Factors Associated with Sexually Transmitted Infections among Women of Child-Bearing Age in Makululu Compound of Kabwe district, Zambia

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Abstract

Sexually transmitted infections (STIs) are a public health problem globally. About 376 million new infections of the four main curable STIs are reported annually. In Zambia, as well as in many countries in sub-Saharan Africa, STIs are a major public health problem. Studies conducted mostly in the urban areas of Zambia show that the majority of young people engage in risky sexual behavior despite evidence suggesting widespread awareness about STIs. Therefore, the purpose of this study was to determine factors associated with STIs among women of child-bearing age in the Kabwe district, employing a cross-sectional study design. The sample size was 405, and data was collected using structured interview questionnaires. Bivariate and multivariate logistic regression using (SPSS) version 21 was used to analyze the data. The results showed that women engaged themselves in sexual activity at a much younger age of between 16-20 years. Despite women having a high level of knowledge of STIs, some still were involved in having more than one sexual partner, and this was statistically significant. Inconsistency in condom use by women was a risk factor in influencing a history of STI, and their attitudes showed that they have misconceptions regarding condom use, as some participants felt that condoms were not safe to use to prevent STIs during a sexual encounter. The current study, therefore, revealed that knowledge of STI alone is not adequate in providing protection from STI contraction and that behavioral factors must always be taken into consideration for any effective intervention.

Keywords: Condom, knowledge, STIs, Women.

Introduction

Sexually transmitted infections (STIs) are a public health problem globally. About 376 million new infections of the four main curable STIs are reported annually [1]. These include chlamydia, gonorrhoea, syphilis, and trichomoniasis. More than 1 million sexually transmitted infections (STIs) are acquired every day worldwide [2]. Transmission occurs sexually but can also occur vertically, during pregnancy from mother to child, and through blood products or tissue transfer [1].

In Zambia, as well as in many countries in sub-Saharan Africa, sexually transmitted infections (STIs) are a major public health problem [3]. STIs, including HIV, cause considerable morbidity and premature mortality, and the available data shows that at least 200,000 people are infected with STIs annually, and as many as 50% of the people seeking treatment for STIs in health institutions could be HIV-positive [4]. This is large because social and economic conditions predispose young people to the risks of STIs. The situation is compounded by the fact that the subject of sexuality remains largely confined to the adult world in many communities [5].

Studies conducted mostly in the urban areas of Zambia show that most young people engage in risky sexual behaviour despite evidence suggesting widespread awareness about STIs [4]. Conversely, in most rural areas of Zambia, it is often assumed that the social conditions that influence risky sexual behaviour are nonexistent [5]. Consequently, information about sexual behaviour is not widespread in many rural communities nor is community-based data on sexual practices and perceptions about STIs. In the past, studies have been confined to the urban centers, and those that attempted to cover rural areas were limited to district and subdistrict centers [6]. Although the gap between rural and urban appears to be narrowing due to population mobility, the cultural and social bases that determine sexual behaviour are still, to a large extent, distinct [6]. Factors that motivate certain attitudes and practices still vary in both extent and content. Instead of relying on urban data to extrapolate to rural young people, it is essential to study rural young people in their cultural and social settings. In addition, Zambia's statistics on STIs have estimated the incidence to be between 200,000 to 300,000 new cases occurring per year, and these infections represent the commonest reported cause of adult health facility attendance in Zambia [5]. In Zambia's Kabwe district, it is reported that the number of STI cases has been steadily increasing from 2015-2019 with genital ulcer 9855, genital warts 1907, inguinal bubo 652, male urethritis syndrome 10035, pelvic inflammatory disease 12254 and vaginal discharge 4096 cases per year respectively for the whole population and 7851, 7489, 7236, 8543 and 7731 cases per year respectively for women of child-bearing age [5]. It is from this background that the current study aimed at determining factors that are associated with STIs among women of child-bearing age in Kabwe district.

Materials and Methods

This study used a cross-sectional study design, and it was conducted in Makululu compound of Kabwe District. Makululu Compound is based on the western side of Kabwe Central District, which is on the left

side of the road when coming from Lusaka. This compound was chosen because it is highly populated as compared to the rest of the compounds. Hence the sample was representative of the study population. The study population was the child-bearing age women within Makululu compound, Kabwe District, Central Province. The reason is that the Makululu compound is highly populated and is a shanty compound. This target population is where the results were of direct benefit. In this case, all women of child-bearing age, whether pregnant, breastfeeding, married or not, were part of the target population.

