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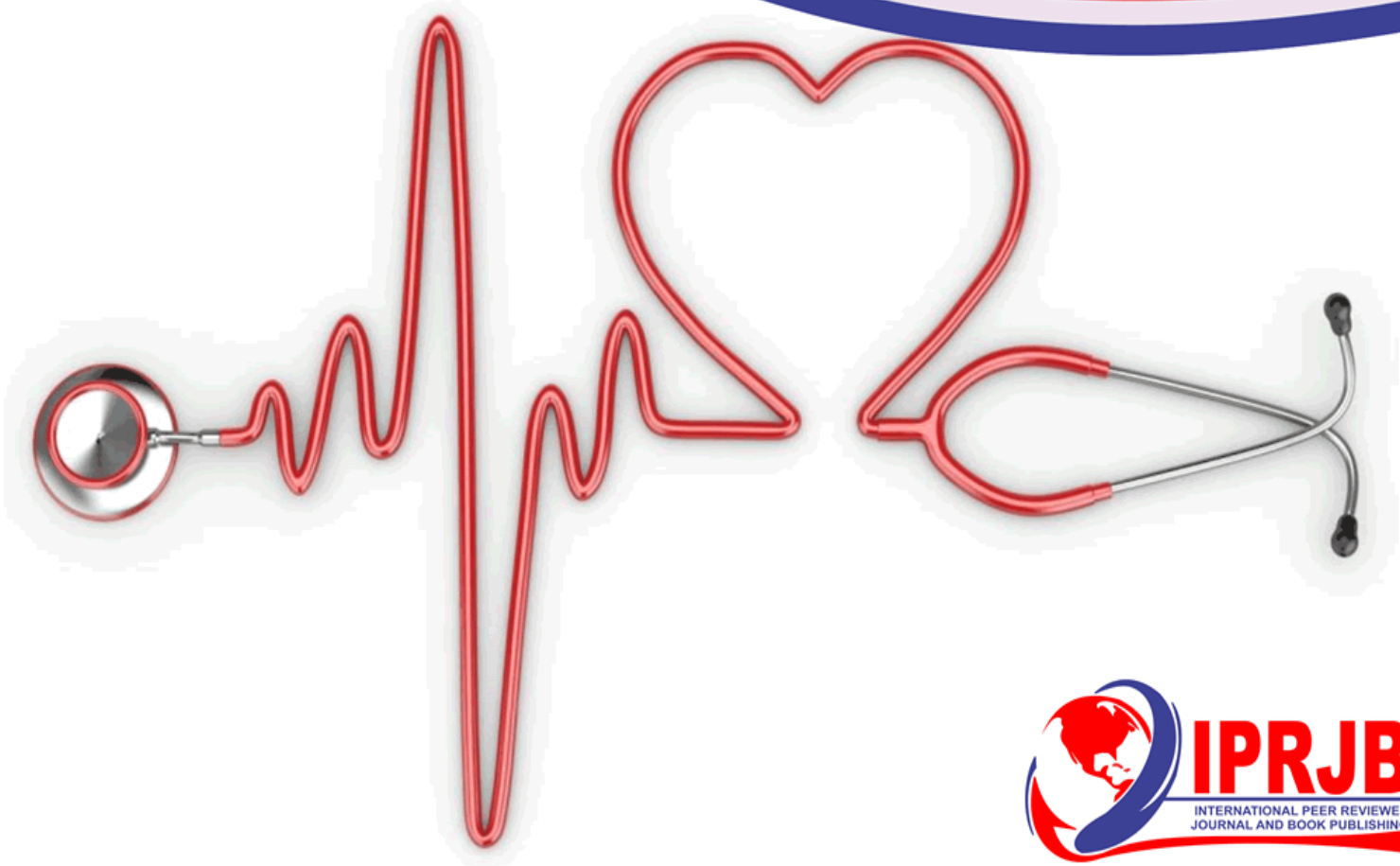

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SOCIO-DEMOGRAPHIC CHARACTERISTIC AND ASSOCIATION OF UTILIZATION OF LONG ACTING REVERSIBLE CONTRACEPTIVE AMONG COMMERCIAL SEX WORKERS IN NAIROBI COUNTY SLUM

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Abstract

Purpose: The purpose of this study was to determine the Socio-Demographic characteristic and association of utilization of long -acting reversible contraceptives among commercial sex workers. in Nairobi County Kibra slums.

Methods: A descriptive cross-sectional study design was adopted where both quantitative and qualitative data collection methods were used. Simple random sampling technique was used to select the study area, while Purposive sampling was used to select the hotspot areas. A total of 384 commercial sex workers aged 15 to 49 years were recruited through snowballing. Data was collected using structured questionnaires, guided focus group discussions and scheduled interviews for key informants. Quantitative data was analysed by computerized methods with the aid of scientific calculations, Statistical Package for Social Sciences version 21. Statistical data was presented using tables, pie charts, and graphs. Bivariate analysis was used to check for the association between the dependent and independent variables where, the significant at ($p < 0.05$) were then entered into a multivariable logistic regression model. Those with $p < 0.05$ indicated that they were statistically significant.

Results: The findings revealed that there was strong statistical significant association between the age $\chi2 = 188.230^{a}$, df =15, p = <0.001 , level of education, $\chi2 = 211.058^{a}$, df = 15, P = <0.001 and marital status, $\chi2 = 240.747^{a}$, df = 15, P = <0.001 in the utilization of long- acting reversible contraceptives. The religion and utilization of long- acting reversible contraceptive the study showed there was no statistically significant association. $\chi2 = 5.102^{a}$, df = 3, p = < 0.164

Unique contribution to Theory, Practice and Policy: Commercial sex workers to adopt a benefit-behavior that reduces the possibility of having negative outcomes following unintended pregnancy. The Community Health Assistants and Peer Educators need to create awareness on utilization of long- acting reversible contraceptives in the community and outreach services enhanced .The Policy makers to develop relevant policies and guidelines to support utilization of long -acting reversible contraceptives among the women of reproductive age. Similar studies to be carried out in other socio-economical settings and geographical locations.

