

Knowledge, Attitude, and Practice Towards Cervical Cancer Screening and Its Associated Factors Among Reproductive Age Women in Metekel Zone, Benishangul-Gumuz Region, Northwest, Ethiopia.

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Research Article

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KNOWLEDGE, ATTITUDE, AND PRACTICE TOWARDS CERVICAL CANCER SCREENING AND ITS ASSOCIATED FACTORS AMONG REPRODUCTIVE AGE WOMEN IN METEKEL ZONE, BENISHANGUL-GUMUZ REGION, NORTHWEST, ETHIOPIA.

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ABSTRACT

Background: Cervical cancer is the second leading cause of cancer death in women and recognized as a significant public health problem. Screening is acknowledged as the most effective approach for cervical cancer control. However, in Ethiopia, the existing screening programs are failing to achieve a significant impact.

Objectives: To assess KAP towards cervical cancer screening and its associated factors among women in the reproductive age group, in the Metekel zone, Benishangul-Gumuz Region, Northwest, Ethiopia, 2020.

Methods: A community -based cross- sectional study design was employed on January 25 to 25, February, 2020, among reproductive age group women living in Benishangul-Gumuz. Multistage sampling, followed by a systematic sampling technique, was used to select 822 study participants. Data were entered using Epi-data version 4.1, and further analysis was

conducted using SPSS version 25. Both bivariate and multivariate logistic regression analysis applied to assess the association of dependent variables with different independent variables. Adjusted Odd Ratio at a p-value less than 0.05 with a respected 95% confidence interval was used to declare the significant association.

Results: A total number of 822 reproductive age women were included in this study giving a response rate of 100%. About 16.1% had adequate knowledge towards cervical cancer screening, 42.3 % had favorable attitude towards cervical cancer screening. Only 7.5% of women practiced cervical cancer screening. Higher education (AOR: 5.341, 95% CI: 2.808-10.159) were significantly associated with knowledge, and Adequate knowledge (AOR: 2.275; 95% CI 1.363-3.798) were significantly predictors of favorable attitude towards cervical cancer screening. Wealth status (AOR: 3.654; 95%CI: 1.347-9.913) was significantly associated with uptake of cervical cancer screening.

Conclusion and recommendation: This study found that the level of knowledge, attitude and ccs practice among reproductive-age women was still unacceptably poor. So, the concerned body would aggressively strength program on HIV targeted reproductive age women's of the DC in order to create awareness and changing their attitude towards ccs.

KEYWORDS: cervical cancer, cervical cancer screening, knowledge, attitude, practice

Plain English summary

Screening is acknowledged as the most effective approach for cervical cancer control. However, in Ethiopia, the existing screening programs are failing to achieve a significant impact. World health organization, global technique inside the course of the abolition of maximum cervical cancers as a public health hassle calls for a complete, population-primarily based technique to place all international locations at the direction to the elimination of cervical most cancers inside the century. This study was trying to answer the level KAP and associated factors through interviewer-administered questionnaires.

The participants were asked their socio-demographic characteristics, Health facility characteristics, Socio-economic characteristics, Individual Characteristic, Reproductive Health characteristic and House Hold wealth Index characteristics about family planning service utilization, and the challenges they face during family planning service utilization.

Of 822 participants 116 of the participants were screen for cancer of the cervix. This study reveals that 348 participants had a favorable attitude towards cervical cancer screening. Maternal education, in adequate knowledge about CCS and Wealth status women was the main factor that affects cervical cancer screening.

In conclusion, the prevalence of cervical cancer screening in the study area was low in comparison to the national figure. Maternal education, in adequate knowledge about CCS and Wealth status women. Policy action will be required to farther improve CCS practice.

Background

Cervical cancers are laid low with the sexually transmitted Human Papillomavirus, is the most common viral infection of the reproductive tract. Almost all sexually lively individuals might be infected with Human Papillomavirus in some unspecified time in the future in their lives. The famous Human Papillomavirus infection resolves spontaneously. However, chronic contamination with specific varieties of HPV (maximum frequently, types 16 and 18) might also lead to precancerous lesions (1, 2).

World health organization, global technique inside the course of the abolition of maximum cervical cancers as a public health hassle calls for a complete, population-primarily based technique to place all international locations at the direction to the elimination of cervical most cancers inside the century ,Prevention of cervical most cancers mainly while integrated with other programmers to aid for maximum cervical cancers screening in Africa, it covers the duration 2020-2030 (2-4).

Several cervical cancer screening techniques had been observed to be powerful in varied settings and the test used extensively include conventional cytology (Pap smear), in current year's liquid-based cytology and HPV trying out, and, in LMICs, visual inspection with acetic acid (VIA). While the Pap smear is still the principal workhorse of screening and is associated with vast declines in cervical cancer threat in high-earnings countries (5). For numerous along time, the Pap test a look at has been the preferred strategy for cervical cancer screening. Review records have regarded that screening with a Pap takes a look at diminishes the frequency of cervical cancer through 60-90% and the passing charge with the aid of 90%, In resource-limited country like Ethiopia, cost-effective screening method like VIA at the district community level stratagem was implemented and assessing women knowledge, attitude, and practice. Thus, it is mandatory to create, effective prevention and control of ROCs require a holistic response by FOMH, 2015(6).

However, in lower and middle-income countries, the handiest approximately 5% of eligible girls go through cytology-primarily based screening in a five years length, and all lower and middle-income countries, cytology-based services are restrained to teaching hospitals or private laboratories in urban areas. Ethiopia cervical most cancer screening carrier was delivered in 2009, predicted insurance of cytology-primarily based cervical cancer screening- is 1.6% in city settings, and 0.4% in rural areas; however also VIA screening blended with get entry to cryotherapy was piloted in Ethiopia through the FMOH (7-9).

Specifically, cervical malignancy screening is a significant optional avoidance system to distinguish ailment at an early and asymptomatic stage when treatment is profoundly influential. Access to an effective screening-and-treat approach is basic to lessening mortality because of cervical malignant growth, overwhelmingly in low-asset settings with a little limit concerning tertiary mediations for cutting edge cervical disease (9).

The recommended way of reducing prevalence and mortality of cervical cancer is applying for an effective screening-program following ways of detecting pre-invasive cervical lesions ensuing in a high charge of remedy after remedy. Several techniques of cervical cancer screening had been used. The most usually used method in recent times is cytological take a look at. However, Screening with Papanicolaou (PAP) check caused an extensive reduction in mortality in advanced countries, and studies have shown that screening with visual inspection with acetic acid reduces mortality because of cervical most cancers in developing international locations (10-12).

Worldwide, cervical cancer is the second main motive of maternal mortality, in most areas of the arena; extra women now die from cervical most cancers than from being pregnant-related ,headaches , internationally, were 569,847 new cases of cervical most cancers and 311,365 women died from the disorder (3, 4, 13). About 14.1 million new most cancers instances and 8.2 million deaths befell in international, Incidence quotes are highest in sub-Saharan Africa, almost 90% of cervical most cancers deaths came about in developing elements of the world, and 60,100 deaths occur in Africa (4, 13) .

The average cervical maximum cancers trouble is anticipated to have risen to 18.1 million new instances and 570, 000 women identified with cervical most cancers in 2018 and present-day prevalence of invasive cervical maximum cancers in Ethiopia which encompass estimates approximately 6,294 new cervical most cancers times are diagnosed every year, In Ethiopia reproductive-age women, cancer bills for approximately 5.8% of total countrywide mortality.

It is Estimated that the once a year prevalence of cancer is around 60,960 instances and the once year mortality over 44,000. The most regular cancers in Ethiopia are cervical cancer 13.4%, and about two-thirds of mentioned annual most cancers deaths arise among girls. If now not something is performed, new instances of maximum cervical cancers are expected to rise to 720,415 (14-16).

However, the common factors of the continuous occurrence of cervical cancer in Ethiopia, the existing screening programs are failing to achieve a significant impact. Perhaps, challenges of cervical cancer screening including; confined access to health services and confined or no get entry to diagnostics and laboratories, lack of awareness and poverty impact on management and preventive measures of cervical cancer girls living with and liable to HIV, together with sex employees, are frequently marginalized and stigmatized within the network and no vaccination and screening and remedy service is traditionally difficult-to-reach, minority populations and social fences may additionally have extra trouble getting access to health services (4, 13, 14).

