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Knowledge, Attitude and Practice on Cervical Cancer Screening Among Female Reproductive Health Clients in Zewditu Memorial Hospital, Addis Ababa, Ethiopia

Feven Wondimu Gezahagne[1, *], Teame Kiflom Gaim[2], Salem Sium Mesfin[2], Tewodros Kassahun Tarekegn[1], Frewengel Melake Weldeslassie[2], Bethel Tesfaye Bizuneh[3], Sosina Abebaw Tsehay[4], Rediet Habtu Lebelo[5], Solomon Endale Dagnachew[1]

[1]Department of Medicine, Hayat Medical College, Addis Ababa, Ethiopia

[2]Department of Nursing, Asmara College of Health Sciences, Asmara, Eritrea

[3]Department of Medicine, College of Health and Medical Science, Haramaya University, Hararghe, Ethiopia

[4]Department of Medicine, Bahir Dar University College of Health and Medical Science, Bahirdar City, Ethiopia

[5]Department of Medicine, College of Health and Medical Science, Mekelle University, Ayder Hospital, Mekelle City, Ethiopia

Email address:

fevenwondimu4646@gmail.com (Feven Wondimu Gezahagne)

[*]Corresponding author

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Abstract: *Background:* Cervical cancer is the most common gynaecologic malignancy among women. In general, poor level of awareness, lack of effective screening program, overshadowed by other health concerns (such as AIDS, TB, cardiovascular and mental health), and lack of attentiveness to women's health are a few of the possible factors for the noticed higher incidence rate of cervical cancer in Ethiopia. *Objective:* To assess the level of knowledge, attitude, and practice on cervical cancer screening among reproductive health clients aged 18-49 of Zewditu Memorial Hospital, Addis Ababa, Ethiopia. *Methods:* The study design was a cross-sectional descriptive study, conducted on 237 women who were enrolled with a simple random sampling method from March to October 2020. A structured pretested questionnaire was carried out to gather data and the collected data were entered into SPSS version 23 for analysis. Descriptive analysis using frequency, percentages, mean, and SD with bivariate analysis and multiple regressions was done. *Result:* About three-quarters (75.1%) of the participants heard about cervical cancer and out of the total participants 59% of them were found to have adequate knowledge, 58.2% with a positive attitude, and 51% of the participants were screened for cervical cancer. Lack of information about cervical cancer was the most reported reason for not attending cervical cancer screening. *Conclusion and recommendation:* The study showed more than half of the respondents had adequate knowledge, attitude, and practice on cervical cancer and screening for a premalignant cervical lesion. But still, 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 precancerous stage, hence enabling the early treatment and prevention of cancer development.

Keywords: Cervical Cancer Screening, Knowledge, Attitude, Practice, Reproductive Health Clients

1. Introduction

1.1. Background

Cervical cancer is the third most common malignancy in women worldwide with 529,000 new cases each year [1], and it remains a leading cause of cancer-related death for women in developing countries. It is a leading cause of mortality worldwide with 270000 women dying every year of this disease. Eighty percent of the cases occur in low-resource countries like Africa, Latin America, and Southeast Asia [2]. However, 85% of these deaths occur in the developing world [3]. It may be completely asymptomatic in the early stages. In advanced stages, it may present as persistent pelvic pain, unexplained weight loss, bleeding between periods, unusual vaginal discharge, bleeding, and pain after sexual intercourse. Infection with human papillomavirus (HPV) types 16 and 18 cause 75% of cervical cancer globally. Other risk factors include tobacco consumption, multiple sexual partners, early age of sexual intercourse, increasing parity, prolonged use of oral contraceptive pills, and sexually transmitted diseases [4].

According to the American College of obstetrics and gynaecology recommendation, the major change from the 2012 USPSTF (the U.S. Preventive Services Task Force) guidelines is that for average-risk women aged 30–65 years, the USPSTF now recommends high-risk human papillomavirus (hrHPV) testing alone every 5 years as an alternative to screening with cervical cytology every 3 years or screening with a combination of cytology and hrHPV testing every 5 years; [5]. The new USPSTF recommendation is based on a review of data from the clinical trial, cohort, and modeling studies. The USPSTF recommendations are largely in line with current cervical cancer screening guidelines from the ACOG (American College of Obstetricians and Gynaecologists) (; ASCCP; (the American Cancer Society; and the American Society for Clinical Pathology); and interim clinical guidance on hrHPV testing developed by an expert panel that included representatives from the aforementioned groups, the Society of Gynaecologic Oncology, the American Society of Cytopathology, and the College of American Pathologists [5]. Like the USPSTF recommendations, these expert guidelines recognize that cytology alone, hrHPV testing alone, and co-testing are all effective screening strategies for average-risk women aged 30– 65 years. However, expert guidelines recommend that for these women, co-testing with 2 cervical cytology and hrHPV testing every 5 years is preferred, screening with cervical cytology alone every 3 years is acceptable, and hrHPV testing alone can be considered as an alternative screening strategy. The USPSTF recommendations for routine cervical cancer screening in women younger than 21 years, for women aged 21–29 years, and for women older than 65 years who have been adequately screened previously have not changed and remain the same as ACOG's guidance. The new USPSTF recommendations emphasize that the choice of screening strategy should consider the balance of benefit (disease detection) and potential harms (more frequent follow-up testing, invasive diagnostic procedures, and unnecessary treatment in women with false-positive results) and involve shared decision making between patients and their health care providers. ACOG affirms its current cervical cancer screening guidelines, which encompass all three cervical cancer screening strategies (cervical cytology alone, hrHPV testing alone, and contesting) [5]. It is appropriate to counsel average-risk women aged 30– 65 years regarding all three strategies so that they can select their preferred option.

With access to the HPV vaccine and early detection, most cases of cervical cancer are preventable. Pap smear test has been credited with dramatically reducing the number of cases of cervical cancer in developed countries [6].

1.2. Problem Statement

Internationally, cervical cancer has been regarded as the third most common form of cancer among women after breast and colorectal cancer. Population-based cervical smear screening programs for cervical cancer have shown the effectiveness of screening in reducing mortality. Screening consists of testing of all women at risk of cervical cancer, most of who will be without symptoms. It aims to detect precancerous changes, which, if not treated, may lead to cancer. It is only effective if there is a well-organized system for follow-up and treatment. Women who are found to have abnormalities on screening need follow-up, diagnosis, and possibly treatment, to prevent the development of cancer or to treat cancer at an early stage. Several tests can be used in screening for cervical cancer: The Pap smear (cytology) is the only test that has been used in large populations and that has been shown to reduce cervical cancer incidence and mortality. Therefore, we need to step up activities on vaccinations, screening programs, and pieces of training on developing self-awareness for the community on cervical cancer. Besides, it will be important to open cancer diagnosing and treatment centres in each region of the country [7].

According to the Ethiopian cervical cancer screening guideline of January 2015, it suggested that by the year 2010, it was estimated that 20.9 million women were at risk of developing cervical cancer in Ethiopia with an estimated 4,648 and 3,235 annual numbers of new cases and deaths, respectively [8]. Most of these were at an advanced stage by the time they seek screening services. Records show that of the nearly 22 million Ethiopian women over the age of 15, approximately 7,600 diagnosed with cervical cancer and roughly 6,000 women dies of the disease every year [9, 10]. The majority of cancers (over 80%) in sub-Saharan Africa are detected at the latest stage, predominantly due to lack of information about cervical cancer and a dearth of prevention services. The latest age disease is associated with low survival rates after surgery

or radiotherapy. Besides, these treatment modalities may be lacking/limited, or too expensive and inaccessible for many women in low-resource countries, including Ethiopia. Cervical cancer is potentially preventable, unlike other reproductive organ cancers. In high-income countries, regular screening with a Pap smear has been shown to lower the risk for developing invasive cervical cancer, through detecting precancerous changes. However, in LMICs (low to middle-income countries), only approximately 5% of eligible women undergo cytology based screening in cytology-based screening over 5 years period. The barriers to the scale up of cervical cytology-based screening programs in Ethiopia include the lack of trained and skilled professionals, supplies, laboratory infrastructure, and equipment. Furthermore, the absence of a well-organized surveillance and recall system can be one of the barriers. These are some of the barriers that prevent cytology-based screening programs from being effective in LMICs [8].

Visual Inspection with Acetic Acid (VIA) is an evidence-based and affordable alternative approach for cervical cancer screening in low-resource settings. VIA combined with cryotherapy (freezing of precancerous lesions of the cervix) ideally in a single visit approach (SVA) is an effective and efficient strategy for secondary prevention of cervical cancer in low-resource settings [8]. And studies on the KAP are lacking in cervical cancer screening which was mainly done and published in Paulo, black lion, and Gandhi, which made it difficult to get information to do this study.

1.3. Significance of the Study

Over the years, the Ministry of Health has been trying to deal with the problem of cervical cancer by providing resources at its Family Guidance clinics. Besides, the Ministry of Health has been providing laboratories and training its staff especially, the nurses to be certified in conducting Pap smear screenings to help reduce the incidence of cervical cancer. Despite this fact, there is still a lack of knowledge regarding screening among women in Ethiopia. Hence, this study will contribute a lot for policymakers, health institutions, and for other researchers to base their studies on this study.

This study will also have a great impact at enhancing the cervical screening knowledge attitude and practices of the reproductive health clients of Zewditu.

1.4. Research Question

1) What's the knowledge status of the reproductive health clients of Zewditu towards cervical Cancer screening?
2) What's the attitude status of the reproductive health clients of Zewditu towards cervical Cancer screening?
3) What is the practice level of the reproductive health clients of Zewditu towards cervical screening?
4) Any associated factors affecting knowledge, attitude and practice of the respondents?

