

**PREVALENCE OF AND FACTORS ASSOCIATED WITH MODERN
CONTRACEPTIVE USE AMONG FEMALE SEX WORKERS IN
DAR ES SALAAM, TANZANIA**

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**MSc (Applied Epidemiology) Dissertation
Muhimbili University of Health and Allied Health sciences
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Muhimbili University of Health and Allied Sciences

Department of Epidemiology and Biostatistics



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CONTRACEPTIVE USE AMONG FEMALE SEX WORKERS IN
DAR ES SALAAM, TANZANIA**

By

Khamis, Khamis Abdalla

**A Dissertation Submitted in (Partial) Fulfillment of the Requirements for the Degree
of Master of Science (Applied Epidemiology)**

**Muhimbili University of Health and Allied Sciences
October, 2020**

CERTIFICATION

The undersigned certify that they have read and hereby recommends for acceptance by Muhimbili University of Health and Allied Sciences a dissertation entitled; **“Prevalence of and factors associated with modern contraceptive use among female sex workers in Dar es salaam, Tanzania”**, in (partial) fulfillment of requirement for the degree of Master of Science (Applied Epidemiology) of Muhimbili University of Health and Allied Sciences.

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DECLARATION AND COPYRIGHT

I, **Khamis, Khamis Abdalla**, declare that this **dissertation** is my own original work and that it has not been presented and was not be presented to any other University for a similar or any degree award.

Signature.....

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DEDICATION

This dissertation is dedicated to my dear wife Ms. Zawadi Khatib and my son Ahmed who provided me with care and comfortable environment for preparation of this work. Much appreciations for their contribution. I wish all the best to my family and congratulations for their patience during my absence in data collection and field investigations.

ABSTRACT

Background

Access to reproductive healthcare, including contraceptives is an essential component of comprehensive HIV prevention services among high-risk women especially those involved in transactional sex. Different factors affect access and utilization of contraceptives among female sexual workers in Tanzania. This study is aimed at determining prevalence and factors associated with modern contraceptives use among female sexual workers in Dar es Salaam, Tanzania.

Methods: A cross – sectional study among 273 female sex workers aged 18-45 years enrolled in HIV prevention cohort in Dar es Salaam was conducted. Face to face interview was used as a method of data collection using structured questionnaire consisting similar questions to all respondents. The outcome variable was current use of contraceptive and the independent variables were age, marital status, income level, knowledge and awareness of contraceptives, education level, marital status, number of children and preferred number of children. Multivariable logistic regression was used to determine factors independently associated with modern contraceptive use while controlling confounding.

Results: The prevalence of modern contraceptives was 73.6%. Awareness on modern contraceptives was significantly associated with modern contraceptive use (AOR=4.13; 95% CI 1.19-14.24). Having ever faced health challenges of using modern contraceptives (AOR=0.39; 95% CI 0.21-0.69) and desiring to have 3-4 children (AOR=0.39; 95% CI 0.19-0.81) were associated with reduced odds of using modern contraceptive methods.

Conclusion and Recommendation: The prevalence of modern contraceptive use among this cohort of female sex workers in Dar es Salaam was high. Health care workers providing RCH and contraceptives services to FSWs should put more emphasis on the health challenges resulting from use of modern contraceptives to increase the uptake. Also, more health education on the use of modern contraceptives among FSWs desiring to have more children is required to increase contraceptive use among this high risk group.

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LIST OF ABBREVIATIONS

FELTP	-	Field Epidemiology and Laboratory Training Program
FSWs	-	Female Sex Workers
IBBS	-	Integrated Biological and Behavioral Surveillance
IUCD	-	Intrauterine Contraceptive Device
HIV	-	Human Immune Deficiency Virus
MUHAS	-	Muhimbili University of Health and Allied Sciences
RDS	-	Respondent Driven Sampling
REC	-	Research Ethical Committee
SRH	-	Sexual and Reproductive Health
STIs	-	Sexual Transmitted Infections
STDs	-	Sexual Transmitted Diseases
TDHS	-	Tanzania Demographic and Health Survey
TDHSMIS	-	Tanzania Demographic Health Survey and Malaria Indicator survey
TSH	-	Tanzania shilling (1US\$=2300 TSH during the study)
UNAIDS	-	Joint United Nations Programme on HIV/AIDS
PSI	-	Population Service International
WHO	-	World Health Organization

DEFINITIONS OF KEY TERMS

Contraceptive is a method or device used to prevent pregnancy by interfering with the normal process of ovulation, fertilization and implantation. For this study contraceptives were including modern methods of contraception such as male and female condom, intrauterine contraceptive device (IUCD), contraceptive pills, male and female sterilization, emergency contraception and lactation amenorrhea.

Modern Contraceptive is a product or medical procedure that interferes with reproduction from the acts of sexual intercourse. Modern contraceptive can be either temporary or permanent. modern methods of contraception include male and female sterilization, intrauterine devices and systems, subdermal implants, oral contraceptives, male and female condoms, injectable, emergency contraceptive pills, patches, diaphragms and cervical caps, spermicidal agents (gels, foams, creams, suppositories, etc.), vaginal rings, and sponge.

Contraceptive Prevalence rate: Is the proportion of women of reproductive age (15-49) who are using (or whose partner is using) a contraceptive method at a given point in time.

Family Planning: A program to regulate the number and spacing of children in a family through the practice of contraception or other methods of birth control.

Female Sex Worker: defined as female (18 and above) who receive 50% or more of their monthly income through selling of consensual sex services to multiple partners either regularly or occasionally.

Unmet need for family planning or “unmet need” is defined as the percentage of married or in-union women of reproductive age who want to stop or postpone childbearing but who report that they are not using any method of contraception to prevent pregnancy.

Unplanned pregnancy or unintended pregnancy is a pregnancy that is reported to have been either unwanted (that is, the pregnancy occurred when no children, or no more children, were desired) or mistimed (that is, the pregnancy occurred earlier than desired).

Male Condom

In this, a thin rubber or latex sheath (condom) is rolled on the erect penis before intercourse. It prevents semen (sperms) from entering the woman. The method is 95% effective if used correctly.

Female Condom

This is a vaginal pouch made of latex sheath, with one ring at each end. The closed end ring is inserted inside the vagina and works as the internal anchor.

Oral Contraceptive Pills

The combined pill consists of two hormones: estrogen and progesterone. This is to be taken every day orally by the woman. The pill works by preventing the release of the egg, thickening of cervical mucus and by altering tubal motility.

Injectables

These inhibit ovulation and also increase the viscosity of the cervical secretions to form a barrier to sperms. It is a 99% effective, easily administered method, suitable during lactation too.

Emergency Contraceptive Pill

Here, two doses of the pill, separated by 12 h, are taken within 3 days (72 h) of unprotected intercourse. Depending on the time of menstruation it is taken, it can prevent ovulation, fertilization or implantation of the fertilized egg.

Intrauterine Devices (IUDs)

A small flexible, plastic device, usually with copper, is inserted into the womb by a qualified medical practitioner, after menstruation, abortion, or 4-6 weeks after delivery. It prevents the fertilized egg from settling in the womb.

Female Sterilization (Tubectomy)

This is a permanent surgical method in which the fallopian tubes are cut and ends tied to prevent the sperms from meeting the eggs. It is a very reliable method requiring only 1 day of hospitalization and can be performed anytime, preferably after last child's birth

Male Sterilization (Vasectomy)

A permanent surgical method in which, the vasadeferentia which carry the sperms from the testes to the penis, are blocked. This prevents the sperms from being released into the semen at the time of ejaculation. It is a simple and reliable method not requiring hospitalization. Contrary to popular belief, it does not affect health or sexual vigor; neither does it interfere with intercourse.

Diaphragm and Spermicides (Barrier/Chemical Method)

A soft rubber cap is fitted into the vagina shortly before the intercourse, to cover the cervix, thus preventing sperms from entering the uterus. It must be left in place for at least 6 h after intercourse. The method is much more effective, when used in combination with a spermicidal cream to inactivate the sperms.

Implants-Hormonal

The Norplant capsule is implanted below the skin by minor surgery. It suppresses ovulation, creates thick cervical mucus which prevents sperms from entering the cervix and also creates a thin, atrophic endometrial lining.

