

PREVALENCE OF SEXUALLY TRANSMITTED INFECTIONS AND ASSOCIATED FACTORS AMONG PREGNANT WOMEN ATTENDING ANTENATAL CARE AT WOLKITE UNIVERSITY SPECIALIZED TEACHING HOSPITAL, GURAGE ZONE, SNNPR, ETHIOPIA.

By: **1. SHIMELLES BURUSIE (MEDICAL INTERN)**
2. YAYEWSEW FANTA (MEDICAL INTERN)
3. YEZIHALEM DESTA (MEDICAL INTERN)

A RESEARCH PAPER TO BE SUBMITTED TO MEDICINE AND HEALTH OFFICER COORDINATING OFFICE, COLLEGE OF MEDICINE AND HEALTH SCIENCE, WOLKITE UNIVERSITY, IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR DEGREE OF DOCTOR OF MEDICINE

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WOLKITE UNIVERSITY COLLEGE OF MEDICINE AND HEALTH SCIENCE
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PREVALENCE OF SEXUALLY TRANSMITTED INFECTIONS AND ASSOCIATED FACTORS AMONG PREGNANT WOMEN ATTENDING ANTENATAL CARE FOLLOW UP AT WOLKITE UNIVERSITY SPECIALIZED TEACHING HOSPITAL, GURAGE ZONE, SNNPR, ETHIOPIA.

By: 1. SHIMELLES BURUSIE (MEDICAL INTERN)
2. YAYEWSEW FANTA (MEDICAL INTERN)
3. YEZHIALEM DESTA (MEDICAL INTERN)

ADVISOR: Mr. AMARE ZEWDIE

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First, we acknowledge Almighty God for His mercy and help throughout our study. We would like to pass our gratitude to Wolkite university department of public health for giving us this opportunity to develop our own research paper and develop our skill. Our deepest gratitude also goes to our advisor, Mr. Amare Zewdie for his help through our research paper development .We would like to thank to Wolkite University Specialized Teaching Hospital antenatal care staffs, pregnant women for their cooperation and for their participations in our research.

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LISTS OF ABBREVIATIONS

ANC = Antenatal Care

AIDS = Acquired Immune deficiency syndrome

CSW = Commercial Sex Worker

EDHS = Ethiopian Demographic Health Survey

HIV = Human Immune Deficiency Virus

WKUSTH=Wolkite University Specialized Teaching Hospital

LGV = Lymph granuloma venereum

NGO = Non-Governmental Organization

MTCT = Mother to child transmission

PI =Principal investigator

RPR = Rapid plasma reagent

SNNPR = Southern Nations, Nationalities and Peoples Representatives

VDRL = Venereal Disease Research LaboratoryCBE=Community based education

FMOH=Federal ministry of health

OPD=outpatient department

ABSTRACT

Background: Sexually transmitted infections are major public health problem especially in developing countries. They are highly prevalent among pregnant women and causes significant maternal and perinatal morbidity. Sexually transmitted infections have been shown to facilitate transmission of Human Immune Deficiency Virus. The control of sexually transmitted infections, especially in pregnancy, is thus a priority, particularly in low resource settings where they are prevalent.

Objective: To determine the prevalence of sexually transmitted infections (STIs) and associated factors among pregnant women who has antenatal care follow up at Wolkite University Specialized Teaching Hospital from August 15 -29, 2022 G.C.

Methods: A hospital based cross sectional study design was conducted to assess the prevalence of sexually transmitted infections among 251 pregnant mothers at Wolkite University Specialized Teaching Hospital antenatal care clinic from All pregnant womens of age group 15-49 who had antenatal care follow up at Wolkite University Specialized Teaching Hospital antenatal care clinic during the study time were the study population. Systematic random sampling technique was used for participant selection. Data was collected by face-to-face interview. Sexually transmitted infections were identified by symptoms, gynecological

examination and laboratory analysis. The collected data was cleared, checked, entered into, preprocessed and analyzed using SPSS version 21 of the computer software. Bi-variable and multivariable logistic regressions were used to identify independent variables related to the outcome of interest and results was summarized using texts, graphs and tables.

Results*:* A total of 251 pregnant women were involved in this study. From these (29) 11.55 % of pregnant women were having one or more sexually transmitted infections. From our studies, respondents with previous sexually transmitted infections has 2 times risk to develop sexually transmitted infections (adjusted odd ratio 2.07,, CI:1.40-12.7);, respondents with 2 or more partners have 4 times higher risk to develop sexually transmitted infections than respondents with single partners (adjusted odd ratio 3.88 , 95% CI: 2..48-4.50)

Conclusion and recommendation*:* the prevalence of sexually transmitted infections is 11.55 % among pregnant women and this infections may increases the risk of Human Immune Deficiency Virus transmissions and is associated with adverse pregnancy outcome; there is a need for increased provision of health information concerning sexually transmitted infections to the community, educating women, screening and treatment of sexually transmitted infections s in Ethiopia