Key Words: *Utilization, Long- acting reversible contraceptives, commercial sex workers*

1.0 INTRODUCTION

Long- acting reversible contraceptives (LARC) are family planning methods used to control the number of children one would wish to have. They include intrauterine devices (IUDs) and implants. The failure rate is quite low hence friendly to most women who are sexually active. This method is affordable and requires little or no role on the part of the user (Finer et al., 2012). Stoddard et al.,(2011) also noted that IUDs and implants once inserted, do not pose any problem to the users. It is easy to compare the LARC failure rate with permanent method. A study by Brooke et al.,(2012) reports that long- acting reversible contraceptives, if well inserted, prevent unwanted pregnancies. The study further noted that the safety and acceptability of long- acting reversible contraceptives used by all women are well established.

Russo et al., (2013) found out that many women had myths and misconceptions on side effects of using LARC. In another study by Ampt et al., (2019) pointed out that commercial sex workers lack knowledge and sufficient counselling hence misconception of long -acting reversible contraceptives. Black (2010) pointed out in his study that there is a persistent negative view about infections and infertility caused by IUDs. Mazzei et al., (2019) noted that strategies should be put in place to coordinate community health worker promotion with training and support nurses to increase the utilization of LARC. Holt et al., (2012) reveals that there is evidence that shows commercial sex workers are discouraged by disapprovals of those providers using LARC.

Some reproductive health providers express concern about the safety of LARC for young girls and women who have had no children (Prevention, 2010). On the other hand Ali et al., (2011) observed that service delivery environment including biasness from the service providers may influence the utilization of LARC, The Pediatrics,(2014) points out that these methods are recommended as they can be combined with condoms to prevent unwanted pregnancy and sexually transmitted infection, Many Commercial sex workers globally are at risk of unintended pregnancies and abortions (Schwartz et al., 2015). Globally the use of LARC by sexually active adolescents remains underutilized (Dodson et al., 2012). A study by Chandra-Mouli1 et al., 2014)reveals that girls aged 15-19 years have very little information on the use of modern contraceptive methods, hence unmet needs on the utilization of family planning.

Konstant et al., (2015) revealed that 0.76 and 1% women in sub-Saharan Africa are commercial sex workers. Similar rates were observed in Mombasa and throughout Kenya and for intensified use of LARC (Odek et al., 2014).A review of projects on reproductive health among commercial sex workers in Africa found out that though condom provision is almost universal, only 7 out of 54 projects use other modern contraceptives services (Dhana et al., 2014). High levels of unintended pregnancies in Kenya are associated with low contraceptive use among women and girls. Among sexually active unmarried women aged 15-49 years, the contraceptive prevalence rate for modern methods is estimated at 28% (Obare et al., 2011). The National Survey of family growth 2015 - 2017, established that 10.3% of women aged 15 – 49 years were using LARC (Daniels et al., 2018)

Commercial sex workers are usually in relationships where they often lack the power to negotiate due to having older and /or wealthier clients, (Ikamari et al., 2013). The study further notes that this situation decreases their probability of having safe sex. As many commercial sex workers come from vulnerable situations of limited economic options, unintended pregnancies further perpetuate the cycle of stigma and socio–economic vulnerability and consequently deepen their dependency on sex work (Richter et al., 2013). Where measures are put in place to prevent unwanted pregnancy among the estimated 6% and 35% of the female sex workers

(FSW's) living with HIV, it is a cost-effective strategy to avert mother to child transmission of HIV (Leach, 2010).

Inyama, (2015) did a study on contraceptive uptake among FSW's sex workers outreach program in Nairobi. The study's aim was to determine contraception prevalence and sex workers' attitude towards contraception among female sex workers. They noted that 73.8% of the female sex workers mostly used condom as a method of contraceptive,

Nairobi is the capital city of Kenya and covers 684 square kilometers of land. It is situated on the eastern edge of the Rift valley and is 5,450ft above sea level. On its western side lies the Ngong hills, according to (Daud et al., 2013). Nairobi is Kenya's capital of sex trade known as prostitution, according to (Health, 2015). New statistics indicates that there are more than 133,675 female commercial sex workers in the country, out of which 29,494 are in Nairobi, while North Eastern region has the lowest number at 2,030 (Health, 2015).

Kibra slum, an informal urban settlement, is the largest slum in Sub-Saharan Africa with a population of more than one million people. It is a cosmopolitan settlement of all tribes in Kenya. It covers 250 hectares of Land with a population density of 2,000 people per hectare, (Keyobs-IFRA, 2019). He further found out that most of the residents work as casual laborers, guards, gardeners and 45% of them are self-employed or get work on day to day basis..

1.1 Problem statement

A study by Ngugi et al.,(2012) found out that lack of access to kinship support system including child fostering, this is an important determinant to entry into sex work in the urban environment. Commercial sex workers have low bargaining power in terms of practicing safe sex. In addition Sutherland et al., (2011) observed that consistency and correct use of a condom may be complicated, the lack of autonomy to insist on condom use especially with steady and emotional partners who refuse to use condom by promising to pay more or even use violence may lead to unintended pregnancy. Increased no of clients The same study also noted that many programs have focused on prevention of H IV/STDs among commercial sex workers and little attention has been paid to unintended pregnancies. Many commercial sex workers have a high unmet needs for LARC and safer conception services hence inconsistent condom use which in turn culminates into unintended pregnancy (Ippoliti et al., 2017). In Asia and Africa abortion prevalence among commercial sex workers range between 22 and 86% a pointer that CSWs pregnancies are ill- attended (Katz et al., 2015). Sutherland et al.,(2011) further observed that two-third of commercial sex workers in sub Saharan Africa have at least one child and they experience high rates of unintended pregnancy with 12-month cumulative incidence rates of 25and 50% lifetime rate reported in Mombasa. Peter ,(2014) notes that in Kenya there has been increasing commitment to family planning with the right to reproductive health in the new constitution 2010 at the National level. However, it is not well established whether gains in family planning uptake have translated into improved utilization among commercial sex workers and other high-risk groups. The current study therefore set out to determine the socio-demographic characteristic and association of utilization of LARC among commercial sex workers aged 15 to 49 years in Nairobi county slums

1.2 Research Questions

1. Is there association of socio-demographic characteristic of commercial sex workers and utilization of long- acting reversible contraceptives?