2. Literature Review

Evidence indicates that a significant portion of the burden of cervical cancer is potentially prevented by early screening and treatment. In Ethiopia cervical cancer screening practices is low. Cervical cancer's long latency and recognizable pre-cancerous lesions make screening a particularly effective way of prevention as pre-cancerous lesions, once identified, can be expectantly managed or treated safely and inexpensively in an outpatient setting [11].

In a study done in India, Knowledge, attitude, and practices related to cervical cancer among adult women: A hospital-based cross-sectional study, A total of 442 women were approached for interview of which 400 responded of which two-third (65.5%) had heard of cervical cancer. At least one symptom and one risk factor were known to 35.25% and 39.75% of participants. Only 34.5% of the members had heard about the screening. Despite the poor knowledge, the majority of participants expressed a positive attitude toward cervical cancer in this same study. About three-fourths (76.2%) of women were willing to be screened if offered free of cost. However, the practice of screening for cervical cancer was poor as only 38 participants, that is, 9.5% of women had ever been screened for cervical cancer. When inquired as to the major reason for no screening, the majority of the participants responded that they were unaware of the screening test (65%) for cervical cancer. Furthermore, more than half of the respondents (58%) mentioned that they were asymptomatic, so it was pointless going for screening [12].

In another study done on Kuwaiti women, a total of 300 married Kuwaiti women were randomly selected from those who visited the clinics irrespective of the reason(s) for the visit. Complete information was collected from 281 (93.7%), the knowledge about the test was adequate in 147 (52.3%) women, while 86 (30.6%) had an adequate attitude towards the test and only 67 (23.8%) had an adequate practice. The main reason given for not having had a Papanicolaou smear was that it was not suggested by the doctor. Among all the respondents 220 (78.7%) would prefer a female doctor to conduct the test [13].

In another study done in Saudi Arabia, a cross-sectional survey was conducted at the Armed Forces Hospital Southern Region Obstetrics and Gynaecology Clinic using a self-administered questionnaire with a sample size of 255 women between the ages of 15 and 65 years. Forty-three percent of the women in this region are aware of cervical cancer but do not recognize its risk factors, implications, timing, or main cause, which is Human papillomavirus (HPV). And 32% of the respondents had received health and wellness information from female medical professionals, approximately 64% were unaware that the test could discover asymptomatic lesions, and 56% recognized that early detection could lead to better outcomes. Regarding attitudes towards the test, only 38% of women said they would participate in screening if they were

properly informed. The reasons mentioned for those not willing to participate ranged most from no complaints to least husband disagreement, 45.5% and 2.6% respectively [14].

In Cambodia a study was done in Kampong Speu Province's women, Among the 440 respondents, 74% and 34% of women had heard about cervical cancer and the Papanicolaou (Pap) Smear test, respectively, and 7% of women had ever been screened by a Pap test. The participants showed a high willingness to undergo a Pap test (74%). Furthermore, 35% of women were aware that cervical cancer is preventable by vaccination and 62% of women were willing to get the HPV vaccine, but only 1% of women had been vaccinated against HPV [15].

In a study done in Sudan, A total of 500 married women aged 14 to 58 years were recruited from obstetric clinics, hospitals, and universities in Khartoum in 2014. The survey showed that 51.8% (258/500) heard about Pap smear test but only 15.8% (79/500) had a Pap test before. Regarding the source of information about pap smears; the media (newspaper, television, and internet) ranked first 40% (103/258). Knowledge about cervical cancer and its risk factors were also studied, 87.8% (439/500) heard about cervical cancer, 46.6% (233/500) heard about HPV as a causative agent and 39.2% (196/500) heard about the HPV vaccine, while only 11.4% (57/500) had the vaccine. If properly informed, 68% (340/500) of studied women replied that they would have a Pap test and 75.4% (377/500) agreed to participate in the screening program if available. Genital infection by HPV, HIV, or Chlamydia ranked first 42.4% (212/500) as a known risk factor, followed by poor personal hygiene (13.4%) by the studied population. The major barriers against having pap smear were as follows: 36.2% (58/160) of studied women thought that they were healthy so no need to have the test, and 24.3% (39/160) thought that it might be painful, and only 10% (16/160) thought that their husband may refuse it or that they are feeling shy of being tested 5% (8 /160) [16].

In another study done in Zimbabwe, A total of 409 respondents were interviewed. Nearly 85% of respondents reported having heard about cancer. The most commonly-known cancers were cervical cancer (65.3), breast cancer (60.4%), Kaposi sarcoma (8.1%), and colon cancer (4.4%). Of all respondents, 34.2% reported that they did not know of any cervical cancer risk factors. Of all respondents, 22.2% identified "insertion of herbs into the vagina" as one of the common risk factors for cervical cancer. More than a quarter of respondents (29.9%) reported that they were not aware of how cervical cancer could be prevented. And on the attitudes towards cancer, Fourteen percent (14%) of respondents strongly disagreed, 1.6% disagreed, and 4.8% neither agreed nor disagreed with the statement that "any adult woman, including me, can develop breast and cervical cancer". Besides, 17.5% agreed, 3.2% strongly agreed and 28% neither agreed nor disagreed with the statement that "cervical cancer is a disease for prostitutes". Nineteen percent (19%) of the respondents strongly agreed that they would rather not know if they had cancer, and would prefer to stay ignorant of their cancer diagnosis. And Most of the respondents (96.2%) had never received cervical cancer screening [17].

In Kenya a study was conducted and a total of 451 respondents participated and overall, 79.8% (360/451) of the study participants were aware of cervical cancer, and 15.1% (68/451) had heard of HPV. Among those who were aware of cervical cancer, 83.6% (301/360) had heard of cervical cancer screening and 25.6% (92/360) had undergone a cervical cancer screening examination. Those who were aware of cervical cancer reported that their primary sources of information were from family or friends (45.0%, n=162), a health care facility (40.3%, n=145), radio/television (40.6%, n=146), and less than 6.0% (n=20) stated social media, newspaper or a non-governmental organization. Almost all (89.2%) of those who had heard of cervical cancer categorized it as "scary". Over half of the women responded that "cervical cancer would threaten a relationship with her husband, boyfriend or partner" (56.7%) and also preferred a female health worker to conduct a cervical examination (55.8%). Nearly two-thirds (61.4%) of respondents perceived the 8 examinations to be positive and believed that "health care workers performing cervical examinations are not rude to women" [18].

When we come to our country, there was a study done in hosanna town, the total size of the study subjects who were actual respondents during the data collection period was 583. Therefore, the response rate of the study was calculated to be 98%. The participants' age ranged from 18 to 48. And 270 (46.3%) of the respondents had poor knowledge i.e. scored less than the mean (7.57±SD 6.61). Whereas, 313 (53.7%) of respondents had good knowledge i.e. scored greater than or equal to the mean. Less than half, 254 (43.6%) of the respondents believed that all women are at risk of getting cervical cancer while 216 (37.0%) of them did not know which women are at risk of getting the disease. Two hundred twenty-three (38.3%) of participants had no idea what factors raise the chance of getting cervical cancer whereas 165 (28.3%) of participants reported that having multiple sexual partners is a risk factor for the disease. Similarly, more than a quarter, 209 (35.8%) of participants affirmed that they had no information about symptoms of cervical cancer while 220 (37.7%) of them indicated that persistent pelvic pain is the symptom of the disease. Regarding knowledge on vulnerability for the Pap smear test, 254 (43.6%) of the respondents pointed out that all women of childbearing age should get the pap smear test but more than a quarter, 216 (37%) of them reported that they had no information which group of women should get the pap smear test for screening cervical cancer. Of all the participants, only 58 (9.9%) of them had been screened for cervical cancer before the survey. All the participants who had been screened are those who had the intention to be screened for the disease. Those who were informed about the services but not yet screened for cervical cancer had mentioned reasons like unavailability of the service nearby

20 (3.4%), unaware of where to get the service 12 (2.1%), financial problem 3 (0.5%), fear of discrimination 2 (0.3%) and other reasons 5 (0.9%) [19].

And on a study done in Ghana, more than half (68.4%) of the women had never heard about cervical cancer. The majority (93.6%) of the respondents did not know about cervical cancer risk factors. Nine (2.3%) indicated that being sexually active could cause this type 9 of cancer. Besides, nine (2.3%) of the respondents reported that having multiple sexual partners could result in cervical cancer, while five (1.3%) identified that having a sex partner who had other partners might be responsible for cervical cancer. The overwhelming majority (384; 97.7%) of the respondents had never heard about the Pap smear test. However, eight (2%) of the respondents had a correct understanding of Pap smears. Of the respondents who had undergone the Pap smear test in the study, only three (0.8%) had been screened. The negative beliefs identified by the majority of the respondents were that the Pap smear test was embarrassing and painful. The social barrier identified was that religion and cultural values deterred women from seeking the Pap smear test. The negative misconceptions identified were that women did not feel at risk and therefore felt no need for Pap screening and also those that reported not being sexually active felt no need for the Pap test [20].

In a study done in Gander, Seven hundred and seventy women (n = 770) participated in the study with a 100% response rate. It is found that more than half, 501 (65.1%) of the participants had heard about cervical cancer. Of those who had heard about cervical cancer, the largest number, 206 (41.1%) had heard from mass media. The mean knowledge score was 3.21 (Standard deviation = 3.88) and the median was 2. This study reveals that only 153 (19.87%) of the participants had good knowledge regarding cervical cancer and its prevention [21].

The participants were asked whether they knew the risk factors that can lead to cervical cancer and from those who have heard about it (501), 299 (59.7%) of them replied they didn't know the risk factors. Risk factors such as sexually transmitted disease, smoking, and sex with multiple partners', family history of cervical cancer, and others such as giving frequent births were asked. The majority, 408 (81.4%) of the participants didn't know whether cervical cancer is caused by HPV or not [21].