Simple random sampling was used to get the sample. The study setting was purposively selected because it had a high population of women of child-bearing age. Systematic sampling was used to select the households. If two or more women who meet the inclusion criteria were found in a single household, simple random sampling was used to select only one woman to be included in the study. The sample size was calculated using the formula of a finite population according to Krejcie and Morgan, and considering a 10% non-responsive rate, and the calculated sample size was 405. A semi-structured questionnaire information was used to obtain from respondents by well-trained research assistants. The data collected was cleaned, coded, and entered in the computer using the statistical package for social sciences (SPSS) version 21 for analysis. The variables captured in the data set included Social-economic status, stigma, condom use, Ignorance, and Staff attitude. The statistical test used was the Chi-squire test with a confidence level of 0.05.

Results

There were 405 participants in the current study aged between 16-43 years and the mean age being 27.7 (SD= \pm 6.87). Most of the women (38.04%) were aged between 16-25 years old, with the lowest proportion of them being in the age group of between 26 and 35

years (27.99%). Regarding gender, 67 (44.7%) of the participants were male, and 83 (55.3%) were female. Further, the demographics indicated that most participants were married (57.61%). Most of the women had reached the

secondary school level of education (57.07%), with at least 62.77% of them being in some form of employment, either formal or informal employment (Table 1 shows the demographic background of the participants).

Demographic characteristics	Totals			
	Yes (%)			
	n (%)			
Age				
Range (16 – 43yrs)	140 (38.04)			
Mean (SD) 27.7(±6.87)	103 (27.99)			
Age group				
16-25years	125 (33.97)			
26-35 years				
36 years and above				
Highest level of Education attained				
No education	18 (4.89)			
Primary	38 (10.33)			
Secondary	210 (57.07)			
Tertiary	102 (27.72)			
Marital status				
Single	119 (32.34)			
Married	212 (57.61)			
Widowed	18 (4.89)			
Divorced	19 (5.16)			
Extra marital affairs				
Yes	5 (2.36)			
No	207 (97.64)			
Employment (formal/informal)				
Yes	262 (71.20)			
No	106 (28.80)			
Is monthly income sufficient?				
Yes	175 (47.55)			
No	193 (52.45)			

Table 1. Demographic Background of the Participants

Risk-factors of STIs

Table 2 shows the unadjusted and adjusted logistic regression model for the risk of STIs. The logistic regression model showed that the likelihood of having a history of an STI was 0.98 times less likely among women who were not in any extra-marital affair as compared to those who had, and this was statistically significant. Respondents who had never gone clubbing were 0.76 less likely to have a history of STI as compared to those who had at least gone to a club. The current study further showed that there was an inverse relationship between those who felt that condoms were not safe to use to prevent STIs and having an STI history, and this was statistically significant. A similar relationship was observed to occur between women who have had protected sex and a history of STI, and this was statistically insignificant (OR=1.11, P=0.69). Women who stated that condoms were not easily accessible were 0.27 less likely to have a history of an STI than those who were accessing condoms easily (OR=0.27, P=0.046). Multivariable logistic regression was further modeled, and only two variables were statistically significant, that is,

"ever had unprotected sex" and "whose responsibility for condom usage". Women who have had protected sex were 0.44 less likely to have a history of STI than women who have had unprotected sex (P=0.03). Respondents who felt that the responsibility of ensuring that a condom is used each time they were having sex was for both men and women were 0.87 less likely to have a history of STI than those who felt that the responsibility lied in men only (OR=0.87, P=0.04).