2. Do commercial sex workers aged 15 to 49 years use long- acting reversible contraceptives?
3. Do commercial sex workers know the service provision points?
4. What challenges do commercial sex workers experience in accessing long- acting reversible contraceptives?

1.3 Null Hypotheses

There is no association between the socio-demographic characteristic on utilization of long - acting reversible contraceptives among commercial sex workers.

2.0 LITERATURE REVIEW

2.1 Theoretical Framework

The study was based on the theory of health belief model (HBM) which is a cognitive model of behavior change. It has been widely used on health-related behavior and often applied towards prevention,(Skinner et al.2015). It was first developed in 1950s by social psychologists, Hochbaum, Rosenstock and Kegels. The HBM maintains that each individual should realize that they are at risk of health consequences and therefore should act early enough to prevent them, (Glanz, 2010).

Carpenter (2010) states that HBM holds that if individual perceives a health outcome to be severe, then they should take steps to prevent themselves from being at risk and adopt benefit behavior that will reduce the possibility of having negative outcomes. Commercial sex workers in Nairobi county slum of Kenya ought to remember that they are at high risk of unintended pregnancy, hence morbidity and mortality

2.2 Empirical Literature

Unintended pregnancy is a worldwide public health problem and its magnitude contributes to poor social and economic outcomes, (Dixit et al., 2012). It increases maternal death and neonatal mortality (Habib et al., 2017). Global data of 2008 indicates that there were 208.2 million pregnancies out of which 40% were unintended. (WHO, 2011)

Every year worldwide, 16 million sexually active girls and women aged 15 - 19 years give birth to unintended children (Singh et al., 2010). There are 47,000 women around the world who die because of unsafe abortions arising from unintended pregnancy (WHO, 2011). Rehan, (2011) observed that multiple complications like acute trauma, shock, organ failure, infections and future reproductive problems arise from unintended pregnancies which hence increase the mortality rates.

Crosby et al., (2016) did a study on promoting teen contraceptive use by intervention with their mothers. The study intended to test a community model designed to help mothers in rural and medically underserved areas navigate their teen daughters to health department services for LARC. A pilot study was used for a single group, posttest only design, where mothers received training on how to communicate with their daughters about benefits of LARC. The study found out that programs like outreaches to mothers with teen daughters in the community was a better way of enhancing use of LARC in underserved rural areas.

Teal & Romer, (2013) examined the commercial sex workers understanding of LARC and the study revealed that their knowledge was very low. Akinyemi et al.,(2015) in a study observed that women from poor and rural areas had low knowledge on LARC compared to those from

urban areas hence low uptake of long-acting reversible contraceptives. Dr Ganatra quoted that *"Increased efforts are needed especially in developing regions to ensure access to contraception and safe abortion*".(Https://today.mims.com/who--unsafe-abortions-highest-in-developing-countries, 2017)

Many female sex workers have risks of morbidity and mortality due to HIV related mortality and complication and death from unsafe abortions. Baral et al., (2012) observed that in sub-Saharan Africa due to stigma and discrimination most commercial sex workers have difficulties in accessing health services.

Mestad et al., (2011) conducted a study on the acceptance of LARC by adolescent participants in the contraceptive choice project in the USA. The study looked at the association of age and preference for LARC. While adolescents have been accepting the use of IUDs, they noted, most adolescent prefer condom or withdrawal followed by pills which require active user compliance to avoid unintended pregnancy.

Lim et al., (2015) did a study on sexual and reproductive health knowledge, on contraceptive uptake and factors associated with unmet need for modern contraception among adolescent female sex workers in China. The study was to determine the SRH needs of highly disadvantaged groups such as adolescent female sex workers. It revealed knowledge on SRH among adolescent was poor.

Shiferaw & Musa, (2017) did a study on Assessment of utilization of LARC and associated factors among women of reproductive age in Ethiopia. The purpose was to assess the utilization and associated factors among women of reproductive age group. The participants who were daily laborers were less likely to use LARC compared to those whose occupation was house wife. He further noted that mothers who were illiterate utilized LARC five times compared to those of grade 12. This was because; since they lacked knowledge, they accepted what they were offered.

Luchters et al., (2016) did a study he titled "*A baby was an added Burden", Predictors and consequences of unintended pregnancies for female sex workers in Mombasa.* The purpose of the study was to determine the consequences and predictors of unwanted pregnancies among FSW. The study showed that 57% of FSW used modern contraceptives and 24% had unintended pregnancy due to younger age and having emotional partners who refused them from using any contraceptives. This study revealed that unwanted pregnancies resulted in financial hardship, social stigma and risk of dangerous abortions practices

Ampt et al., (2019), did a study on LARC in a cluster random sample of FSW in Kenya. The purpose was to assess correlates of Long- Acting Reversible Contraceptives use and explore patterns of LARC use among female sex workers in Kenya. The results revealed that among 879 participants the prevalence of contraceptive use was 26% for implants and 1.6% for intra-uterus devices. There was positive attitude to and better knowledge of family planning in young age and lower education while high rates of adverse effects were reported for all methods.

Ochako et al., (2018) did a study on FSW experience of using contraceptive methods in Kenya. The purpose was to explore the experiences of FSW while using existing contraceptive methods. The study found that while some FSW had knowledge on modern contraceptives, others had very little knowledge or they out rightly refused to use contraceptives for fear of losing clients.