From the study participants who had heard about cervical cancer, 370 (73.9%) replied, they believe that having multiple sexual partners is a risk factor for cervical cancer. More than half, 318 (63.5%) believed that HIV positivity can increase the chance of getting cervical cancer. On the other hand, 433 (86.4%) didn't believe that the use of oral contraceptive 10 pills is a risk factor for cervical cancer. Regarding smoking and early marriage, of those who had heard about it, 338 (67.5%) and 366 (73.1%) believed these conditions are a risk factor for cervical cancer respectively. In line with this, 442 (88.2%) believed that cervical cancer is a major health problem for reproductive-age women and, 253 (50.5%) believed that cervical cancer cannot be detected by early screening before symptoms appear. However, 457 (91.2%) believed that the early detection of cervical cancer is good for treatment outcomes [21].

Similarly, 391 (78%) of those who had heard about it believed that cervical cancer is preventable. Regarding the prognosis, 264 (52.7%) believed that cervical cancer is not curable and the remaining 237 (47.3%) believed it is curable. The study also reveals overall more than half, 448 (58.2%) of the study participants had a favourable attitude towards cervical cancer and its prevention [21].

There is also a study done in Pakistan, on which the interviewer approached 700 Gynaecology and Obstetrics OPD patients (adult women) with the study questionnaire; out of these 594 women gave consent and completely answered all the questions (response rate 84.85%). A total of 346 (58.2%) women heard about cervical cancer and 210 (35.4%) women heard about the Pap smear test. Thirty-five women (5.9%) underwent a Pap smear test in their lifetime. More than half (51.7%) thought that undergoing a pap smear test is embarrassing. But 382 respondents (64.3%) will undergo a pap smear test if the test is provided free of cost. Unmarried women had a better KAP score as compared to married women [22].

In a study done in May 2008 in Ethiopia on KAP of cervical cancer screening among reproductive health clients in the 3 teaching hospitals (St. Paul, Gandhi and Tikur Anbessa hospitals) on 276 RH clients attending emergency and regular outpatient department (OPD) antenatal, postnatal, family planning and referral clinics at the three hospitals it suggested Most respondent (81.2%) had never heard of Pap smear screening. The source of information for those who had heard about this test was health institutions for 65.4% of the respondents. Women who had heard about Pap smear screening were younger than 11 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 gynaecologic 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 indication for undergoing the test was doctor/nurse consultation (72.2%) and personal initiative (20.7%). Women who had a Pap smear test had a 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 (23). And in another study done in Ethiopia in February- march 2015 on cervical screening knowledge and barriers among woman from a total of 520 women, 42.7% of the respondents have heard about the screening and 27.7% of them had adequate knowledge and 25% of the respondents have had the screening [24].

3. Conceptual Framework

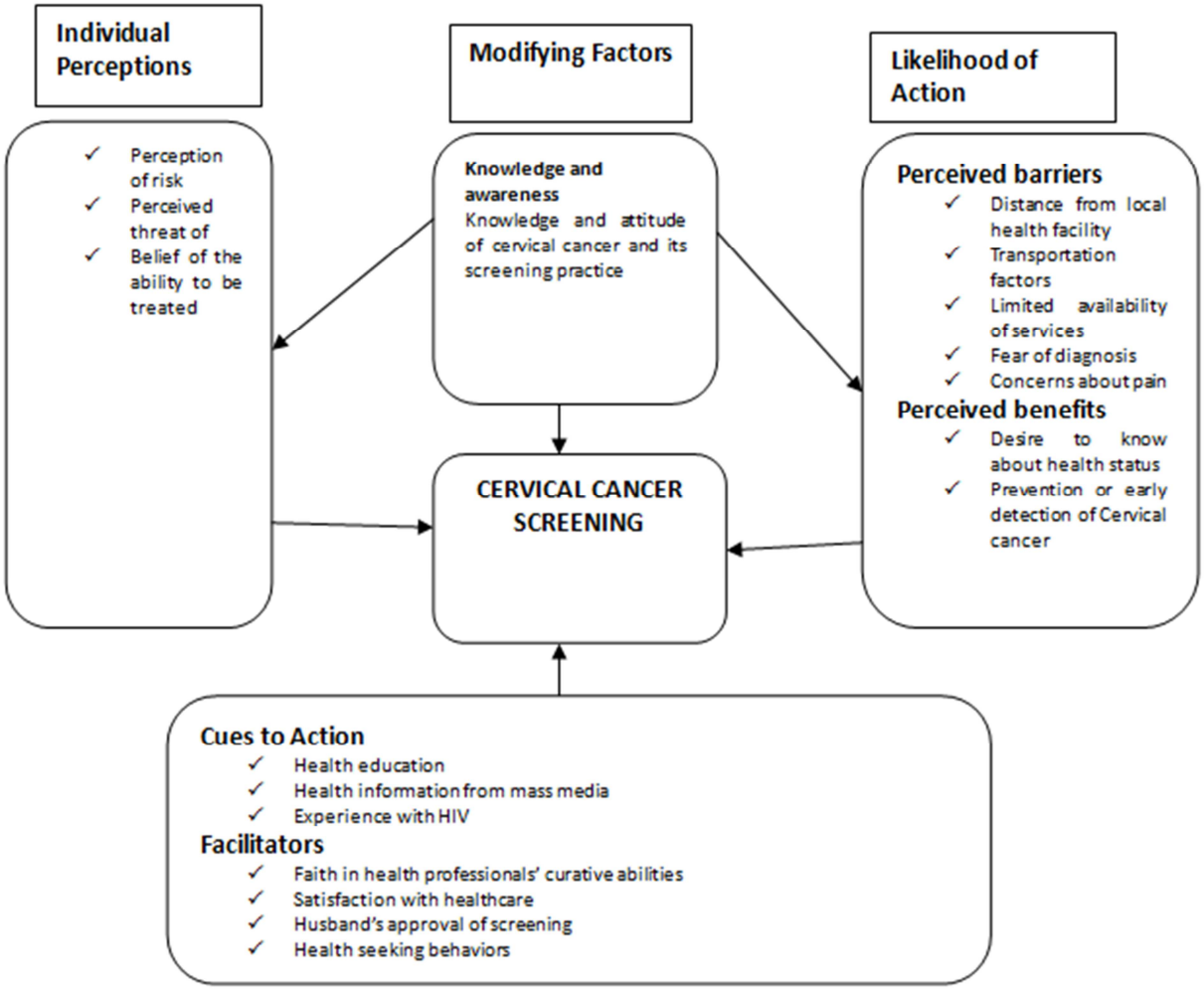

Figure 1. *Shows conceptual framework of cervical cancer screening at Zewditu Memorial hospital.*

4. Objectives

4.1. General Objectives

To assess the level of knowledge, attitude, and practice on cervical cancer screening and the factors among Reproductive health clients aged 18-49 years of Zewditu Memorial Hospital, Addis Ababa, Ethiopia.

4.2. Specific Objectives

1) To assess the level of knowledge on cervical cancer screening among reproductive health clients aged 18-49 years at the emergency and regular outpatient department (OPD) antenatal, postnatal, family planning, and referral clinics of Zewditu Memorial Hospital, Addis Ababa, Ethiopia.
2) To assess the level of attitude of screening for cervical cancer among reproductive health clients aged 18-49 years at the emergency and regular outpatient department (OPD) antenatal, postnatal, family planning, and referral clinics of Zewditu Memorial Hospital, Addis Ababa, Ethiopia.
3) To assess the level of practice of screening for cervical cancer among reproductive health clients aged 18-49 years at the emergency and regular outpatient department (OPD) antenatal, postnatal, family planning, and referral clinics of Zewditu Memorial Hospital, Addis Ababa, Ethiopia.
4) Factors affecting the knowledge, attitude and practice of cervical cancer screening among these women.

5. Materials and Methods

5.1. Study Area and Period

Zewditu memorial hospital was established in 1925 in the reign of Emperor Haileselassie by the cooperation of Empress Zewditu and the Seventh - day Adventist mission. It was founded on what is currently the fel-wouha area and used to give services to about two hundred and fifty thousand mothers and children only. In 1963, a new and modernized facility was built and the hospital widened the scope of its services to accommodate the four major departments; i.e.

internal medicine, surgery, pediatrics and gynecology, and obstetrics as well as outpatient department services. Today, the Zewditu memorial has further expanded to serve the general public with additional services such as; Plastic surgery, Art center, Neurology, and psychiatry. In addition to this, it has around 13 more minor departments. Furthermore, starting from November 2006 E.C, It has started to accept HCP (health care personal) in the field of Gynecology/Obstetrics and internal medicine to better serve the community and satisfy the ever-growing need for medical attention of the society [25]. Currently, the hospital has around 183 beds and 962 workers out of which 680 are HCP and 264 are administrative staff. And the temporary staff is a total of 18 as of march/9 2020 [26]. The study has been conducted at the emergency and regular outpatient department (OPD) antenatal, postnatal, family planning, and referral clinics of the hospital, and they had around 200 patients per day collectively and the study was done in the year 2020 in March – October.

5.2. Study Population, Study Design and Variables

5.2.1. Study Population

All reproductive health clients aged 18- 49 years of age visiting at the emergency and regular outpatient department (OPD) antenatal, postnatal, family planning, and referral clinics of Zewditu Memorial Hospital, Addis Ababa, Ethiopia.

5.2.2. Study Design

A cross-sectional quantitative study design was used.

5.2.3. Study Variables

Dependent variables: level of knowledge, level of attitude and level of practice.

Independent variables: Age, marital status, educational status, religion, occupation, economic status.

5.3. Operational Definition

Knowledge Assessment

The knowledge of cervical cancer screening was assessed using 14 questions and a score of 1 and 0 was given for every correct and incorrect answer, respectively. For each area of knowledge, the scores were summed up (counted) and for those who scored more than 8 points (>60%), they were considered as adequate knowledge while those less than that were considered inadequate [27].