The global communities and also the Ethiopian government started a screening program to take a new measure of cervical cancer; policies had carried out and realized women liable to cervical cancer and provide them early detection and treatment on the foremost cancers degree have dramatically reduced incidence and mortality of cervical cancer in excessive-income international locations, To reach abolition inside the shortest time frame and with maximum effect, focused action throughout the variety of care is needed, which include progressed coverage of HPV vaccination, amplified coverage of screening and remedy of pre-cancer lesions, and better prognosis and remedy of invasive most cancers in a timely section, in addition to palliative care (7, 9).

However, cervical cancer screening attendance rates are still a long way from tolerable in many nations. Community-based studies suggest that reporting of cervical cancer screening in growing countries is, on average, 19%, in comparison to 63% in developed nations, and in Ethiopia, cytology-primarily based cervical cancer screening - is, 1.6% in city settings and 0.4% in rural areas, However, no longer an excessive amount of result recorded, (7-9, 17). Cervical cancer screening has been continually shown to be powerful in reducing the occurrence and acknowledged as the most effective approach for cervical cancer control. But, in Ethiopia, the existing screening programs are failing to achieve significant impact (3, 7, 13). Therefore, evaluating Knowledge, Attitude and Practice towards

screening of cervical most cancers screening utilization and related elements amongst community women's reproductive age group is essential.

Methods and materials

Study area

This study was conducted in Metekel zone. It is located 570 km far from the capital Addis. administratively, structured into seven, districts. Based on the 2015/16 census conducted by the Central statistical agency of Ethiopia (CSA) the total population of the Metekel is estimated to be 276,367, of whom 139,119 were men and 137,248 women.

In the zone, there are 3 hospitals, 13 health centers, and 76 health posts, which all of them have currently providing free cervical cancer screening services. Three woredas (Dangur, Mandura, and Pawe) has been selected randomly by the lottery method from 7 Woredas in Metekel zone were enrolled.

According to 2018 woreda transformation plan population of study woreda the total population of Dangur, Mandura, and Pawe woreda has 48,537 with 15 rural Kebeles, 47,562 with 16 rural Kebeles, and 72,006 with 17 rural Kebeles, 11,673, 11,437 & 17,317 reproductive age of each woreda respectively. Among these women of reproductive age (15-49 year) study area was 4,977, 5,994, and 5,499 and total housing hold 4,320 of each 1,292, 1,355, and 1,673 respectively.

Study Design and period

A community-based cross-sectional study design was conducted from January 25 to 25, 2020

Source of Population

All reproductive age group women, who were living in Metekel zone.

Study Population

Those selected reproductive-age women who were living in Metekel zone

Inclusion Criteria

All reproductive age women, who are residents of the selected kebeles above 6 months prior to the study.

Exclusion Criteria

Women excluded from the study were those who are done total hysterectomy, mentally and seriously ill, and residence less than six month.

Sample Size Determination

The sample size for the study was using a single population proportion formula with the following assumptions .Based on findings from a previous study conducted in Amhara Region (Ethiopia) (21). The proportion of women Attitude 58.1% of women reproductive age group, who underwent cervical cancer screen in Finot-Selam town, northwest Ethiopia,2017 (21).By assuming a margin of error of 5%, $Z_{\alpha/2}$ =value for 95% CI (1.96), Proportion=64.6%, and the non-response rate of 10%, a sample size of 822 women obtained.

Sampling Technique and Procedure

A multi-stage sampling technique was used. In the 1st stage, three woredas (Dangur, Mandura and Pawe) were selected by a simple random sampling method among the seven woredas in Metekel zone. In the second stage, four kebele were selected from each woreda town administration by using a simple random sampling technique. A house-to-house visit was carried out to identify eligible women in each *kebele* was selected by employing a systematic sampling procedure.

The first number of reproductive age group women who live in selected kebele (4320) was divided for the final calculated sample size (822) to determine the interval nine. Then, one number was selected from a list of numbers arranged from 1 to 9 using the lottery method to consider the first household included in the study, which was 5.Finally, the first respondent Was 5. Then every (K+5) was interviewed. If there is more than one eligible woman aged in the selected household, by lottery method was used to select one.

Data collection tool and procedure

Data was collected using interviewer- administered questionnaires initially prepared in English, then translated into Amharic, and then translated back to English to check for consistency of the questions. Three supervisors with a Bachelor's degree in nursing and six data collectors diploma nurse were assigned for supervisory activities along with the principal investigator.

Data Quality Assurance

The prepared questionnaire and tools were translated into Amharic and then translated back to English for consistency. The Amharic version of the questionnaire was pre-tested among 41 (5%) of the sample population in the study. Training was provided for the data collectors and supervisors on the objectives, relevance of the study, how to keep the confidentiality of the information and techniques of interviews for two consecutive days. The supervisors have supervised the data collection process every day and the principal investigator also checks the collected questionnaire for completeness every other day.

Data Processing and Analysis

Data were cleaned, coded and entered into Epi data version 4.1, and further analysis was done by SPSS version 25. Data were checked for frequencies, accuracy, consistencies, missed values, and variables, and then descriptive statistics were computed and presented by tables, graphs, and frequencies. Likert scale analysis was used to determine the attitude status of the respondents. Chi-square test was used to assess the association between knowledge and attitude, knowledge and practice. Both Bivariable and multivariable logistic regressions were fitted to identify the relationship between dependent and independent variables. During Bivariable, variables with a p-value of less than 0.20 were selected as a candidate for the multivariable logistic regression model. Adjusted Odds Ratio (AOR), 95% level of confidence interval (CI) and the respective p-value was used to declare statistically significant. Hosmer and Lemeshow test were used for checking the model fitness of logistic regressions.

Results

A total of 822 reproductive age group women were included in this study, giving a response rate of 100%.

Socio-demographic characteristics of the study population

The study shows that the mean age of reproductive group women was 27 with SD ± 0.764 , in which the majority, 483 (58.8%) of the respondents, were found in the age group of greater than 31 years. Majority 318 (38.7%) of participants were from Mandura district. Four hundred and fifty-nine (55.8%) of the study participants were Orthodox Christian followers, and nearly two-thirds, 514 (62.5%) of them were Amhara in ethnicity. Concerning Marital status, slightly more than two-thirds of 554 (67.4%) of respondents were married. Regarding the household women's wealth index, quantile finding revealed that 166 (22.2%) were women from poor-income families (Table 2).

Table 1. Percentage distribution of the reproductive age women in Metekel zone, Benshangul Gumuz by selected socio-demographic characteristics, Metekel, Ethiopia, May 2020 (n=822)

Variables	Frequency	Percentage (%)
Age of respondent		
18-24	158	19.2 %
25-30	181	22.0 %
>=31	483	58.8 %
Religion		
Orthodox	459	55.8%
Muslim	269	32.7%
Others	94	11.4%
Educational level		
Not attended formal education	252	30.7%
Primary education (1-8)	182	22.1%
Secondary education (1-9)	171	20.8%
Collage and above	217	26.4%
Marital status of respondents		
Single	268	32.6%
Married	467	56.8%
Widowed	27	3.3%
Divorced	43	5.2%
Separated	17	2.1%
Occupational status of respondents		
Unemployed	320	38.9%
Government employ	135	16.4%
Private org. employ	77	9.4%
Day labor	135	16.4%
Commercial sex workers	16	16.4%
Students	139	16.9%
Household Wealth index		
-Poorest	166	22.2%
-Second	163	19.8%
-Middle	156	19.0%
-Highest	191	23.2%
-Wealthiest	146	17.8%

Sexual and reproductive characteristics of respondents

About 647(78.7%) of respondents had practice sexual intercourse. Among those who had sexually active, the majority, 647(78.7%) of them had sexual intercourse with the median age of 19.21 years old. 78.7% among those ever had sexual intercourse ,230(28.0%) were started their first sexual intercourse at the age of less than 18 years while the rest of women started at 18 and above years.. Among those, 198 (30.6%), who ever had sex with two partners, and those, 89(13.8%) of them had sexual partners of three and more.

