sexual intercourse, avoid multiple sexual partners, and vaccination) and treatment modalities (2 points – radiotherapy, surgery, chemotherapy), availability of screening procedures (1 point), eligibility for screening (1 point), frequency of screening (1 point) and methods of screening (1 point)

On assessment, Modified Bloom's cut off (Bloom cut off points were adopted from Ms Nahida's KAP (knowledge, attitude and practice) Study 2007. A score of 80 – 100% of correct responses meant a good knowledge, a score of 50 – 79% put a scorer in a level of satisfactory knowledge and a poor knowledge was for the respondents with a score less than 50% of the correct responses. Therefore, the scores with their respective knowledge levels were

I) 9 – 11 good knowledge

II) 6 – 8 satisfactory knowledge

III) 0 – 5 poor knowledge

4.6.2 Attitude assessment

Attitude was assessed by 7 questions put on Likert's scale. The questions on Likert's scale had positive and negative responses that ranged from strongly agree, agree, neither agree nor disagree, disagree and strongly disagree. The scoring system used with respects to respondents' responses was as follows: strongly agree scored 5, agree 4, neither agree nor disagree 3, disagree 2, strongly disagree 1.

The responses were summed up and a total score was obtained for each respondent. The mean score was calculated and those scored above the mean and the mean score had positive attitude and scores below the mean meant negative attitude towards screening for premalignant cervical lesions. The highest score was expected to be 35 and the lowest score to be 7.

4.6.3 Practice assessment

The practice was assessed by looking on the respondent's action towards screening for premalignant cervical lesion in the past three years. Those who ever screened within the past three years were regarded as having regular practice, those who ever screened but more than three years ago from the time of data collection were regarded as having irregular practice and those who never screened were regarded as having no practice on screening.

4.7 Ethical considerations

Ethical clearance letter was obtained from Research and Ethics Committee (REC) of School of Public Health and the IRB(Institutional Review Board) of College of Health science, Addis Ababa University. A written consent was obtained from Adama University School of Health Science. Additionally an informed verbal consent was obtained from each respondent after providing sufficient information on the purpose of study. Sufficient information was given about the right to refuse participation or to jump some questions unwilling to answer. To ensure the confidentiality of respondents their names were not be written on the questionnaire.

4.8 Dissemination of results

The result of this study will be disseminated or communicated to Addis Ababa University School of Public Health, Ministry of Health, Regional Health Bureaus, Adama University, Asella School of Health Science, local institutions and other concerned bodies through reports and publication on an appropriate journal.

5: RESULTS

5.1 Socio-demography characteristics of respondents of Adama University.

Out of 690, a total of 667 students completed the questionnaire making the response rate 97%.A total of 568(85.2%) of the respondents were found in the age category of 15-20. Out of total study subject 448(67.2) of respondents have no sexual experience and 219(32.8) had sexual experience, of whom 185 (84.5%) have had single sexual partner while the remaining 32(15.5%) have had multiple sexual partners.

About 497 (74.5%) respondents came from urban and the rest 170(25.5%) were from rural setting. Regarding year of education, 258(38.7%) were first year students, 214(32.1%) second year, 125(18.7%) third year and 70(10.5%) were fourth year students.

Four hundred and eight (61.3%) were Orthodox, 128(19.2) protestants, 86 (12.9%) Muslim, 32 (4.8%) catholic religion followers (Table 1).

Table 1: Socio-demographic characteristic of Adama University female students May, 2014 (N=667)

Characteristics	Frequency	Percent (%)
Age of respondent		
15-20	568	85.2
>20	99	14.8
Sexual experience		
Yes	219	32.8
No	448	67.2
Age at first sex		
15-20	154	70.3
>20	59	29.7
Number of sexual partner (n=219)		
Single	185	84.5
Multiple	32	15.5
Place of birth		
Urban	497	74.5
Rural	170	25.5
Level of education		
Year 1	227(88.0)	31(12.6)
Year 2	185(86.4)	29(13.6)
Year 3	94(75.2)	31|(24.8)
Year 4 & above	45(64.3)	25(35.7)
Religion		
Orthodox	408	61.2
Catholic	32	4.8
Muslim	86	12.9
Protestant	128	19.2
Other	13	1.9

5.2 Knowledge of respondents on cervical cancer

Lower than 15% of the respondents had good knowledge, 404 (60.6%) students heard about cervical cancer. Of these who had heard about cervical cancer the most frequently source of information 232(57.4%) was mass-media followed health workers 133(32.9%), 78(19.3%) mentioned family, neighbors and friends, 69(17.1) mentioned teacher and the least source of information 7(1.7%) was from religious leaders (Table 2).