Attitude Assessment

The attitude towards cervical cancer was assessed using 11 questions and we used the Likert scale, and the scoring system used was strongly disagreed =1, disagree= 2, neutral= 3, agree =4 and strongly agree 5, and the answers were summed up as agree and disagree which letter a score of 1 and 0 was given for every correct and incorrect answers respectively by being recorded in the SPSS statistics 23. For each area of the attitude, the scores were summed up (counted) and the ones who score >7 (60%) as a positive attitude and those < 7 as negative attitude [27].

Practice Assessment

According to WHO Guidelines, the recommended practice for any women is that they should be screened annually, throughout the sexually active women's life. However, WHO refines the recommendation for countries with a poor resource such as Ethiopia as in a way that practice be defined as having at least one Pap smear screening, irrespective of their age, once in their lifetime. Taking that recommendation into account we defined good practice as having been screened at least once [28].

5.4. Data Collection Procedures and Tools

The data collectors and supervisors were given training for two days prior to the data collection and then they started to collect data from the emergencies, OPD (outpatient department), ANC (antenatal care), FP (family planning), and referral clinics. The completeness of the questionnaire was checked by the supervisors and principal investigator.

Data qualities will ensure before data collection, during data collection, coding, entry, and analysis. Before data collection pre-testing the questionnaire and adequate training was provided to data collectors and supervisors. During data collection, adequate follow-up and supervision was provided to data collectors by PI and supervisors. In this study, there were 4 data collectors and 4 supervisors too. And the qualifications of the data collectors and supervisors are any health-related degree or diploma. The filled questionnaire was checked for completeness, accuracy, and consistency by supervisors & principal investigator after the data collection daily. Consequently, any problems encountered were discussed among the survey team and solve immediately. Double-entry verification was employed to assure the quality of data. The questionnaire was prepared first in English and translated into Amharic language and retranslated back to English by another person to check for consistency. The questionnaire pre-tested on 5% of the sample size.

5.5. Sample Size Determination

The sample size was calculated using a single population proportion formula.

$$n= [Z^2\ p\ q]/e^2,\ q= 1-p$$

$$n = Z^2\ p\ (1-p)/e^2$$

$$n= (1.96)^2\ (0.5)\ (0.5)/\ (0.05)^2$$

$$n= 237$$

Whereby;

n= sample size;

Z= 95% confident interval (1.96);

P= Population proportion (assumed as 50% or 0.5);

e= margin of error (defined as a small amount that is allowed for in case of miscalculation or change of circumstances. Generally, the margin of error is taken as 5% or 0.05).

Table 1. *Table of Prevalence.*

Variable	Found Prevalence
Knowledge	19%
Attitude	10.5%
Practice	6.5%

From the study done on the KAP of cervical Cancer among Reproductive health clients at 3 teaching hospitals in Addis Ababa, the prevalence of knowledge was 19% [23]. Assuming that the socio-demographic factors are similar to the reproductive health clients at 3 teaching hospitals in Addis Ababa we took P to be 19%, marginal error to be 5% at a confident interval of 95%. The required sample size will be 237. Sampling technique/ procedures & on the same study it showed only 6.5% of the respondents had done screening in their lifetime.

Systemic random sampling K= 2000/237= 8.4 approximately we will take *K* to be 8.

Eligibility

Inclusion criteria

All women who are reproductive health clients attending emergency and regular outpatient department (OPD) antenatal, postnatal, family planning, and referral clinics Zewditu Memorial Hospital who are 18 -49 years of age, selected randomly and are willing to participate in the study.

Exclusion criteria

1) Women who were not willing to give consent,
2) Women who had hysterectomies,
3) Women who are health professionals,
4) Women who were critically ill and unable to be interviewed,
5) The woman admitted as inpatients (since they might bias the study due to their contact with health professionals and they might also be uncomfortable to sit through the questions because they might be critically ill or have an illness that fulfilled the criteria of admission and an illness that needed care too).

5.6. Sampling Procedure

The study was being held in Zewditu memorial hospital, reproductive health clients visiting the emergency, outpatient department, family planning, ANC, post-natal, and referral clinics being the sample frame. A total of 237 people was the selected sample size by being calculated using the single population proportion method and the samples were chosen using a systemic random method, since data was collected for a total of 10 days, and since an average of 200 people was seen collectively from family planning, antenatal care, post-natal care, emergency and Outpatient department. Ten days collectively was found to be 2000 patients in total so K was calculated and became 8 so every 8th people was selected for the study in the total of 10 days sample collected based on the inclusion criteria.

5.7. Quality Assurance

Data qualities were ensured before data collection, during data collection, coding, entry, and analysis. Before data collection pre-testing the questionnaire and adequate training will provide to data collectors and supervisors. During data collection, adequate follow-up and supervision was provided to data collectors by PI and supervisors. The filled questionnaires were checked for completeness, accuracy, and consistency by supervisors & principal investigator after the data collection daily. Consequently, any problems encounter was discussed among the survey team and solve immediately. Double-entry verification was employed to assure the quality of data. The questionnaire was prepared first in English and translated into Amharic language and retranslated back to English by another person to check for consistency. The questionnaire was pre-tested on 5% of the sample size other than the sample taken from the hospital before the data collection period, which did not include the main data analysis to identify the clarity of question, sequence of questions, and gap in data collector and also to familiarize the data collectors with instruments.

5.8. Data Processing and Analysis

The collected data was entered into SPSS version 20 for analysis. Descriptive analysis using frequency, and percentages was done to identify the knowledge, attitude, and practice of cervical cancer screening. Binary logistic regression was used to assess the relationship between dependent variables and independent variables. Descriptive analysis was used to compute frequencies and percentages.

5.9. Ethical Consideration

The study protocol was approved by the ERC (ethical research committee) of the School of Santé Medical College. Based on the approval, official letters were written by the School of Santé Medical College to Zewditu memorial hospital and Addis Ababa City Administration Health Bureau. Explanation of the objective of the research was provided to the concerned personnel at the Zewditu hospital. At last, data was collected after assuring the confidentiality nature of responses and obtaining oral consent from the study participant. All the study participants was encouraged in participating in the study and at the same time, they were notified that they have the right not to participate in the study.

5.10. Dissemination Plan

The finding of this study was submitted to Santé Medical College, distribute to Zewditu memorial hospital's office and other organizations that are working in cervical cancer screening programs in Ethiopia. The findings may also be presented in different seminars, meetings, and workshops, and publication in scientific journals will be the attempt.

6. Result

6.1. Socio-Demographic Characteristics

In this study, a total of 237 respondents completed the questionnaire with a 100% respondent rate. A total of 39.7%

of the respondents were found in the age category of 25- 29 which is also the mean age and deviated to 18-24 years of age. From our total respondents, 47 (19.8%) are unmarried, 114 (48.1%) are married, and the rest were divorced and widowed. The majority of our respondents 55.7% are above 12th grade. Regarding occupational background, 58 (24.5%) were government workers, 56 (23.6%) private-owned workers, and the rest were daily labourers, housewives, and involved in trade in descending order respectively. Based on income, 42.6% have an income of 5,251 to 7,800 birr and the rest was less than this. The study has the majority, 74 (31.2%) Orthodox, 48 (20.3%) Catholic and the rest are Muslims, Protestants, and Jehovah's Witnesses in descending order.

Table 2. *Socio-demographic characteristics of reproductive health clients in ZMH, September to October 2020 (n-237).*

Variable	Frequency	Percentage (%)
Age (yrs.)		
18-24	68	28.7
25-29	94	39.7
30-34	39	16.5
35-39	20	8.4
≥ 40	16	6.8
Marital status		
Unmarried	47	19.8
Married	114	48
Divorced	48	20.3
Widowed	28	11.8
Educational Background		
Can'tread and write	46	19.4
1-8th grade	37	15.6
9 Up to 12th grade	22	9.3
>12th grade	132	55.7
Occupation		
Student	21	8.9
Traders	26	11.0
Private	56	23.6
Government	58	24.5
Housewife	33	13.9
Daily laborer	43	18.1
Monthly Income (in birr)		
<600	46	19.4
600-1650	20	8.4
1,651-3,200	10	4.2
3,201-5,250	37	15.6
5,251 – 7,800	85	35.9
7801-10901	22	9.3
>10,901	17	7.2
Religion		
Orthodox	74	31.2
Catholic	48	20.3
Protestant Muslim	31	13.1
Jehovah's Witness)	71	30.0
	13	5.4

6.2. Knowledge on Cervical Cancer and Its Screening

From a total of 237 respondents, 75% of them have heard about cervical cancer, and out of those 47.5% of them have heard it from media, whereas the others had heard it from health care professionals, from family, from books, and magazines and their friends. In our study, 59% of the respondents were found to have good knowledge of cervical cancer and its prevention by answering correctly in more than 60% of the question. And the total mean knowledge score of the respondents is 7.3 while the standard deviation is 4.4 in table 6.

Table 3. *Knowledge of cancer in general, cervical cancer and source of information among RHC in ZMH September to October 2020 (n-237).*

Variable	Frequency	Percentage
Respondents who heard about cervical cancer		
Yes	178	75.1
No	59	24.9
if yes, source of information		
Friends	1	0.5
Family	28	15.7
health care personal books	48	26.9
magazines	16	8.9
Media	85	47.7

Table 4 displays knowledge about the cause, risk factor, and the causes themselves. Among the participants in our study (39.8%) of the respondents knew the causes of cervical cancer and that 77.4% of them mentioned the cause is bacteria. And 21.1% of them mentioned virus and the rest 1.4% mentioned unknown causes too. And of the respondents who knew about cervical cancer, 84.2% of them had the knowledge about the risk factors and of those who knew about the risk factors 28.6% of them mentioned multiple sexual partners, and the rest of them mentioned early sexual intercourse and family history as one of the risk factors for cervical cancer.