Table 2. Percentage distribution of the reproductive age women by selected sexual and reproductive history, in Metekel, Benishangul Gumuz, Ethiopia, May 2020 (=822)

Ever used modern contraceptive?		
Yes	552	67.2%
No	270	32.8%
If, yes which type contraceptive?		
injectable	368	66.7%
implant	89	16.1%
COC	68	12.3%
POP	18	3.3%
IUCD	9	1.6%
If yes, for how long?		
One year	102	18.5%
Two year	99	17.9%
Three year	121	21.9%
Four year	90	16.3%
Five years and above	140	25.4%
Do you know STI/HIV/AIDS-cause of cervical cancer?		
Yes	281	(34.2%)
No	200	(24.3%)

Concerning the number of the sexual partner slightly more than half, only 360 (56.6%) of the respondents were single. Regarding the parity and gravidity of the respondent's women 498 (60.6%) had been pregnant 28 (5.6%) gravida-I and 470 (94.4%) give birth (para-I) and 215(43.2%) of the respondents practiced abortion. Out of 822 respondents, about two-third 552(67.2%) participants had been utilized contraceptive once in their life time. Among those who had been experienced contraceptive, majority, 368 (66.7%) of them were utilizing injectable. Regarding sexually transmitted diseases one-third, 281(34.2%) of them had known risk of cervical cancer (Table.3)

Table 4. Percentage distribution of the reproductive age women by selected social/individual behavior and practice, in Metekel, Benishangul- Gumuz, Ethiopia, May 2020 (n=822)

Variables	Frequency	Percentage (%)
Did anyone encourage uptake of Screening?		
Yes	219	26.6%
No	603	73.4%
If yes, from whom?		
Doctor	114	52.1%
Friend	25	11.4%
Family member	41	18.7%
Sexual partner	12	5.5%
No one	27	12.3%
If yes, did you explain feelings		
I am shining	20	9.1%
So fear	162	74.0%
Discomforting	31	14.2%
very comforting	6	2.7%
Do you have family member talk Uptake of screening and cervical cancer?		
Yes	24	2.9%
No	798	97.1%
If no, explain reason not discussed?		
Lack of awareness	142	17.8%
Not decision making in my home	104	13.0%
Lack of information	238	29.8%
I do not know	338	42.4%

Social/individual characteristics of respondents

Regarding individual related behavior, the majority, 219 (26.6%) of the participants reported that they encouraged to uptake of Screening. A bout more than half, 114 (52.1%) of the participants obtained information from their health care provider. During the up taking of cervical cancer screening about 162 (74.0%) of the women reported that they feel fear. About one-third, 238 (29.8%) of the respondents do not discuss with their family member about uptake of screening and cervical cancer due to lack of information (Table.4).

Table 5. Percentage distribution of the reproductive age women by selected social/individual behavior and practice, in Metekel, Benishangul- Gumuz, Ethiopia, May 2020 (n=822)

Variables	Frequency	Percentage (%)
Did anyone encourage uptake of Screening?		
Yes	219	26.6%
No	603	73.4%
If yes, from whom?		
Doctor	114	52.1%
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If yes, did you explain feelings		
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Discomforting	31	14.2%
very comforting	6	2.7%
Do you have family member talk Uptake of screening and cervical cancer?		
Yes	24	2.9%
No	798	97.1%
If no, explain reason not discussed?		
Lack of awareness	142	17.8%
Not decision making in my home	104	13.0%

Lack of information	238	29.8%
I do not know	338	42.4%

Overall level of Knowledge of respondents on cervical cancer

About, 315(38.3%) of respondents had heard about cervical cancer. Of those who had heard of cervical cancer, A small proportion of women 118 (14.4%) knew about cause, Knew symptoms of cervical cancer 205(24.9%) and 121(14.7%) its prevention. Among those who had heard about cervical cancer majority, 222(47.4%) of the respondents were in the age above 31 years old.

Regarding knowledge to cervical cancer screening about 132(16.1%) of the women were knowledgeable. The respondent’s levels of knowledge towards cervical cancer screening were categorized as adequate and inadequate knowledge based on their score (Figure-3).

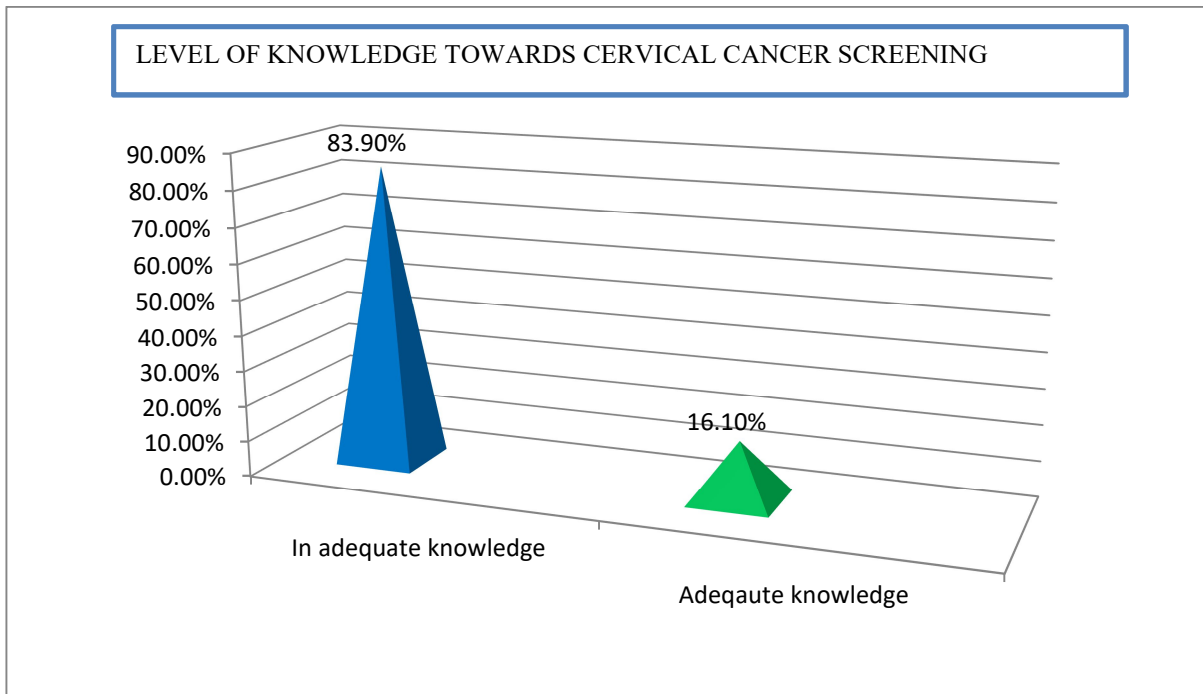


Figure 1. Percentage distribution of the reproductive age women in Metekel zone, Benshangul Gumuz, the level of respondents’ knowledge, Metekel, Ethiopia, May 2020 (n=822)

Regarding, their source of information about cervical cancer respondents, news media like TV, Radio, friend, family and health workers were the primary source of information reported by the women. About, 315(38.3%) women heard about cervical cancer. Of those heard about

cervical cancer the most frequent source of information 140 (44.4%) was health workers followed mass media 68(21.6%), 90(28.6%) family and friend ,15(4.8%) brusher, poster and printed material and the list reported source of information 2(0.6%) was from religious leaders

As indicated in table 5, below the respondents cervical cancer prevention, treatment and screening options .One hundred–twenty-one (38.4%) knew that prevention methods of cervical cancer, among those 12(9.9%) participant knew that cervical cancer was prevented by avoiding multiple sexual partners,39 (32.2%) reported both HPV vaccination and avoiding multiple sexual partners,9(7.4%) participant knew that avoiding early sexual contact, while121(38.4%) respondents said that cervical cancer could be prevented by screening. Most of the questions asked about cervical cancer, its risk factors, symptoms, prevention and Screening was answered by women, so much than half of the respondents not knew about risk factors, symptoms, and prevention and treatment methods.