Table2: Knowledge about cervical cancer of Adama University female students.

Knowledge Variable	**Frequency**	**Percent (%)**
Knowledge score(Good)	99	14.8
Heard about cervical cancer(**yes**)	404	60.6
Source of information (n=404)		
Heard from news media	232	**57.4**
Heard from health worker	133	**32.9**
Heard from family, neighbor, friend	78	**19.3**
Heard from teacher	69	17.1
Heard from broacher& other	67	16.6
Heard from religious Leaders	7	1.7

Note: Due to multiple responses for sources of information is possible, sum of percentages >100.

Table 3 displays knowledge about symptom and risk factors of cervical cancer. Vaginal foul smelling discharge was the most known symptom by respondents accounted for 211(31.6%), 456(68.4%) do not know vaginal foul smelling as a symptom of cervical cancer. Vaginal bleeding during sexual intercourse was mentioned by 147(22.0%) as the symptom of cervical cancer.

When asked on the knowledge about the symptoms and risk factors for cervical cancer, 270(40.5%) respondents said that having multiple partners as a risk factor, followed by 197(29.5%) acquire HPV,146(21.9%) early sexual intercourse and 61(9.1%) cigarette smoking as risk factors(Table 3)

Table 3: Knowledge about symptoms and risk factors of cervical cancer May, 2014

Symptoms of cervical cancer	Frequency	Percent
Vaginal bleeding is symptom of cervical cancer		
Yes	147	22.0
No	520	78.0
Vaginal foul smelling is symptom of cervical cancer		
Yes	211	31.6
No	456	68.4
Risk factor for cervical cancer		
Multiple sexual partner is a risk factor		
Yes	270	40.5
No	397	59.5
Early sexual intercourse is a risk		
Yes	146	21.9
No	521	78.1
Acquiring HPV is a risk		
Yes	197	29.5
No	470	70.5
Cigarette smoking is a risk		
Yes	61	9.1
No	606	90.9

Table4 shows cervical cancer prevention, treatment and screening options. Three hundred fifty four (53.1%) participants knew that cervical cancer is prevented by avoiding multiple sexual partners, 222(33.3%) reported that avoiding early sexual intercourse and 94 (14.1%) quitting smoking prevent cancer of the cervix. Two hundred forty two (36.3%) respondents knew about vaccination against HPV infection, while 306 (45.9%) respondents said that cervical cancer can be prevented by screening.

Regarding the treatment, 319(47.8%) participants knew that cervical cancer is treatable, 303 (45.4%) do not know whether it is treatable or not, and 45(6.7%) participants said cervical cancer can not be treated. Of those, who responded that cervical cancer is treatable herbal therapy, surgery and radiotherapy were reported as treatment means by 21.6%, 24.8% and 26.6%, respectively. The remaining 86(27.0%) did not mention type of treatment.

Respondents were asked about the cost of cervical cancer treatment 109(16.3%) answered it is very expensive, 44(6.6%) said is free of charge, 41(6.1%), moderately expensive, 40 (6.0%) reasonable price, and 433(64.9%) did not know about cost of cervical cancer treatment.

Concerning how frequent one should be screened for cervical cancer, 176 (26.4%) participants answered once a year, 38(5.7%) every three years, 11(1.6%) every five years and 431(64.6%) did not respond on the frequency of screening. Four hundred nine (61.3) answered that women of above 25 years of age should be screened, while 157(23.5%) said that prostitutes and elderly women (7.0%) should be screened.

Two hundred twenty seven (34.0%) participants knew that biopsy is used as one method of screening procedures of cervical cancer, 159(23.8%) Pap-smear and 57(8.5%) mentioned VIA (Table 4).