Table 4. *Cause and Risk factors of RHC who have heard about cervical cancer (n-178).*

Cause of cervical cancer knowledge	Frequency	Percentage
Yes	71	39.8
No	107	60.1
if yes, the causes of cervical cancer		
Bacteria	55	77.4
Virus	15	21.1
Unknown	1	1.4
Awareness of risk factors of cervical cancer		
Yes	150	84.2
No	28	15.7
If yes, risk factors for cervical cancer		
MSP[1]	43	28.7
ESI[2]	39	26
Cigar		
Family history	7	4.6
CCP[3]	26	17.3
Other,	30	20
Having STD[4]	3	2
Too much sex	1	0.7
UTI[5]	1	0.7

Table 5 displays the symptoms, prevention knowledge, screening knowledge, and vaccine knowledge. Out of our total respondents, 40.8% of them don't know about the symptoms and the rest mentioned symptoms like vaginal bleeding, Foul-smelling vaginal discharge, and pain during intercourse, Back pain, Asymptomatic, Postmenopausal

bleeding as some of the symptoms of cervical cancer. While from the respondents who have heard of cervical cancer 20.7% of the respondents didn't know about the symptoms. And from those who had the awareness of cervical cancer existence 97.7% of them revealed that cervical cancer can be preventable and from the ways of prevention of the respondents mentioned early screening and detection being 55.7%, and the rest mentioned avoiding multiple sexual partners and vaccination for HPV as a way of prevention of cervical cancer.

Table 5. *Symptoms, prevention and way of prevention of cervical cancer on people who have heard of cervical cancer in ZMH, September to October 2020, (n-178).*

Awareness of symptoms of cervical cancer	Frequency	Percentage
Don't know	96	40.5
Foul-smelling vaginal discharge	3	1.2
Vaginal bleeding	56	23.6
Pain during intercourse	53	22.3
Back pain Asymptomatic	4	1.6
Postmenopausal bleeding	1	0.4
Headaches and fever	20	8.4
	2	0.8
Vomiting	1	0.4
Weight loss	1	0.4
Awareness of cervical cancer being preventable		
Yes	174	97.7
No	4	3.9
Prevention methods		
Early screening and detection	97	55.7
Avoiding early sexual intercourse	65	37.3
Vaccination for HPV[6]	12	6.8

Table 6 Out of the ones who knew about cervical cancer all of the respondents had heard about the screening and of those we knew about the screening 52.8% thought it was by Pap smear while the rest of them mentioned blood sample, a sample taken from the vagina and HPV testing. And of those who knew about screening, 56.1% of the respondents mentioned that women of reproductive age group (15-49) should be screened but the rest stated that all women, elderly women, and commercial sex workers should be screened. And out of the total respondents, 60% have heard that there is cervical cancer screening while from those who have heard about cervical cancer 79.7% of them have heard that there is screening service in ZMH. And from those who knew about cervical cancer screening, 52.2% of them mentioned that its frequency differs depending on the age, and the rest mentioned once in a lifetime, twice and 3 times in a lifetime as screening frequency.

Table 6. *Screening and vaccination at ZMH among who have heard about cervical cancer screening, September to October, 2020, (n-178).*

Cervical cancer screening awareness	frequency	percentage
Yes	178	100
No	0	0
Screening methods		
by blood	25	14.0
Pap[7] smear	94	52.8
HPV test	26	9.3
taking sample from vegina	30	16.8
Awareness of screening in ZMH[8]		
Yes	142	59.9
No	95	40.0
Cervical cancer screening and the woman to be addressed		
All women	12	6.7
Women of the reproductive age group (15-49)	100	56.2
Sexually active women	39	21.9
Elderly women	27	15.2
Frequency of screening		
once in a lifetime	50	28.1
depending on the age it differs three	93	52.2
times in a lifetime	33	18.5
two times in a lifetime	2	1.1

Table 7 summarizes knowledge score in total and it was found 59% of them had adequate knowledge and a mean 7.3 and SD of 4.

Table 7. *Summary of Knowledge assessment of reproductive age woman in ZMH n-2.*

Variable	Response	Frequency	Percent
Awareness about cervical cancer	Correct	178	75.1
	Incorrect	59	24.9
If yes, source of information	Correct	178	75.1
	Incorrect	59	24.9
Cause of cervical cancer knowledge	Correct	166	70
	Incorrect	71	30
If yes, the causes of cervical cancer	Correct	15	6.3
	Incorrect	222	93.7
Awareness of risk factors of cervical cancer	Correct	151	63.7
	Incorrect	86	36.3
Risk factors for cervical cancer	Correct	145	61.1
	Incorrect	92	38.9
Awareness of symptoms of cervical cancer	Correct	137	57.8
	Incorrect	100	42.2
Awareness of cervical cancer being preventable	Correct	174	73.4
	Incorrect	63	26.6
Prevention methods	Correct	174	73.4
	Incorrect	63	26.6
Cervical cancer screening awareness	Correct	178	75.1
	Incorrect	59	24.9
Screening methods	Correct	59	24.9
	Incorrect	178	75.1
Screening frequency	Correct	36	15.1
	Incorrect	201	84.9
ZMH screening availability awareness	Correct	142	59.9
	Incorrect	95	40.1
Awareness of woman who should be addressed for screening	Correct	100	42.1
	Incorrect	137	57.9
Total Mean= 7.3and total SD= 4.4 Adequate Knowledge = 59% Inadequate Knowledge= 41%			

6.3. Attitude Towards Cervical Cancer and Its Screening

Among the 237 respondents, 59 of them had no attitude towards cervical cancer (neither agreed nor disagreed). And from our total respondents, 58.2% of them had a good attitude about cervical cancer and its screening by answering correctly in >60% of the total asked attitude section of the questionnaire. And the average mean of the attitude scores is 6 and the standard deviation is 4.1 out of the total 11 questions answered. From the respondents who have heard of cervical cancer, 85.9% of them agreed that cervical cancer has a higher prevalence in our country and only 5.6% of the respondents agreed that all women including myself are at risk of getting cervical cancer while 89.9% of them disagreed of being at risk. Among the respondents in this study who have an attitude towards cervical cancer, only 5.6% of them agreed that all women including myself should be screened for cervical cancer while 86.5% disagreed. 54.4% of the respondents agreed that screening can prevent cancer of the cervix. The study also showed that 89.3% of the respondents agreed that it can be detected while 37% agreed that it can be cured at an early stage. A total of 84.2% of the respondents agreed that cervical cancer is a killer disease. The study also showed only 5.6% of the respondents agreed that cervical cancer affects every woman while the majority thinks of vice versa and only 8.4% agreed that it can be transmitted from person to person where the majority thinks it doesn't. 73.5% of the respondents disagreed that cervical cancer screening has side effects. And 89.9% of the respondents disagreed on cervical cancer screening being expensive.

Table 8. *Attitude of respondents from those who have heard about cervical cancer at ZMH, September to October 2020, (n-178).*

Variable	Agree	Disagree	Neutral
Cervical cancer has a high prevalence in our country	153 (85.9%)	10 (5.6%)	15 (8.4%)
All women including myself are at risk of getting cervical cancer	121 (67.9%)	39 (21.9%)	8 (4.4%)
All women including myself should be screened for cervical cancer	121 (67.9%)	39 (21.9%)	8 (4.4%)
Screening can prevent cancer of the cervix	63 (35.3%)	97 (54.4%)	8 (4.4%)
Cervical cancer can be detected at early stage	159 (89.3%)	10 (5.6%)	9 (5%)
Cancer of the cervix can be cured at an early stage	66 (37%)	98 (55%)	4 (2.2%)
Cervical cancer is a killer disease	150 (84.2%)	10 (5.6%)	18 (10.1%)
Cervical cancer affect any woman	10 (5.6%)	166 (93.2%)	2 (1.1%)
Cervical cancer can be transmitted from a person to a person	15 (8.4%)	145 (81.4%)	5 (2.8%)
Cervical cancer screening have side effects	35 (19.6%)	131 (73.59%)	2 (1.1%)
Screening for cervical cancer is expensive	10 (5.6%)	160 (89.9%)	8 (4.4%)

Table 9 summarizes the total attitude score of the respondents being 58% of them having a positive attitude with a mean of 6 and SD of 4.

Table 9. *Summary of attitude assessment of RHC in ZMH.*

Variable	Response	Frequency	Percent
Cervical cancer has high Prevalence in our country	Correct	153	64.6
	Incorrect	84	35.4
All woman including myself are at high risk of getting cervical cancer	Correct	121	51.1
	Incorrect	116	48.9
All woman including myself should be screened	Correct	121	51.1
	Incorrect	116	48.9
Screening can prevent cancer of the cervix	Correct	174	73.4
	Incorrect	63	26.6
Cervical cancer can be detected at early stage	Correct	159	67.1
	Incorrect	78	32.9
Cervical cancer can be cured at early stage	Correct	159	67.1
	Incorrect	78	32.9
Cervical cancer is a killer disease	Correct	150	63.3
	Incorrect	87	36.7
Cervical cancer can affect any woman	Correct	166	70.0
	Incorrect	71	30.0
Cervical cancer can be transmitted from person to person	Correct	148	62.4
	Incorrect	89	37.6
Cervical cancer screening have side effects	Correct	131	55.3
	Incorrect	106	44.7
Screening for cervical cancer is expensive	Correct	160	67.5
	Incorrect	77	32.5
Total Mean = 6 and total SD9= 4.1 Good attitude = 58.2% Poor attitude = 41.8%			

6.4. Practice of Cervical Cancer Screening

Among the study population, 51.1% of the participants were screened for cervical cancer. And the screened part of the respondents was found to have good practice towards cervical cancer screening. When asked reasons for not being screened was a quarter of them being 18% said they haven't heard of it, while the rest suggested that they had no symptoms, wasn't informed, husband refusal was too young to acquire,, and wasn't informed where the reasons they gave. And from those who were screened 93% of them stated they were screened in the hospital. And most of them suggested they were screened 1 year back and 60% of the screened individuals were 1st screened at the age of 30 – 40 of age. And from the respondents who were screened 60% of them suggested they were screened 2 times in their life. Of our total respondents, most of them (120) had STI treatments while 184 of our total respondents underwent HIV screening. And as we approached our total respondents with the question of what will they do if post-coital bleeding occurs, majority being 67% answered they would visit a health care centre the rest stated they would stay home, go to a holy water or talk to people about it or go to traditional healers.