Table 6.percentage distributions of women’s knowledge towards cervical cancer, risk factors,prevention,screening and its treatment in Metekel,Ethiopia,2020.n=822

Variable	Frequency	Percentage (%)
Heard about cervical cancer?		
Yes	315	38.3%
No	507	61.7%
Do you know the causes of cervical cancer?		
Yes	118	37.5%
No	197	62.5%
If yes, which one among these?		
Having multiple sexual partners	17	14.4%
Initiation of early sexual intercourse	12	10.2%
Multiple sexual partners and HPV	31	26.3%
Multiple sexual and early sexual intercourse	48	40.7%
HPV and early sexual intercourse	10	8.5%
Prevention methods		
Do you know how to prevent cervical Cancer?		
Yes	121	38.4%

No	194	61.6%
If yes, how?		
Avoid multiple sexual partners	12	9.9%
Avoiding HPV infection.	8	6.6%
Avoiding early sexual contact.	9	7.4%
HPV vaccine & avoiding multiple sexes.	46	38.1%
HPV vaccine & avoiding early sexes.	7	5.7%
Avoid multiple & HPV vaccine.	39	32.2%
Do you know screening prevent cervical Cancer?		
-Yes	121	38.4%
-No	194	61.6%
Do you know how to treat cervical cancer?		
-Yes	147	46.7%
-No	168	53.3%
If yes, which one among these?		
A specific drug is given in hospital	68	46.3%
Surgery	17	11.6%
Radiotherapy	27	18.4%
Combined treatment	35	23.8%

Regarding symptoms of cervical cancer, about 205 (65.1%) were known for the symptoms. Abnormal vaginal bleeding ,foul-smelling, and post-coitla vaginal bleeding were the most commonly respond symptoms of cervical cancer screening, In contrast , symptoms not known by respondents 110(34.9%) were large numbers reported by the respondents .Figure 4,shows that knowledge about symptoms of cervical cancer, the most common symptoms of cervical cancer indicated were abnormal vaginal bleeding 23 (7.30%) , followed by foul-smelling 54(17.10%) post-coital vaginal bleeding14(6.30%) ,abnormal vaginal bleeding and foul-smelling 106(33.7%). Least identified were only 112(35.6%) .

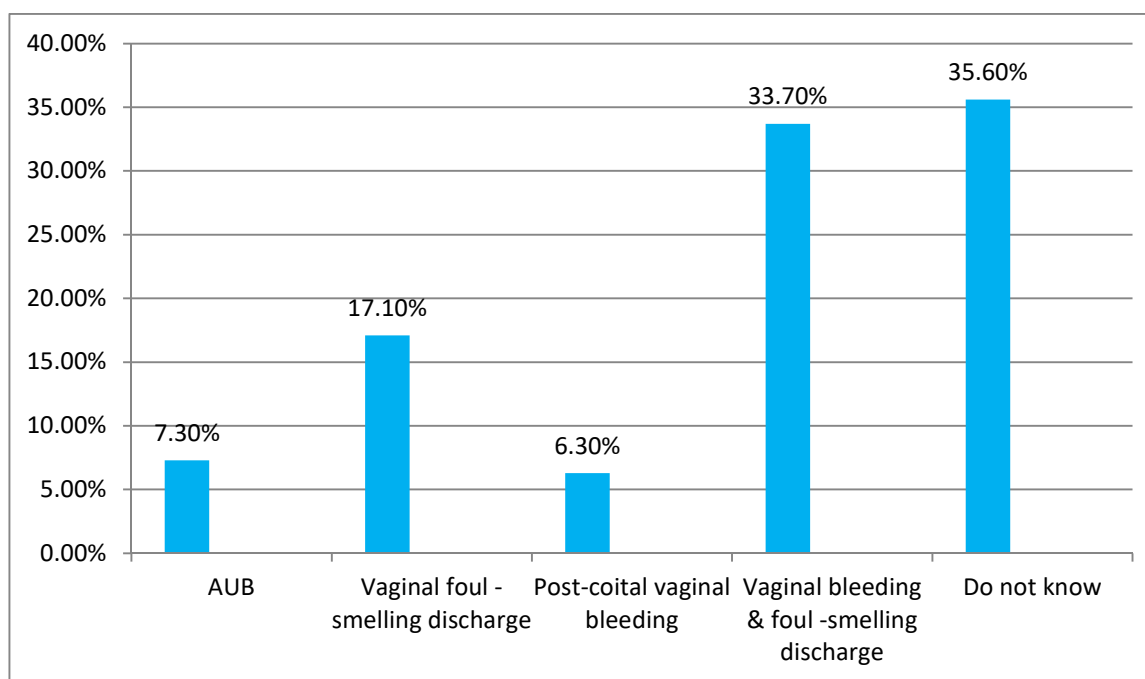


Figure.2 Shows Percentage distributions of women's knowledge towards Symptoms of cervical cancer reported by the respondents in, Benishangul-gumuz, Metekel, Ethiopia, 2020.n=315

Regarding the treatment, 126(40.0%) participants knew that cervical cancer is treatable, 53(16.8%) do not know whether it is treatable or not, and 136(43.2%) participants said cervical cancer not be treated. Respondents were asked about the cost of cervical cancer treatment 84(77.1%) answered it is costly, 6(5.5%) said is free of charge, 18(16.5%) moderately expensive, 1 (0.9%) reasonable price .and 17(13.5%) did not know about cost of cervical cancer treatment (Table 6).

Concerning how frequent one should be screened for cervical cancer, 85(27.0%) participants answered once a year up to every five years and 230(73.0%) did not respond to the frequency of screening. Seventy (44.6%) answered that women of above 25 years of age should be screened, while 14(8.9%) said that prostitutes and older women 47(29.9%) should be screened.

However, the respondent's knowledge of cervical cancer screening was not that much. The most widely and consistently responded screening method was VIA. About 62(74.7%) of the women knew the visual inspection of acetic acid .Only 12(14.5%) knew about pap-smear, and 9(10.8%) participants knew that biopsy was used as mentioned another method.

Table 7 : Knowledge about the frequency of screening, treatment cost and screening modalities of cervical cancer among women, in Metekel, Benishangul-Gumuz, Ethiopia,2020 (n=315)

Variable	Frequency	Percentage (%)
Do you know cancer of the cervix be cured/treated when identified in early stage?		
Yes	126	40.0%
No	136	43.2%
Don not know	53	16.8%
Do you know treatment cost of cervical Cancer?(n=126)		
Yes	109	86.5%
No	17	13.5%
If yes, mention?(n=109)		
Free of charge	6	5.5%
Reasonably priced	1	0.9%
Moderately expensive	18	16.5%
Very expensive	84	77.1%
Do you know frequency of cervical Cancer screening?(n=315)		
Yes	85	27.0%
No	230	73.0%
Do you know who should be screened?(n=315)		
Yes	157	49.8%
No	158	50.2%
If, yes who should be screened?(n=157)		
25 years and above	70	44.6%
Under 25 years	26	16.6%
Prostitute	14	8.9%
Elderly women	47	29.9%
Can you mention the methods used for screening?(n=315)		
Yes	83	
No	232	
If yes,(n=83)		

VIA	62	74.7%
Pap-smear	12	14.5%
Biopsy	9	10.8%

Overall attitude score of respondents towards cervical cancer screening

To assess the attitude of participants towards cervical cancer screening, seven questions put on the Likert scale. 348 (42.3%) of the respondents had a favorable attitude towards cervical cancer screening. Of those two hundred twenty-eight (27.7%) of the respondent perceived that any women can acquire cervical cancer, 130 (15.8%) of the respondents agree that screening helps in the prevention of cervical cancer and 118(14.4%) respondents volunteered to be screened, if screening was free. The procedure cannot cause any harm, 140(17.0%) respondents agreed to screened (Table 7).