Table 4: Knowledge about prevention, treatment and screening modalities of cervical cancer May, 2014.

Variable	Frequency	Percent
Prevention Methods		
Avoiding multiple sexual partners prevent cervical	354	53.1
Avoiding early sexual intercourse	222	33.3
Quitting smoking prevent cervical cancer	94	14.1
Vaccination HPV prevent cervical cancer	242	36.3
Screening prevent cervical cancer	306	45.9
Know cancer of cervix can be treated		
Yes	319	47.8
No	45	6.7
Don't know	303	45.4
Treatment Type(n=319)		
Herbal remedies	69	21.6
Surgery	79	24.8
Radiotherapy	85	26.6
Know cost of cervical cancer treatment		
Free of charge	44	6.6
Reasonable price	40	6.0
Moderately expensive	41	6.1
Very expensive	109	16.3
Don't know	433	64.9
Frequency of screening		
Once a year	176	26.4
Every three year	38	5.7
Every five year	11	1.6
Any other	11	1.6
Don't know	431	64.6
Who should be screened		
Women of >25years	409	61.3
Prostitutes	157	23.5
Elderly women	47	7.0
Others	54	8.1
Procedures used in cervical cancer screening		
VIA	57	8.5
Pap smear	159	23.8
Biopsy	227	34.0

5.3 Association between socio-demographic characteristics and knowledge score

Age, sexual experience, age at first sex, number sexual partners and religion of the respondents were not associated with the level of knowledge on cervical cancer In both bivariate and multivariate analysis, place of birth and level of education were significantly associated with the knowledge score of the respondents. Students who were born at urban areas were more than two time knowledgeable than born at rural area (AOR=2.64, 95%CI; 1.46, 4.75).Year three female students were more than two times more knowledgeable about cervical cancer (AOR=2.21, 95%CI; 1.25, 3.90). Year four and above female students were about four times more knowledgeable than 1st and 2nd year students (AOR=3.92, 95%CI; 2.08, 7.40) (Table 5).

Table 5: Association between socio-demographic characteristics and knowledge score of cervical cancer among Adama Science and Technology University, May 2014.

Variables	Knowledge score		COR(95%CI)	AOR(95%CI)
	Poor	Good		
Age of respondent				-
15-20	446(78.5)	122(21.5)	1	
>20	81(81.8)	18(18.2)	1.07(0.61,1.86)	
Sexual experience				
No	375(83.7)	73(16.3)	1	1
Yes	176(80.4)	43(19.6)	0.80(0.53,1.21)	1.23(0.79,1.92)
Age at first sex				-
15-20	127(80.9)	30(19.1)	1	
>20	49(79.0)	13(21.0)	1.12(0.54,2.33)	
Number of sexual partner				
Single	154(80.6)	37(19.4)	1	-
Multiple	24(85.7)	4(14.3)	0.69(0.23,2.12)	
Place of birth				
Urban	396(79.7)	101(20.3)	2.64(1.20)	2.64(1.46,4.75)
Rural	155(91.2)	15(8.8)	1	1
Level of education				
Year 1	227(88.0)	31(12.0)	1	1
Year 2	185(86.4)	29(13.6)	1.15(0.67,1.97)	1.08(0.62,1.87)
Year 3	94(75.2)	31(24.8)	2.42(1.39,4.20)	2.21(1.25,3.90)**
Year 4 & above	45(64.3)	25(35.7)	4.07(2.20,7.54)	3.92(2.08,7.40)**
Religion				
Orthodox	330(80.9)	78(19.1)	0.53(0.16,1.77)	0.60(0.20,2.06)
Catholic	29(90.6)	3(9.4)	0.23(0.04,1.24)	0.35(0.06,2.01)
Muslim	72(83.7)	14(16.3)	0.44(0.12,1.62)	0.61(0.16,2.40)
Protestant	111(86.7)	17(13.3)	0.35(0.10,1.24)	0.37(0.10,1.41)
Other	9(69.2)	4(30.8)	1	

5.4 Attitude of respondent about screening of cervical cancer

As shown in Table 6, 478(71.7%) of the respondents agreed that carcinoma of the cervix causes death. Four hundred and forty three (66.4%) of the respondents perceived that any woman can acquire cervical cancer, 488 (73.2%) of the respondents agreed that screening helps in the prevention of cervical cancer and 534 (80.1) respondents volunteered to be screened if screening for cervical cancer is free. If screening of cervical cancer is free and the procedure cannot cause any harm, 459(68.9%) respondents were positive to be screened.