CHAPTER ONE: INTRODUCTION

1.1 Background of the Study

Sexually transmitted infections are diseases that are transmitted from infected person mainly by sexual contact. They are caused by different organisms such as bacteria, viruses, fungus and protozoa. The major Sexually transmitted diseases are gonorrhea, syphilis, HIV/AIDS, trichominiasis, Chlamydia, chancroids, LGV and herpes. (1; 2)

STDs present themselves mainly in seven syndromes; these are genital ulcer, urethral discharge, vaginal discharge, lower abdominal pain, inguinal bubo, neonatal conjunctivitis and scrotal swelling (2)

The world health organization estimates that annually there are approximately 357 million new cases of four curable sexually transmitted infections among people aged 15–49 years: (3) The overall incidence rate of STIs in Africa is estimated of 254 per 1000 people in reproductive ages (15-49 years), but is only 77-91 per 1000 in industrialized countries. The second highest rates are found in south and south east Asia. (3)

The occurrence of STI in an individual is an indicator of unprotected sexual activity that increases the chance of acquiring another STI including HIV/AIDS. Women are disproportionally at risk because they are biologically more susceptible to HIV infection than men. Data from number of studies revealed that male to female transmission during sex is 2-5 times greater in female. (3)

STIs are highly prevalent among pregnant women in Africa and cause significant maternal and perinatal morbidity (4; 2). STIs are associated with several adverse pregnancy outcomes, including abortions, stillbirths, low birth weight, preterm rupture of membranes, resulting in preterm birth, postpartum sepsis, increased risk of mother-to-child transmission of HIV leading to prenatal morbidity and mortality (5). Cross-sectional randomized trials of antenatal clinic attenders in Africa have found that up to 40% of pregnant women have trichominiasis and bacterial vaginosis, 2.5-17% have serological evidence of syphilis while the prevalence of gonorrhea and Chlamydia ranges from 2-7% and 3-29%, respectively. (6)

According to the 2016 Demographic Health Survey of Ethiopia, the health-seeking behavior of women who had STI symptoms in the 12 months prior to the survey was 33%. The lack of awareness of STIs risks and delay in seeking medical help may lead to complications like pelvic inflammation, fallopian tube scarring, and possible sterility (7)

The major determinants for rapid spread of STIs including HIV/AIDS epidemic in Ethiopia include behavioral factors such as unprotected sexual intercourse and multiple partners. The underlying causes include socio-economic factors associated with unemployment, CSW, college/ university student, ignorance (lack of awareness and / or misconceptions), gender inequality, cultural barriers, stigma and discrimination, denial, promiscuity, abduction, rape and flour, taboo as well as war and displacement. (6)

1.2. Statement of The Problem

Wolkite is the administrative center of Gurage zone and located in southwestern Ethiopia; it has a total population of 92,517 and the major sources of economy are farming and trading according to information from Wolkite town demographic data.WKUSTH located 17 KM from Wolkite town. The catchment population of WKUSTH is 800,000 peoples according to information from hospital administration

Sexually transmitted infections (STIs) are major public health problem especially in developing countries. STIs are among the most common causes of illness in the world and have social and economic sequele. The prevalence of STI has been shown to vary from one country to the other and among different groups within the same country. There is thus need to have local knowledge of the epidemiology by periodically monitoring prevalence and etiological agents. It represents a major public health problem in Ethiopia with prevalence rate of up to 50% and among the ten top causes of outpatient visits (1; 2)

According to the Ethiopia Demographic and health survey (EDHS), overall, 4% of women and men age 15-49 reported having an STI and/or symptoms of an STI in the pasto

12 months (8)

It is associated with a number of adverse pregnancy outcomes including abortion, stillbirth, preterm delivery, low birth weight, postpartum sepsis, neonatal sepsis and blindness, and other congenital infections. Control of STI, in pregnancy, is thus a priority particularly in resource

poor setting where they are prevalent. The prevalence of STIs among ANC attending mothers had been quantified at resource-limited settings. Screening for syphilis at mother and child health clinic showed that 15-17.6% of mothers were Sera-positive. The prevalence of gonorrhea was 9% from 200 isolates of asymptomatic pregnant women. (5)

All pregnant women and their sex partners should be asked about STIs, counseled about the possibility of perinatal infections, and provided access to recommended screening and treatment, if needed. (5)

There are limited studies in our zone and hospital, thus this study will provide relevant information on prevalence of STI and associated factors among pregnant women attending ANC at WKUSTH

1.3. Significance of The Study

This study will helps to estimate the burden of sexually transmitted disease and associated factors in Wolkite University specialized Teaching Hospital antenatal care unit

The study will helps health planners to design strategy to improve reproductive health status of pregnant women.