Table 10. *Practice of the respondents at ZMH, September to October 2020.*

Variables		Frequency	Percentage (%)
Cervical cancer screening (n = 237)			
Yes		121	51.1
No		116	48.9
Reason for not having cervical screening (n=116)	Was not informed	14	5.9
	Husband refused	18	7.6
	Haven't heard of it	43	18.1
	I am too young to acquire it	16	6.8
	No symptoms	25	10.6
If screened, screening place	Hospital	109	93.9
	Health centre	12	9.9
Last screening time	Within the last 6 months to1 year	39	32.2
	Over 1 year ago	82	67.7
First age screened	20-30	1	8.2
	31-40	73	60.3
	>40	47	38.8
Screening Frequency	Once in a lifetime	48	3.96
	Twice in life	73	60.3
STI treatment	Yes	117	49.4
	No	120	50.6

Variables		Frequency	Percentage (%)
HIV screening	Yes	184	77.6
	No	53	22.4
Things to do on post-coital bleeding occurrence			
Visit health centre Stay at home		134	56.5
Holy water		57	24.0
Others		35	14.7
Visit traditional		7	
Wear a pad and to wait for 1 month		1	
Don't know what to do		1	4.6
Talk to friends about it		1	
Call and ask information		1	

6.5. Association of Age, Marital Status, Education Level, Occupation and Religion with Knowledge, Attitude and Practice and Its Inter Relationship

Table 11-summarizes that average knowledge of the patients' correlation with age, religion, occupation, monthly income and marital status: religion was found to have moderate correlation with the average knowledge along with occupation and monthly income the rest has weak association with knowledge.

Table 11. *Correlation of Average knowledge with age, religion, occupation, monthly income and marital status.*

		Average-Know	Marital status	Occupation	Monthly income	Religion
Pearson correlation	average- know	1.000	.133	.595	.584	.605
Marital status		.133	1.000	.286	.419	.326
Occupation		-.595	-.286	1.000	.642	-.331
Monthly income		.584	.419	-.642	1.000	.281
Religion		.605	.326	-.331	.281	1.000
Sig. (1-tailed)	average know	.	.023	.000	.000	.000
Marital status		.023	.	.000	.000	.000
Occupation		.000	.000	.	.000	.000
Monthly		.000	.000	.000	.	.000
Religion		.000	.000	.000	.000	.
N	average-know	224	224	224	224	244
Marital status		224	224	224	224	244
Occupation		224	224	224	224	244
Monthly		224	224	224	224	244
Religion		224	224	224	224	244

Table 12 – summarizes that average attitude of the respondents is moderately associated with religion and age and weekly associated with monthly income and occupation but it has no relationship with marital status.

Table 12. *Correlations of average attitude with religion, age monthly income, occupation, religion.*

		Average attitude	Marital status	Occupation	Monthly income	Religion	Age
Pearson correlation	average attitude	1.000	.130	.496	.478	.681	.547
Marital status		.130	1.000	.286	.419	.326	.280
Occupation		.496	.286	1.000	.642	.331	.417
Monthly income		.478	.419	.642	1.000	.281	.327
Religion		.681	.326	.331	.281	1.000	.469
Age		.547	.280	.417	.327	.469	1.000
Sig. (1-tailed)	average attitude	.	.026	.000	.000	.000	.000
Marital status		.026	.	.000	.000	.000	.000
Occupation		.000	.000	.	.000	.000	.000
Monthly		.000	.000	.000	.	.000	.000
Religion		.000	.000	.000	.000	.	.000
Age		.000	.000	.000	.000	.000	.
N	average attitude	224	224	224	224	244	244
Marital status		224	224	224	224	244	244
Occupation		224	224	224	224	244	244
Monthly		224	224	224	224	244	244
Religion		224	224	224	224	244	244
Age		224	224	224	224	244	244

Table 13 Summarizes that practice is moderately associated with age but weekly associated with monthly income,

occupation and religion but has no association with marital status.

Table 13. *Correlations of moderate practice with age, monthly income, occupation, religion.*

		Have you ever been screened	Marital status	Occupation	Monthly income	Religion	Age
Pearson correlation	have u ever been screened	1.000	.179	.275	.316	.494	.596
Marital status		.179	1.000	.286	.419	.326	.280
Occupation		.275	.286	1.000	.642	.331	.417
Monthly income		.316	.419	.642	1.000	.281	.327
Religion		.494	.326	.331	.281	1.000	.469
Age		.596	.280	.417	.327	.469	1.000
Sig. (1-tailed)	have u ever been screened	.	.004	.000	.000	.000	.000
Marital status		.004	.	.000	.000	.000	.000
Occupation		.000	.000	.	.000	.000	.000
Monthly		.000	.000	.000	.000	.000	.000
Religion		.000	.000	.000	.	.	.000
Age		.000	.000	.000	.000	.000	.
N	have u ever been screened	224	224	224	224	244	244
Marital status		224	224	224	224	244	244
Occupation		224	224	224	224	244	244
Monthly		224	224	224	224	244	244
Religion		224	224	224	224	244	244
Age		224	224	224	224	244	244

		Have you ever been screened	Marital status	Occupation	Monthly income	Religion	Age
Pearson correlation	have u ever been screened	1.000	.179	.275	.316	.494	.596
Marital status		.179	1.000	.286	.419	.326	.280
Occupation		.275	.286	1.000	.642	.331	.417
Monthly income		.316	.419	.642	1.000	.281	.327
Religion		.494	.326	.331	.281	1.000	.469
Age		.596	.280	.417	.327	.469	1.000
Sig. (1-tailed)	have u ever been screened	.	.004	.000	.000	.000	.000
Marital status		.004	.	.000	.000	.000	.000
Occupation		.000	.000	.	.000	.000	.000
Monthly		.000	.000	.000	.000	.000	.000
Religion		.000	.000	.000	.	.	.000
Age		.000	.000	.000	.000	.000	.
N	have u ever been screened	224	224	224	224	244	244
Marital status		224	224	224	224	244	244
Occupation		224	224	224	224	244	244
Monthly		224	224	224	224	244	244
Religion		224	224	224	224	244	244
Age		224	224	224	224	244	244

		Have you ever been screened	Marital status	Occupation	Monthly income	Religion	Age
Pearson correlation	have u ever been screened	1.000	.179	.275	.316	.494	.596
Marital status		.179	1.000	.286	.419	.326	.280
Occupation		.275	.286	1.000	.642	.331	.417
Monthly income		.316	.419	.642	1.000	.281	.327
Religion		.494	.326	.331	.281	1.000	.469
Age		.596	.280	.417	.327	.469	1.000
Sig. (1-tailed)	have u ever been screened	.	.004	.000	.000	.000	.000
Marital status		.004	.	.000	.000	.000	.000
Occupation		.000	.000	.	.000	.000	.000
Monthly		.000	.000	.000	.000	.000	.000
Religion		.000	.000	.000	.	.	.000
Age		.000	.000	.000	.000	.000	.
N	have u ever been screened	224	224	224	224	244	244
Marital status		224	224	224	224	244	244
Occupation		224	224	224	224	244	244
Monthly		224	224	224	224	244	244
Religion		224	224	224	224	244	244
Age		224	224	224	224	244	244

In this study it was found that having good attitude is significantly associated with having a good practice being 0.79 times correlated, and having adequate knowledge was found to be moderately associated with having a good practice. And having a good attitude was found.

7. Discussion

This study was done to assess the knowledge, attitude, and practice of cervical cancer screening among women aged 18-49 years old. Out of the 237 respondents, 75.1% of them have heard about cervical cancer and all of them that have heard about cervical cancer existence have heard of cervical cancer screening. Out of those who have heard about cervical cancer 59.5% of them know the symptoms of cervical cancer and 84.2% of them have heard about the risk factors of cervical cancer. In terms of the attitude towards the cervical cancer screening, according to our study scope being 18-49 years of age on which out of those who have heard about cervical cancer 67.9% of the respondents believed that every woman including themselves should be screened and they also believe that they are at risk of acquiring cervical cancer. Despite this belief, only 51.6% of the respondents from all the respondents and from those who have heard of cervical cancer 67.9% of them were screened. When asked as a cause of a major reason of not being screening 18% of them suggested that they haven't heard of it as the cause and the rest suggested that they weren't informed and that they were too young to acquire it as one of their causes. Which makes is comparable with the study done in Cambodia [15]. Among the 440 respondents, 74% and 34% of women had heard about cervical cancer and the Papanicolaou (Pap) Smear test, respectively, and 7% of women had ever been screened by a Pap test. This makes our study participants be 1% more on their awareness of cervical cancer presence and more participants in our study have been screened than the study done in Cambodia. The participants in Cambodia showed a high willingness to undergo a Pap test (74%). Furthermore, 35% of women were aware that cervical cancer is preventable by vaccination and 62% of women were willing to get the HPV vaccine, but only 1% of women had been vaccinated against HPV. In our study similar amount of the respondents believed they would be screened and most of them from those who have heard about cervical cancer believe it's preventable and the majority of them mentioned Pap smear and 9.3% of them suggested HPV vaccination as screening methods.