Table 6: Attitudes towards cervical cancer screening, May. 2014

Variable	Frequency	Percent
Carcinoma of cervix is cause of death.		
Agree	478	71.7
Neither agree nor disagree	60	9.0
Disagree	129	19.3
Any woman acquires cervical cancer		
Agree	443	66.4
Neither agree nor disagree	54	8.1
Disagree	170	25.5
Carcinoma of the cervix cannot be transmitted		
Agree	270	40.5
Neither agree nor disagree	128	19.2
Disagree	299	40.3
Screening helps in prevention cervical cancer		
Agree	488	73.2
Neither agree nor disagree	69	10.3
Disagree	110	16.5
Willingness for screening?		
Agree	459	68.9
Neither agree nor disagree	59	8.8
Disagree	149	22.3
Screening for cervical cancer is not expensive		
Agree	320	48.0
Neither agree nor disagree	150	22.5
Disagree	197	29.5
If screening for cancer is free, will you be screened?		
Agree	534	80.1
Neither agree nor disagree	36	5.4
Disagree	97	14.5

N.B: Because of small numbers of responses for strongly agree and strongly disagree…strongly agree e merged to Agree, strongly disagrees merged to disagree.

5.5 Association between socio-demographic characteristics and Attitude toward cervical cancer screening

Sexual experience, place of birth and level of education were associated with positive attitude towards cervical cancer screening in the bivariate analysis. But in multi-variate analysis, sexual experience and level of education remained significantly associated with positive attitude. Previous sexual experience increases the odds of cervical cancer screening uptake by two times (AOR=1.87, 95%CI; 1.32, 2.64). First year female students had more positive perception toward cervical cancer screening than senior female students (AOR=2.09, 95%CI; 1.18, 3.69) (Table7).

Table 7: Socio-demographic characteristics and Attitude towards cervical cancer screening among Adama Science and Technology University, May 2014.

Variables	Attitude		COR(95%CI)	AOR(95%CI)
	Negative	Positive		
Sexual experience				
No	227(50.7)	221(49.3)	1.83(1.31,2.56)**	**1.87(1.32,2.64)****
Yes	143(65.3)	76(34.7)	1	1
Place of birth				-
Urban	304(57.6)	224(42.4)	1	1
Rural	66(47.7)	73(52.5)	1.50(1.03,2.18)*	1.19(0.83,1.71)
Level of education				
Year 1	124(48.1)	134(51.9)	2.36(1.35,4.13)**	**2.09(1.18,3.69)***
Year 2	117(54.7)	97(45.3)	1.81(1.02,3.21)*	1.60(0.90,2.87)
Year 3	81(64.8)	44(35.2)	1.19(0.64,2.21)	1.03(0.54,1.94)
Year 4 & above	48(68.8)	22(31.4)	1	1
Religion				
Orthodox	232(56.9)	176(43.1)	0.65(0.22,1.97)	0.52(0.17,1.63)
Catholic	14(43.8)	18(56.3)	1.10(0.30,4.02)	0.88(0.23,3.34)
Muslim	42(48.8)	44(51.2)	0.90(0.28,2.89)	0.65(0.20,2.18)
Protestant	76(59.4)	52(40.6)	0.59(0.19,1.85)	0.49(0.15,1.60)
Other	6(46.2)	7(53.8)	1	1

5.6 Practice towards screening for cervical cancer

Six hundred fifty two (97.8%) participants were not screened for cervical cancer. Only 2.2% were screened in their lifetime. When asked reasons for not screened, 283(42.4%) said that they didn't have information, 187(28.0%) said they are healthy, 99(14.8%) have not decided to be screened, 37(5.5%) feel shy and 17(2.5%) said screening was expensive (Table 8).

Table 8: Previous history of screening for cervical cancer, May 214.