Espey, (2011) identified long -acting reversible contraceptives as implants and intrauterine devices (IUDs). These methods are user friendly, suitable for most women, and affordable. He further noted that IUDs are plastic and flexible and are usually inserted into the uterus where

they interrupt the sperms movement towards the egg. There are two types; Mirena and Copper T 380 A. Mirena contain hormones and works by preventing ovulation from taking place. The hormones also thicken the cervical mucus to inhibit sperms from entering the uterus. Copper T 380 A is made of copper and flexible plastics. It releases very little copper over a period of 10 years. The copper reduces the sperm movements and enhances the production of toxin from the white blood cells which destroys the sperm (Espey, 2011)

Beaugureau,(2018) explains that implants consist of a thin flexible plastic rod that is inserted under the skin on the upper left arm of a woman. It produces a hormone, levonorgestrel, which prevents pregnancy up to three years. He further noted that they suppress ovulation and thicken the mucus at the cervical mucus hence prevents sperms from travelling towards the uterus. Of importance to note is that the IUCDs and implants do not protect the woman against HIV/STDs infection, thus the user may need a backup method like condoms.

Finer et al., (2012) noted that the analysis done from the 2006-2010 National survey of Family Planning Growth in United states, revealed that the popularity of LARC was at 8.5% among women aged 15-44 years He compared this with 2009 when only 4.5% of sexually active adolescence were reportedly using either implant or IUCD as a method of choice.

Lunde et al.,(2014) carried out a study in USA on LARC provision by rural primary care physicians. The study focused on the most effective long acting methods intrauterine devices and contraceptives implants. He surveyed all primary care physicians practicing in rural areas of Illinois and Wisconsin. He observed that 9% used implants while 35% used IUCD, 87% of physicians had been trained in Implants and 41% had no training in IUCD. Though there might have been demand in the rural areas, primary care providers lacked the knowledge.

Lim, et al., (2015) did a study in china on contraceptive utilization, with comparisons to unmet needs for modern contraception among young female sex workers. The study aimed at determining the sexual reproductive health (SRH) needs of most at risk adolescent female sex workers. A cross sectional study was done which applied one-stage cluster sampling method. He found out that there was lack of information on SRH, low utilization for modern contraceptives, and a high rate of unwanted pregnancy among adolescent and young commercial sex workers in Kunming

Connolly et al., (2014) did a study on Association between LARC, teenage pregnancy and abortions rate in England. Her aim was to assess teenage pregnancy and abortion rate trends since 1998 and possible association with usage of LARC. The data was collected for Depo-Provera, Implanon/ Nexplanon, intrauterine devices, mineral and noristerat. There was increased LARC use P>0.0024 in the population which included commercial sex workers. It was further noted that unintended pregnancies culminating into abortions in women aged 20 years and above remained a problem.

Nyaoke, (2017) did a study on contraceptives preference among female sex workers in a study in Nairobi. She was looking at HIV clinical trials test Novel compounds whose effects in fetuses are unknown thus required female subjects to use LARC to avoid pregnancies. Data was collected on use of modern contraception methods. It was noted that 22% were using implants and 8% were on IUCDs. He found out that majority of female sex workers preferred using injectable contraceptives.

Many developing countries have engaged private sectors stakeholders in meeting priority health goals. Globally the private sector is an integral part of National health systems, serving both

urban and rural areas. Nearly 30% of modern contraceptive users in Sub-Saharan Africa obtain their methods from the private sector among youth aged 19-25years (SHOPS, 2014). The United States Agency for International Development (USAID), developed the strategy known as Strengthening health outcomes through the private sectors (SHOP) which aimed to address the support for health care. The aim was to increase the partnership of the private sector in the sustainable provision and use of quality family planning. Johns Hopkins Program for International Education in Gynecology and Obstetrics led the area of clinical skills building and quality. Marie Stopes International provided Family planning services including outreach programs.

Gray et al., (2011) emphasized various contraceptives provision points which include tertiary education institutes. Intra uterine devices and implants can be inserted if a qualified nurse/doctor is in attendance. Retail community pharmacy implants can be inserted if a suitably trained pharmacist or qualified nurse is in attendance. Kenya has 10,062 health facilities among which 51% are in the public sector. Other facilities are privately owned, NGO owned or FBOs facilities. The public facilities include Level 5 County and referral Hospitals; level 4 primary hospitals, Sub-County Hospitals and Mission Hospitals. Level 3 Hospitals include health centers, maternity homes, nursing homes, dispensaries and community facilities, family planning services can be offered at these various levels (Kamau et al., 2010)

Ippoliti et al., (2017) did a study on the needs for reproductive health of female key population infected with HIV in low and middle- income countries in Durham. The purpose was to examine existing data regarding family planning and reproductive health needs of key population and to find determinants of poor reproductive health outcomes, and obstacles faced in accessing high quality reproductive health services. The study revealed that commercial sex workers were not able to access family planning services hence high rates of unmet needs in terms of safer conception services and unintended pregnancies. Further, restrictive policy environment, stigma, discrimination in health care settings, gender inequality and economic marginalization restricted most women at risk to access the needed services.

Anguzu et al., (2014) conducted a study on knowledge and attitudes towards use of LARC among women of reproductive age in Lubanga Division of Kampala Uganda. The study assessed the reproductive age, women's knowledge, attitude and factors associated with the use of LARC. A cross sectional study was conducted involving 565 women aged 15-49 years attending private and public health facilities in Lubanga Division. It was noted that male partners had a bigger say in their contraceptive choices but they had the attitude that LARC was meant for women who are married.

Mazza et al., (2017) also conducted a study on barriers and potential strategies to increase the use of LARCs to reduce the rate of unintended pregnancies in Australia. The purpose was to provide an over view of barriers to LARC use in Australia and potential strategies to overcome these barriers. The study used a round table of Australian experts to share clinical perspectives, to explore the barrier and potential strategies to increase LARC use. The study found that there was lack of knowledge on the use of LARC and myths about the use within primary care. There was also noticeable lack of access to general practitioners trained in LARC insertions. Many women living in poor socio-economic conditions have less knowledge of LARC and less access to contraceptive services, hence low utilization of LARC (Akinyemi et al., 2015)

Ampt et al., (2019) did a study on whisper or shout study: protocol of cluster randomized controlled trial assessing health sexual reproductive and nutrition interventions among female

sex workers in Mombasa Kenya. The study examined the effectiveness of parallel intervention addressing sexual reproductive health and nutrition delivered by mobile phone among commercial sex workers. Two-arm cluster randomized trial was used. The study found that utilization of contraceptives had remained a challenge in commercial sex workers, due to individual barriers to utilization such as side effects of some of the contraceptives methods that impact sex workers.