Table 8. percentage distributions of women's attitude towards cervical cancer screening in Metekel, Ethiopia, 2020. (n=822)

Characteristics	Frequency	Percentage (%)
Carcinoma of cervix highly prevalent and cause of death?		
Strongly disagree	52	6.3%
Disagree	333	40.5%
Neutral	327	39.8%
Agree	46	5.6%
Strongly agree	64	7.8%
Any young women including you acquire cervical cancer?		
Strongly disagree	117	14.2%
Disagree	138	16.8%
Neutral	339	41.2%
Agree	76	9.2%
Strongly agree	152	18.5%
Carcinoma of cervix cannot be transmitted from one person to another?		
Strongly disagree	21	2.6%
Disagree	177	21.5%
Neutral	208	25.3%
Agree	381	46.4%

Strongly agree	35	4.3%
Screening helps in prevention of cervical cancer?		
Strongly disagree	69	8.4%
Disagree	432	52.6%
Neutral	191	23.2%
Agree	118	14.4%
Strongly agree	12	1.5%
Screening causes no harm to the client ?		
Strongly disagree	77	9.4%
Disagree	405	49.3%
Neutral	200	24.3%
Agree	132	16.1%
Strongly agree	8	1.0%
Screening cost for cervical cancer is not expensive?		
Strongly disagree	85	10.3%
Disagree	237	28.3%
Neutral	203	24.7%
Agree	266	32.4%
Strongly agree	31	3.8%
If screening for cancer, is free and cause no harm will be screened?		
Strongly disagree	123	15.0%
Disagree	413	50.3%
Neutral	168	20.4%
Agree	106	12.9%
Strongly agree	12	1.55%

Based on the respondent's score on the attitude part question, $\geq 60\%$ of the respondents who scored mean and above the mean had a favorable attitude towards cervical cancer screening. While $< 60\%$ of them who scored below the mean had unfavorable attitude. The minimum and maximum scores on the attitude question by the responses were 7 and 35, respectively.

Table 9. percentage distributions of women's attitude towards cervical cancer screening by woreda, age, marital status, and occupation in Metekel, Ethiopia, 2020. (n=822)

Characteristics	Favorable attitude (n=348)	unfavorable attitude(n=474)
Woreda		
Pawe	118(33.9%)	129(27.2%)
Mandura	129(37.1%)	189(39.9%)
Dangure	101(29.0%)	156(32.9%)
Respondents age group		
18-24	53(15.2%)	88(18.6%)
24-30	90(25.9%)	123(25.9%)
>=31	205(58.9%)	263(55.5%)
Marital status of respondents		
-Single	106(39.5%)	162(60.4%)
-Married	242(43.7%)	312(56.3%)
Occupational status of respondents		
-Unemployed	144(45.0%)	176(55.0%)
-Gov.employ	55(40.7%)	80(59.3%)
-Private organization .employ	34(44.2%)	43(55.8%)
-Day laborer	60(44.4%)	75(55.6%)
-Commercial sex workers	6(37.5%)	10(62.5%)
-Students	49(35.3%)	90(64.7%)

Note :(n=348) among those respondents who had a favorable attitude towards cervical cancer screening and (n=474) for that unfavorable attitude.

Overall Practice score of respondents towards cervical cancer screening

Findings also showed that 116(14.1%) of the women who responded that had been screen for cancer of the cervix. A significant number of the women 706(85.9%) had, however, never been screened in the past. Among those who had been screened, only 102(87.9%) had undergo screened once for a lifetime within the past five years at a time of study.14 (12.1%) had under gone screening for beyond the past five years during the time of the study. The overall regular screening practice was only 62(7.5%) and poor screening practice was 760(92.5%) among the reproductive age group women in Metekel zone (Table 9).

Table 10. Percentage distributions level of cervical cancer screening uptake among women of reproductive age towards cervical cancer screening in, Metekel, Ethiopia, 2020. (n=822)

Screening uptake	Frequency	Percentage (%)
Have you ever been screened?		
Yes	116	14.1%
No	706	85.9%
If yes, how many times you been screened?(n=116)		
Once	102	87.9%
More than once	14	12.1%
When was the last time screening done?(n=116)		
More than five years ago	57	49.1%
Within the past five years	59	50.9%
If no ,what made you not go for screening on a time?(n=706)		
It is expensive	149	21.1%
No information /knowledge	230	32.6%
I am healthy	221	31.3%
Not decided	80	11.3%
I feel shy	10	1.4%
My husband would not agree	12	1.7%
I am afraid of screening test	4	0.6%

The respondents were further asked to encourage you to undertake the screening services. The findings revealed that of 137(16.7%) most of the women make a decision, who conduct to take screening. Up the test free of charge 27(3.3%) went for the services since it was suggested by the health care provider other were encouraged by 26(3.2%) were from their friend, 43(5.2%) were from a family member. The majority of women 603(73.4%) were no-one encourages for uptake cervical cancer screening. Ministry of health focus is aimed at achieving at list 80% coverage age of reproductive women. Going by the result finding -only 116(14.1%) of women in the age cluster with the upper most risk factors proportion had not been screened at a time of the study (Table- 10).

Table 11: Percentage distributions Reason to prevent the women uptake of screening service among women of reproductive age towards cervical cancer screening in, Metekel, Ethiopia, 2020. (n=822)

Variable	Frequency	Percentage (%)
Reason to prevent women uptake of the screening service.		
Are you voluntary to test by VIA/Pap-smear?		
Yes	450	54.7%
No	372	45.3%
If no, what reason to prevent you uptake of screening service?		
Fear of cost to test	138	37.1%
No enough time	129	34.7%
Transport expense	16	4.3%
Poor income level	89	23.9%

Finding as shown in table 10: revealed some reasons why women for felt screening services. According to the findings, 138(37.1%) of the women do not have courage to undergo the screening test do you to fear of cost to test that one might be uptake screening of cervical cancer. Another proportion 129(34.7%) were do not value the screening test services as of importance hence could not create time to attend the screening from the nearby service center. Whereas other think that its transport expense 16(4.3%). Thus, the friend line of the service providers poor income level to determine extreme uptake free and no hard extent uptake and the women ability seek the service. This indicates that the women need to be informed of the screening services and the availability of the services in their areas as some women of reproductive age lack the awareness of whether the services exists and are open to all the women at no cost.

Association for predictors of Knowledge, Attitude, and Practice towards cervical cancer screening.

Bivariate and Multivariate analysis for predictors of knowledge towards cervical cancer screening.

Socio-demographic, characteristics of respondents in relation to knowledge towards cervical cancer screening were analyzed using bivariate logistic-regression. During the Bivariable logistic-regression variable like, level of education, marital status, residence, favorable

attitude and knowing STI/HIV cause of cancer of the cervix were independently associated with a bivariate logistic regression and a candidate for a multivariable logistic-regression model, a p-value less than 0.2.

Multivariate logistic regression analysis was also performed to examine the association between socio-demographic, characteristic of participants and certain variables in relation to knowledge towards cervical cancer screening. During, multivariate analysis indicated that level of education and marital statuses, residence, favorable attitude and knowing STI/HIV cause of cancer of the cervix, were significantly associated with the respondents' knowledge towards cervical cancer screening. Women who were married were two times (AOR: 2.113; 95% CI 1.189-3.756), widowed women were more than four times more likely knowledgeable than single women (AOR: 4.520; 95% CI 1.339-15.260). And women level of education collage and above (AOR: 5.341; 95% CI 2.808-10.159) over five times more likely knowledgeable as compared to women's who were secondary education and those women primary education (AOR: 2.190; 95% CI 1.087-4.414) over two times more likely knowledgeable than those women who were secondary. And knowing STI/HIV cause of cancer of the cervix were (AOR: 2.294; 95% CI 1.423-3.696), women have favorable attitude towards cervical cancer (AOR: 1.605; 95% CI 1.019-2.527) were more than one times more likely knowledgeable than poor responsiveness. But, also women who live in Dangure were (AOR: 2.575; 95% CI 1.286-5.158) two times and women who live in Mandura (AOR: 2.713; 95% CI 1.384-5.318) were two times more likely knowledgeable than those women who live in pawe (Table-11).

Table 12. Bivariate and multiple logistic regressions of determinant factors of knowledge towards cervical cancer screening among women in Metekel zone district administration, Benishangul-gumuz, Ethiopia, 2020.