Variable	Frequency	Percent
Have you ever screened for cervical cancer		
Yes	15	2.2
No	652	97.8
How many times screened(n=15)		
Once	14	2.1
More than once	1	0.1
When was last time screened		
Within past three years	1	0.1
More than three years ago	1	0.1
Reason for not screened(n=652)		
It may be pain full	22	3.4
I feel shy	37	5.7
I am healthy	187	28.7
My husband wouldn't agree	4	0.6
A screening test reveal ca	3	0.6
it is expensive	17	2.6
I'm not informed	283	43.4
Haven't decided	99	15.2

5.7 Association between socio-demographic characteristics and practice toward cervical cancer screening

None of the socio-demographic characteristics were significantly associated with practice of cervical cancer screening. But those sexually active respondents were less likely to utilize cervical cancer screening, than their counter parts (Table9).

Table 9: Socio-demographic characteristics and practice toward cervical cancer screening among ASTU, May 2014.

Variables	Practice		COR(95%CI)
	No	Yes	
Age of respondent			
15-20	557(98.1)	11(1.9)	1
>20	95(96.0)	4(4.0)	2.13(0.67,6.83)
Sexual experience			
No	441(98.4)	8(3.7)	1
Yes	211(96.3)	7(1.6)	0.42(0.15,1.17)
Age at first sex			
15-20	151(96.2)	6(3.8)	1
>20	60(96.8))	2(3.2)	0.84(0.17,4.27)
Number of sexual partner			
Single	186(97.4)	5(2.6)	1
Multiple	26(92.9)	2(7.7)	2.86(0.53,15.51)
Place of birth			
Urban	517(97.9)	11(2.1)	1
Rural	135(97.1)	4(2.9)	1.40(0.44,4.44)
Level of education			
Year 1	252(97.7)	6(2.3)	1
Year 2	209(97.7)	5(2.3)	1.01(0.30,3.34)
Year 3	123(98.4)	2(1.6)	0.68(0.14,3.43)
Year 4 & above	68(97.1)	2(2.9)	1.24(0.24,6.26)

5.8 Association between Knowledge score and Attitude towards cervical cancer

The level of knowledge score and attitude toward cervical cancer was significantly associated (p-value<0.0001) as displayed in Table 10. About half of the respondents with poor knowledge had good perception towards cervical screening than those who had good knowledge score, While 80.5% of the respondents with good knowledge score had negative attitude towards cervical cancer screening.

Table 10: Association between knowledge score and attitude toward cervical cancer screening among Adama Science and Technology female students, May2014.

Knowledge score	**Attitude toward cervical cancer**		X^2	P-value
	Negative	**positive**	**21.57**	**<0.0001**
Good	33(80.5%)	8(19.5%)		
Satisfactory	68(68.7%)	31(31.3%)		
Poor	269(51.0%)	258(49.0%)		

5.9 Association between Knowledge score and practice toward cervical cancer screening

The level of knowledge score and attitude towards cervical cancer is not significantly associated (p-value>0.05) as displayed in table 11. Less than 10% of respondents with good knowledge score had cervical cancer screening. Almost all of the respondents with poor knowledge did not have cervical cancer screening.

Table 11: Association between knowledge score and practice toward cervical cancer screening among Adama Science and Technology female students, May2014.

Knowledge score	**Practice on screening**		X^2	P-value
	No practice	**Good Practice**	**5.77**	**0.056**
Good	38(92.7%)	3(7.3%)		
Satisfactory	96(97.0%)	3(3.0%)		
Poor	518(98.3%)	9(1.7%)		
Total	652(97.8)	15(2.2)		

6: DISCUSSION

In this study knowledge, attitude and practice about cervical cancer screening were examined.In this study, three fifth (60.6%) of the participants heard about cervical cancer. This finding is higher than the finding in Nigeria, with only 15% of the respondents heard about cervical cancer (27). The main source of information was mass-media which agrees with a study done in Sweden (17). This indicates that media can play an important role in educating women regarding cervical cancer. Medias like radio and TV are now days accessible in many households where information can simply reach to the wide community without any additional cost. Contrary, to this a study done in Kenya reported that, the main sources of information were health care providers (24) and in Addis Ababa 2008, the main source of information was health institutions (11). The difference could be due to the study subjects and the study place, the respondents were reproductive health clients in the previous studies.