CHAPTER ONE

1.0 INTRODUCTION

1.1 Background

Contraceptive use prevalence has increased with uneven distribution worldwide. Notable achievement has been observed in Latin America and Asia but continue to be low in Sub-Saharan Africa. Globally, use of contraception has risen slightly from 54% in 2003 to 57% in 2012. In Africa, it went from 23.6% to 28.5% (WHO, 2018). Worldwide in 2017, 63% of married or in-union women of reproductive age were using some form of contraception; including any modern or traditional methods of contraception. Among this percentage, the use of modern methods of contraception is 58% globally (1).

Approximately 214 million women of reproductive age in developing countries who want to avoid pregnancy are not using modern contraceptive methods due to various reasons including limited choice of methods, limited access of contraception, fear of experiencing side effects, cultural and religious opposition, users and providers bias and gender based barriers(WHO, 2018).An estimated 80 million unintended pregnancies occur each year worldwide, resulting in 42 million induced abortions and 34 million unintended births (2).

The contraceptive prevalence in the general population Tanzania is about 38.4% (any method) and only 32% involve modern methods of contraception. The unmet need of contraception in Tanzania is about 22% meaning every 22 of women out of 100 in reproductive age want to delay pregnancy but don't use any method of contraception(3). Furthermore, contraceptive use is higher among unmarried women compared to married couple(3).

Among female sex workers nationally, 63.2% reported using a condom when they last had sex with a client (95% CI: 60.0%-66.4%) while condoms were used consistently by only 32.6% (95% CI: 29.9- 35.3)(4). One of the consequences of not using modern contraceptive is unplanned pregnancy which ultimately can cause induced abortion. However, it is difficult to estimate actual figures on abortions cases in Tanzania since it is illegal.

The National Road Map Strategic Plan (2008-2015) aimed to increase modern contraceptive prevalence among women age 15-49 from 20% to 60%. In 2012 Tanzania pledged to increase the availability of modern contraception methods at all levels of its health system and increase its budget from 14 billion to 17 billion by 2020. The country aimed to increase outreach services, engaging policy, and challenging traditional norms and family size. The government is committed to increase availability of modern contraceptives at all levels of facility from 40% to 70% by 2020.

Modern contraceptives constitute the barrier and non-barrier methods of contraception. The barrier methods involve the use of diaphragm, cervical cap, male and female condoms, spermicidal foam sponges and film. Non barrier methods of contraception include contraceptive pills, sterilization, injection, implant, Copper T intrauterine Device (IUCD), emergency Contraception and sterilization.

1.2 Statement of the Problem

Contraceptive use is an essential component of comprehensive HIV prevention services among high-risk women especially those involved in transactional sex. Female sex workers by its nature is a group which earn income through sex hence making it vulnerable to unintended pregnancies(5). Several barriers to accessing essential healthcare such as stigma and discrimination, criminalization of transactional sex and fear of repercussions for seeking care have been identified (6). In Tanzania, consistent use of condom among women involved in sex work ranges between 10-43% while use of contraceptive other than condoms is only around 10% (12). Despite the fact that studies have shown the use of condoms to be substantially higher than other contraceptives among FSW, the incidence of unplanned pregnancy is still high in this population indicating inadequate use or improper use of contraceptives. This is despite the availability of contraceptives in the country and low cost of the contraceptives.

Several studies have shown that age, marital status, education level, wealth(3) exposure to mass media(7), fear of side effects(8) influence use of contraceptives in the general population. However, it is unknown if these factors apply to FSW in Tanzania given that this group is associated with engagement in risk sexual behaviors. It is important therefore to understand the reasons influencing the use of the different kinds of contraceptives among this high-risk population, to identify individual –specific barriers to sexual and reproductive health needed in closing the gap of unmet reproductive health needs among young female sex workers.

Therefore, this study aims to determine the prevalence of contraceptive use and identify factors that may influence contraceptive use among FSWs in Dar es Salaam. The findings will be used to improve the current family planning services in this group. This is vital because, provision of highly needed family planning services in this group provides an opportunity of HIV counseling and testing as well as diagnosis and treatment of STIs in this highly vulnerable group.

1.3 Conceptual Framework

There are several factors that have been shown to influence contraceptive use (Figure 1). At the age of below 15, most of women don't use contraceptive because most of them haven't start sexual activity. From that age, contraceptive use increases with age until at the age of menopause, where women don't fear being pregnant. In addition, it has been shown that education level influences use of contraceptive use, with higher education with most users of contraceptives and non-users of contraceptives mostly nonformal education. As educational level improves, the proportions of non-users of contraceptives reduce consistently.

The number of children determines someone either to use or not to use contraceptive. Women with no children are less likely to use contraceptive compared with those with 2-5 children. Normally everyone has desired number of children. However, someone may postpone reaching that desired number of children. Similarly, as exposure to mass media improves, the proportion of non-users of modern contraceptives reduces. Usually media give crucial information about the importance of using modern contraceptive.

Individual income has impact on exposure to media, access to the contraceptives and sometimes knowledge. As income increases the use of contraceptive increase and non-users decrease significantly.

Number of partners is also another factor affecting use of contraceptive. Usually as number of partners increases, use of contraceptive increase. Also, the kind of partner like casual partner, regular client and one-time client vary in the use of contraception especially in the context of female sex workers

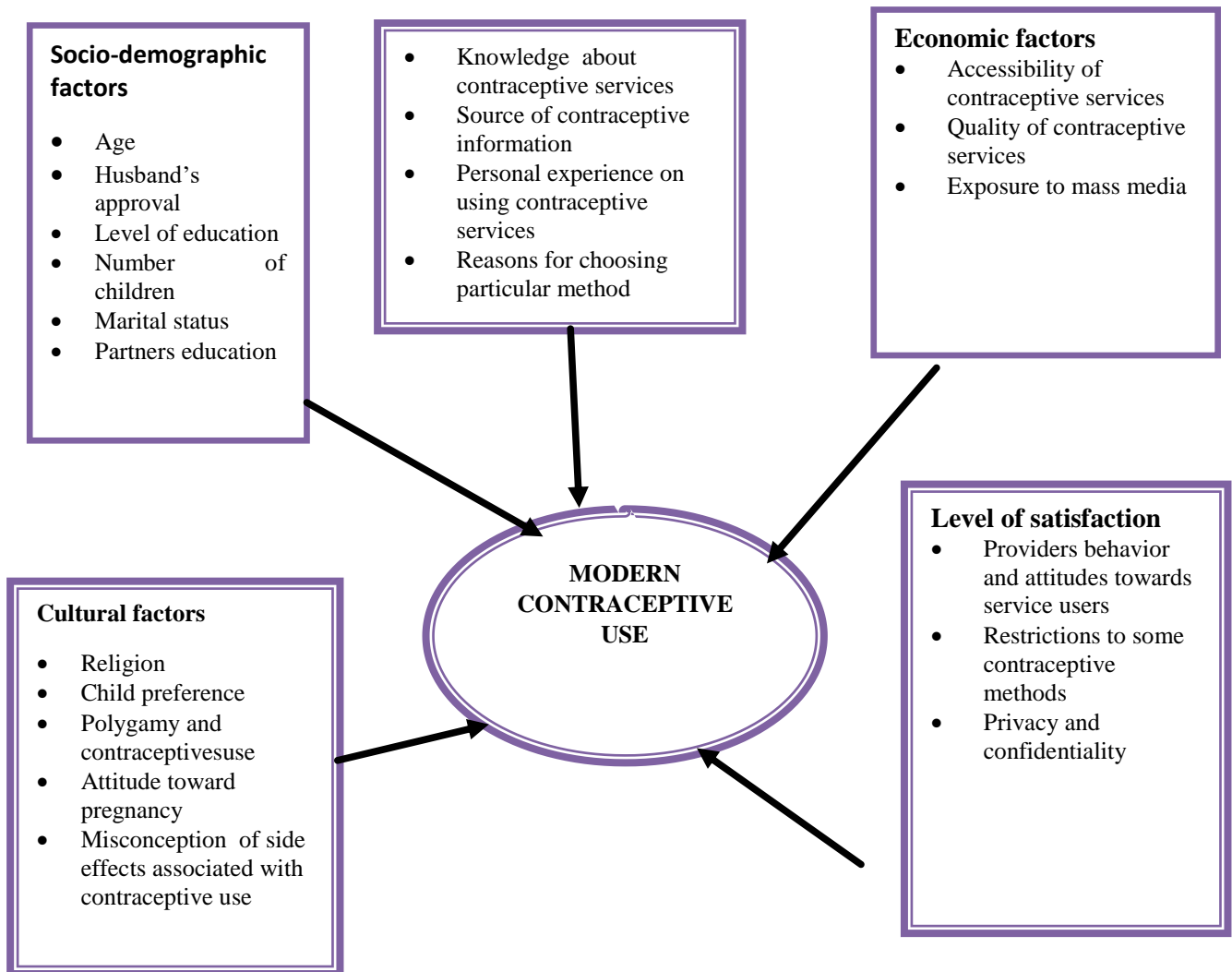


Figure 1: Conceptual framework on factors associated with contraceptive use among FSWs