	Crude estimates		Adjusted estimates				
	OR	P-value	95%CI	AOR	P-value	95%CI	
Extra marital affair							
Yes	ref	0.042	0.16, 0.92	0.87	0.78	0.14, 2.37	
No	0.98						
Frequency of Condom							
use	ref	0.231	0.76, 2.01	0.97	0.32	0.17, 2.45	
Always	1.52						
Sometimes	-						
Ever gone club	Ever gone clubbing/partying						
Yes	ref	0.536	0.65, 1.49	0.60	0.53	0.23, 2.13	
No	0.76						
Are condoms safe to use to prevent STIs?							
Yes	ref	0.021	0.35, 0.91	0.34	0.06	0.09, 1.02	
No	0.60						
Ever used a condom?							
Yes	ref	0.104	0.92, 2.43	1.68	0.21	0.51, 3.42	
No	1.43						
Ever had unpro	Ever had unprotected sex						
Yes	Ref	0.69	0.66, 1.87	0.44	0.03	0.35, 0.89	
No	1.11						
Are condoms easily accessible?							
Yes	ref	0.046	0.08, 0.87	0.45	0.32	0.09, 1.18	
No	0.27						
At what age did you first have sexual intercourse							
10-15 yrs	Ref	0.54	0.44, 1.53	0.81	0.74	0.25, 1.74	
16-20 yrs	0.82	0.87	0.50, 1.22	0.45	0.30	0.10, 1.02	
21-25 yrs	0.95	-	-	-	-	-	

Table 2. Influence of Sexual Behavior and Attitude as Risk-Factors of STIs

Table 3 shows information regardingknowledge about STIs among women.

Approximately 95.4 % of the participants had heard about sexually transmitted infections with

25.8% of them having been told at a health facility. At least 90.2%) of the women reported having had a discussion on sexual-related matters regarding sexually transmitted infections with their peers or colleagues. Out of these, 40.4% of them had a history of an STI, and this was statistically significant (p=0.03). In addition, more than half of the participants (65.8%) were able to at least mention four (4) types of sexually transmitted infections that they know. Participants were further asked to

state any four (4) ways in which one can contract a sexually transmitted infection that they know, and 81% of them were able to mention them correctly. There were more women (48.9%) who were able to mention any four (4) ways of contraction and never had a history of an STI than those who were able to mention (32.1%) four ways and had a history of an STI. This difference was statistically significant, with a probability value of 0.04.

Knowledge on STIs	History/symptoms of STI?		Total	P-value (chi			
	No (%)	Yes (%)	N (%)	square)			
Have you ever heard of the term sexually transmitted infections?							
Yes	205 (55.7)	146 (39.7)	351 (95.4)	0.65			
No	9 (2.5)	8 (2.2)	17 (4.7)				
How did you know that there are STIs?							
Health facility	120 (32.6)	95 (25.8)	215 (58.4)	0.28			
Media	0	8 (2.2)	8 (2.2)				
Colleagues/partners/guardian	94 (25.5)	51 (13.9)	145 (39.4)				
Have you ever discussed sexua	l related matte	rs with regards to	STIs with your				
peers/guardian/colleagues?							
Yes	198 (53.8)	134 (36.4)	332 (90.2)	0.03			
No	16 (4.4)	20 (5.4)	36 (9.8)				
Can you Mention four any (4) types of sexually transmitted infections?							
Able to mention	141 (38.3)	101 (27.5)	242 (65.8)	0.83			
Unable to mention	73 (19.8)	53 (14.4)	126 (34.2)				
State any four (4) ways in which one can contract a sexually transmitted infection							
Able to state	180 (48.9)	118 (32.1)	298 (81.0)	0.04			
Unable to state	34 (9.2)	36 (9.8)	70 (19.0)				
Mention five signs and symptoms of STIs that you know							
Able to mention	138 (37.5)	105 (28.5)	43 (66.0)	0.46			
Unable to mention	76 (20.7)	49 (13.3)	125 (34.0)				
Do you know how sexually transmitted infections can be prevented?							
Yes	210 (57.1)	153 (41.6)	363 (98.7)	0.32			
No	4 (1.1)	1 (0.3)	5 (1.4)				

Table 3.	Knowledge	of STIs	among	Women

Discussion

This study has highlighted the important aspects of behavior and knowledge among women of child-bearing age of Makuluulu compound about STIs.

Influence of Sexual Behavior and Attitude

The current study reveals that most of the participants had their first sexual encounter at the age of 16 and 20 years. This implies that women engage in sexual activity at a much

younger age and that this age group (16-20 years) are at a higher risk of contracting STIs more, especially since the cervix of female adolescents is covered with cells that are generally susceptible to STIs such as Chlamydia [7]. In contrast, a study conducted in Botswana found that most of the participants in their study who frequently visited health facilities for medical assistance and had a history of STI were in the age group of 23-27 years old [8]. Furthermore, a study conducted in Spain among child-bearing women found that 9%-22% had their first sexual relations before the age of 14, according to sexual behavior [9]. Beginning sexual relations at a young age, especially at 13 or younger, and the presence of a history of STIs are factors that have been independently associated with the presence of STIs, as has also been reported in other publications [10]. Early initiation of sexual activity makes people more susceptible to catching STIs, both through the search for new sexual experiences, which may lead to high-risk sexual behavior, and due to greater difficulty negotiating condom use, fuelled by a feeling of perceived invulnerability among young people [11].