Since there are no sufficient studies done on this area in our setup this study was important in providing baseline information for those who are interested to implement further studies. It was important in assessing awareness of mothers to suggest prevention of STI by identifying associated factors and preventing adverse pregnancy outcomes

CHAPTER TWO: LITERATURE REVIEW

2.1 Etiology of STIs

The major Sexually transmitted diseases are gonorrhea, syphilis, HIV/AIDS, trichominiasis, Chlamydia, chancroids, LGV and herpes (1; 2)

Congenital syphilis is a major cause of fetal and prenatal death in developing countries. In Zambia, 18% of early fetal death and 43% of late fetal deaths were attributed to maternal syphilis. In Swaziland prenatal mortality due to syphilis was estimated to be 35/1000 births. Although epidemiological studies regarding prevalence and correlates of syphilis and HIV infection among Ethiopian pregnant women are nonexistent, one cross-sectional study conducted in 1994 showed the prevalence of syphilis among 270 pregnant women attending ANC in rural Hospital to be 13.7%, while 10.7% were found to be HIV positive (9)

2.2 Burdens and distribution of STIs

Sexually transmitted infections (STIs) are among the most common causes of illness in the world and have far-reaching health, social and economic consequences. STIs have public health importance because of their magnitude, potential complications and their interaction with HIV/AIDS. They affect the health and social well-being of women disproportionately by producing significant impact on their reproductive potential.

STIs rates can vary enormously between countries in the same region and between urban and rural population. In general, however World Health Organization estimates that 3457 million new cases of syphilis, gonorrhea, Chlamydia and trichominiasis occur throughout the world in 2012 in men and women aged 15-49 years. (3)

The largest number of new infections occurred in regions of south and Southeast Asia followed by sub Saharan Africa and the Caribbean. The highest rates of new cases per 1,000 population occurred in sub Saharan Africa. The prevalence of STIs tends to be higher in urban residents, in unmarried individuals and young adults. (2)

A cross sectional study done in Emory University Atlanta Georgia, USA May, 2004 to determine the prevalence and asses key characteristics of those testing positive among 170 pregnant African-American adolescents age 14-20yrs, mean 17.5yrs) receiving their first prenatal clinic located in large urban hospital showed 23.5% tested positive for one of the four STDs. More than 50% reported recent treatment for an STD, 30% of these tested positive for at least one of STIs assessed. Adolescents testing positive for STIs held favorable attitude toward condom use, but levels of sexual risk were generally high. There were no sociodemographic, psychosocial and sexual risk differences between those testing positive and negative (10)

Another cross sectional study done on 230 pregnant women attending ANC in University of Ilorin Teaching Hospital (UITH), Nigeria, in 2000 shows 49.1% of subjects harbored various agents including Candida species, trichominiasis, syphilis and gonorrhea. And it was suggested that all pregnant women and their partners should be screened for STIs. Counseled about possibility of perinatal infections and provided access to treatment if needed. (11) Study done among 2654 pregnant women in their third trimester in Moshi, Tanzania the result showed the prevalence of HIV, active syphilis and herpes simplex virus type 2 (HSV-2) were 6.9%, 0.9% 33.6% respectively, while 0.5% were positive for N.gonorrhea, 5.0% for T.vaginalis and 20.9% for bacterial vaginosis. Genital tract infection were more prevalent in HIV-Sero-positive than Sero- negative women statistically significant for syphilis (3.3% vs. 0.7%),(43.2% vs. 32.0%), genital ulcers(4.4% vs. 1.4%) and bacterial vaginosis (37.2% vs. 19.6%).Higher STIs in HIV-Sero positive women supports the expansion of HIV counseling and testing services to all centers offering antenatal care (12)

Epidemiologic and Biologic studies demonstrate ulcerative STIs and non-ulcerative STIs are important cofactors for HIV transmission having STIs increase the risk of activating HIV from 2-9 times (13)

A survey of 777 randomly selected pregnant women attending ANC in Darussalam, Tanzania, 1993 revealed a high prevalence of STIs particularly among teenagers. The median age of respondents was 23.6 years (range 14-40). The prevalence was 45.3% in teenagers compared with 29.2% in adults. In overall sample the prevalence of syphilis, trichominiasis, gonorrhea, and HIV were 4.0%, 22.7%, 3.6%, and 15.2% respectively. Syphilis was most prevalent in pregnant

women aged 35years and above while trichominiasis was most common in teenagers. Of 732 women with genital infections 63(8.6%) were asymptomatic, when symptoms does exist they were generally not disease specific. 49.88% of patients who had history of pervious STIs were treated at home and 10.2% were at health institution. This may be due to less affordability of health service activities, economic problems, fear of stigma (14)