1.4 Rationale of the Study

This study will help to identify socio - demographic and socio - cultural issues that are barriers to use of contraceptive methods by female sex workers in Tanzania. The study findings may help in developing new approaches for increasing use of contraceptive methods among female sex workers and reduce unplanned pregnancy among this population. The recommendations made by this study will play a role towards improving effective use of contraceptives and family planning among this population. The information can inform the policies and programs to reduce unmet need and the incidence of unplanned pregnancy. Also, the results can be used in the design of behavior change campaign and sexual education among FSWs, in the development and introduction of new contraceptives.

1.5 Research Questions

1. What is the prevalence of modern contraceptive use among female sex workers in Dar es Salaam?
2. What are the socio-demographic factors associated with modern contraceptive use among female sex workers?

1.6 Research Objectives

1.6.1 Broad Objective

To determine prevalence of and factors associated with modern contraceptive use among female sex workers.

1.6.2 Specific Objectives

1. To determine prevalence of modern contraceptive use among female sex workers in Dar es Salaam.
2. To determine socio-demographic factors associated with modern contraceptive use among female sex workers.

CHAPTER TWO

2.0 LITERATURE REVIEW

2.1 Literature Review

2.2 Sex workers in Global and Tanzania

Worldwide, sex work occurs in wide range of settings like formal brothels to informal places like bars, hotels, roadside truck-stops or at home. In formal places managers or controllers act as gatekeepers or intermediates between the sex worker and client (9). Globally most sex workers are women yet a substantial number of male and transgender sex workers exist(10). Generally sex workers face the challenges such as sexual abuse, violence, residential instability, racism and discrimination(11).Also FSWs are often stigmatized and face legal barriers(12).Tanzania law criminalizes sex work and loitering for the purpose of prostitution carries a three month prison penalty(13). After reviewing studies about number of FSWs in Tanzania mainland include Integrated Biological and Behavioral Surveillance (IBBS) the Ministry of Health Tanzania reach a consensus on the number of FSWs (national estimate) is about 155,459 (95% CI 128,610-198,050). The region with largest number of FSWs is Dar es Salaam, while Morogoro, Mwanza and Mbeya also have large estimates of FSWs. Regions with low number of FSWs are Manyara, Singida and Katavi(14). In Dar es Salaam Tanzania about 1 woman in every 143 of adult women is a sex worker, and there are about 7000 Female sex workers in the region (15).

2.3 Prevalence of contraceptive use among sex workers

The most common contraceptives used by female sex workers are condoms, injectables, oral contraceptives (16)(15)(17).Female sex workers use the kind of contraceptive if they can afford, and access it. The prevalence of contraceptive use among FSWs varies with the kind of contraceptive. Some studies reported high overall contraceptive use among this population, about 98.4% Mombasa (17), 94.4% Mombasa (16) 60% Iringa Tanzania (18). But also, some studies show low contraceptive use in this vulnerable population. Study conducted in Mwanza Tanzania showed low contraceptive use during 12 months of follow-up whereby at baseline

the prevalence was 34% and at the end of follow-up period was 43.3%. A systematic review done by Scorgie involving studies conducted in Sub-Sahara countries shows consistency condom use was challenge(9)Although some of studies show high consistent condom use by FSWs, 97%(19)66%(16). The level of contraceptive use among female sex workers in Dar es Salaam is not well understood. The available data on prevalence of contraceptive use is mainly based on general population conducted by Tanzania Demographic Health Survey.

The prevalence of modern contraceptive other than condom shows variation from one contraceptive to another. For example, the study conducted in Mombasa and Durban shows; 29.7% injectable contraceptives, 3.2% of oral contraceptive, 0.1% IUCD and 0.0% implant for Durban South Africa compared to 25.9%, 6.4%, 0.8% and 33% for injectable, oral contraceptive, IUCD and implant respectively in Mombasa.

In another study Conducted in Kenya Sutherland at al 2011 it shows the use of modern contraceptives other than condom is below 50% where Pills found 11% implants 2% and others 2%. In generally the use of barrier long term types of contraceptives is usually low compared to Condom but it differs from country to country in FSWs and general population.

2.4 Factors influencing contraceptive use in the general population and female sex workers

There are several factors that contribute to variation of contraceptive use or not use and kind of contraceptive method. Firstly, education level, modern contraceptive use generally increases with education. According to TDHS, thirty-six percent of married women with completed primary education and 33% of those with more than a secondary education use a modern method compared with 24% of married women with no education(3)(20). Research conducted at Mombasa on contraceptive use among FSWs found that there was significant relationship between level of education and awareness on contraceptive methods(16). Similarly, a study among FSWs in Madagascar showed that low knowledge of contraceptive effectiveness and low self-efficacy were the main predictors for not using contraception(21). Consistence condom use varies with kind of partner and seems to be higher with non-regular

partners compared to regular and non-paying partners (18)(22).It was also found that some partners don't prefer use of condom is related with reduced sexual pleasure and some partners use force and physical abuse to make not use of condom (19). There is limited data on factors associated contraceptive use among FSW in Tanzania.

2.5 Unplanned pregnancies among female sex workers

Unplanned pregnancies among Female sex workers have reported in various studies. The incidence of unplanned pregnancy ranges from 7.2 to 59.6 pregnancies per 100 person-years(23). Another study conducted among FSWs at Afghanistan show 36.9% unplanned pregnancy rate(24). Also, study conducted at Madagascar FSWs involving condom intervention found 250 out of 935 sex workers which is equivalent to 27% became pregnant during 18 months of follow up. Among those who conceived 51% delivered, 13% reported spontaneous abortion, 13% reported induced abortion and 23% had missing pregnancy outcomes(21), This study was determine the level of unplanned pregnancy among this population and the outcome of unplanned pregnancy also was studied.

CHAPTER THREE

3.0 METHODOLOGY

3.1 Study design

A cross sectional study was conducted in Dar es Salaam region between June and September in 2019 that involved a cohort of HIV negative female sex workers who were participants in another big cohort study conducted by Muhimbili University.

3.2 Study Setting

The study was conducted at Muhimbili University of Health and Allied Sciences (MUHAS) HIV vaccine clinical trial unit (Makuti) in Dar es Salaam region. MUHAS HIV vaccine clinical trial was selected due to the fact that the site is easily accessible to the population of interest, easy to find and affordable to get to. The site also has quiet and private rooms (to ensure participants' confidentiality and limit distraction).

Dar es Salaam region has population of approximately 7000 female sex workers (FSWs) making it among the region with high number of FSWs. Administratively, the region is divided into five municipals; namely Ilala, Kinondoni, Temeke, Ubungo and Kigamboni with varying population.

3.3 Study population

The study included HIV negative female sex workers aged 18-45 years living in Dar es Salaam who were recruited in ongoing cohort study. The female sex workers enrolled in this study were those reported to have exchanged sexual intercourse for money in the past one month.