Ochako et al., (2015) carried out an investigation on barriers to modern contraceptive method utilization among young women in Kenya. The study wanted to understand why contraceptive use among adolescents remained low. It was evident that though the study population was familiar with modern contraceptives, contraceptives were associated with promiscuity, and hence there was fear of side effects.

Ochako et al., (2016) did another study on method choices among women in slum and non-slum communities in Nairobi Kenya. The study aimed at gaining insights into the prevalence and predictors of contraceptive use among vulnerable populations / key population. It was found out that the use of LARC methods remained low among the study population. The investigator indicated that there was need for interventions that focus on disadvantaged segments of the population to increase access and hence increase contraceptive choice and use.

3.0 METHODOLOGY

The study was conducted in Kibra slum located in Nairobi County, this is an informal urban settlement, identified as the largest slum in sub-Saharan Africa with an estimated population of 200,000 people. It is a cosmopolitan settlement of all tribes in Kenya according to French institute for research in Africa (Keyobs-IFRA, 2019). Most of the residents work as casual laborers, guards, gardeners and about45% of them are self-employed or get work on day to day basis. Streets in Kibra are usually lined up with hundreds of commercial sex workers at night hunting for clients. It is evident that they serve a variety of clients (Ramoka, 2018). A descriptive cross-sectional study design was applied where both quantitative and qualitative data collection methods were used. Simple random sampling technique was used to select 8 out of the 13 villages from Kibra slums of Nairobi county. Purposive sampling was used to select 24 out of the 34 hotspots, while snowballing sampling was used to recruit the peer educators who identified the study participants who were 384. A structured questionnaire was administered to the 384 respondents at the identified hotspot areas for commercial sex workers. Structured guided questions were administered to three focus group discussion comprising of 7 participants in each group in different ages which included 15 to 26,27 to 38 and 39 to 49 years. Five health professionals were selected as key informant from the health facilities in the community and hence interviewed using an interview guide. A pilot study was done in Kuwinda slum in Karen on 10% of the actual sample size. Further, a Cronbach's Alpha Test was used to measure the internal consistency (reliability) using SPSS software Quantitative data was analysed by computerized methods with the aid of scientific calculations, SPSS version 21 and presented using tables, pie charts, and graphs. Bivariate analysis was used to check for the association between the dependent and independent variables, the significant at ($p < 0.05$) were then entered into a multivariable logistic regression model. Those with $p < 0.05$ indicated that they were statistically significant.

4.0 FINDINGS AND DISCUSSION

4.1 Quantitative Data

4.1.1 Socio-Demographic Characteristics of the Study Population.

The researcher distributed 384 questionnaires out of which all were successfully responded to and returned and submitted for analysis giving a 100% response rate.

Table 1: Socio-demographic characteristic

Variables	Frequency	Percent
Age in years		
15-24	**134**	**35%**
35-44	**104**	**27%**
25-34	**84**	**22%**
45-49	**62**	**16%**
Total	**384**	**100%**
Marital status		
Single	**286**	**75%**
Widowed	**52**	**14%**
Married	**23**	**6%**
Divorced	**23**	**6%**
Total	**384**	**100%**
Level of Education		
Primary	**280**	**73%**
Secondary	**61**	**16%**
Collage	**35**	**9%**
No education	**8**	**2%**
Total	**384**	**100%**
Religion		
Protestant	**261**	**68%**
Catholic	**107**	**28%**
Muslim	**8**	**2%**
Others	**8**	**2%**
Total	**384**	**100%**

The results indicate that 35% of the respondents were aged between 15-24 years followed by age 35-44 years 27%. This indicates that commercial sex work starts at an early age. This is significant because this is the age at which youngest girls are prone to unintended pregnancies and contracting sexually transmitted infections. The results also indicate that as they advance in age, they quit sex work. Goldstein, (2018) observed that commercial sex worker is at its peak between aged 20–30 years (75.6%) in Australia. A study by Sign et al., (2011) observed that every year worldwide, 16 Million sexually active girls/women aged 15 - 19 years give birth to unintended pregnancies.

Most respondents were single 75% as compared to their married counterparts at 6%. This means that majority of sex workers in the study area were single and corresponds to their age group. Married commercial sex workers and the divorced are likely to be more cautious about unwanted pregnancies compared to the single ones. They may face a lot of stigma if they get unintended

pregnancy. A study by Salilemichael et al., (2015) revealed that married sexual workers who had regular sexual intercourse with their spouses had positive attitude towards LARC methods.

Regarding level of education it was established that 73% of the respondents had achieved primary level as their highest education. Followed by 16%, secondary level. Most of the responded had only attained primary school level education and hence poor knowledge on long acting reversible contraceptives. It is possible that some of these sex workers, especially those of younger ages, dropped out of school to pursue commercial sex work. This is also the age group of highest productivity.

About region Protestant were 68% followed by Catholics at 28% The Catholic faith does not allow the use of contraceptives but those who use just hide because they know the importance of family planning and they do it individually.. Hill. et al.(2014) revealed that Catholics were more likely to use long acting reversible contraceptives methods than Protestants. For the Muslims, traditional methods are applicable as represented in (Table 1.)

In terms of occupation the study established that 78% of the respondents were self-employed. This means that they regarded sex working as a source of income. Daily laborers were 18% who could go without any work at a given day hence complement their income with sex work. The housewives were at 4% who would engage in commercial sex work in secret to supplement for the deficit given by their spouses. A similar study by Desgroppes (2011) revealed that most of the residents in the slum work as casual laborers, guards, gardeners and 45% of them are self-employed or get work on day to day basis.