STI is higher among urban residents, unmarried, young adults, differ b/n countries and regions within countries. Difference can be caused by social cultural and economic or levels of access to care. In Ethiopia there was no uniformity in reporting STI cases. Only surveillance system is for HIV and syphilis among pregnant women exist. All regions (except SNNPR) reported 451,686 cases of STI b/n June 1998 and June 2002. This reporting shows severe under reporting. (15)

A prospective cross-sectional hospital based study done among 480 pregnant women at University of Gondar Teaching Hospital between March and June, 2005 showed seroprevalence of syphilis 1% and antibodies against HIV-1 9.6%0f the pregnant women (16)

2.3 Factors Associated With STIs

STI prevalence varied significantly by age, educational level, marital status, condom use at last sex with regular and casual partners and age at first time sexual intercourse. STI was highest among younger age group 18-29 years and primary education or less. STI prevalence was also higher among participants not using condoms with their regular partner, not using condom s with casual partner, and among those who were 16 years or younger at first sexual intercourse (22)

2.4. Treatment and prevention of STIs

Improvement in capacity for early detection and treatment of STI with integrated health services stem is believed to be one of the most cost effective strategies to prevent STI/HIV/AIDS. In one recent study done in Tanzania proved treatment of STIs lead to a 40% reduction in HIV incidence, indicating the potential contribution of STIs care as one of the key strategies in control of the HIV/AIDS pandemic. There is no magic bullet, no treatment and apparently no way to stop the spread of the new virus except by engaging in dubious efforts to change people behaviors that mean talking about STIs, condoms, and injecting drugs (15)

CHAPTER THREE: OBJECTIVES

3.1. GENERAL OBJECTIVE

To determine the prevalence of STIs and associated factors among pregnant mother Attending antenatal care clinic in WKUSTH in from August 15-29,2022 G.C

3.2. SPECIFIC OBJECTIVES

1. To determine the prevalence of STIs among pregnant women who has ANC follow up at WKUSTH from August 15-29,2022 G.C
2. To identify associated factors for STIs among pregnant women who has ANC follow up at WKUSTH from August 15-29,2022 G.C

CHAPTER FOUR: METHODS AND MATERIALS

4.1. Study Area

The study was conducted in WKUSTH, Gurage Zone, SNNPR, South Ethiopia, which is located 155 km far from Addis Ababa, the capital city of Ethiopia. .In the hospital, there is six general surgeons, 2 orthopedic and trauma surgeon 5 gynecologists and obstetricians, 5 pediatricians, 7 internists, 1 psychiatric, 1 ophthalmologist, 1 dermatologist and 1 dentist.In the hospital there are 150 beds for inpatient; from this 32 beds are in gynecology and obstetrics wardGynecology and obstetrics department gives service in Emergency, Ward, OPD, ANC, family planning and labor.There are 2 ANC unit and there were total of 1021 pregnant women having follow up during the study time

4.2 Study Design And Period

A hospital based cross sectional study was conducted on pregnant women who visited WKUSTH ANC clinic using quantitative method of data collection from august 15 to 29, 2022.

4.3 Population

4.3.1 Target Population

All pregnant women who had ANC follow up at WKUSTH ANC clinic.

4.3.2 Study Populations

All pregnant women who have follow up at WKUSTH ANC clinic during the study period

4.3.3 Inclusion Criteria

- Pregnant women who visit ANC during the data collection period.

4.3.4 Exclusion criteria

- Pregnant women who was critically ill.

4.4 Sample Size and Sampling Technique

The sample size was estimated by the single proportion formula using p value of 0.26 from study done at Gonder University Specialized Hospital 2021

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

Where:

n= minimum sample size required

p= an estimate of prevalence rate for the population

d= the margin of sampling error tolerated (0.05)

$Z_1\alpha/2$=standard normal score at 95% confidence interval = 1.96

$$n = \frac{(1.96)^2\ (0.26)(0.74)}{(0.05)^2} = 296$$

Since our source population is less than 10,000, which was 1021(the total pregnant women who are currently on follow up) we used the correction formula as follows

$N_f = n_/ (1+ n /N)$

$$Nf = \frac{296}{1+\frac{296}{1021}}$$

Nf = 229

Nf = 229 + 10% non-respondents.

Nf = 251

Where; nf = final (corrected) sample size

no = initial sample size

- Therefore, data was collected from total sample of 251 pregnant women.

4.5. Sampling technique

Systematic sampling method was used to identify the respondents. The data was collected within two consecutive weeks from august 15-29, 2022. The data was collected from every second mother by their time of arrival after estimating the average daily visit from the previous one month ANC visits. There was total of 1004 cases visited the ANC clinic in the previous one month .The first unit was selected by lottery method.

4.6. Data collection Method and procedure

The data was collected by interviewer administered structured questionnaire by face to face. The questionnaire was translated in to Amharic language. A structured questionnaire was prepared after reviewing similar literatures and modified to local context was used to collect data on sociodemographic variables, sexual behavior, and obstetric history and on current and past STI symptoms. After interview gynecological examination was performed, and blood was taken for serological analysis of HIV, and syphilis. The questionnaire consisted both close and open ended questions. Three medical interns collected the data.