Inclusion criteria:

1. Female sex worker aged 18-45 years who exchange sexual intercourse for money one month before this study. Either self-identify as sex worker or report an exchange of money or gift for vaginal/anal sex
2. Must be enrolled in the cohort study

Exclusion Criteria:

1. Natural infertile women
2. Not willing to participate in the study

3.4 The parent study

The parent study is prospective cohort entitled HIV incidence, sexual and reproductive health among high-risk females in Dar-es Salaam: An HIV vaccine Trial preparedness study. The objective of the parent study is to determine the incidence of HIV and obtain key information on sexual and reproductive health needs in a cohort of high-risk females prepared for a phase IIb HIV vaccine trial. The study involves females aged 18-45 years living in Dar es Salaam at high risk for acquiring HIV and the initial sample size was 700 and all participants were HIV negative. The outcome variables are

- HIV incidence over 12 months and factors associated with HIV seroconversion secondary outcomes
- Baseline prevalence of HIV, Hepatitis B&C and Syphilis
- Baseline prevalence of women reporting practices of HIV sexual risky behaviours and drug related behaviours
- Proportion of women with high perception of HIV acquisition risk
- Time to HIV seroconversion determined by serological recency assay.
- Incidence of pregnancy during follow up
- Proportion of high-risk women willing to participate (WTP) in vaccine trial and factors influencing participation

- Prevalence of gender-based violence among females in the cohort and its association with risky behavior practices and access to health services
- Practices and perceptions around induced abortions and use of contraceptives.
- Retention rates 12 months of the study and the factors associated with retention

3.5 Power calculations

Since this study is nested within a parent study, power calculations were performed with a level of statistical significance of 5%. We assumed 60% of female sex workers would be using modern contraceptives (18). Therefore, with a sample size of 270, we were 95% confident to estimate the prevalence of modern contraceptive use among FSWs.

3.5.1 Sampling method

We used participants recruited in the parent study involving female sex workers. Participants from the parent study were recruited through respondent driven sampling survey (RDS). Respondent-driven sampling (RDS), combines "snowball sampling" (getting individuals to refer those they know, these individuals in turn refer those they know and so on) with a mathematical model that weights the sample to compensate for the fact that the sample was collected in a non-random way. HIV negative women attending follow up visits were approached to be included in this study.

Participants for this study were conveniently recruited from the parent study in such a way that when the participants of the parent study were attending for their scheduled visits were asked to participate in this small study. Appointment list was reviewed and the visit dates identified. On average 8-10 participants were scheduled per day. Participants of the parent study were approached for recruitment on consecutive appointments until the required sample size of 273 was reached. Random selection of the parent study participants could not be possible because of limited time for recruitment and data collection. Some participants had appointment dates beyond specified time for this study. This study related with the parent study in a way that all respondents were directly used from the parent study. Data collection also was conducted at the same site where parent study is undertaken.

3.6 Data collection tool and procedures

Data collection was conducted using Interview questionnaire which was translated from English to Swahili and pre-tested before the actual data collection. It included questions about demographic characteristics, contraceptive use, exposure to mass media, unplanned pregnancy and outcome. All data were collected by Principal Investigator of this research.

3.7 Data Validation, Management and Analysis

Data were entered and analyzed using Epi Info Version 7.2. Before analysis was done data were cleaned by running frequency of each variable in Epi Info version 3.5.4 to check the missing of variables. The outcome variable was the current use of modern contraceptives and the independent variables was including age, marital status, number of children, education level, ever faced challenges in using modern contraceptives, alternative source of income, heard contraceptive messages on mass media, desired number of children and income due to sex work. Frequencies and proportions were calculated for categorical variables while measure of central tendency was used to describe continuous data. Bivariate analysis using the Chi square test was used to determine the association between exposure and outcome variables. Multivariable logistic regression analysis was performed to determine the odds for the factors associated with contraceptive use. All factors that had reached a statistical significance level of $p < 0.2$ in the bivariate analysis were included in the multivariable model. A p-value of less than 0.05 was considered statistically significant.

3.8 Ethical consideration

Prior to the commencement of this study, ethical approval was obtained from Muhimbili University of Health and Allied Sciences (MUHAS) Research and Publication Committee. Potential participants were informed that their participation in this study is strictly voluntary and that they are free to withdraw from the study at any time. Informed consent was sought from the participants. In the questionnaire only codes were used and not real names of participants, no identifier information like names and phone numbers was collected. All documents were locked in secured locations and accessed by only responsible person.

Before conducting interview, the participants were given counseling and assured confidentiality of their information, anonymity and important of conducting this research.

CHAPTER FOUR

4.0 RESULTS

4.1 Socio-demographic characteristics of the study sample

A total of 273 consented and agreed to participate in the study. Table 1 shows demographic characteristics of study participants. Majority of FSW (42.1%) were in the age group between 25 and 34 years. Majority were divorced/widowed (43.2%), living alone (43.6%), having primary education level (64%) and had only one child (45%). Most of the participants 172 (63%) had a weekly income of between 50,000-200,000 TSH while 7.7% of the participants had a weekly income of Tshs 50,000 or less (Figure 2).

Table 1: Socio-demographics characteristics of study participants (n=273)

Variable	Frequency	Percentage
Age group		
15-24	109	39.9
25-34	115	42.1
35 to 49	49	18
Marital status		
Single	117	42.9
Married/Cohabiting	38	13.9
Divorced/Widowed	118	43.2
Living with whom		
Alone	119	43.6
Boyfriend/Husband/Family	117	42.9
Friends/Fellow sex worker	37	13.5
Education level		
None	13	4.8
Primary	176	64
secondary or higher	84	30.8
Number of Children		
0	48	17.6
1	123	45
2 to 3	93	34.1
≥4	9	3.3

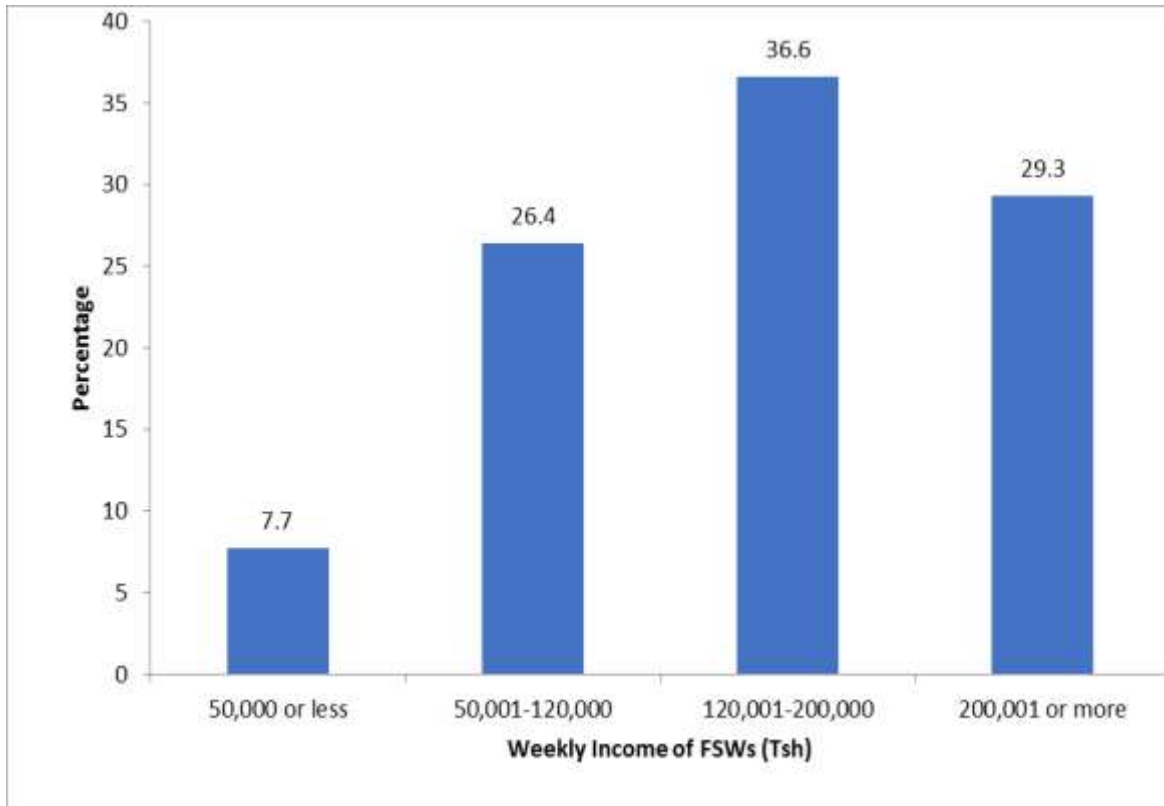


Figure 2: Weekly income of Female Sex Workers (in Tshs)

4.2 Prevalence of contraceptive use

Nearly all 270 (99%) female sex workers had ever used one or more kind of modern contraceptives. About three quarters 201 (73.6%) of the participants were currently using modern contraceptives during the time of data collection. The commonest methods used included condoms (100%), injection (26.3%) and implant (21.6%). Out of the participants who were using condoms, 21.6% used consistently (Table 2). Hospitals 124(56.6%), 83(38%), pharmacies 22(10%) health centers 10(4.6%) and mobile clinics were the major source of contraceptives to FSWs.