But On another study done in India, Kuwaiti, and Saudi Arabia it says the other wise, in the study done in India on a total of 442 participants [12] the two-third (65.5%) had heard 43 of cervical cancer and At least one symptom and one risk factor were known at the study being 35.25% and 39.75% respectively and Only 34.5% participants had heard about the screening. Despite the poor knowledge, the majority of participants expressed a positive attitude toward cervical cancer in this same study in India which makes it the same as our respondents towards attitude. However, the practice of screening for cervical cancer was poor as only 38 participants, that is, 9.5% of women had ever been screened for cervical cancer in the India study which makes our study participants have a better practice. When inquired as to the major reason for no screening in the India study, the majority of the participants responded that they were unaware of the screening test (65%) for cervical cancer. Furthermore, more than half of the respondents (58%) mentioned that they were asymptomatic, so it was pointless going for screening. And on the Kuwaiti 300 married woman visiting the clinics [13] the knowledge about the test was adequate in 147 (52.3%) women and 86 (30.6%) had an adequate attitude towards the test and only 67 (23.8%) had an adequate practice which again makes our study participants have a better attitude, practice and knowledge towards cervical cancer and its screening. The main reason given in the Kuwaiti study for not having had a Papanicolaou smear was that it was not suggested by the doctor but in our study, they suggested they didn't know about cervical cancer at all.

And the study conducted in Saudi Arabia, [14] on 255 women at Gynecology/Obstetric clinics between the age range of 15 and 65 years revealed that Forty-three percent of the women were fully aware of cervical cancer but did not recognize its risk factors, implications, timing, or main cause, which is Human papillomavirus (HPV). But in our study, they have better knowledge about the causes and risk factors of cervical cancer and 21% of them mentioned the virus as the cause of cervical cancer and 6.8% of them knew about the HPV vaccine from the respondents who knew about the prevention methods.

Moreover, in a similar study handled in Saudi Arabia 32% of the respondents had received health and wellness information from female medical professionals. But in our study the major source of information about cervical cancer is media being 47.7% and health care professionals' come next being 26% and the rest from books and magazines and friends and family. Approximately 64% were unaware that the test could discover asymptomatic lesions in the Saudi Arabia study, and 56% recognized that early detection could lead to better outcomes, but in our study, 89% of our respondents who have heard about cervical cancer believe it can be cured at an early stage 44 with a better attitude towards its screening. Regarding attitudes towards the test in the Saudi Arabia study, only 38% of women said they would participate in screening if they were properly informed. The reasons mentioned for those not willing to participate ranged most from no complaints to least husband disagreement, 45.5%, and 2.6% respectively. But in our study from the many reasons mentioned to be the cause of not being screened 29% of them were not informed as they suggested and 25.58% believe they were healthy, and this shows that not most people provide a reason for not being screened which is consistent with the result of the study conducted in Saudi Arabia. But in our study, most of them from those who have heard about cervical cancer suggested they would be

screened, and as the reasons are given for not being screened 18% of them proposed they didn't know about cervical cancer.

Our study also has better result compared to the study done in Ghana and Pakistan. On the study done in Ghana [20] more than half (68.4%) of the women had never heard about cervical cancer. The majority (93.6%) of the respondents had no knowledge of cervical cancer risk factors. Nine (2.3%) indicated that being sexually active could cause this type of cancer in the Ghana study. The overwhelming majority (384; 97.7%) of the respondents in the Ghana study had never heard about the Pap smear test. However, eight (2%) of the respondents had a correct understanding of Pap smears. Of the respondents who had undergone the Pap smear test in the study, only three (0.8%) had been screened. This makes our study participants have better knowledge towards the screening and screening methods and their screening practice as well. The negative misconceptions identified in the woman in the Ghana study were that women did not feel at risk and therefore felt no need for Pap screening and also those that reported not being sexually active felt no need for the Pap test. but in our study the women reason of not being screened was majority of them suggested they weren't informed and the rest considered themselves being too young and that their husbands' refusal which makes it a little bit similar with the Ghana study. And on the study done in Pakistan [22] on which The interviewer approached 700 Gynecology and Obstetrics OPD patients (adult women) with the study questionnaire; A total of 346 (58.2%) women heard about cervical cancer and 210 (35.4%) women heard about the pap smear test which makes our study participants to have a better knowledge regarding the cervical cancer and Pap smear existence or screening in general. Thirty-five women (5.9%) underwent a Pap smear test in their lifetime in the Pakistan study but in our study almost 45 more than half of the participants were screened for cervical cancer. In the study in Pakistan More than half (51.7%) thought that undergoing a pap smear test is embarrassing. But 382 respondents (64.3%) will undergo a pap smear test if the test is provided free of cost. But in our study the respondents had better attitude towards the screening of cervical cancer.

Our study is also revealed better result when compared to the study done in Sudan on 500 married women aged 14 to 58 years were recruited from obstetric clinics, hospitals and universities in Khartoum in 2014 [16]. The survey showed that 51.8% (258/500) heard about Pap smear test but only 15.8% (79/500) had a Pap test before. But in our study majority of the respondents have heard about cervical cancer and out of those all of them have heard of the screening and majority of them mentioned Pap smear and 9.3% of them said by HPV test making our study participants more knowledgeable towards the screening and having a good practice than the study done in Sudan. Knowledge about cervical cancer and its risk factors were also studied on the study done in Sudan, 87.8% (439/500) heard about cervical cancer, 46.6% (233/500) heard about HPV as a causative agent and 39.2% (196/500) heard about HPV vaccine, while only 11.4% (57/500) had the vaccine but in our study this figure is less regarding their awareness towards cervical cancer, its risk factors and causative agents but when it comes to practice they had better practice of being screened. And in terms of attitude the participants in Sudan have a better attitude towards the screening than in our study.

But in another study done in Zimbabwe, A total of 409 respondents were interviewed [17] it revealed that it has less knowledge, attitude and practice towards cervical cancer and its screening compared to our study. in the study only 65.3% of them knew about cervical cancer and 34% of them haven't heard of the risk factors and 29.9% of them didn't know about the prevention and most of the respondents 96% of them were not screened. But when we compare our study with the study done in Kenya (18) 79.8% of the respondents were aware of cervical cancer, and 15.1% of them heard about HPV and 83.6% of them have heard about the screening and 25.6% of them have gone under the screening which makes 46 our respondents have less knowledge attitude and but better practice towards cervical cancer and its screening.

And when we come to studies done in our country, the studies done in Gondar, hosanna and Addis Ababa revealed that the participants were having less knowledge, attitude and practice towards cervical cancer and its screening when compared to our study. In a study done in Gondar Seven hundred and seventy women (n = 770) participated in the study [21] and more than half, 501 (65.1%) of the participants had heard about cervical cancer. Of those who had heard about cervical cancer, the largest number, 206 (41.1%) had heard from mass media. The mean knowledge score was 3.21 (Standard deviation = 3.88) and the median was 2. This study reveals that only 153 (19.87%) of the participants had good knowledge regarding cervical cancer and its prevention which makes our study participants have a better knowledge towards screening.

The participants were asked whether they knew the risk factors that can lead to cervical cancer and from those who have heard about it 59.7% of them replied they didn't know the risk factors which makes our study participants more knowledgeable on the risk factor part. Risk factors such as sexually transmitted disease, smoking, sex with multiple partners', family history of cervical cancer and others such as giving frequent births were asked on the study done in Gondar and Majority, 408 (81.4%) of the participants didn't know whether cervical cancer is caused by HPV or not which makes our study participants more knowledgeable in the causes sector because only a few less than a quarter being 21% of them knew it was viral causes from those who knew about the causes [21].

In the study done in Gondar, [21] 442 (88.2%) believed that cervical cancer is a major health problem for reproductive-age women and, 253 (50.5%) believed that cervical cancer cannot be detected by early screening before symptoms appear. However, 457 (91.2%) believed that, early detection of cervical cancer is good for treatment outcomes

which makes our study participants have better attitude towards early screening and how it detects the symptoms early and that it will lead to better health outcomes. Similarly, in the similar study done in Gondar, 391 (78%) of those who had heard about it believed that cervical cancer is preventable but, in our study, more than 90% of them believe its preventable 47 making our study respondents more knowledgeable on the prevention awareness. Regarding the prognosis in the study done in Gondar, 264 (52.7%) believed that cervical cancer is not curable and the remaining 237 (47.3%) believed it is curable which makes our study parts pants to have less better attitude toward being cured than this study. The Gondar study also reveals overall more than half, 448 (58.2%) of the study participants had a favorable attitude towards cervical cancer and its prevention. when we compare our study to the study done in Gondar was a similar situation regarding their attitude towards cervical cancer and its screening. And on the hosanna town study [19], the total size of the study subjects who were actual respondents during the data collection period was 583. Therefore, the response rate of the study was calculated to be 98%. The participants' age ranged from 18 to 48. And 270 (46.3%) of the respondents had poor knowledge i.e. scored less than the mean (7.57±SD 6.61). Whereas, 313 (53.7%) of respondents had good knowledge i.e. scored greater than or equal to the mean. but in our study compared to the above study in hosanna town our respondents are more knowledgeable being 59% with total mean 7.3±SD4.4 they also have better attitude towards cervical cancer and screening being 58% with a total mean of 6±SD 4.1. in the Hawassa study Less than half, 254 (43.6%) of the respondents believed that all women are at risk of getting cervical cancer while 216 (37.0%) of them did not know which women are at risk of getting the disease on the hosanna town but in our study most of respondents agreed that women including themselves are at risk of having cervical cancer which makes our study respondents to have better attitude towards the screening. in the hosanna study Two hundred twenty-three (38.3%) of participants had no idea what factors raise chance of getting cervical cancer whereas 165 (28.3%) of participants reported that having multiple sexual partners is a risk factor for the disease where as in our study majority of the respondents who knew about the risk factor of cervical cancer most of the respondents suggested multiple sexual partners are the risk factor making our study respondents more knowledgeable on the risk factor than the study in hosanna but from those who knew about the risk factors in the hosanna study they have similar responses with our study on the mentioned risk factor. Similarly in hosanna, more than a quarter, 209 (35.8%) of participants affirmed that they had no information about symptoms of cervical cancer which makes our study participants to be less knowledgeable in the symptom section of the study, while 220 (37.7%) of them indicated that persistent 48 pelvic pain is the symptom of the disease but in our study the respondents who know about the symptoms suggested vaginal bleeding as the major causes they know which makes them know better about cervical cancer than the respondents in hosanna. Of all the participants in the hosanna study, only 58 (9.9%) of them had been screened for the cervical cancer before the survey but our study participants most of them were screened which makes them have better practice of the screening that the hosanna study. All the participants who had been screened are those who had the intention to be screened for the disease. and on the study done May 2008 in Ethiopia on KAP of cervical cancer screening among reproductive health clients in the 3 teaching hospitals (St. Paul, Gandhi and Tikur Anbessa hospitals) on 276 RH clients attending emergency and regular outpatient department (OPD) antenatal, postnatal, family planning and referral clinics at the three hospitals it suggested Most respondent (81.2%) had never heard of Pap smear screening making our study respondents more knowledgeable towards screening awareness compared to this study [23]. Only 6.5% of all the respondent had ever had a Pap smear test in the above study in Ethiopia on May 2008 where as in our study almost more than half of the respondents had been screened which makes our study respondents have a better practice than the other study. The reasons given for not having the test in the study done in Ethiopia on May 2008 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%). But in our study the cause for not being screened was not being informed as the major cause and not knowing about it being the next cause. And in another study done in Ethiopia February- march 2015 on cervical screening knowledge and barriers among woman from a total of 520 women [24], 42.7% of the respondents have heard about the screening and 27.7% of them had adequate knowledge and 25% of the respondents have had the screening. which makes our study respondents have a better knowledge attitude and practice towards the screening of cervical cancer since more than half of them were screened.