4.7. Study Variables

Dependent variable

- Prevalence of Sexually transmitted infections

Independent variable

- Age
- Address
- Occupation
- Income
- Marital Status
- Religion
- Ethnicity
- Level Of Education
- Knowledge and Attitude Towards STI
- Sexual Partner

- Use Of Contraceptives
- Previous History Of Infection
- Previous Medical Procedure

4.8 Operational Definitions

- **Antenatal care**-health care given to a pregnant woman throughout a pregnancy so as to ensure the birth of a healthy baby with minimal health risk to the mother.
- **Perinatal death**- death of fetus or infant in the period between the end of 28^{th} week of gestation and 7^{th} day of life
- **STI Case**-Patient with at least one of the syndromes (Genital ulcer, Vaginal discharge, Lower abdominal pain and Inguinal bubo) or the presence of at least one of the physical examination finding (Genital discharge, Inguinal swelling, Genital wart/rash, ulcer) or by laboratory examination (VDRL, PITC, swab gram stain, microscopy)

4.9. Data quality control

Data quality assurance was implemented in all stage of the study starting from questionnaire designing, data collection and data entry. Questionnaire was objective based, logically sequenced, and non-leading

4.10. Data analysis and interpretation

The collected data was cleared, checked, entered into, preprocessed and analyzed using SPSS version 21 of the computer software and inappropriate values were avoided by fixing the range of values coded to the software. Descriptive statistics were used to describe the study population in relation to relevant variables. Both bivariate and multivariate logistic regression models were used to identify associated factors. To minimize factors in multivariate analysis, only variables that showed a *P* value ≤0.25 on the bivariate analysis were entered into the multiple binary logistic regression models. The fitness of the model was tested by Pearson goodness-of-fit test. Odds ratios with 95% confidence intervals (CIs) were computed, and variables with *P* value less

than 0.05 in multivariate analysis were considered statistically significant and results was summarized using texts, graphs and tables.

4.11. Ethical Consideration

The purpose of the study was explained to the patients and oral consent was obtained. Confidentiality was kept by not writing names of respondents. The social norms, culture, religion, and values was respected through out the data collection.

CHAPTER-V RESULTS

251 respondents were expected to participate in the study, out of those 251 respondents were interviewed, resulting in a response rate of 100 %.

5.1 Socio demographic variables

The age of participants ranged from 15 to 49 years. More than half 173(69%) of the study participants were in the age range of 20-30 years. Majority of study participants 128(51%) were housewife. 177(70.5%) of the study participants were from urban areas. Majority of the study participants were married 223(88.8%) and literate (learned from grade 1-college/university) 172(68.6%). Majority of the study population 182 (72.5%) were Gurage by ethnicity and 80 (31.9%) Muslim in religion .12(4.8%) were grand multiparous.

Table 1: Frequency distribution of selected socio-demographic variables

Selected variables	Characteristics	Presence of STI		Total
		Yes No.(%)	No No.(%)	
Address	Urban	16(6.3)	161(64.14)	177(70.5)
	Rural	13(5.17)	61(24.3)	74(29.4)
Marital status	Married	25(9.96)	198(78.88)	223(88.84)
	single	3(1,19)	16(6.37)	19(7.56)
	divorced	1(0.39)	8(3.18)	9(3.58)
Mothers occupation	House wife	17(6.77)	111(44.22)	128(50.99)
	Gov't employee	5(1.99)	42(16.73)	47(18.7)
	Merchant	1(0.39)	25(9.96)	26(10.35)

	Student	4(1.59)	7(2.78)	11(4.38)
	Farmer	1(0.39)	25(9.96)	26(10.35)
	Others	1(0.39)	12(4.78)	13(5.17)
Age	15-24 25-34 35-49	15(5.97) 14(5.9) 0	95(25.9) 118(47.01) 9(3.5)	110(43.8) 132(52.6) 9(3.5)
Income(birr/month)	<1000 1000-4000 4000-10,000 >10,000	12(4.78) 3(1.19) 10(3.9) 4(1.59)	106(42.2) 23(9.16) 52(20.71) 41(16.33)	118(47.01) 26(10.35) 62(24.7) 45(17.92)

5.2 Reproductive health characteristics of the respondents

Previous history of one or more stillbirth was found among 10.8(18%) participants and previous history of one or more abortion was found 17(6.8%) of participants. Pregnant women who came for routine ANC visit during 1st trimester of their pregnancy constituted 161 (64.1%) while 77(30.7%) had their first visit on their 2nd trimester and their rest presented during their third trimester for first time. No positive statically association was found b/n STI and time of 1st ANC visit.

25(10%) of pregnant women had previous history of STI most of them were diagnosed and treated at health institution 80(3.7%).