Table 2: Prevalence and types of modern contraceptive use among study participants

Variable	Frequency	Percentage (%)
Ever use of modern contraceptive		
Yes	270	99
No	3	1
Currently using modern contraceptive		
Yes	201	73.6
No	72	26.4
Condoms use		
Consistently	59	21.6
Inconsistently	142	52
Not using condom at all	72	26.4
Other methods		
Implant	59	21.6
IUCD	15	5.5
Injections	72	26.3
Pills	18	6.6

4.3 Socio-demographic factors associated with modern contraceptive use among FSW

Table 3 shows results for bivariate analysis of factors associated with modern contraceptive use among FSWs. The prevalence of modern contraceptive use among FSWs with one child was 80.49% compared to 60.4% among FSWs with no child (P-value = 0.02). Furthermore, results show that FSW who have ever faced health challenge for using modern contraceptive have higher proportion of using modern contraceptives (83.5%) compared to those who have never face health challenges for using modern contraceptives (66.2%) (P-value = 0.001).

Among FSWs who had an awareness of contraceptive methods, 75.1% were using modern contraceptive methods while 41.67% of FSW who did not have awareness of contraceptive methods were using modern contraceptive methods ($P=0.01$). There is high prevalence (83.1%) of modern contraceptive use among FSWs who desired less children than 3 compared to those FSWs who desired more than 2 children 69.5% ($P=0.08$). There is no significant association between modern contraceptive use among FSWs and age, education level, marital status, alternative source of income, heard contraceptive message on mass media or income due to sex work (Table 3).

Table 3: Bivariate analysis of factors associated with modern contraceptive use among FSWs

Factor	Total (n=273)	Using modern contraceptive (n=201) No. (%)	P value
Age group (years)			
15-24	109	82(75.2)	0.54
25-34	115	86(74.8)	
35-50	49	33(67.3)	
Marital status			
Single	117	87(74.4)	0.48
Married/Cohabiting	38	25(65.8)	
Divorced	118	89(75.4)	
Number of living children			
0	48	29(60.4)	0.02
1	123	99(80.5)	
2 to 10	102	73(71.6)	
Education level			
None	13	10(76.9)	0.89
Primary	176	128(72.7)	
Secondary or higher	84	63(75.0)	
Ever faced health challenge after using contraceptive			
Yes	127	106(83.5)	0.001
No	136	90(66.2)	
Number of children born while sex worker			
0	146	103(70.6)	0.07
1	85	71(83.5)	
2 to 5	42	27(64.3)	

Have alternative source of income			
Yes	76	60(78.9)	0.21
No	197	141(71.6)	
Heard contraceptive message on media			
Yes	216	160(74.1)	0.84
No	55	40(72.7)	
Desired number of children			
0-2	83	69(83.1)	0.08
3 to 4	151	105(69.5)	
>4	39	27(69.2)	
Income due sex work			
<50,000	10	9(90.0)	0.48
50,000-149,999	96	69(71.9)	
150,000-200,000	87	64(73.6)	
>200,000	75	54(72.0)	
Awareness of contraceptive methods			
Yes	261	196(75.1)	0.01
No	12	5(41.7)	

4.4 Multivariate analysis of factors associated with modern contraceptive use among FSWs

After adjusting for other factors, female sex workers who desired to have 3-4 children had 71% lower odds of using modern contraceptives compared to FSWs who desired 0-2 children (AOR=0.39; 95% CI 0.19-0.81). Furthermore, female sex workers who have never faced health challenges after using modern contraceptive have 71% lower odds of using modern contraceptives compared to FSWs who have ever faced health outcome challenge (AOR=0.39; 95% CI 0.21-0.69).

In addition, female sex workers who are aware on modern contraceptives have 4 times higher odds of using modern contraceptives compared to those who are not aware on modern contraceptives after adjusting for other variables (AOR=4.13; 95% CI 1.19-14.24).

4.5 Reasons of not using condoms

Participants were asked about the reasons of inconsistency condom use. The main reasons mentioned were their customers did not want to use condoms 147(67%) and customers pay more 74(34%). Other reasons included condoms not a reliable method, condoms reduce sexual pleasure and are difficult to access all times.

Table 4: Multivariable analysis of factors associated with modern contraceptive use

Factor	Bivariable Analysis		Multivariable Analysis	
	COR (95% CI)	P value	AOR (95% CI)	P value
Number of living children				
None	Reference		Reference	
One	2.70(1.30-5.61)	0.006	2.16(0.92-5.09)	0.07
two and above	1.64(0.80-3.39)	0.17	1.53(0.61-3.85)	0.37
Number of children born while already a sex worker				
None	1.24(0.59-2.59)	0.56	1.11(0.43-2.91)	0.83
One	2.45(1.04-5.75)	0.039	1.66(0.58-4.77)	0.34
two and above	Reference		Reference	
Desired number of children				
0-2	Reference		Reference	
3 to 4	0.46 (0.23-0.90)	0.025	0.39 (0.19-0.81)	0.01
5 to above	0.45 (0.18-1.11)	0.08	0.44 (0.16-1.14)	0.09
Ever faced health outcome challenges				
Yes	Reference		Reference	
No	0.38 (0.21-0.69)	0.002	0.39 (0.21-0.69)	0.002
Awareness on modern contraceptives				
No	Reference		Reference	
Yes	4.22 (1.29- 13.76)	0.017	4.13 (1.19-14.24)	0.025

COR=crude odds ratios; AOR=adjusted odds ratios

CHAPTER FIVE

5.0 DISCUSSION

This study aimed at determining the prevalence of modern contraceptive use and associated factors among female sex workers in Dar es Salaam, Tanzania. Our study findings showed, contraceptive use was overall high, with more than two-third of sex workers reporting to use some form of modern contraceptive. However, dual contraceptive use was low with only 22% of the female sex workers reporting consistent condom use. Contraceptive use among sex workers in the study was associated with number of children one had, desired number of children, as well as awareness of contraceptives.

5.1 Prevalence of modern Contraceptive use

The overall prevalence of modern contraceptive use among FSWs in this study was about 73%. This is about 3 times compared to general population of women in reproductive age (27.1%) reported in TDHS 2016. The high prevalence of modern contraceptive use may be attributed by the fact that this is a cohort of FSWs who attend clinic periodically, get health education and some counseling. It also implies that access to these contraceptives is not the major problem. The major sources of contraceptives were hospital, health centers, pharmacies and mobile clinic, also when attend those periodic clinics they are given these contraceptives free of charge.

The results of high modern contraceptive use were also reported in the other studies. For example, a study conducted in Zambia by Chanda et al 2017, shows that 66.7% of FSWs were using contraceptives. Todd et al 85.2%, Khan at al 62% current use and 92% ever use of contraception. Nyanumba 2015 show 97% of sex workers have ever use contraceptives.

The finding for this study were similar to the study conducted by (25) which investigated the Contraceptive use, prevalence and predictors of pregnancy planning among female sex workers in Uganda which also found that prevalence of using modern contraceptive methods

were higher (75.6%) compared to non-modern contraceptive methods prevalence which account for 24.4%

The findings are in contrast with Duff et al 2018, which found only 10% of FSWs were using modern contraceptives at baseline of the cohort study.

5.2 Factors associated with modern contraceptive use

Socio demographic factors such as desired number of children, current number of children and number of children while already a sex worker were significantly associated with current use of modern contraceptive among female sex workers. Several studies are in line with findings of this study which show association between number of children and contraceptive use, M. Eriksen et al 2015 study conducted in Gulu northern Uganda showed that Female sex workers who have children are more likely to use contraceptives. The difference between this study and M. Eriksen et al is that the study conducted in Uganda asked FSWs whether has child or not while this study categorize the number of children in different groups and compare.