4.1.2 Relationship between the socio-demographic characteristic and type of Long-acting reversible contraceptives

Table2: Cross- tabulation of correlations to determine the association between socio-demographic characteristics and of types of long -acting reversible contraceptive

Independent Variables	IUDs (%)	Implants (%)	Others (%)	χ^2	df	P- value
15-24	8(6%)	23(18%)	99(76%)			
25-34	0(0%)	8(9%)	80(91%)			
35-44	*7(7%)*	*8(9%)*	*89(85%)*	*188.230*[a]	*15*	*<0.001*
45-49	31(51%)	0(0%)	30(49%)			
Single	8(3%)	40(14%)	237(83%)			
Widowed	*31(58%)*	*0(0%)*	*22(42%)*	*240.747*[a]	*15*	*<0.001*
Married	0(0%)	0(0%)	22(100%)			
Divorced	8(33%)	0(0%)	16(67%)			
Primary	24(9%)	24(9%)	229(82%)			
Secondary	8(13%)	0(0%)	54(87%)	211.058 [a]	15	<0.001
College	15(40%)	8(22%)	14(38%)			
No Education	0(0%)	8(100%)	0(0%)			
Protestant	0(0%)	24(9%)	200(76%)			
Catholic	0(0%)	8(7%)	90(86%)	5.102 [a]	3	<0.164
Muslim	0(0%)	8(100%)	0(0%)			
Others	0(0%)	0(0%)	07(100%)			

The study sought to establish whether age had an association in the utilization of LARC. It was found that there was a strong statistical significance $\chi 2 = 188.230^a$, df =15, p = <0.001 between the age groups and contraceptive used. In regards to marital status there was a strong statistical significance $\chi 2 = 240.747^a$, df = 15, P = <0.001 between the marital status and utilization of LARC among the commercial sex workers interviewed. On the level of education of the

commercial sex workers and use of LARC. It was found that there was a strong statistical significance $\chi 2 = 211.058^{a}$, df = 15, P = <0.001 between the education of sex workers and utilization of long -acting reversible contraceptives. Religion was also considered as a factor influencing the utilization of LARC by commercial sex workers. In this study, it was found that there was no statistical significance $\chi 2 = 5.102^{a}$, df = 3, p = < 0.164 between religion and utilization of long- acting reversible contraceptive as represented in (Table 2).

4.2 The type of long- acting reversible contraceptive used by commercial sex workers aged 15 to 49 years.

It was of important to establish if the commercial sex workers were utilizing long- acting reversible contraceptives**.** The study revealed that less than a half of the respondent;41% consider using long- acting reversible contraceptive while more than half, 59% didn't consider using the method. This may be due to lack of information on the importance of long-acting reversible contraceptive by commercial sex workers and the myth and misconception they hold. Again, time they spend in waiting to be given the method they may be feeling that they are wasting their time instead of going to serve their customers.

A study by Lim, et al.,(2015) revealed that among the commercial sex workers 28% were using LARC which also indicated a low utilization of the family planning method. The study established that from the type LARC being used at the time of the study by the sex workers were, 29% were using Intrauterine Contraceptive Devices, 12% were using Implanon while 59% were using the others family planning methods.

This study differs with Ampt et al., (2019) who did a study in Kenya and found that presently implant use is more prevalent among FSWs (22.6%) than among the general population (11%). While intra-uterine devices use by commercial sex workers is at 1.6%.,

4.3 Qualitative data

4.3.1 Focus group discussion on types of long -acting reversible contraceptives used by commercial sex workers aged 15 to 49 years

It was of importance to hear the views of commercial sex workers in terms of what they consider to be long- acting reversible contraceptives. What types they are using, accessibility and challenges they may be facing

R2 Voiced out that *"After having been counseled on LARC I opted for IUCD; bleeding never stopped. I went back to the facility was removed and given an alternative method for one month. Went back after one month, it was re inserted but the problem started again so I stopped,"FGD1*
R5*" I was inserted an Implant I had no problem with it up to now I have it." FGD2.*
R7*" Me since I started using family planning have only used pills when I started this work, I was informed to use with condoms together." FGD3.*

4.3.2 Key Informant Interviews on types of long- acting reversible contraceptives used by Commercial Sex Workers

R1Pointed out that *"I think most of the female sex workers have knowledge on Family planning, but specifically LARC not very sure."*
R2 Revealed that*" They are not easily coming for the method unless really convinced."*

R5 Argued that" *They use implants mostly and fear IUCD because of myth and misconception*".

R1 Explained that *"It is well taken, the FSW are positive about it, they have no problem in using…" "…they do not experience side effects"*

R2 Noted that *" LARC was not popular compared to other methods, most of them prefer other methods",*

Finer et al., (2012) in their study noted that the popularity of LARC was at 8.5% among women aged 15-44 years They reflected on a study done in 2009 when only 4.5% of sexually active adolescence were reportedly using LARC as a method of choice. A similar study by Lunde et al., (2014) in USA observed that 35% used IUCD, while 9% used implants. A similar study by Lim et al.,(2015) in China on modern contraceptive utilization among young female sex workers,. found out that there was lack of information hence low utilization of LARC hence a high rate of unwanted pregnancy among adolescent and young commercial sex workers in Kunming.

This result agrees with a study by Nyaoke,(2017) on contraceptives preference among female sex workers in the Simulated Vaccine Efficacy Trial (SIVET) conducted in Nairobi which noted that 22% were using implants and 8% were on IUCDs. A similar study on a review of projects on reproductive health among commercial sex workers in Africa found that though condom provision is almost universal, only 7 of 54 (13%) projects use other modern contraceptives services (Dhana et al., 2014). The National survey of family growth 2015 - 2017, established that 10.3% of women aged 15 - 49 were using LARCs,(Daniels et al., 2018). This could be due to the fact that most of the commercial sex workers use condoms to prevent contracting of HIV and other STIs.

4.4 Quantitative data

4.5 Long acting reversible contraceptives Service provision points

Of the 384 respondents, 32% obtain their contraceptives from the chemists, 31% from the GOK clinics, 13% from private facilities and 6% from the NGOs while 18% were referred by community-based distributors. The commercial sex workers prefer the chemists to avoid long ques. However, a reasonable number goes to GOK because the services are free. The community-based distributors some who are peer educator don't offer the LARC but only refer to the facility.