Table 2: the distribution of STIs by selected Reproductive health characteristics of the respondents attending ANC in WKUSTH, Wolkite, August 2022.

Selected variables	Characteristics	Presence of STI		Total
		Yes	No	No (%)

		No(%)	No(%)	
Gravida	1-2	11(4.3)	38(15.13)	49(19.52)
	3-4	9(3.6)	69(27.49)	78(31.07)
	>5	9(3.5)	115(45.81)	124(49.40)
Past history of STI	Yes	2(0.79)	7(2.78)	9(3.58)
	No	27(10.75)	215(85.6)	242(96.4)
Multiple sexual partner	Yes	28(11.1)	1(0.39)	29(11.55)
	No	1(0.39)	219(87.25)	220(87.64)

Contraceptive Use

One or more use of contraceptive was observed in 204(81.3%0 of the study women. Injectable and implants were the most commonly used methods and accounts about 102(40.6%) and 50(19.9) respectively followed by pills. 47(18.7%) of the participants were never use any type of contraceptives.

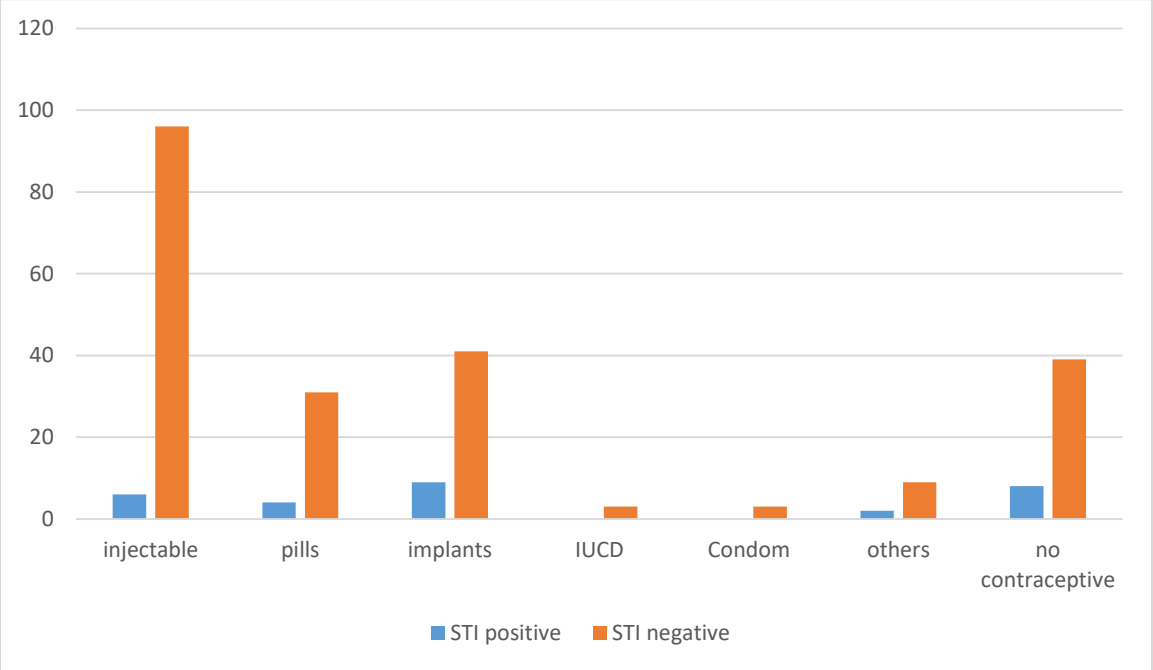


Figure 1: Frequencies of contraceptives used by the respondents attending ANC in WKUSTH, with or without current problems

The commonest reason for use of contraceptives was for child spacing, which accounts about 219(89.6%), the rest being for prevention of STIs and for partners wish.

Table 3: Reasons for use or non-use of contraceptives among pregnant women attending ANC at WKUSTH, Wolkite, Ethiopia, August 2022.

Usage	Reasons	No_	%
Yes	Prevention of STIs and HIV Birth control	6 219	2.3 87.25
No	Need to have children Partner's wish	27 20	10.75 7.97
Total		223	108.36

NB: total % of users of contraceptive is >100% as there is more than one reason for the use.

5.3 Prevalence of STI

Among 251 respondents by history physical examinations and laboratory 29(11.55%) were STI cases.

Table 4: current problem encountered in pregnant women attending ANC in WKUSTH, Ethiopia, August, 2022.