The overall good knowledge score of the respondents was 14.8%. Similar low level findings were reported in Botswana study in 2003(15). The finding is very much lower than study finding in Yemen which reported 80.6 %. (20). About one third of the participants knew that vaginal foul smelling discharge is symptom of cervical cancer. This difference may be due to cultural and socio-economic deference among this two population (11).

Having multiple sexual partners was the major risk factor reported for cervical cancer, followed by acquiring HPV, early sexual intercourse and cigarette smoking. Studies in German and Uganda confirm this finding, HPV infection, multiple sexual partner, early sexual initiation smoking were reported by as risk factor for developing cervical cancer (18,19).

Concerning prevention of cervical cancer, over a half of the participants knew that cervical cancer is prevented by avoiding multiple sexual partners, avoiding early sexual intercourse and quitting smoking while in a study done in Sweden reported that 62% of cervical cancer can be prevented by early screening and HPV vaccination (17). This disparity may be due to the developed nations like Sweden, early screening and availability of HPV vaccination could be affordable for most of the population at every facility.

In multi variate logistic regression, place of birth and academic year of the students were significantly associated with good knowledge score. Females who were born at urban were more likely to be knowledgeable than born at rural areas. Mostly respondents from urban are nearest to different health related information because of accessibility to multi-medias. Year three female students were more than two times knowledgeable about cervical cancer. Year four and above female students were about four times more knowledgeable than 1st and 2nd year students. This may be as academic year and the length of stay in campus increases; they might be introduced about cervical cancer or participation in different clubs like HIV AIDS help to create awareness among the students. For medical students they definitely are aware in their major courses like Surgery and Gynecology.

About two third of the respondents perceived that any woman can acquire cervical cancer. Nearly three quarter (73.2%) of the respondents agreed that screening helps in the prevention of cervical cancer. Four fifth (80.1) of the respondents were voluntary to be screened if screening for cervical cancer is free. If screening of cervical cancer is free and the procedure cannot cause any harm, more than two third of the respondents willing to be screened. Two hundred ninety seventy (44.5%) had positive attitude and the remaining 370(55.5%) had negative attitude towards cervical cancer screening. In multi variate logistic regression, previous sexual experience and academic year of the students were significantly associated willingness to screening. Sexually active females can get information regarding cervical cancer from health professionals or their friends, and by going to health facility to get services for reproductive health issues like family planning, menstrual problems, STI etc. They may have been counseled or advised by health care providers regarding cervical problems. First year female students had more positive perception towards cervical cancer screening than senior female students.

This study showed that, more than two third of the respondent had a positive attitude towards screening of cervical cancer while a study done in UK showed majority women had negative attitude (15). In some studies, Latinos and women of Asian descent endorsed more misconceptions about cancer and fatalistic beliefs [16]. This is much higher than a study done in Songea urban, Ruvuma: on knowledge, attitude, practice and perceived barriers towards screening for premalignant cervical lesions among women aged 18 years and above was 18%.

The practice of cervical cancer screening among participants of this study is very much low (2.2%); compared to studies done in Yemen 7% (20), in Nigeria which was 6% [10],in Uganda (19%)[18] and Addis Ababa which was 6.5% [11]. The main reasons mentioned for not screened were lack of information, absence of symptoms (being healthy) or did not decided to be screened. Similarly in Nigeria the main reasons for not screened were lack of awareness, dislike of pelvic examination and absence of symptom [10]. But in a study from Yemen, shyness, thinking of no need to do it and fear of the procedure were the main reasons for not practicing screening (20). A study in Uganda also reported, reasons like not feeling at risk, lack of symptoms, carelessness, fear of vaginal examinations, lack of interest and test being unpleasant [21].

This study found out that level of knowledge of cervical carcinoma was associated with positive attitude but not with practice of screening. Those respondents with poor knowledge had good perception toward cervical screening than those who had good knowledge score. The reasons could be attributable due to fear toward the procedures of cervical cancer screening. Almost all of the respondents with poor knowledge did not have cervical cancer screening. However some of the figures in these associations were small, and this study being cross-sectional, it was difficult to come into conclusion of the associations between level of knowledge with attitude as well as practice.

