

Genital Hygiene Practices and Occurrence of Genital Infections among Brothel Based Female Sex Workers in Calabar Metropolis

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Abstract - This paper examined the genital hygiene practices and occurrence of genital infections among brothel based female sex workers in Calabar Metropolis. One research question and one null hypothesis guided the study. A cross-sectional descriptive research design was adopted in the study with a multi-stage sampling procedure. Sample sizes of 54 participants were available among female sex workers in the study area at the time of data collection. The instrument for data collection was genital hygiene practices and occurrence of infections questionnaire. Data collected was analyzed using chi-square with the help of SPSS. Results from the findings indicated disparities in both hygiene practices and occurrence of infections for age, ethnicity and education level. Based on the results, conclusion drawn and recommendation made; Reproductive-health education among brothel female sex workers in Calabar Metropolis should be age-sensitive, culturally appropriate, educational-level sensitive, continuous and practical.

Keywords: Genital hygiene, hygiene practice, genital infections, and brothel based female sex workers.

Introduction

Hygiene is conditions and practices that help to maintain health and prevent the spread of diseases. On the other hand, genital hygiene is a broad term which encompasses hygiene behaviors and practices that promotes genital care from infections, maintenance of proper genital conditions and improve overall genital health. The genital hygiene plays a crucial role in preventing genital infections. According to Umami *et al* (2022), identification of genital infections, appropriate treatment measures and necessary preventive measures are essential to protect and improves women's health which will positively impact sexual and family life. Incorrect genital hygiene practices of women and different physiological characteristics of sensitive female genital organs increase the risk of infection (Sinan *et al*, 2020).

Adequate menstrual hygiene practices involve access to clean sanitary materials that can be changed in private as often as necessary, access to soap and water for washing, and access to a place for the hygienic disposal of used sanitary materials or washing (reusable pads). On the other hand, inadequate menstrual hygiene has been associated with infections and poor health related quality of life (Khulmann *et al*, 2019).

A number of factors have been attributed to causing genital infections in women across the globe. Some of which are; the closeness of the urethra, vagina, and anus to each other is the most important factor in the susceptibility of genital infection (Calik *et al*, 2020). Lack of adequate underwear, insufficient attention to menstrual hygiene, sterile childbirth or artificial abortion as a family planning can increase the risk of genital infections (Felix *et al*, 2020).

Urinary tract infections are the second most common infectious diseases worldwide that can be acute, chronic, uncomplicated, complicated, asymptomatic and recurrent. Urogenital tract infections may also sometimes be caused by different types of microbial pathogens such as Gram-negative bacteria, Gram-positive bacteria and yeasts (Behzadi *et al*, 2019). Also, sexually transmitted urogenital tract infections occur primarily through sexual contact, including vaginal, anal and oral intercourse, and may have some symptoms which is a major public health concern (Huda *et al*, 2022). Sexually transmitted urogenital infections also increase the risk of exposure to the human immunodeficiency virus (Ekholuenetale, *et al*, 2022).

There are common products and practices of genital hygiene which includes vaginal/genital moisturizers, anti-itch creams, feminine wipes, washes, suppositories, sprays, powders, and waxing and shaving pubic hair resulted in three higher odds of reporting an adverse health condition (Shah *et al*, 2019). This is critical to encourage women to engage on hygiene activities that promote their health, attach importance to genital hygiene, and raise awareness about early diagnosis, treatment and follow-up (Sinan *et al*, 2020).

Shah *et al.*, (2019) worked on underwear hygiene among adolescent girls of Lalitpur Metropolitan City, Nepal. A cross sectional study design centered on schools was used. The selection of 400 female high school students involved a multi-stage sampling technique. A pretested structured questionnaire was used for data collection. Data collected between July 4th and July 30th of 2018 was analyzed using chi-square. It was reported that 86.5% of the girls dried their underwear every day, while 61.8% of the women changed their underwear after meeting with client and 74.7% preferred cotton underwear.

Sridnar *et al* (2020) studied toilet hygiene in five LGAs in Kaduna State. Spot check observation and questionnaire was used. A total of 185 participants took part in the study. From the study, lack of improved toilet facilities was a huge concern in the study areas, resulting in open defecation being a common practice especially by the children at households, which is a major health and social burden for the community at large. Nonetheless, the respondents had positive perception regarding good toilet facilities and were willing to stop open defecations; however, it was reported that only 10% of the populace contacted genital infections.