Variables		Knowledge		COR:95%CI	AOR:95% CI
		Adequate knowledge	In adequate knowledge		
Residence	-Pawe woreda	14(5.7%)	233(94.3%)	1	
	-Mandura woreda	70(22.0%)	248(78.0%)	4.698(2.575-8.568)	2.713(1.384-5.318)
	-Dangure woreda	48(18.7%)	209(81.3%)	3.822(2.048-7.133)	2.575(1.286-5.158)
Marital-status	-Single	26(9.7%)	242(90.3%)	1	
	-Married	92(19.7%)	375(80.3%)	2.283(1.435-3.633)	2.113(1.286-3.756)
	-Widowed	7(25.9%)	20(74.1%)	3.258(1.259-8.432)	4.520(1.339-15.260)

	-Divorced	4(9.3%)	39(90.7%)	0.955(0.316-2.884)	1.072(0.309-3.719)
	-Separated	3(17.6%)	14(82.4%)	1.995(0.538-7.399)	4.393(0.900-21.440)
Education – level	-Not attended	20(7.7%)	232(92.1%)	1	
	-Primary Edu.	26(14.3%)	156(85.7%)	1.933(1.043-3.584)	2.190(1.087-4.414)
	-Secondary Edu.	23(13.5%)	148(86.5%)	1.803(0.957-3.397)	3.477(1.627-7.429)
	->=Collage	63(29.0%)	154(71.0%)	4.745(2.758-8.165)	5.341(2.808-10.159)
Family size	-Single	12(19.0%)	51(81.0%)	1	
	-Only two	21(12.6%)	146(87.4%)	0.611(0.281-1.330)	0.480(0.181-1.272)
	-Three family	28(19.4%)	116(80.6%)	1.026(0.484-2.176)	0.532(0.200-1.416)
	- Four family	27(19.1%)	114(80.9%)	1.007(0.473-2.144)	0.542(0.200-1.469)
	-Five family	26(17.7%)	121(82.3%)	0.913(0.428-1.949)	0.386(0.138-1.076)
	-More than five	18(11.2%)	142(88.8%)	0.539(0.243-1.196)	0.440(0.155-1.253)
STI/HIV causes of CCa	-Know	36(8.1%)	407(91.9%)	2.294(1.423-3.696)	2.294(1.423-3.696)
	-Not know	96(25.3%)	283(74.7%)	1	
Screening center	-Not know	91(46.4%)	105(53.6%)	1	
	-Know	41(6.5%)	585(93.5%)	0.138(0.086-0.222)	0.138(0.086-0.222)
Score-Attitude	-Unfavorable	66(13.9%)	408(86.1%)	1	
	-Favorable	66(19.0%)	282(81.0%)	1.605(1.019-2.527)	1.605(1.019-2.527)

Bivariate and Multivariate analysis for predictors of attitude towards cervical cancer screening.

Regarding attitude of the women's towards cervical cancer screening the bivariate logistic regression analysis showed that there is significant relationship between knowledge about, women awareness encouraged by relatives, women adequate knowledge, previous exposure of screening, but also house hold wealth status of respondents independently associated with favorable attitude towards cervical cancer screening.

Multivariate logistic regression analysis was also performed to examine the association between socio-demographic, characteristics of respondents and their attitude towards cervical cancer screening.

Therefore, during the multivariate analysis, variables like, women encouraged by sexual partner and women not encouraged by any one (AOR: 3.925; 95% CI 1.094-14.080) were more than three times decrease their attitude towards cervical cancer screening than health professions and women adequate knowledge (AOR: 2.275; 95% CI 1.363-3.798) reminded were more than two times significantly associated with favorable attitude towards cervical cancer screening than insufficient awareness. Women wealth status increase the odds of

attitude towards cervical cancer screening uptake by more than one times (AOR: 1.927; 95% CI 1.198-3.101) were increase wealth status of women as compared to the poorest (Table-12).

Table 13. Bivariate and Multiple logistic regressions of determinant factors of attitude towards cervical cancer screening among women in Metekel zone district administration, Benishangul-Gumuz, Ethiopia, 2020.

Variables		Attitude		COR:95%CI	AOR:95%CI
		Favorable attitude	unfavorable attitude		
Age	-18-24	53(37.6%)	88(62.4%)		
	-25-30	90(42.3%)	123(57.7%)	1.215(0.786-1.879)	1.129(0.712-1.789)
	->=31	205(43.8%)	263(56.2%)	1.294(0.879-1.905)	1.403(0.888-2.216)
Education status	-Not attended	114(45.2%)	138(54.8%)	1	
	-Prim. Edu.	80(44.0%)	102(56.0%)	0.949(0.647-1.393)	0.678(0.449-1.024)
	-Sec.Edu	61(35.7%)	110(64.3%)	0.671(0.450-1.001)	0.533(0.348-0.816)
	-Collage &above	93(42.9%)	124(57.1%)	0.908(0.630-1.309)	0.702(0.469-1.050)
Family size	-One	33(52.4%)	30(47.6%)	1	
	-Two	66(39.5%)	101(60.5%)	0.594(0.331-1.065)	0.520(0.282-0.958)
	-Three	65(45.1%)	79(54.9%)	0.748(0.413-1.354)	0.659(0.353-1.229)
	-Four	58(41.1%)	83(58.9%)	0.635(0.350-1.155)	0.518(0.272-0.988)
	-Five	58(39.5%)	89(60.5%)	0.592(0.327-1.074)	0.539(0.281-1.036)
	-More than five	68(42.5%)	92(57.5%)	0.672(0.374-1.207)	0.509(0.265-0.978)
Anyone encourage	-Health worker	44(32.1%)	93(67.9%)	1	
	-Friend	13(50.0%)	13(50.0%)	2.114(0.905-4.937)	1.889(0.764-4.673)
	-Family member	9(20.9%)	34(79.1%)	0.559(0.247-1.267)	0.619(0.262-1.461)
	-Sexual partner	9(69.2%)	4(30.8%)	4.756(1.388-16.289)	3.925(1.094-14.080)
	-No one	273(40.9%)	330(54.7%)	1.749(1.181-2590)	1.719(1.032-2.863)
Ever heard CCa	-Yes	230(45.4%)	277(54.6%)	1	
	-No	118(37.5%)	197(62.5%)	0.721(0.541-0.962)	0.630(0.406-0.979)
Ever screened	-yes	37(31.9%)	79(68.1%)	1	
	-No	311(44.1%)	395(55.9%)	1.681(1.107-2.553)	1.175(0.618-2.233)
Score knowledge	-Inadequate	282(40.9%)	408(59.1%)	1	
	-adequate	66(50.0%)	66(50.0%)	1.447(0.996-2.102)	2.275(1.363-3.798)
Score practice	- Poor practice	331(43.6%)	429(56.4%)	1	
	-Good practice	17(27.4%)	45(72.6%)	0.490(0.275-0.871)	0.525(0.281-0.978)

House hold wealth index	-Poorest	55(33.1%)	111(66.9%)	1	
	-Second	54(33.1%)	109(66.9%)	1.000(0.632-1.582)	1.071(0.667-1.720)
	-Middle	75(48.1%)	81(51.9%)	1.869(1.191-2.933)	1.935 (1.214-3.085)
	-Fourth	90(47.1%)	101(52.9%)	1.798(1.169-2.765)	1.790(1.143-2.803)
	-wealthiest	74(50.7%)	72(49.3%)	2.074(1.312-3.279)	1.927(1.198-3.101)

Bivariate and Multivariate analysis for predictors of practice towards cervical cancer screening.

Regarding the practice of the women towards cervical cancer screening, women's age, previously ever heard cancer of the cervix, knowing STI/HIV risk of cervical cancer and house hold wealth status were independently associated for the uptake of cervical cancer screening, but also a candidates for the multivariable logistic-regression analysis

However, During, multivariable analysis, women ever heard cancer of cervix (AOR: 2.077; 95% CI1.173-3.679) were the odds of screening uptake increased by more than two times as compared to teenagers, and women knowing STI/HIV risk of cervical cancer (AOR: 1.835; 95% CI1.1.054-3.195) were the odds of screening uptake increase by more than one times as compared to women had more likely to poorly awarded cervical cancer screening, than their counter parts. But also wealthiest women (AOR: 3.654; 95% CI1.1.347-9.913) were more likely increase screening up take as compared to the poorest (table.13).