7. STRENGTH AND LIMITATIONS OF THE STUDY

7.1 Strength of the study

- ✓ In an attempt to keep the validity and reliability; a pre- testing was done and appropriate analysis was employed and is first report for Adama University.
- ✓ Selection was done using random sampling to avoid selection bias.
- ✓ Self administered questionnaire also used to avoid information bias.

7.2 Limitations of the study

- ✓ Quantitative method is not good to obtain in-depth information about sensitive issue, better to complement with qualitative methods.
- ✓ Medical knowledge acquired through courses may widen the knowledge gap between medical and non medical students.
- ✓ Social desirability bias may be introduced.

8. CONCLUSIONS AND RECOMMENDATIONS

8.1 Conclusions

- ✓ Limited knowledge about cervical cancer.
- ✓ Very low rate of screening for premalignant cervical lesions..
- ✓ Factors for low knowledge are being rural and short stay in campus.
- ✓ Factors associated with positive attitude towards cervical cancer screening were no previous sexual experience and short stay in the University.
- ✓ The most reasons for low practice of screening are, being health and lack of information.

8.2 Recommendations

- ✓ Efforts to promote cervical cancer screening among women should focus on informing women of their susceptibility to cervical cancer and encouraging a belief that active and regular screening can detect the pre-cancerous stage, hence enabling early treatment and prevention of cancer development.

- ✓ Emphasis on more media coverage through TV and Radio regarding the problems of female cancers especially, on cervical cancer to create community awareness.
- ✓ Hospitals found in Adama and Asella should create awareness regarding cervical cancer screening since screening services like VIA is being given at these facilities including FGAE(Family Guidance Association of Ethiopia)
- ✓ The government should play its part by increasing health care budgets and put priority on cervical cancer prevention by establishing a national awareness campaign, spreading screening services all over the country using cheap screening procedures that have shown to have reasonable sensitivity and specificity

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ANNEX I: ASSURANCE OF PRINCIPAL INVESTIGATOR

The undersigned agrees to accept responsibility for the scientific ethical and technical Conduct of the research project and for provision of required progress reports as Per terms and conditions of the Research Publications Office in effect at the time of Grant is forwarded as the result of this application.

Name of the student: _____

Date._____ Signature _____

Approval of the primary Advisor

Name of the primary advisor:_____

Date._____ Signature _____

ANNEX II: STUDY QUESTIONERS

To: All regular admitted Adama University Female students

SUBJECT: Female student's knowledge of cervical cancer and Attitude and practice of screening Pap smear in Adama University

I am Almaz Tadesse , a senior public health professional working at Asella Hospital.I am also a Master's degree student at Addis Ababa University college of health science, school of public health and I am currently conducting research on college female student knowledge, attitude and practice (KAP) towards cervical cancer in Adama University as part of the Master of Public Health degree requirements. The purpose of the study is to determine the level of knowledge, attitude and practice of female college students cervical cancer in Adama university and secondly to assess the associated factor with knowledge, attitude and practice of cervical cancer. This research project will be conducted under the supervision of primary advisor.

The questionnaire will be handed personally to respondents and will be in the presence of the researcher. The questionnaire is in English and in Amharic.

The questionnaire will take 30-50 minutes to complete

Could you please grant me a few minutes of your time to complete the questionnaire?

For any information regarding this study don't hesitate to call on 0911370149

Section A

Demographic Information

1. Registration number: _____Please tick the appropriate box)

2. Age----------

3. Level of education (Tick the highest level of education)

(a) Year I
(b) Year II
(c) Year III
(d) Year IV and above

4. Do you belong to any religion?

(a) Yes

(b) No

4.1. If yes, which religion does you belong to?

(a) orthodox

(b) Catholic

(c) Muslim

(d) protestant

(d) Other (Specify)_____

5. Age of first sexual contact: _____

6.How many sexual partner do you have?