Ampt et al., (2019) revealed in their study that the commercial sex workers obtained LARC from government health centers (n = (86,42.1%), government hospitals (n = 48, 23.7%), mobile outreach services (n = 24, 11.9%), and private hospitals or clinics (n = 23, 10.9%). Only 10 (5%) women reported obtaining them from sex-worker drop-in centers (DICs).

4.6 Qualitative data

4.6.1 Focus group discussion on Service provision point of long- acting reversible contraceptive for commercial sex workers

In the focused group discussion, it was established that majority were aware about the existence of LARC services in the nearby health facilities. Most of them identified Sex workers outreach project-Kenya clinic (SWOP), Amref and Family Health Option in Kibra as their main preferences for obtaining LARC services. Sex workers outreach project (SWOP) is a non-governmental organization which is a drop-in Centre (DIC) that only offer services to commercial sex workers. At this facility they have space to share with one another their health issues and feel appreciated without discrimination in the facility as compared to the public and other private health facilities. Some of their quotes were;

R2 Explained that *"I usually get any family planning service from SWOP an NGO. They provide us with both male and female condoms, IUCD among others. I can also change to Norplant, implant if I want" FGD 1*

R1 Explained that *"Me I get from FHOK a private facility though I pay some money, it is near where I stay and it is not time consuming. FGD3*

R6 Pointed out that *"Me I get from Amref community health center which is it is both GOK and NGO the commodities are available and free" FGD 2*

4.6.2 Key informant interview on Service provision point

About the service provision point, the service provider affirmed that commercial sex workers would prefer to seek services mostly in private facilities because of confidentiality.

R5 Voiced out that *"mmmh, FSWs like going to private health facilities like SWOP, Kikoshep because at the public they fear being stigmatized of being a sex worker. They also fear being asked unnecessary questions. They also usually say that there is negative staff attitude towards them"*

This study differs with other studies which have noted that many developing countries have engaged private sectors stakeholders in meeting priority health goals. Globally the private sector is an integral part of National Health Systems, serving both urban and rural areas. Nearly 30% of modern contraceptive users in sub-Saharan Africa obtain their methods from the private sector among youth aged 19-25 years (SHOPS, 2014)

However Gray et al.,(2011) emphasized various contraceptives provision points which include tertiary education institutes. Intra uterine device and implants can be inserted if a qualified nurse/doctor is in attendance. Retail (community pharmacy) Implants can be inserted if a suitably trained pharmacist or qualified nurse is in attendance. Crosby et al., (2016) in study on promoting teen contraceptive use by intervention with their mothers, noted that programs like outreaches to mothers with teen daughters in the community was a better way of enhancing use of LARC in underserved.

4.7 Qualitative data

4.7.1 Focus group discussion on Challenges facing commercial sex workers in accessing long-acting reversible contraceptives.

One of the main challenges in LARC service provision is the accessibility and affordability of the LARC commodities. Due to the nature of work of the female sex workers, they may not find adequate time to effectively attend the planned service provision sessions at the family planning service provision points. The focus group discussion revealed that some commercial sex workers had bad experiences with the use of LARC. Some complained of having developed medical complications while others singled out temporary infertility as the main experience, some just feared to use them while others complained bleeding much on Implanon. Lack of finance was also identified as one of the main challenges. Others included myths and misconception that it will get lost in the body others believe that; it causes cancer, you can conceive with it while others had fear of unknown and long queues. Stigma also played a role in hindering the utilization of LARC among the Commercial Sex Workers.

According to the commercial sex workers, the community and even the health workers discriminated them once they revealed their sex orientation or sex work. The focus group discussion also identified some religions that did not allow use of contraceptives to prevent pregnancies e.g. Catholic and *Legio Maria*. However, others confessed they are okay with LARC. The following are some of the quotes

R7 Pointed out that *"Our church does not allow use of contraceptives. It is against the doctrines of the church." FGD1*

R2 Explained that *"...we get discriminated by everyone. I feel discouraged in walking into a public health facility to access LARC services because they will make fun of me, being a prostitute and why I want to use Norplant or IUCD." FGD1*

R5 Argued that *"We wait for long on the que to be attended to which delays our work keeping our clients to wait". FGD 1*

R7 Supported the above view that *"May miss my client while in the facility" FGD2*

R6 Revealed that *"Some clients insist on wanting a baby so I use on and off." FGD3*

4.7.2 Key Informant Interview on the challenges faced in accessing the long acting reversible contraceptives by commercial sex workers

On the challenges facing the CSWs, the service providers were much more articulate on the stigma and discrimination the key contributing reason to the low utilization of LARC among the commercial sex workers. It therefore came out strongly that commercial sex workers were facing stigma and discrimination in the community from the community members. Commercial sex workers were insecure and felt less recognized and sidelined in the community. The following are some of the quotes gathered during the interview:

R1 Pointed out that *"They have a lot of myths and misconception that you can conceive with it".*

R2 Argued that *"They face a lot of stigma and discrimination related to their commercial sex worker. There is also poor association with CSWs".*

R3 Explained that *"They Lack finances since they prefer private where they pay, other CSWs complain of insecurity, people regarding job as dirty and not descent since they are promiscuous"*

R4 Pointed out that *"Other health facilities lack privacy and confidentiality. Others are far from the residence where CSWs stay".*

R5 Retaliated that *"Some health facilities have inadequate experienced health workers to provide the service which makes the CSWs face long waiting hours".*

Religion was also affirmed as a barrier since some denominations were against the use of family planning. An example the Catholic Church has reserved commitment towards the use of FP commodities among their followers. Some of the religions regarded commercial sex work as illegal and against their doctrines and beliefs.

R1 Pointed out that *"they are considered outcast because of the work they are doing."*

R2 Explained that *"Catholics don't advocate for FP because they believe marriage is for procreation."*

R4 Argued that *"Other churches mostly don't talk about FP; this is not part of their agenda*."

The key informant felt the commercial sex workers have rights and hence need support to access long acting reversible contraceptives. It was also noted during the KII that community-based distributors of family planning commodities were not empowered and capacity built regularly to improve community referral system of CSWs.