Table 14. Bivariate and multiple logistic regressions of determinant factors of practice towards cervical cancer screening among women in Metekel zone district administration, Benishangul-gumuz, Ethiopia, 2020.

Variables		Practice		COR:95%CI	AOR:95%CI
		Good practice	Poor practice		
Age	-18-24	6(4.3%)	135(95.7%)	1	
	-25-30	4(1.9%)	209(98.1%)	0.431(0.119-1.554)	0.351(0.095-1.290)
	->=31	52(11.1%)	416(88.9%)	2.813(1.182-6.694)	2.145(0.870-5.293)
Ever heard CCa	-No	24(4.7%)	408(95.3%)	1	
	-Yes	38(12.1%)	277(87.9%)	2.761(1.622-4.700)	2.077(1.173-3.679)
Occupation	-Unemployed	31(9.7%)	289(90.3%)	1	

	- Gov.employ	13(9.6%)	122(90.4%)	0.993(0.503-1.963)	0.858(0.416-1.771)
	-Priv.employe	4(5.2%)	73(94.8%)	0.511(0.175-1.493)	0.520(0.171-1.621)
	-Day laborer	4(3.0%)	131(97.0%)	0.285(0.098-0.823)	0.536(0.177-1.621)
	-Sex worker	1(6.3%)	15(93.8%)	0.622(0.079-4.866)	1.109(0.114-10.798)
	-Student	9(6.5%)	130(93.5%)	0.645(0.299-1.395)	2.321(0.792-6.799)
STI/HIV causes of CCa	-No	24(5.4%)	419(94.6%)	1	
	-Yes	38(10.0%)	341(90.0%)	1.946(1.144-3.307)	1.835(1.054-3.195)
Know screening center	-Yes	26(13.3%)	170(86.7%)	1	
	-No	36(5.8%)	590 (94.2%)	0.399(0.234-0.680)	0.706(0.362-1.377)
Attitude score	-Unfavorable	45(9.5%)	429(90.5%)	1	
	-Favorable	17(4.9%)	331(95.1%)	0.490(0.275-0.871)	0.449(0.246-0.821)
Wealth status	-Poorest	6 (%)	160(96.4%)	1	
	-Second	15(%)	148(90.8%)	2.703(1.022-7.149)	2.613(0.965-7.076)
	-Middle	10(%)	146(93.6%)	1.826(0.648-5.150)	1.711(0.592-4.942)
	-Fourth	15(%)	176(92.1%)	2.273(0.861-5.999)	2.335(0.869-6.323)
	- Wealthiest	16(%)	130(89.0%)	3.282(1.249-8.627)	3.654(1.347-9.913)

Association between Knowledge score and Attitude towards cervical cancer

The level of knowledge score and attitude towards cervical cancer was not significantly associated ($p\text{-value} < 0.052$), as displayed in table-12. About 50% adequate knowledge had poor perception towards cervical cancer screening -than those who had good score. In contrast, (40.9%) of the respondents with inadequate knowledge scores had a favorable attitude towards cervical cancer screening.

Table 15. Association between knowledge score and attitude toward cervical cancer screening among reproductive-age women in Metekel-zone, Benishangul-gumuz, Ethiopia, May, 2020.

Knowledge score	Attitude towards CCa		X ²	P-value
	Favorable attitude	unfavorable attitude		
Adequate knowledge	66(50%)	66(50%)	3.784	0.052
Inadequate knowledge	282(40.9%)	408(59.1%)		

Association between Knowledge score and Practice towards cervical cancer.

The level of knowledge score and practice towards cervical cancer screening was not significantly associated ($p\text{-value} < 0.274$), as displayed in table-13. More- than 90% of respondents with adequate knowledge scores had poor practice towards cervical cancer screening. Almost less-than 10% of respondents who had inadequate knowledge scores have poor attitude towards cervical cancer screening practice.

Table 16. Association between knowledge score and practice toward cervical cancer screening among reproductive-age women in Metekel-zone, Benishangul-gumuz, Ethiopia, May, 2020.

Knowledge score	The Practice of CCa screening		X ² 1.199	P-value 0.274
	Good practice	Poor practice		
Adequate knowledge	13(9.8%)	119(90.2%)		

Discussion

In Ethiopia, most reproductive age women diagnosed with cervical cancer after the infection reached to the advanced state (49). This study aimed to determine the knowledge, attitude, and the practice of cervical cancer screening and its associated factors among reproductive-age women in Metekel zone, Ethiopia.

The current study found that 16.1% of the reproductive age women in Metekel Zone have good knowledge of cervical cancer screening. Our current finding was lower compared to the study finding reported observed in Finot-selam (30.3%) (21). In south Ghana 92% (20). And rural south china (51.9%) (18). The reason for the difference might be our government led institute not improve public awareness participation in cervical cancer screening (49), and the difference may be due to cultural and socioeconomic difference, and health care provision strategies and health promotion being different between countries.

The finding from this study showed that, reproductive age women in Metekel zone had heard about cervical cancer was 38.3%. Which is somehow lower when compared with similar study done in Uganda where (88.2%) of the respondent had heard about cervical cancer (19), in Turkey were (93.7%) (39). This gap might be due to difference a nature of the population, prevalence of the disease, availability of the service and information on cervical cancer screening..

On the other hand the main source of information about cervical cancer for the women's, majority of the women indicated that (17.0%) of participant health worker, (10.9%) family.neiboure and friend and (8.3%) of participant were news media like, TV and Radio

were their source of information for knowledge on cervical cancer and screening. Contrary to this, a study done in Uganda reported that the main source of information were news-media (70.2%), health facility (15.1%) (19). This figure may also indicate that health worker and media were not done well and very small fraction got information from media, this could be accredited to low level of education amongst the respondents and this might be related to passing vital information that would inform the health seeking behavior. Therefore, health education and awareness creation regarding cervical cancer screening should be implemented. The finding of this study revealed that less than one fourth 132 (16.1%) of participant women had adequate level of comprehensive knowledge score from the composite score regarding women gap, risk factors, sign and symptoms and methods of prevention of cervical cancer. This finding is lower than a similar study done in Hossana (46.3%) (24), (37.4%) were done in Addis Ababa sub city (50). This might be due to glaring gap in knowledge about cervical cancer to be poor despite the majority of the women having heard about the disease. Therefore, we found that good knowledge of cervical cancer was a predictor of positive attitude towards cervical cancer screening.

The knowledge of participants on risk factor for cervical cancer indicated that (37.5%) of respondents had had knowledge on risk factors. And among these risk factors having multiple sexual partners and initiation of sexual intercourse at early stage, having multiple sexual intimate and HPV and only having multiple sexual engagements were mainly reported risk factors for cervical cancer by 40.7%, 26.3% and 14.4% of respondents respectively. This indicated that lower than previous similar study done in rural Nepal among reproductive women (22). And the finding in line with other research were done among rural women in China (18). Similar finding reported that high knowledge about risk factors of cervical cancer was in south Mekelle (25), Hossana (24), Zimbabwe (23). This could be explained by the socio-economic difference between countries.

Knowledge of the women on symptoms of cervical cancer (64.4%) of them knew symptoms, and abnormal vaginal bleeding and foul-smelling (33.7%), (17.10%) vaginal foul-smelling, post coital vaginal bleeding (6.30%), (7.30%) only abnormal vaginal bleeding among the respondent reported respectively. The finding almost similarly lower result with others, which done in, Finote-Selam (21) and Zimbabwe (23). This might be due to programs and health authorities should not include information on risk factors, sign and symptoms of cervical cancer in their behavior in awareness campaign.

Concerning methods of prevention almost (38.4%) of the participant had known cervical cancer methods of preventive knowledge among these (38.1%) HPV vaccination and avoiding

multiple sexual contact, (7.4%) were avoiding early sexual initiation and (9.9%) were only avoiding multiple sexual contact. However, this finding is lower than found in other previous studies, in Finote-Selam (21) , Hossana (24) , and Zimbabwe(23). The difference in finding may potentially be attributable to the provision of free cervical cancer screening for reproductive age women and related public health education programs which have been offered by MOH since 2016.