Shumie and Mengie (2022) studied menstrual hygiene management practices among school girls in Northern Ethiopia. The sample size of 325 was used for the study. The majority of participants in the survey ($n=275$ or 62.4% of the respondents) practiced proper menstrual hygiene. Out of the 325 participants, 241 (54.6%) used commercially produced disposable sanitary pads, whereas 86(19.5%), 85(19.3%) and 86(19.3%) used reusable sanitary pads and disposable rags respectively. From the sample, 58(13.2%) changed their pads once daily while 19(4.3%) changed three times per day or more. 127(30.8%) of the girls solely wash their genitalia with water. 138(31.3%) however, disposed their used menstrual pads in the trash while some washed and reuse them. 261 of the respondents indicated that they never take a bath during menstruation. It was discovered that 45% of genital infections was recorded among the respondents.

Ahmadnia *et al* (2016) worked on the occurrence of genital infectious diseases from 2012-2013 using 4,274 married women in urban and rural Zanjan province. Stratified cluster sampling was used to select participants for the study. Data collection included demographic characteristics, reproductive status, and cervical cytology results. From the study, occurrence of lower genital infections and sexually transmitted infections were 20.1% and 7.4% respectively. The most common vaginal infection was bacterial vaginosis with 8.5% and the most common sexually transmitted infection was *Trichomonas vaginalis* (1.4%). The use of the intrauterine

device (IUD) as a contraceptive, living in an urban area, and experiencing vaginal discharge were significantly related to genital tract and sexually transmitted infections.

Badran *et al* (2015) conducted a study on sexual hygiene using 200 pregnant women attending prenatal clinic in Al-Zahra Hospital and King Khalid Hospital in Saudi Arabia Kingdom. Eighty (80) pregnant women who had positive urine cultures (cases) were compared with the remaining 120 healthy pregnant women matched for age, social, economic, and education status and parity (controls). According to the study, sexual health hygiene practices included not washing genitals pre-coitus in 70% (OR=2.16; CI:1.29-3.63), husband not washing genitals pre-coitus in 80% (OR=2.53; 95% CI: 1.48-4.32), not washing genitals post-coitus in 65% (OR=2.89; 95% CI: 1.53-9.80), and not voiding urine after coitus in 60% (OR=8.62; 95% CI: 2.51-7.47)

Statement of the problem

Genital infections have become a critical public health problem encountered by women in developed and developing countries across the globe. About one million women across the world suffer from one of such infection or the other where about 75% of them have had previous experience with these infections. It is stated that the prevalence of bacterial vaginosis is 8%-75%, vulva vaginal candidiasis is 2.2%-30% and trichomoniasis is 0%-34%, (Karadeniz, *et al* 2019). Mycoplasma are causative agents of urogenital tract infections such as urethritis, prostatitis, cervicitis, and many others. In Padua of Italy, the prevalence was 24.6%, in South Africa 76%, and 59.6% in Gabon. The prevalence of genital mycoplasmas was reported among women attending hospitals in Yaounde of Cameroon to be 65% (Voufo *et al*, 2020).

Another viral infection is the Genital Human Papillomavirus (GHP). The said infection has recorded 11-12% of global prevalence. It has been reported to vary in different parts of the countries including Nigeria. In Nigeria, the prevalence of genital infections has been reported in states like Ondo state, Osun state, and Oyo state with their varying percentages. Despite the awareness on various genital infectious diseases and their effects, statistics have shown that the spread is still on the high side. Studies conducted in Nigeria have shown that little or no research on genital infections have been conducted in Cross River State, hence, it is of immense public health concern and need to be addressed in this study. Therefore, this paper sought to analyze the condition of genital hygiene, its practices, as well as its occurrence in order to provide information for knowledge and possibly intervention in Calabar Metropolis of Cross River State.

Justification

This study will give enlightenment to the researcher in the area of genital hygiene practices and its prevalence in the study area. It will also help the sex workers in the various brothel communities to be conscious of genital hygiene as often as possible. It will bring to the notice of both governmental and non-governmental organizations in ensuring regular health education awareness on genital hygiene and its effects on female gender. It can also serve as a background for policy making and regulations either by or to the brothel communities for health security of females involved and the general public since 50-75% of the infections are transmitted through sexual intercourse.

Objectives of the study

The aim of this study is to investigate genital hygiene practices and occurrence of genital infections among brothel based female sex workers in Calabar Metropolis. Specifically, the study sought to;

1. Determine the association between genital hygiene practices and occurrence of genital infections among female brothel sex workers in Calabar Metropolis

Research questions

One research question guided the study:

1. What is the association between genital hygiene practices and occurrence of genital infections among female brothel sex workers in Calabar Metropolis?

Hypothesis

One null hypothesis shall direct the study.

2. There is no association between genital hygiene practices and occurrence of genital infections among female brothel sex workers in Calabar Metropolis

Methodology

The study was conducted in Calabar Metropolis of Cross River State, Nigeria. The area is located in the Southern part of Cross River State with only two LGAs. A cross-sectional descriptive design was used in this study to determine the genital hygiene practices and occurrence of genital infections among brothel based female sex workers in Calabar Metropolis. A multistage sampling procedure was used to determine the genital hygiene practice and occurrence of genital infections among brothel based female sex workers in Calabar Metropolis. The sample size comprised of 54 female sex workers from two brothel homes in the study area. Genital Hygiene Practices and Occurrence of Infection Questionnaire was used for data collection. The instrument was prepared in subsections with five and eight items (5 & 8) each. Data collected were subjected to chi-square analyses using SPSS.