8. Conclusion

The majority, > 80% of the participants lack knowledge that viral causes namely HPV is a causative agent of cervical cancer. This is extremely worrying as the most important way to prevent cervical cancer is blocking HPV infection. Although the participants have good knowledge regarding the awareness of cervical cancer among those majority mentioned Pap smear as the screening method and small amount being 9.6% mentioned HPV test which made our respondents to be less knowledgeable on the screening aspect. Overall, more than half (59%) of the women greater or equal to 18 to 49 years of age, who are reproductive health clients (outpatient, family planning, ANC, emergency) department of Zewditu Memorial Hospital had good knowledge regarding the cause, risk factor, symptoms and screening methods. More than half of the respondents have good attitude towards cervical cancer screening since more than half of the respondents believe it has no side effects and that it isn't expensive either. The study revealed that 51% of the respondents has been screened at least once in their life

time making the practice of our respondents better. And those who were not screened suggested, not knowing about it, not being informed as their major causes of not being screened, and since they have good attitude towards the screening it gave us the idea that if they were informed about it they would have done it. In this study it was found that having good attitude is significantly associated with having a good practice being 0.79 times correlated, and having an adequate knowledge was found to be moderately associated with having a good practice. And having a good attitude was found to be significantly associated with having a good knowledge by 0.8.

9. Strength and Limitation of the Study

The strength of the study was that this study helped us to know the level of knowledge, attitude and practice of cervical cancer and its screening among the reproductive health clients of Zewditu, since there was no previous published research done in Zewditu on this aspect. It gave us an in-depth knowledge on that and helped us change our perception of woman having less adequate knowledge, attitude, practice towards cervical cancer and its screening. This study was limited to Zewditu memorial hospital reproductive health clients only due to constraints of time and funds. It would have been better if other governmental hospitals in Addis Ababa and other departments in the hospitals be included to see the differences in knowledge, attitude and practice regarding cervical cancer and its screening. So, generalizability to the general population is limited because it is an institution-based study. There is not standard or validated tool to assess the KAP of cervical screening and that made it difficult to do the research which I used the methods most of them used in the researches I saw for my literature review. The pandemic (COVID-19) which occurred in our world made it difficult to undergo the process of the research namely the data collection which condensed time for it to be processed.

10. Recommendations

1) 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.
2) Emphasis on more STD and HIV screening services with cervical cancer screening since they are more interrelated, by raising a campaign to raise awareness on the causes and risk factors that result in cervical cancer at Zewditu hospital.
3) Zewditu hospital should create awareness by giving training or using the media or radio as a coverage to let the woman know regarding cervical cancer screening since screening services like VIA is being given at this facility.
4) 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 at Zewditu memorial hospital using cheap screening procedures that have shown to have reasonable sensitivity and specificity.
5) Since there are no validated or standard tools to assess KAP of cervical cancer screening it will be better if experts develop validated or standard tools for future studies.

References

[1] American Cancer Society. Cancer Facts & Figures. Atlanta: American Cancer Society Google. 2011.

[2] HM H. Cancer initiatives in Sudan. PubMed Google Scholar. Ann Oncol. 2006, 17 Suppl 8: viii32-viii36.

[3] Ferlay J SHBFFDMCPD. Estimates of worldwide burden of cancer. 10.1002/ijc.25516. View Article Google Scholar. 2008: GLOBOCAN 2008. Int J Canc. 2010; 127 (12): 2893-2917.

[4] Wittet S TV. Cervical cancer prevention and the millennium development goals. Bull World Health Organ. View Article PubMed Central Google Scholar. 2008, 86 (6): 488-490.

[5] Cervical-cancer-screening-update. https://www.acog.org/clinical/clinical-guidance/practice-advisory/articles. 2018.

[6] Canavan TP DN. AFP. Cervical cancer. [PubMed] [Google Scholar]. 2000; 61: 1369–76.

[7] Abate sm. trends of cervical cancer in Ethiopia. Journal of HPV and cervical cancer. 2015 December 15 published.

[8] Guideline for cervical cancer control and preventions in Ethiopia.; 2015 January.

[9] Combating cervical cancer in Ethiopia.; 2015.

[10] Human papilloma virus and related cancers in Ethiopia. WHO/ICO; 2009.

[11] Blumenthal PD GL. Cervical cancer prevention: making programs more appropriate and pragmatic. JAMA. [PubMed] [Google Scholar]. 2005; 294 (17): 2225–2228.

[12] Agam B. BansalAPPNKRMaAMK. Knowledge, attitude, and practices related to cervical cancer among adult women: A hospital-based cross-sectional study. 2015 Jul-Dec; 6 (2): 324–328.

[13] Al Sairafi M1 MF. Knowledge, attitudes, and practie related to cervical cancer screening among Kuwaiti women. 2009; 18 (1): 35-42.

[14] Dhaher EA. Knowledge, Attitudes and Practices of Women in the Southern Region of Saudi Arabia Regarding Cervical Cancer and the Pap Smear Test. 2019;: 20 (4): 1177-1184.

[15] Oh STaJK. Knowledge, attitudes, and practices toward cervical cancer prevention among women in Kampong Speu Province, Cambodia. Pub med articles. 2018 March 15.

[16] Ahmed O Almobarak1 AAEWMEMHEMHA. Knowledge, Attitudes and Practices of Sudanese Women Regarding the Pap Smear Test and Cervical Cancer Khartoum, Sudan. PubMed articles. 2014.

[17] Lovemore Makurirofa PMVJAMJMMNaSK. Women's knowledge, attitudes and practices (KAP) relating to breast and cervical cancers in rural Zimbabwe. pubmed articles. publihed 2019.

[18] Murithi Gatumo SGARSaAS. womans knowledge and attitudes related to cervical cancer and cervical cancer screening in Isiolo and TharakaNithi counties, Kenya: a crosssectional study. pubmed articles. 2017 January and March.

[19] YitagesuHabtu Aweke SYATLE. Knowledge, attitude and practice for cervical cancer prevention and control among women of childbearing age in Hossana Town, Hadiya zone, Southern Ethiopia: Community-based cross sectional study. pubmed articles. 2017 July 25.

[20] Ebu N SCMSMSPSC2. Knowledge, practice, and barriers toward cervical cancer screening in Elmina, Southern Ghana. Pub med articles. 2014 Published 24 December;: Volume 2015: 7 Pages 31-39.

[21] AyelignMengesha AM&BBpf12. Knowledge and attitude towards cervical cancer among reproductive age group women in Gondar town, North West Ethiopia. BMC Public Health volume 20. 2020 feb 11; Article number: 209 (2020).

[22] ArslaanJavaeed, SSSHZHSKGaMMA. Knowledge, Attitude, and Practices Related to Cervical Cancer among Adult Women in Azad Kashmir: A Hospital-based Cross-sectional Study. Pub med articles. 2019 March 11.

[23] YifruTerffe and AsheberGaym Y. Knowledge, attitude and practice of screening of carcinoma pof cervix among reproductive health clients at 3 teaching hospitals, addisabbea Ethiopia. Ethiopian jornal of reproductive helath volume 2 number 1. 2008 May; 61-71.

[24] Sofonias G. EG, MG, EJK. Cervical cancer screening knowledge and barriers among woman in Addis Ababa, Ethiopia. Public library of science. 2019 April 14.

[25] Megazinet. zewditu memorial hopsital. ZMH CRC incubator sentor and stuffs special event. 2010 E.C Ginbot.

[26] Genralstuff amount of ZMH. Unpublished. ZMH, general nursing department; 2020 Mar 9.

[27] G Narayana1 MJSGSJDRBPKKV. Knowledge, attitude, and practice toward cervical cancer among women attending Obstetrics and Gynecology Department: A cross-sectional, hospital-based survey in South India. indianjornal of cancer. 2018 Jan.

[28] Asheber Gaym M. D. introduction to obstetrics and gynecology diagnosis. In.; July 2008. p. 54.