R3 Explained that *"Training the health providers on provision of LARC is not actually happening, especially on commercial female sex workers."*

R4 Argued that *"…there is also lack of community-based distributors' empowerment hence poor referral to health facilities"* The Government should allocate enough finances to train health providers, community health volunteers on referral mechanism.

A similar study by Russo et al., (2013) reported that many women had myths and misconceptions about side effects of using LARC. In another study by Ampt et al., (2019) pointed out that commercial sex workers lack knowledge and sufficient counselling hence misconception of long -acting reversible contraceptives. Black, (2010) also pointed out in a study that there is persistent negative view about infections and infertility caused by IUDs.

A similar study by Ochako et al.,(2015) in Kenya on investigation of barriers to modern contraceptive method utilization among young women, it was evident that though the study population were familiar with the modern contraceptives, contraceptives were associated with promiscuity, and hence there was fear of side effects.

Another study by Venkatraman ,(2014) revealed that girls aged 15-19 years have very little information on the use of modern contraceptive methods, hence unmet needs on the utilization of family planning.

This study also concurs with the statement that as many commercial sex workers come from vulnerable situations of limited economic options, unintended pregnancy further perpetuates the cycle of stigma and socio–economic vulnerability and consequently deepen their dependency on sex work (Richter et al., 2013).

Ippoliti et al.,(2017) in a study on the needs for reproductive health of female key population in Durham, found that commercial sex workers were not able to access family planning services hence high rates of unmet needs in terms of safer conception services and unintended pregnancies. Further, restrictive policy environment, stigma, discrimination in health care settings, gender inequality and economic marginalization restricted most women at risk to access the needed services.

Anguzu et al., (2014) also confirms in a study he conducted in Kampala, Uganda on knowledge and attitudes towards the use of LARC that male partners had a bigger say in their partners' contraceptive choices and they had the attitude that LARC was meant for women who are married. Ochako et al., (2015) also confirmed the above findings in a study he did on contraceptive method choices among women in slum and non-slum communities in Nairobi Kenya. Their study felt there was need for interventions that focused on disadvantaged segments of the population to increase access and hence increase contraceptive choice and use.

Sutherland, et al., (2011) noted in a study that Commercial sex work is illegal across African countries including Kenya and it is a highly stigmatized practice. As such, it limits the female sex workers access to health services, including reproductive health leading to poor sexual and reproductive health outcomes in this region.

5.0 SUMMARY, CONCLUSION AND RECOMMENDATION

5.1 Summary

The study found out that 35% were between age 15-24, this indicates that commercial sex work starts at an early age. This is significant because this is the age at which youngest girls are prone to unwanted pregnancies and contracting sexually transmitted infections. that pointed out that results also indicate that as they advance in age, they quit sex work. This study is similar to a study by Goldstein, (2018) in Australia that observed that commercial sex worker is at its peak between aged 20–30 years (75.6%) . Majority of sex workers in the study were single and corresponds to their age group. Married commercial sex workers and the divorced are likely to be more cautious about unwanted pregnancies compared to the single ones hence utilization of LARC. They may face a lot of stigmas if they get unintended pregnancy. A study by Salilemichael et al., (2015) revealed that married sexual workers who had regular sexual intercourse with their spouses had a positive attitude towards LARC methods. Most of the responded 73% had attained primary school level education and hence poor knowledge on long - acting reversible contraceptives. It is possible that some of these sex workers, especially those of younger ages, dropped out of school to pursue commercial sex work. This is also the age group of highest productivity The study established that majority of the sex workers were Christians 68% The Catholic faith does not allow the use of contraceptives but those who use just hide because they know the importance of FP and they do it individually. Hill. et al.(2014) revealed that Catholics were more likely to use long- acting reversible contraceptives methods than Protestants. For the Muslims, traditional methods are applicable in this study, it was found that there was a strong statistical significance $\chi 2 = 188.230^{a}$, df = 15, p = <0.001 between the age groups and contraceptive used. Renee et al (2011), in a study in the USA found out that at most adolescent prefer condom or withdrawal followed by pills which require active user compliance to avoid unintended pregnancy There was a strong statistical significance($\chi 2 = 240.747^{a}$, df = 15, P = <0.001 between the marital status and uptake of LARC among the sex workers interviewed., The study also found out that there was a strong statistical significance $\chi 2 = 211.058^{a}$, df = 15, P = <0.001 between the education of sex workers and choice of long- acting reversible contraceptives. Education implies that the understanding of LARC among commercial sex workers is quite poor. A study by Winner et al., (2012), noted that low level or no education of commercial sex workers may jeopardize their understanding the reproductive system and how LARC works in their bodies. A similar study by Lim et al., (2015), revealed that a low level of education leads to poor knowledge on Sexual Reproductive Health among adolescent sex workers hence the poor choice. The study further noted that, there was no statistical significance $\chi 2 = 5.102^{a}$, df = 3, p = < 0.164 between religion and utilization of long- acting reversible contraceptive.

4.2 Conclusions

The current study highlights how the utilization of long-acting reversible contraceptives is low among women of reproductive age in the Kibra slum. This is attributed to lack of adequate knowledge on LARC and myths and misconceptions on the same. This study points to the critical unmet needs of the women of reproductive age in taking the initiative of preventing unintended pregnancies or spacing of their families. This should inform reproductive health strategies aimed at strengthening use of long-acting reversible contraceptives among the women of reproductive age in Kibra slum.

4.3 Recommendations

The Policy makers at the Ministry of Health need to develop relevant policies and guidelines on family planning strategies to support and improve utilization of long -acting reversible contraceptives among the population of women of reproductive age. The Community Health Assistants and Peer Educators need to be adequately trained and empowered to create awareness on utilization of long acting reversible contraceptives. Health providers need to enhance reproductive health outreach services in the community. Commercial sex workers should be encouraged to adopt a benefit-behavior that reduces the possibility of having negative outcomes following unintended pregnancy. For better understanding of the utilization of LARC in the other parts of Kenya, the study recommends similar studies to be carried out among women of reproductive age in other socio-economical settings and geographical locations.

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