Contraceptive use is explained in several studies to be linked with educational level, the higher the education increase contraceptive use and lower the fertility, raising women's education levels improves their economic opportunities, increasing the value of their time and, in turn reducing their desire for large families

The study found that the age group of the respondent has no association with the use of modern contraceptives, thus any female sex worker of any age may decide to use or not to use modern contraceptives. These findings are contradicted from the findings of Kebede, et al [23] whose findings indicated that women whose age were between 15 and 24 years and 25–34 years were less likely to have demand for modern contraception than women whose age were in between 35 and 49 years thus showing how age can affect the use of modern contraceptives. This showed that women age is positively associated with contraceptive prevalence. In further contradiction, the results from the studies done in Debre Markos and Goba, Bale Zone found that FSW who want more children were younger [24,25] thus they adhered less on the use of modern contraceptives.

This study also showed that FSWs with one child are almost three times more likely to use modern contraceptive than those with no children. These findings are similar to the findings of Kebede, et al [23] which showed that women who had 2–3 children were almost three times more likely to have demand for modern methods of contraceptive than women who had no child. The reason for difference might be due to the more child the woman is having, the more likely she wants to space or limit the number of child and the more she was using contraceptive methods or had an unmet need. The findings in Debre Markos, north west Ethiopia also had supporting findings which as women who have three and above children had more demand for family planning than those having no children [25].

Regarding economic effect of FSW on the use of modern contraceptives, this study found that there was no significant association between the income of the sex worker and contraceptive use which is contrary to the findings of other researchers (25) who observed a strong relationship between wealth or prosperity index and contraceptive use.

These results further revealed that majority of the FSWs got contraceptive message on media though it had no association with the use of modern contraceptives, these findings are similar to the findings of [28] Who found that the most common sources of information were mass media. Also, similar findings were reported in studies in Kilimanjaro [29] , Botswana [30] and India [31], as they also found that media was the commonest source of information on contraceptive, differently from the results in a study conducted in Nigeria [32], where health care facilities were the most common sources of information. Thus, having a reliable source of information such as mass media is likely to provide youths with more correct and accurate information than friends/relatives; it is thus justifiable to direct efforts toward disseminating information through reliable sources.

5.3 Limitation of the study

Several limitations of the study should be noted. FSWs provided information about their contraceptive use retrospectively and there is the possibility that recall bias, social desirability and underreporting affected their responses. Another limitation of this study concerns the sample of participants as this study is limited to FSWs in Dar es salaam region, and therefore, the generalizability of this study's findings is restricted. The responses to the question on use of contraceptives are self-reported and the validity of the respondents' claims has not been ascertained. However, the study team made a concerted effort to improve the reliability of the data by undertaking the interviews in total privacy, and using validated questions.

The power of this study used to calculate the sample size was based on commonly used contraceptives by female sex workers and therefore the results cannot be generalized to rare contraceptives like sterilization.

CHAPTER SIX

6.0 CONCLUSION AND RECOMMENDATIONS

6.1 Conclusion

Prevalence of modern contraceptive use among female sex workers is quite high. Having a large desired number of children and having faced challenges for using modern contraceptives were associated with reduced likelihood of modern contraceptive use. Female sex workers also mostly use condom although inconsistently.

6.2 Recommendations

Basing on the preceding discussion of the findings and in particular the possible ways to improve access and utilization of modern contraception among FSWs, certain recommendations were advanced by the researcher, which include:

Health workers

There's need for greater understanding by the health service providers and policy makers of the influences underpinning societal attitudes towards sexuality and contraceptive use in this setting, and more extensive communication between health care staff and women with FSWs inclusive as this would facilitate positive action towards improving safe motherhood and reproductive health services for FSWs and reduce cases of unsafe abortions, unintended or unwanted pregnancies, in addition to reducing HIV/AIDS.

Additional research should address the gaps in knowledge about the reproductive health care needs such as the unmet need for contraception for these FSWs. Majority women need greater education and sensitization on reproductive health and improved access to health care. This can be done in the form of trainings, advocacy and lobbying in order to improve access and utilization.

There should also be special delivery of reproductive health services especially contraceptives to FSWs in a way that will create easy access and utilization of reproductive health technologies.

Lastly, women's effective access to health care involves the interrelationship of many complex factors. This can only be assured if health services are considered available, affordable, appropriate and acceptable by women especially FSWs, since they are greatly affected by the negative effects that come as a result of the above.

Government

There's need for improvement in rural health service systems through providing the necessary equipment's in the health centers. In addition, special health units for FSWs should be initiated to address the issues of FSWs to enhance their involvement in HIV/AIDS mitigation.

Government should create knowledge awareness programs on the existing reproductive health programs and policies especially to the rural community. This should be done through campaigns on birth control, health talks and sensitization of the masses on the importance of small family sizes, as this will reduce on the extreme poverty at the household and government levels.

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APPENDICES

Appendix 1: Informed Consent- English Version

**MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES
DIRECTORATE OF RESEARCH AND PUBLICATIONS**

Title: Prevalence and factors associated with contraceptive use among female sex workers in Dar-es-Salaam, 2019.

ID-NO

Consent to participate in this study

Greeting, My name is I working on this research project with the objective of determining prevalence and factors for contraceptive use among female sex workers in Dar es Salaam. We plan to talk with 700 sex workers of reproductive age in this region. We asking you to take part in this study because you are female sex worker. You have been purposely selected.

We want you to understand the purpose of this study and your role so may decide if you want to join. If you join we will ask you to sign this paper(or if you cannot read/write make your mark in front of witness). Please ask us to explain any words or information that you may not understand.

Information about the research

If you participate, we will interview you. We will ask you about your background. We will ask about your sexual behavior, and use of contraceptives. We will also ask you about pregnancy. The interview will last about 20-30 min.

Possible risks

There is psychological effect due to the nature of questions asked about sexual practices .We will do our best to protect your privacy and study records. Our interview will be private. You may refuse to answer any question. You may end the interview at any time.

Possible benefits This study has no direct benefits but the results of this study will help to improve interventions of contraceptive use and reduce unplanned pregnancies. The incentive will be provided from the parent study. Other benefits include pregnancy test and health education include contraceptive use

Confidentiality

We will do our best to protect information about you and your part in this research. We will interview you in a private place. We will not write your name on the interview form instead identification number. You will not be named in any reports. Only the study staff and investigators will know your answers to the questions.

Your rights as a participant: This research has been reviewed and approved by the Muhimbili University of Allied Health Sciences research and publication committee

Whom to contact

If you ever have questions about this study, you should contact the study Coordinator or the Principal Investigator Khamis A. Khamis, Muhimbili University of Health and Allied Sciences (MUHAS), P.O. Box 65011, Dar es Salaam Mobile no. 0657541000 questions about your rights as a participant, you may contact/call Dr. Diana Faini (0752587105) and Ms. Senga Sembuche (0784622968) who are supervisors of this study.

Signature:

Do you agree?

Participant agree

Participant Disagree

I.....have read/understood the contents in this form. I agree to participate in this study.

Signature of participant -----

Signature of witness (if participant cannot read) -----

Signature of research assistant -----Date of signed consent -----

Appendix 2: Fomu ya Ridhaa ya Mshiriki

CHUO KIKUU CHA AFYA NA SAYANSI SHIRIKISHI MUHIMBILI KURUGENZI YA UTAFITI

UTAFITI KUHUSU KWA KIASI GANI NA SABABU ZINAZOPELEKEA UTUMIAJI WA NJIA ZA KUJIKINGA NA MIMBA KWA WANAWAKE WANAOFANYA NGONO KWA MALIPO MKOA WA DAR ES SALAAM, 2019

Ridhaa ya Kushirikikatikautafitihuu

Salaam, Mimi naitwa.....Ninafanya Utafiti kuhusu kwa kiasi gani na sababu zinazopelekea utumiaji wa njia za kujikinga na mimba kwa wanawake wanaofanya ngono kwa malipo mkoa wa Dar es salaam. Tumepanga kufanya mahojiano na wanawake hao 700 ambao wapo kwenye umri wa kuzaa (18-49). Tunakuomb aushiriki katika utafiti huu kwa sababu wewe ni mmojawana wanawake wanaofanya ngono kwa malipo. Umechaguliwa kwa makusudi. Tunataka kufahamu lengo la utafiti huu na umuhimu wa kushiriki kwako ili uweze kuamua kushiriki au kukataa. Tutakuomba kutia sahihi kwenye fomu hii endapo utakubali kushiriki katika utafiti huu au kama hujui kuandika utaweka alama ya dole gumba mbele ya shahidi

Maelezo kuhusu utafitihuu

Endapo utakubali kushiriki tutakuuliza maswali yaliyopo katikadodoso hili.Tutakuuliza kuhusutaarifa binafsi pamoja tabia za kingono na utumiaji wa njia za kujikinga na mimba, tutakuuliza pia kuhusu historia yako ya mimba na mimba zisizotarajiwa. Mahojiano yatachukua takribani dakika 20-30.