Problem from history		No	%
Vaginal discharge :	Odor Foul smelling Odorless	13 12	5.2 4.7
	Color white & cheese like grey greenish colorless	17 1 2 5	6.7 0.3 0.7 2
Wart or rash		2	0.7

Dyspareunia		5	2
Physical examination finding		No	%
Vaginal discharge	- Odor Foul smelling	12	4.7
	Odorless	2	0.7
		4	1.6
	Color white	12	4.7
	grey	2	0.7
	greenish	4	1.6
Genital wart and ulcer		1	0.3

laboratory findings	No	%
HIV	2	0.7
VDRL	2	0.7
Total	4	1.6

5.4 Factors associated to STI among pregnant women

Bivariable and multivariable logistic regression analysis were used to identify factors associated to STI. Factors with p value <0.25 in bivariate logistic regression were candidate for multivariate logistic regression analysis and factors with p<0.05 in multivariate logistic regression were considered strongly associated factors to STI. According to our study respondents with Previous STIs has 2 times risk to develop STIs (adjusted odd ratio 2.07 95%CI:1.40-12.7), respondents with 2 or more partners have 4 times higher risk to develop STI than respondents with single partners(adjusted odd ratio 3.88 ,95% CI: 2.48-4.50)

Table 5: association between some of the demographic characteristics vs presence of STIs among pregnant women at WKUTSH Wolkite Ethiopia ,August ,2022

Variables	Categories	STI		Adjusted odd ratio	Confidence interval	P value
		YES (%)	NO (%)			
Previous STI	Yes	11	19	2.07	(1.400,12.700)	**0.010**
	no	18	203	1	1	
Address	rural	13	74	1.23	(0.39-3.35)	**0.79**
	urban	16	161	1	1	
Educational level	Literate(elementry-college)	12	153	0.15	(0.098-2.320)	**0.096**
	Illiterate	17	69	1	1	
Number of partner	Two or more partner	19	11	3.88	2.48-4.53	**0.000**
	One partner	10	211	1	1	

CAPTER SIX: DISCUSSION

The study showed 11.55%of pregnant women attending ANC in WKUSTH had one or more than one of the sexually transmitted infections(STIs) which is lower as compared to the studies conducted in Nigeria, 2000(49.1%), Darussalam, Tanzania, 2003(45.3% in Teenagers and 29.2% in adults(10,11).

In d/t parts of many developing countries research studies shown the prevalence rate of STI amongst pregnant women b/n 5%-15% which is one or two orders of magnitude higher than those industrialized countries today (2).The result of this studies is also within this range

The prevalence of both viral and bacterial STIs were higher in HIV Sero-positive women than HIV Sero negative women .Epidemiologic and Biologic studies demonstrate ulcerative STIs and non-ulcerative STIs are important cofactors for HIV transmission having STIs increase the risk of activating HIV from 2-9 times (8).

The Sero prevalence active syphilis from our study which was, 0.80% is lower compared to the studies conducted in Jimma 2.2% in 1997(24), Addis Ababa 3.6% in 1999(40) and Kenya 3.8% 1997(15). When studies done in different years were compared i.e. 17% and 13.7% of previous report from Addis Ababa 1979(33) and Debra tabor in 1995(31) respectively were higher than 3.6% in Addis Ababa in 1999 (6).

Also studies done in Jimma in 1997, 2.2%, (24), Kenya in 1992, 5.3% (6) and of 1997, 3.8% (22) also shown the same thing which shows the increasing awareness of subjects and importance of ANC in reducing the prevalence of STIs.

The highest age specific prevalence for STI was found in mothers in age below 30 years.

WHO reported the frequency of STIs to be higher among single and divorced than among married couples (3). Similar studies done in Nigeria (2003) and Tanzania show strong association b/n single marital status and STI.(13,15)..

The STI was tend to be more prevalent among those whose average monthly income <1000 birr (4.40%) than those who earn greater than this.

Rate of infection varied in educational status in which those illiterate (3.60%) followed by only read and write(3.20%) and those educated up to high school(3.98%).

It was observed that 11.95 % of the studied participants responded that they had some sort of STI

previously accounting all to 4.38 % of the current STIs and there is significant association between past history of STI and current STI(P=0.010). The total prevalence seen among those who had no previous exposure was 7.17%.

The nature of maternal occupation also shows that higher rate of STIs on house wife (6.77%), followed by government employee (1.99%). However there was no significant association b/n the prevalence rate and paternal or maternal occupation.

The rate of infection was higher among mothers seen for the first time on their 1st and 2nd trimester 7.56%,3.98% respectively followed by third trimester (0%). Screening of all mothers for asymptomatic infections is recommended at 1st visit to prevent congenital spread and again in third TM to pick up any reinfection. Hence the investigator believes the need to behavioral change and a need to raise awareness that ANC care is important for maternal and child health. This study shows that most STI has no statically significant association with most back ground variables and risk factors. The possible reasons might be (i) awareness of the subjects about its risk factors and risky behavior with a killer HIV/AIDS through health information/education. (ii) Low prevalence could be due to low sample size and lack of other diagnostic modalities.