According to this study there was a significant association between women and knowledge of the respondents towards cervical cancer screening, level of education, residence, knowing risk of STI/HIV and marital status. Women who were married were two times more likely knowledgeable than single women (AOR: 2.113; 95% CI 1.189-3.756). This might be related to the women experience gained through their working exposure and also awareness gained from the community, widowed women were four times more likely knowledgeable than single (AOR: 4.520; 95% CI 1.339-15.260) ,This might be due to the possible reason for increase women decision making power and exposure than married women in the community. And women level education collage and above (AOR: 5.341; 95% CI 2.808-10.159) over five times more likely knowledgeable as compared to women's who were secondary education and those women primary education (AOR: 2.190; 95% CI 1.087-4.414) over two times more likely knowledgeable than those women who were secondary. This might be due to the possible reason good knowledge of women a predictors of positive attitude towards screening may show by the age under fifteen currently due to had information and HPV vaccination campaign at primary and secondary school. .And women knowing STI/HIV status (AOR: 2.294; 95% CI 1.423-3.696) were two times more likely awarded towards cervical cancer screening than unknowing their status. This might be due to increase health seeking behavior and gained information from consultation. Women who live in Dangure (AOR: 2.294; 95% CI 1.423-3.696) were two times more likely awarded than Mandura and pawe woreda. This might be due to the different ethnicity in our region could be the variation in women status between the study populations and distance to health institution. This result in line with study done in Uganda, turkey and south china (18, 19, 39).

The finding showed that more than half of (57.3%) of the respondent had negative attitude towards screening of cervical cancer while a study done in Eastern china (96.0%) of them had positive attitude (18) . Another similar study done in Mashida Iran (18%) of wrong attitude and (34.0%) (26) ,were negative attitude in Hossana town ,Hadiya zone (24) . And the remaining (42.3%) of the women had positive attitude towards prevention and screening of

cervical cancer .which is much lower than similar study done among reproductive age women in Finote-Selam town, northwest, Ethiopia (58.1%) of the participant was favorable attitude towards cervical cancer screening (21) .

Of those women's about (15.8%) of the participant women agree on that having uptake of screening test is important to detect cervical cancer and the rest (84.2%) were not agree screening prevent cervical cancer. Only (17.0%) of the women agree up on willing to screen in the future, if screen causes no harm to the women and about (83.0%) not accepting screening. This might be due to lack of strong cervical cancer control policy, stratagem and program in the country. But also a result low coverage given by media and other concerned bodies, it may also due to inadequate knowledge about the disease process and outcome.

The finding of this study indicated that there were significant differences on the attitude of the respondents towards cervical cancer screening among women. adequate knowledge (AOR: 2.275:95%;CI:1.363-3.798) were two times more likely to have favorable attitude towards screening of cervical cancer as compared to un awarded, women's not encouraged towards screening by any one (AOR: 3.925:95%;CI:1.094-14.080) were three times more likely decreased attitude towards cervical cancer screening as compered as initiated by health workers. Increased wealth status (AOR: 1.927:95%; CI: 1.198-3.101) were more than one times enhance positive attitude towards cervical cancer screening as compered as the poor.

This finding in line with study done in Finot-Selam, Mashida Iran, and Nepal (21, 22, 26) .This might be related to passing vital information that would inform the health seeking behavior by health workers ,economic accessibility and also their awareness gained from the community.

The regular practice of cervical cancer screening among participants of the study is very much low (7.5%) compared to studies done in Kurdish Iran (32.0%) (28) , In Elmina, south Ghana was (68.0%)(30) , In Africa married women (27.2%)(29) , Similar low level findings were reported in south Nigeria study (7.1%) and the main reasons for not screened were fear of positive result (31) .But study from Pakistan lack of information were the main reasons for not practicing screening (31) .A study done in Ghana also reported ,reason like women lack of autonomy and the ability making decision ,myth/perception surrounding the disease and test (38) .Study done in Jining eastern China fear of treatment cost and the time needed for screening, fear of cancer and screening outcomes (37) .But this is much higher than a study done in Pakistan towards screening practice among reproductive age women (2.6%)(32) . This might be due to women's not awarded that screening prevents cancer of cervix

,service whether or not paid and the current existing in the national prevention and control program not attracting the majority of women had screening service.

The finding of this study indicated that in multivariate logistic regression women ever heard cervical cancer (AOR: 2.077; 95% CI: 1.173-3.679) were two times more likely to have responsive towards screened cervical cancer as compared to without informed. Women knowing STI/HIV (AOR: 1.835; 95% CI: 1.173-3.679) were one times more likely to increase towards cervical cancer screening as compared as unknowing risks. Moreover, Richest women (AOR: 3.654; 95% CI: 1.347-9.913) were three times more likely improve responsiveness towards screening of cervical cancer. This result in line with study done in Mekelle, south Nigeria, and Kurdish Iran and in Africa married women (25, 28, 31, and 36). This might be due to the women had to be informed screening service availability, economic accessibility and education given on risk factors associated with cancer of cervix given by the community health workers.

As we can see from the result of the study women who had adequate knowledge score did not have uptake of cervical cancer screening practice, even the knowledge of the respondents on cervical cancer screening and screening methods were not that much. In addition, this study found out that level of knowledge of cervical carcinoma was not associated with attitude and practice of screening.

Those respondents with adequate knowledge had poor perception toward cervical screening than those who had inadequate knowledge score. Almost some of the respondents with inadequate knowledge did have cervical cancer screening. However, some of the figures in these associations were small, the reasons could be attributable due to fear toward the expensiveness of cervical cancer screening and this might indicate that inaccessibility of screening services to the women in the community as well at the national level. It may also relate to the respondent's inadequate knowledge on the benefits of screening.

Conclusion

The prevalence of CCS in the study area was low compare to the prevalence of others countries .Furthermore, the study comes with inadequate level of knowledge towards cervical cancer screening, a lower level of attitude and poor practice on cervical cancer screening.

The factor that responsible for CCS women's Education,women status and inadequate knowledge (lack of information on symptoms, risk factors, and prevention, perception

screening cannot prevent cervical cancer and carcinoma of the cervix is not treatable, , and lack of information).

Recommendation

For MOH and stakeholder support resource to scale up cervical cancer service, awareness, campaign and demand creation can play assignificant role for coverage. Furthermore, RHB, ZHD, woreda health office and health professionals would aggressively strength program on health information dissemination in district community in order to create awareness and changing their attitude on cervical cancer screening at district level.

Limitation

The finding of this study was not triangulated on qualitative finding

Abbreviations

AUB	Abnormal Uterine Bleeding
BGRHB	Benishangul –Gumuz- Regional Health Bureau
CCa	Cervical Cancer
CCS	Cervical Cancer Screening
BGRHB	Benishangul –Gumuz- Regional Health Bureau
KAP	Knowledge, Attitude and Practice
PST	Pap-Smear Test
ROC	Reproductive organ cancer
STD	Sexually Transmitted Diseases
VIA	Visual Inspection of Cervix with Acetic Acid
WHO	World Health Organization
ZHD	Zonal Health Department

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Availability of data and materials

The original data from the survey is available from action for KAP towards cervical cancer screening practice found in an excel spreadsheet.

Authors' contributions

Dereje Getahun performs the development of manuscript, develop the survey questioners, supervised the data collection and analysis of the data. Cheru Tesema and Muluken Teshome support the methodology of the study. All authors read and approved the final manuscript.

Ethics approval and consent to participate

The ethical clearance was received from Debre Markos University College of Medicine and Health Science ethical and clearance review committee with the ethical protocol number of **HSC/R/C/Ser/PG/Co/384/11/12**. The permission letter was received from Benishangul Gumuz regional state, Metekel Zone health office bureau and District health office. Informed verbal consent was taken in every questionnaire for every woman and based on her agreement the data collections took place. Information was provided for all participants about the objective, the purpose or the contents of the study as well as their rights to refusal and discontinuation of the study and reassuring the confidentiality how to handle and use the data

Consent for publication

Written consent for publication was received from the participant with regard to all the detail that explains the participants.

Competing interests

The authors declare that they have no competing interests.

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