Usiri

Tutafanya kadri iwezekanavyo kuhakikisha kuwa tarifa zote tutakazochukua ni siri na hazitawekwa bayana kwa mtu yeyote isipokuwa wanaofanya kwenye utafiti huutu.Tutakuhoji kwenye eneo ambalo ni siri. Hatutaandika jina lako katika fomu yamajadiliano nabadala yake tutaandika namba. Wanaofanyakazi kwenye utafiti huu peke yake ndio watajua majibu ambayo umeyatoa.

Faida ya Utafitihuu

Hakuna faida ya moja kwa moja ya kushiriki kwenye utafiti huu isipokuwa majibu ya utafiti huu yatasaidia kuboresha mbinu za kutumia kujikinga na mimba na kupunguza mimba zisizotarajiwa. Washiriki wa utafiti huu pia watapata motisha katika tafiti kuu na pia watapata elimu ya Afya ya uzazi hususan uzazi wa mpango.

Madhara na Usumbufu

Baadhi ya maswali yatauliza habari zako binafsi. Haya maswali yanaweza kukufanya usijisikie vizuri. Pamoja na kwamba tungependa ujibu maswali yote, lakini, sio lazima kujibu swali lolote utakaloona linakuletea usumbufu au wasiwasi. Uko huru kukataa kuendelea na mahojiano haya wakati wowote.

Mawasiliano

Kama una maswali kuhusiana na tathmini hii unaweza kuwasiliana na wasimamizi wa utafitihuu Dr. Diana Faini namba ya simu (0752587105) au Senga Sembuche namba ya simu (0784622968)

Je una swali kuhusiana na tathmini hii au ushiriki wako katika tathmini hii? Unakubali kushiriki?

Kama ndio: Tunaomba sahihi au alama ya dole gumba

Tarehe.....

Sahihi ya shahidi (kama mshiriki ametoa alama ya dole gumba).....

Tarehe.....

Appendix 3: Questionnaire

QUESTIONNAIRE FOR ASSESSING PREVALENCE AND FACTORS FOR CONTRACEPTIVE USE AMONG FEMALE SEX WORKERS IN DAR ES SALAAM

Read: Thank you for participating in our study. This questionnaire has 4 sections. I will read each question aloud and wait for your response. For some questions I will also read aloud some answers from which you can choose. Please take as long as you need to remember or think about your answer. If a question is unclear, please ask me to repeat or explain it. Please remember all your answers will be kept confidential and this questionnaire does not have your name on it. First, I would like to ask you some questions about yourself.

SN	Questions and Filters	Coding Categories	Skip to
<i>A. Demographic Information</i>			
01	Interviewee number	INTERVIEWER CODE [__ __]	
02	<i>Date of Interview</i>	[__ __] [__ __] [__ __ __ __] DAY MONTH YEAR	
03	Age	----- (years)	
04	What is your <u>current</u> marital status?	Married 1 Cohabiting 2 Separated/Divorced 3 Single 4	
05	What is your highest level of formal education	No Formal education.....1 Some or completed Primary education.....2 Some or Completed secondary education....3 College or higher education.....4	

06	Who is currently living with you?	Alone1 Husband/Boyfriend/Family members... 2 Friends/Other FSWs.....3 No fixed Address 4.....4 HHF	
07	What is your average monthly income from sex work	Amount Tsh	
08	Do you have alternative source of income apart from sex work?	YES..... <input type="checkbox"/> NO <input type="checkbox"/>	
09	What is the alternative source of income?	Boyfriend/Husband 1 Formal employment 2 Casual labor 3 Self employment 4	
10	How many children currently do you have	Number [____ ____]	
11	How many children did you have while already FSW	Number [____ ____]	
12	What is your desired number of children	Number [____ ____]	
13	Current Pregnant status	Positive <input type="checkbox"/> Negative <input type="checkbox"/>	
<i>B. Ever and Current use of contraceptive</i>			

13	Have you ever used anything or tried anyway to delay or avoid getting pregnant?	YES..... <input type="checkbox"/> NO <input type="checkbox"/>	
14	What have you used or done		
15	How many living children, if any did you have when you first did something or used a method to avoid getting pregnant?	Number of children [____ ____]	
16	Are you currently doing something or using any method to avoid getting pregnant	YES..... <input type="checkbox"/> NO <input type="checkbox"/>	
17	Which methods are you using	Pill.....01 IUCD.....02 Diaphragm/Foam/Jelly.....03 Condom.....04 Female Sterilization.....05 Other.....06	
18	If above include condom, how frequent do you use condom with during sex in last 3 months?	Always Almost always Sometimes	
19	If not always		

20	Have you visited Hospital, health center, a clinic, a doctor, a field worker to obtain a method to avoid pregnancy?	YES..... <input type="checkbox"/> NO <input type="checkbox"/>	
20	Where did you visit to obtain the method (or instructions)	Government Hospital.....01 Government HC/Disp.....02 Family Planning Clinic.....03 Mobile Clinic.....04 Field Worker.....05 Private Hospital/Clinic.....06 Pharmacy.....07 Friend/Relatives.....08	
21	Was there anything you particularly disliked about the services you received there?	Wait too long.....01 Staff Discourteous.....02 Services expensive.....03 Desired method unavailable.....04 Others.....05	
<i>C.Past use and reasons for dissatisfaction</i>			
22	For how long have you been using(CURRENT METHOD) continuously		
23	Have you experienced any problem(s) from using (CURRENT METHOD)	YES..... <input type="checkbox"/> NO <input type="checkbox"/>	

24	What is the main problem	Method Failed.....01 Husband Disapprove..... 02 Health concerns.....03 Access/Availability.....04 Cost too much.....05 Inconvenient to use.....06	
25	Have you ever used any other method or done anything else(since your last birth) before (CURRENT METHOD) to avoid getting pregnant	YES..... <input type="checkbox"/> NO <input type="checkbox"/>	
26	Which method did you use before (CURRENT METHOD)	Pill.....01 IUCD.....02 Diaphragm/Foam/Jelly.....03 Condom.....04 Female Sterilization.....05 Other.....06	
27	For how long had you been using(METHOD BEFORECURRENT METHOD) before you stopped using it	Duration Years <input type="text"/> <input type="text"/> Months <input type="text"/> <input type="text"/>	
28	What is the main reason you stopped using method before current method	Method Failed.....01 Husband Disapprove02 Health concerns.....03 Access/Availability.....04 Cost too much.....05	

<i>D.Future Contraceptive use, Mass media and unintended pregnancy</i>			
29	Do you intend to use method to avoid pregnancy at any time in the future	YES..... <input type="checkbox"/> NO <input type="checkbox"/> DK..... <input type="checkbox"/>	Skip to
30	Which method would you prefer to use	1. Pill.....01 2. IUCD.....02 3. Diaphragm/Foam/Jelly.....03 4. Condom.....04 5. Female Sterilization.....05 6. Other.....06	
31	Do you intend to use the preferred Method in the next 12 months	YES..... <input type="checkbox"/> NO <input type="checkbox"/>	
32	In the last month have you heard about family planning (contraceptive use) on the radio, or television?	YES..... <input type="checkbox"/> NO <input type="checkbox"/>	
33	Did you hear it once or more than once?	Once.....1 More than once.....2	

34	Is it acceptable to you for contraceptive use information to be provided on the radio or television	Acceptable.....1 Unacceptable2 DK.....3	
35	At the time you become (to your last pregnant) did you want to have the child then, did you want to wait until later, or did you want no (more) children at all?	THEN.....1 LATER.....2 NO MORE.....3	

Appendix 4: Dodoso La Kiswahili

Dodoso la Kutathmini Kwa kiasi gani na sababu za Utumiaji wa njia za kujikinga na Mimba kwa wanawake wanaofanya ngono kwa malipo Mkoa wa Dar es Salaam