Results and interpretation

Results for the hypothesis on association between variables are presented in Tables 1, 2, and 3 after testing at 0.05 level of significant.

Table 1: Chi-Square Analysis of Occurrence of Genital Infection by Age Levels

Age		Levels						Total
		1	2	3	4	5	6	
15–29 years	Count	4	4	2	6	2	4	22
	Expected Count	4.9	2.4	4.9	4.9	1.6	3.3	22.0
30–39 yrs	Count	4	2	10	6	0	4	26
	Expected Count	5.8	2.9	5.8	5.8	1.9	3.9	26.0
40–49 yrs	Count	4	0	0	0	2	0	6
	Expected Count	1.3	0.7	1.3	1.3	0.4	0.9	6.0
Total	Count	12	6	12	12	4	8	54
	Expected Count	12.0	6.0	12.0	12.0	4.0	8.0	54.0
		Value	df	Asymptotic Sig. (2-sided)				
Pearson Chi-Square		24.210 ^a	10	.007				
Likelihood Ratio		25.793	10	.004				
Linear-by-Linear Association		1.471	1	.225				

Results from Table 1 showed that the levels of hygiene practices and occurrence of genital infections among female brothel sex workers varies by age. It was found that between the ages of 15–29 years, the total occurrence was 22 with expected count (22.0), between the ages of 30–39 years, the total occurrence was 26 (26.0) while those between the ages of 40–49 years recorded 6 (6.0) cases. From the results, the highest level of hygiene practice and occurrence of genital

infection was recorded among those between the ages of 30–39 years with 26 (26.0) total. The Pearson Chi-Square value of 24.210^a with 10 df was significant with .007. Also, the Likelihood Ratio value of 25.793 was significant with .004. However, the linear-by-linear association was not significant with .225. This therefore implies that the null hypothesis was rejected

Table 2: Chi-Square Analysis of Genital Infection Occurrence by Ethnicity

Ethnicity		Levels						Total
		1	2	3	4	5	6	
CRS	Count	2	0	2	0	0	2	6
	Expected Count	1.3	.7	1.3	1.3	.4	.9	6.0
Benue	Count	6	2	4	8	2	4	26
	Expected Count	5.8	2.9	5.8	5.8	1.9	3.9	26.0
Edo	Count	4	4	6	4	0	0	18
	Expected Count	4.0	2.0	4.0	4.0	1.3	2.7	18.0
Akwa Ibom	Count	0	0	0	0	2	2	4
	Expected Count	.9	.4	.9	.9	.3	.6	4.0
Total	Count	12	6	12	12	4	8	54
	Expected Count	12.0	6.0	12.0	12.0	4.0	8.0	54.0
		Value	df	Asymptotic Sig. (2-sided)				
Pearson Chi-Square		29.442 ^a	15	.014				
Likelihood Ratio		31.102	15	.009				
Linear-by-Linear Association		.251	1	.617				

Results in Table 2 showed disparities in genital hygiene and infection occurrence among brothel home female sex workers in Calabar metropolis. From the results, female sex workers from Cross River State had a total of 6 cases while those from Benue State had 26 cases. It was also found that brothel-based sex workers from Edo State recorded 18 cases and Akwa Ibom recorded only 4 cases. The results however showed that, brothel-based sex workers from Benue State

recorded high infection cases with 26 followed by Edo State with 18 cases respectively. The Pearson Chi-Square value of 29.442^a was significant with .014. Also, the Likelihood Ratio value of 31.102 was significant with .009. However, the linear-by-linear association was not significant with .251 associated with the p-value .617. With these results, the null hypothesis was rejected.

Table 3: Chi-Square Analysis of Genital Infection Occurrence by Education Level

Education		Levels						Total
		1	2	3	4	5	6	
SSCE	Count	4	2	4	8	2	6	26
	Expected Count	5.8	2.9	5.8	5.8	1.9	3.9	26.0
NCE	Count	0	4	8	2	0	2	16
	Expected Count	3.6	1.8	3.6	3.6	1.2	2.4	16.0
Primary	Count	8	0	0	2	2	0	12
	Expected Count	2.7	1.3	2.7	2.7	.9	1.8	12.0
Total	Count	12	6	12	12	4	8	54
	Expected Count	12.0	6.0	12.0	12.0	4.0	8.0	54.0