The current study also indicated that the likelihood of having a history of an STI was 0.98 times less among women who were not in any extra marital affair as compared to those who had. The implication of having more than one sexual partner is that it increases the risk of having an STI. These findings are consistent with the ones found in other studies where risk factors for STI were having more than one sexual partner, having the partner living in another area and number of sexual partners [12-14].

The current study reveals that inconsistency in condom use had a 1.52 likelihood of influencing a history of STI. Nevertheless, there is no significant relationship between the infrequency of condom use and STIs. Studies conducted in South Korea found similar results as it reported that there was no significant difference between STIs and sexual practices in relation to the frequency of condom use [15]. One of the possible explanations as to why participants would opt not to use condoms is that women would avoid using condoms during sex as it signifies a lack of trust of the other partner, and people in a steady relationship do not have to use condoms [16]. However, this is not a good indication that STIs have to be eradicated especially that the only way to protect oneself from contracting an STI during sexual intercourse is consistent condom use.

Respondents who had never gone clubbing were less likely to have a history of STI as compared to those who have had at least gone to a club in the current study. This is because when someone is clubbing, the likelihood of them abusing alcohol and drugs with sex tends to be high, and this reduces the perception of risk and tends toward unprotected sexual practices [17]. An association was found between distance coverage to get condoms from a health facility and contraction of STI in the current study. As a result, individuals may not feel encouraged to travel to a health facility and will instead get involved in unprotected sexual intercourse, which in turn leads to an increase of the contraction of STIs. However, some studies have found contrasting results from the findings of the current study in that contraction of STI was found to increase because of what is termed as "choice disability," which in turn is caused by determinants of health such as poverty [18]. Therefore, females may indulge in unprotected sex because they get more benefits or money, for instance, sex workers.

Knowledge of Sexually Transmitted Infections

Knowledge of STIs among people in any community is cardinal as it helps to profile and identify potential knowledge gap, provide baseline information, and assist policy makers and programme planners in prioritizing interventions to reduce the burden of the infection [1]. In the current study, most participants receive information on STIs from health facilities with the fewest receiving from the media (2.2%). This implies that women either don't pay enough attention or the media is not doing enough on health promotion and education. These findings are, however, inconsistent with the study conducted on Thai women, in that most of them received much of the information on STIs from television and the internet (72.7%) [19]. A national study conducted in Brazil showed that in the case of young people, schools would be the ideal setting for receiving information about STIs, while another study concluded that the content dealing with STIs/AIDS on television and in magazines is insignificant [20]. However, despite receiving information, many young people fail to adopt protective measures against STIs [21]. Therefore, there remains a strategic avenue to provide information that is at the point of care of STIs that could improve knowledge and possibly promote preventive habits [1].

Nearly all the participants (98.7%) knew how sexually transmitted infections can be prevented and that three-quarters of them (81.0%) were also able to correctly state any four (4) ways in which one could contract a sexually transmitted infection. These findings are like the ones found in India in that, almost all of the participants (96%) knew how a person can get infected with an STI [22].

Conclusion

The lack of adequate information provided about the importance of informing sexual partners and condom use among older people may be due to health professionals' misconceptions, lack of preparedness, or uneasiness when dealing with older people.

It has been noted that knowledge of STI alone is not adequate in providing protection

from STI contraction and that behavioral factors must always be taken into consideration for any effective intervention. This information is particularly important to note, as STIs are a public health concern among women of childbearing age in Zambia, with the health care system being over-burdened by the complication that it brings.

Sexual behaviors and attitudes towards condom use need to be improved through intensive re-education to increase awareness. Interventions should emphasize on consistent condom use and fidelity as important aspects of sexual behaviors for both males and females to prevent the spread of STIs. Future studies are therefore encouraged to be designed comparatively to look at the prevalence of sexually transmitted infections between men and women.

Conflict of Interest

In this study titled "Factors associated with Sexually Transmitted infections among women of child-bearing age in Makululu Compound of Kabwe district," there are no competing interests of any kind.

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