Taarifa za Jumla

1. Nambari ya dodoso.....
2. Tarehe ya dodoso
3. Una umri gani
4. Hali katika ndoa yako ikoje? (Weka alama katika mojawapo)
 - a) Nimeolewa kisheria
 - b) Nimeolewa bila nyaraka zozote lakini tunaishi pamoja.
 - c) Sijaolewa
 - d) Tumetengana/tumetalikiana
5. Kiwango chako cha juu cha elimu
 - a. Sikusoma
 - b. Nimemaliza/sikumaliza elimu yamsingi
 - c. Nimemaliza/sikumaliza elimu ya sekondari
 - d. Elimu ya chuo
6. Je unaishi na nani kwasasa?
 - a. Naishi peke yangu
 - b. Mume/Rafiki wakiume/Familia
 - c. Marafiki/Tunaofanya biashara ya ngono pamoja
 - d. Sina sehemu maalumu yakuishi
07. Kwa wastani unapata kipato kiasi gani kwa wiki kutokana na biasharayangono?
Tsh.....
08. Je una chanzo mbadala cha kipato sambambana biashara ya ngono?
 1. Ndio 2. Hapana

09. Kama ndio hapo juu taja chanzo mbadala cha kipato
1. Mume/Rafiki wakiume
 2. Nimeajiriwa
 3. Nimejajiri /Biashara ndogo ndogo
10. Je una jumla ya watoto wangapi kwasasa.....
11. Umezaa watoto wangapi tangu uanze biashara ya ngono.....
12. Je ungependelea kuzaa watoto wangapi maishani mwako?
13. Hali yako ya ujauzito kwa sasa
- a) Sina ujauzito b) Nina ujauzito
14. Je unafahamu kuhusu njia za kisasa za kujikinga na ujauzito
- 14b) Njia gani za kisasa za kujikinga na mimba unazifahamu?(Usimsomee majibu)
- a) Pill b) IUCD c) Diaphragm/Foam/Jelly d) Condom
 - e) Sterilization f) Emergency contraception
- 15) Je umewahi kutumia njia yoyote au kitu chochote ili kukufanya usiwe mjamzito?
- a) Ndio b) Hapana
- 16.) Kama ndio ulitumia njia gani
- a) Pill b) IUCD c) Diaphragm/Foam/Jelly d) Condom
 - e) Sterilization f) Emergency contraception
17. Je kwa sasa unatumia njia yoyote kwa jili ya kujikinga na mimba
- a) Ndio b) Hapana
18. Kama ndio unatumia njia ipi?
- a) Pill b) IUCD c) Diaphragm/Foam/Jelly d) Condom
 - e) Sterilization f) Emergency contraception
19. Ikiwa condom ni moja ya njia unazotumia kwa ajili ya kujikinga na mimba. Je unatumia condom kwa kiasi gan ikatika kipindi cha miezi 3 iliyopita?
- a) Mara zote ninapofanya ngono b) Takribani mara zote
 - c) Baadhi ya muda d) Mara chache

20. Kama hutumii condom marazote unapofanya ngono. Je ni sababu zipi zinakufanya usitumie mara zote?

- a) Condom sio njia ya uhakika ya kujikinga na mimba
- b) Huondoa/Hupunguza raha wakatiwa kufanya ngono
- c) Baadhi ya wateja hawapendi condom
- d) Ni vigumu kupatikana mudawote
- e) Baadhi yawatejawanalipa zaidi ili nisitumie condom
- f) Baadhi ya wateja hutumia nguvu ili nisitumie condom

21. Je kuna wateja ambao hutumii condom ukifanya nao ngono?

- a) Ndio b) Hapana

22. Kama ndio niwateja wa aina gani?

- a) Wateja ambao hawalipi
- b) Watejawasikuzote

23) Je unapata wapi njia za uzazi wa mpango unazotumia

- a) Hospitali b) Kituo cha Afya c) Kliniki ya uzazi wa mpango d) Kliniki ya kutembea
- e) Wafanyakazi/Wahudumu wa Afya e) Duka la dawa f) Marafiki

24. Kuna kitu chochote ambacho hukikipenda kuhusu huduma ya uzazi wa mpango?

- a) Kusubiri muda mrefu
- b) Wafanyakazi wana vunja moyo
- c) Huduma ni ghali
- d) Njia niliyotegemea haipatikani
- e) Nyengine taja.....

25. Je unapata changamoto yoyote kwa njia ya uzazi wa mpango unayotumiakwa sasa?

- a) Ndio b) Hapana

26. Je ulishawahi kutumia njia nyengine ya uzazi wa mpango tofauti na unayotumia sasa?

- a) Ndio b) Hapana

27. Kama ndiotajaninjiaipi?

- a) Pill b) IUCD c) Diaphragm/Foam/Jelly d) Condom
- e) Sterilization f) Emergency contraception

28) Uliitumia njia hiyo ya kwanza kabla ya sasa kwa muda gani?

29) Kwa nini njia ya awali uliacha na kutumia njia mpya

- a) Njia niliyotumia ilifeli b) Mume aliikataa
- c) Sababuza kiafya d) Gharama sana

30.) Katika kipindi cha miezi 3 iliyopita je umeona/kusikia ujumbe wa uzazi wa mpango katika vyombo vya habari?

- a) Ndio
- b) Hapana

31. Kama ndio ulipata ujumbe kupitia chombo kipi cha habari

- a) Radio b) Runinga c) Magazeti d) Simu ya mkononi

32. Je Umesikia/umeona ujumbe wa uzazi wa mpango katika chombo cha habari mara ngapi?

- a) Mara moja b) Zaidi ya mara moja

33. Katika kipindi cha miezi mitatu iliyopita je umewahi kupata mimbausiyoitarajia

- a) Ndio
- b) Hapana

34. Je ulichukua hatua gani baada ya kujigundua na ujauzito usioutarajia?

- a) Niliutoa b) Niliacha

Appendix 5: Approval of ethical clearance

**MUHIMBILI UNIVERSITY OF HEALTH AND ALLIED SCIENCES
OFFICE OF THE DIRECTOR OF POSTGRADUATE STUDIES**

P.O. Box 65001
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Ref. No. DA.287/298/01A/

27th March, 2019

Mr. Khamis Abdallah Khamis
MSc. Applied Epidemiology
MUHAS.

**RE: APPROVAL OF ETHICAL CLEARANCE FOR A STUDY TITLED:
"PREVALENCE AND FACTORS ASSOCIATED WITH CONTRACEPTIVE USE
AMONG FEMALE SEX WORKERS IN DAR ES SALAAM"**

Reference is made to the above heading.

I am pleased to inform you that, the Chairman has, on behalf of the Senate, approved ethical clearance for the above-mentioned study. Hence you may proceed with the planned study.

The ethical clearance is valid for one year only, from **25th March, 2019 to 24th March, 2020**. In case you do not complete data analysis and dissertation report writing by **24th March, 2020**, you will have to apply for renewal of ethical clearance prior to the expiry date.

Dr. Emmanuel Balandya
ACTING: DIRECTOR OF POSTGRADUATE STUDIES

cc: Director of Research and Publications
cc: Dean, School of Public Health and Social Sciences, MUHAS

Appendix 6: Permission letter to collect data at MNH

MUHIMBILI NATIONAL HOSPITAL

Cables: "MUHIMBILI"
 Telephones: +255-22-2151367-9
 FAX: +255-22-2150534
 Web: www.mnh.or.tz



Postal Address:
 P.O. Box 65000
 DAR ES SALAAM
 Tanzania

In reply please quote

MNH/TRC/Permission/2019/043

3rd April, 2019

Head of Department,
 Outpatient
 Muhimbili National Hospital

RE: PERMISSION TO COLLECT DATA AT MNH.

Name of Student	Khamis A. Khamis
Title	" PREVALENCE OF AND FACTORS ASSOCIATED WITH CONTRACEPTIVE USE AMONG FEMALE SEX WORKERS IN DAR ES SALAAM ",
Institution	Muhimbili University of health and Allied Sciences
Supervisor	Dr. Diana Faini Dr. Candida Moshiro Ms. Senga Sembuche
Period	3/4/2019 to 30/09/2019 (6 months).

The above named student has been permitted to collect data for the above study.
 Please ensure that the researcher abide to the ethical principle and other conditions.

Sincerely,

Dr. Faraja Chiwanga
 Head of Teaching, Research and
 Consultancy Coordination Unit

c.c DMS
 c.c. **Khamis A. Khamis**