	Value	df	Asymptotic Sig. (2-sided)
Pearson Chi-Square	35.236 ^a	10	.000
Likelihood Ratio	39.474	10	.000
Linear-by-Linear Association	7.432	1	.006

Results in Table 3 indicated difference in the level of hygiene practice and occurrence infection between brothel-based female sex workers with SSCE, NCE and FSLC. The results showed that female brothel sex workers with Senior Secondary Certificate Examination (SSCE) recorded 26, while those who obtained Nigerian Certificate in Education (NCE) recorded 16 cases. The results further showed that those with First School Leaving Certificate (FSLC) recorded 12 cases of genital infection. However, the results showed that those with SSCE had a higher case of occurrence with 26 followed by NCE with 16 and FSLC with 12 recorded cases. The Pearson Chi-Square value of 35.236^a associated with the p-value .000 was significant. Also, Likelihood Ratio value of 39.474 and Linear-by-Linear Association values of 39.474 and 7.432 associated with the p-values (.000 & .006) were significant which led to the rejection of the null hypothesis.

Discussion of findings

The findings of this study indicated variations in genital hygiene practices and the occurrence of genital infections among brothel female sex workers in Calabar Metropolis according to age, ethnicity and educational level. This finding suggests that sociodemographic characteristics may play an important role in shaping women's knowledge, attitudes and behaviours regarding genital hygiene and their vulnerability to genital infections. Differences in hygiene practices may arise from variations in health knowledge, access to health information, personal beliefs, cultural practices, economic circumstances and the ability to obtain appropriate hygiene materials and healthcare services.

Age and Genital Hygiene Practices and Infection

The findings showed variations in genital hygiene practices and genital infections across the different age groups. Age may influence personal hygiene behaviour through differences in health knowledge, experience, lifestyle and health-seeking behaviour. Younger female sex workers may have different levels of awareness and experience concerning appropriate genital hygiene compared with older women. Similarly, older participants may have developed established hygiene routines through experience, although such routines may not necessarily conform to recommended practices. The finding is important because it indicates that genital-health interventions should not necessarily adopt a uniform approach

for all female sex workers. Health education can be tailored to the specific needs and circumstances of younger and older women, with emphasis on evidence-based genital hygiene, prevention of sexually transmitted infections, early recognition of symptoms and appropriate use of health services.

Ethnicity and Genital Hygiene Practices and Infection

The study also found variations in genital hygiene practices and infection according to ethnicity. Ethnicity may be associated with differences in cultural beliefs, traditional practices, perceptions of genital cleanliness and attitudes towards reproductive and sexual health. Cultural norms can influence how women understand genital hygiene, the substances or methods they use for cleaning, and their willingness to seek professional healthcare when symptoms occur. The finding further emphasizes the need for culturally sensitive health education programmes among brothel female sex workers in Calabar Metropolis.

Educational Level and Genital Hygiene Practices and Infection

The findings further demonstrated variations in genital hygiene practices and infection according to educational level. Education is an important determinant of health behaviour because it can influence an individual's ability to understand health information, evaluate health-related messages and make informed decisions concerning personal hygiene and healthcare utilization.

Participants with higher educational attainment may have greater exposure to information concerning reproductive health, personal hygiene, sexually transmitted infections and preventive healthcare. The finding underscores the importance of providing health education that is accessible to women irrespective of their educational background. Educational materials should use simple language, practical demonstrations and culturally appropriate communication methods so that participants with different levels of formal education can benefit equally.

Educational Implications of the Findings

The following educational implications are recorded in this study;

First, the finding implies that health education should be strengthened among female sex workers, particularly in the areas of appropriate genital hygiene, prevention of genital infections, recognition of signs and symptoms, and the importance of seeking appropriate medical care.

Second, the observed variation according to educational level implies that health education should be adapted to the literacy and educational backgrounds of the target population. Participants with higher educational attainment may also benefit from more detailed information concerning infection prevention, healthcare utilization and reproductive health.

Third, the variation according to age implies that health education should be age-sensitive. Thus, a single educational approach may not adequately address the needs of all age groups.

Fourth, the variation according to ethnicity has implications for culturally responsive health education. Health educators should avoid condemning cultural practices and instead create opportunities for respectful discussion, helping participants understand which practices promote health and which may increase the possibility of irritation or infection.

Fifth, the findings have implications for teacher education and the preparation of health educators, nurses and community-health workers. Professionals involved in reproductive-health education should be trained to communicate sensitively with female sex workers without stigma or discrimination.

Conclusion

Based on the results, it was recorded that, there is an association between the variable under study as it has to do with genital infection and occurrence among female brothel sex workers in Calabar Metropolis.

Recommendation

Based on the finding, it was recommended that:

1. Reproductive-health education among brothel female sex workers in Calabar Metropolis should be age-sensitive, culturally appropriate, educational-level sensitive, continuous and practical.

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