(a) one

(b) two

(c) three

(d) more than three

B. Knowledge on cervical cancer

7. Have you ever heard about cervical cancer?

    1. Yes
    2. No

8. Where did you first learn about carcinoma of the cervix? (Check all that are mentioned.)

    1. News Media
    2. Brochures, posters and other printed materials
    3. Health workers
    4. Family, friends, neighbors and colleagues
    5. Religious leaders
    6. Teachers
    7. Other (please explain):

9. What are the symptoms of carcinoma of the cervix? (Please check all that are mentioned.)

    1. Vaginal bleeding
    2. Vaginal foul smelling discharges
    3. Do not know
    4. Other:

10. What are the risk factors for cancer of the cervix? (Please check all that are mentioned.)

    1. Having multiple sexual partners
    2. Early sexual intercourse
    3. Acquiring HPV virus
    4. Cigarette smoking
    5. Do not know
    6. Other (please explain):

11. How can a person prevent getting cancer of the cervix? (Please check all that are mentioned.)

    1. Avoid multiple sexual partners
    2. Avoid early sexual intercourse
    3. Quit smoking
    4. through vaccination of HPV vaccine
    5. Do not know
    6. Other (please explain):

12. Can cancer of the cervix be cured in its earliest stages?

    1. Yes
    2. No
    3. Don't know

13. How can some one with cancer of the cervix be treated? (Check all that are mentioned.)

    1. Herbal remedies
    2. surgery
    3. Specific drugs given by hospital
    4. radiotherapy
    5. Do not know
    6. Other:

14. How expensive do you think cancer of the cervix treatment is in this country?

    (Please check one.)

    1. It is free of charge
    2. It is reasonably priced
    3. It is somewhat/moderately expensive
    4. It is very expensive
    5. dont know

15. How frequent is screening for cervical cancer done?

    1. Once every year
    2. Once every three years
    3. Once every 5 years
    4. Any other…..mention

16. Who should be screened?

    1. Women of 25years and above
    2. Prostitutes
    3. Elderly women
    4. Others…….

17. Can you mention any of the procedures used in screening for cervical cancer?

    1. VIA (visual inspection with acetic acid)
    2. Pap Smear
    3. Biopsy
    4. dont know
    5. other……

C. ATTITUDE

18. Carcinoma of the cervix is highly prevalent in our country and is a leading cause of deaths amongst all malignancies in Ethiopia.

1. strongly agree
2. agree
3. neither agree nor disagree
4. disagree
5. strongly disagree

19. Any young woman including you can acquire cervical carcinoma

1. strongly agree
2. agree
3. neither agree nor disagree
4. disagree
5. strongly disagree

20. Carcinoma of the cervix cannot be transmitted from one person to another

1. strongly agree
2. agree
3. neither agree nor disagree
4. disagree
5. strongly disagree

21. Screening helps in prevention of carcinoma of the cervix

1. strongly agree
2. agree
3. neither agree nor disagree
4. disagree
5. strongly disagree

22. Screening causes no harm to the client

    1. strongly agree
    2. agree
    3. neither agree nor disagree
    4. disagree
    5. strongly disagree

23. Screening for cervical cancer is not expensive

    1. strongly agree
    2. agree
    3. neither agree nor disagree
    4. disagree
    5. strongly disagree

24. If screening is free and causes no harm, will you screen

    1. Strongly agree
    2. Agree
    3. neither agree nor disagree
    4. Disagree
    5. Strongly disagree

D. Practice towards screening for cervical cancer

25. Have you ever screened for cancer of the cervix

    1. Yes
    2. No

26. If yes how many times in since you become sexually active

    1. Once
    2. More than once

27. When was the last time you screened?

    1. within the past three years
    2. More than three years ago.

28. Why shouldn't you screen on time for cervical cancer?

    1. It may be painful.
    2. I feel shy
    3. I am healthy
    4. My husband would not agree
    5. I am afraid a screening test would reveal cervical cancer
    6. it is expensive
    7. I am not informed/knowledge
    8. I haven't just decided
    9. other

Declaration

I the under signed declared that this thesis is my original work, has not been presented for Degree in this or any other university and that all sources of material used for the thesis have been fully acknowledged.

Name :Almaz Tadesse

Signature _____

Date of Submission _____

Place: Add is Ababa University, School of Public Health

This thesis has been submitted for examination with my approval as university Advisor

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Signature_____

2. Mr Wondimu Ayele (Msc)

Signature_____