The study highlighted the major failings by the routine ANC service here in the study area i.e. every asymptomatic species of STI should have been screened for the sake of maternal and child health but it acceptable in this set up at least the major ones are addressed and others which are most of the time symptomatic are left.

6.1 LIMITATION OF THE STUDY

Similar studies are scanty in our setting which made comparisons of results difficult. There is under reporting of the problem by mothers as STIs are considered as taboo and due to recall bias. Lack of appropriate laboratory facilities (for T.vaginalis, gonorrhea, B.vaginosis,herpes simplex) to reach the most likely diagnosis may under estimate the actual prevalence of STI.

CHAPTER SEVEN: CONCLUSION AND RECOMMENDATION

7.1 CONCLUSION

Based on the above results and observation it is concluded that there is similar study result of prevalence of STIs in pregnant women attending ANC in WKUSTH. But this doesn't imply that there is actual prevalence rate of STIs in pregnant mother or the community as a whole because the study was done for a short period of time and also methods used to detect STIs specific pathogens were inadequate as diagnosis is based on clinical decision and only few laboratory investigations were availiable. Therefore to determine the real prevalence rate in the study subjects, laboratory facilities are important.

It needs to be emphasized that mothers with past history of STIs, multiple sexual partnership or single and divorced mothers need to be considered as " a special risk groups" and thoroughly examined for presence of specific STI pathogens and during the routine ANC follow-up.

7.2 RECOMENDATIONS

FOR HEALTH PROFESSIONALS

Health education for routine ANC followers. This may include topics on types, causes, common signs and symptoms and complications of most frequently encountered STIs.

Accurate diagnosis and treatment of mothers as well as all their sexual contacts with active genital infection.

FOR HOSPITAL ADMISTRATIVES

Incorporating routine screening for common STIs for all ANC followers should be encouraged besides the commonly used basic tests.

FOR COMMUNITY

Practice closed heterosexual relationship and for those who are forced to have open sexual relationship for economic use barrier methods like condom for sexual contact should be stressed.

To seek health care early and to get appropriate treatment for themselves and their partners for those who have previous history of STI

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Further intensive study on this subject is recommended with further evaluation and diagnostic facilities so that the real extent of the problem can be identified.

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ANNEX II-QUESTIONNAIRE

Wolkite University College of Medicine and Health Science School of Medicine,

Questionnaire Prepared for Determining the Prevalence of STD And Associated Factors

This questionnaire is extremely important to meet the goals of this research objectives. Thus all individuals involved in data collection are kindly requested to handle carefully so as not to do information bias. There is no need of mentioning individuals name and every piece of information was kept confidential.

BASIC SOCIO DEMOGRAPHIC CHARACTERSTICS

1.Age(years): _____

2. Address- A) urban B) rural

3. Obstetric history: Gravida _____Para _____abortion _____stillbirth_____

4.1st ANC visit -1st trimester

-2nd trimester

-3rd trimester

5. Occupation:

A. house wife B. Government employee Merchant D. Soldier E. Student

F. Commercial Sex worker House maid H. Unemployed

6. **Partner's occupation**

A. Merchant B. Government Employee C. Driver D. Student

E. Military F. Farmer G. Daily laborer H. Other Specify_____

7. Religion: A) Muslim B) Orthodox C) Protestant D) Others(specify)

8. Ethnicity: A. Gurage B. Oromo C. Amhara D. Tigre

E. Silte F) others (Specify)_____

9. Marital Status: A. Married B. Single C. Divorced

10. Education Level: A literate B. only read & write C Elementary School

D. High School E. College/University

11.how much income get per month_____

QUESTIONS ON STI

12. Have you ever married? A. Yes B. No

13.If no to Q12, do you have a partner? A. Yes B. No

14.If yes to Q13, how many partner do you have? _____

14.Have you ever used contraceptive method A) yes B) no

15. If yes to question 14 what is the reason to use?

A) For prevention of HIV/STD B) for birth control C) partner wish

D) others(specify)

16.Have you ever treated for STI? A. Yes B. no

17, Have you ever had any medical procedure before A. yes B.no

18. Currently which one of the following problems do you have?

A) vaginal discharge:

Odor: A. odorless B. Foully smelling-------

Color: A. whitish/cheese like------- B. grey------- C. greenish--------D. pus like

B) Wart/rash

C) genital ulcer: painful _____ painless_____

D) Inguinal swelling/ulcer

E) pain during sexual intercourse

F) frequency& dysuria

19. Do you have past history of STI? a) yes b) no

20. If yes to Q15 how was diagnosed and treated?

A) health institution B) traditional medicine C) Self D) Not treated

21. PHYSICAL FINDING

a) Genital discharge (characterize)
b) Inguinal swelling 1. tender 2.non tender
c) Genital wart/rash
d) Other finding

22.LABORATORY TEST RESULTS

Test	Result	
	+VE(%)	-VE(%)
HIV		
VDRL		