



Effects Of Health Education Intervention On Knowledge Of STIS Prevention Among Convicted Correctional Facility Inmates (CFIS) In Port Harcourt

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Abstract: This study investigated the effects of a health education intervention on knowledge, of sexually transmitted infections (STIs) prevention convicted correctional facility inmates in Port Harcourt, Rivers State, Nigeria using a quasi-experimental design. A validated researcher-structured questionnaire with a reliability index of 0.90 was used to collect data from a sample of 142 inmates sampled purposively from a population of 189 convicted inmates in Port Harcourt correctional facility. Data collected were analysed using SPSS version 25, employing percentages, mean and Analysis of Covariance (ANCOVA). The findings of the study indicated that the health education intervention had a significant effect on increasing participants' knowledge of STIs ($P < 0.05$). It was also found that age, educational status, and marital status did not significantly have moderate relationship between health education and knowledge of STI prevention. It was concluded that health education can promote positive change in knowledge among the inmates. Finally, it was recommended among others that correctional facilities and Community Health Organizations should collaborate to facilitate the sustenance of the improve knowledge of STIs prevention.

Keywords: Health Education, Knowledge, STIs, Convicted Correctional Facility Inmates

INTRODUCTION

For many years, it has been acknowledged that sexually transmitted infections (STIs) pose a serious threat to public health, particularly in poor nations. Approximately 500 million adults between the ages of 15 and 49 are estimated to have a treatable STI, with over a million cases reported each globally (WHO, 2012).

Sexually transmitted infections (STIs) are a group of common communicable and preventable disease condition transmitted majorly through sexual contacts. STIs are major public health issue worldwide (Unemo et al., 2017). They are among the most wide spread infectious diseases exacting substantial economic and social burdens on families and communities, are important causes of a number of adverse sexual and reproductive health outcome, and remain important cause of morbidity and mortality worldwide (WHO 2018).

According to recent data released by the Centers for Disease Control and Prevention (2019), one in five Americans (US) had a sexually transmitted virus on any given day in 2018. According to the most recent estimate, there are over 26 million infections and around 68 million STIs in the US. According to the Centers for Disease Control and Prevention (CDC) 2019 AND CDC Fact Sheet 2021, the estimated numbers of new and existing STI prevalence and incidence rate are as follows: hepatitis B virus 103,000 and 8,3000, syphilis 165,000 and 146,000, trichomoniasis 2.6 million and 6.9 million, chlamydia 2.4 million and 4 million, gonorrhoea 209,000 and 1.6 million, HIV 984,000 and 32, 600, hepatitis B virus 103,000 and 8,3000, and human papilloma virus 13 million and 186 million respectively. In sub-Saharan

Africa, STIs exhibit a higher prevalence rate. Also, in Nigeria, one of the major influences on public health is the spread of STIs (Nwadike, 2015 & Varrela, 2021).

Sexually transmitted infections (STIs) pose significant health risks, particularly in confined settings such as correctional facilities. In 2020, Emejuru and Ekenedo carried out a study on inmates health problems in correctional facilities located in Rivers State. Among other diseases revealed, the study findings provided some evidence that documented increase evidence rates of STIs. No wonder Usman, Armiyau and Illiyasu (2021) stated that ‘despite the disciplinary action meted out on CFIs, they still engaged in a range of risky sexual behaviours’.

Correctional facility inmates (CFIs) or prisoners are persons who are kept in correctional facilities (Prisons). They are confined there as a punishment for crime committed or as a punishment for a crime or while they are waiting for their trial (Omu 2011). Studies also revealed that the global conditions of correctional facilities make inmates vulnerable to different diseases including STIs. According to Aluko et al (2022), CFIs usually live in an overcrowded facility system in poor sanitary conditions. Inmates consume different types of drugs and engage in risky sexual behaviours. Combined with these factors, effective initiative for educational and health actions are also absent within this vulnerable group, making the correctional environment an inhospitable scenario for health. A research study conducted in Kano central correctional facility by Lawan, Amole, and Shuab (2016) submitted that sexual desires among CFIs often accompany an unsatisfied state, and that many of them lead degrading and dehumanizing sex lives when incarcerated because of sexual deprivation regardless of their sexual orientation, age, educational status and marital status. In Nigeria, a range of factors possess negative effects on sexual attitude and behavior of inmates including overcrowding, lack of privacy, lack of meaningful activities, use of drugs, prison marriage, sex bartering, lack of knowledge about STIs prevention and misconceptions of various degrees concerning STIs and HIV (Audu, et al., 2013).

Knowledge serves as a crucial factor in influencing behavioral outcomes and promoting safer practices among this vulnerable population. Smith et al., (2020) research revealed that knowledge empowers individuals to make informed decisions regarding STI prevention. In the context of correctional facilities, where access to health information may be limited, targeted health education interventions play a crucial role in bridging knowledge gaps.

Health education is a significant tool in health promotion. Apart from the important role it plays in changing behaviour, it creates supportive environment and strengthens community actions (Sachdeva, et al., 2015). Adoption of health education contributes immensely in health literacy which is paramount in driving the message of prevention. Therefore health education for this study will mean a combination of learning experiences designed to help correctional facility inmates improve their health by increasing their sexual knowledge and influencing their sexual attitude and behaviours towards prevention of sexually transmitted infections. Zack, et al (2014) in their study revealed a change in risky sexual behaviour among inmates who participated in health education in Marin county California. In Nigeria, Onyemocho, et al (2014) submitted increase knowledge of HIV/AIDS among health educated inmates in Kaduna.

In the context of correctional facilities in Port Harcourt, there is a need to assess the effectiveness of health education interventions in enhancing the knowledge of STI prevention among convicted correctional facility inmates (CFIs). The lack of comprehensive studies addressing this specific issue creates a gap in understanding the impact of health education within this unique population. Therefore, this research aims to investigate the effects of health education interventions on the knowledge of STI prevention among CFIs in Port Harcourt, identifying potential shortcomings and proposing targeted strategies for improvement.

Research Questions:

1. What is the effect of health education intervention on knowledge about prevention of STIs among convicted CFIs in Port Harcourt?
2. What is the effect of health education intervention on knowledge about prevention of STIs among convicted CFIs in Port Harcourt with regards to age, educational status, and marital status?

Hypotheses

1. Health education intervention has no significant effect on knowledge about prevention of STIs among convicted CFIs in Port Harcourt.
2. Health education intervention has no significant effect on knowledge about prevention of STIs among convicted CFIs in Port Harcourt based on age, educational status, and marital status.

METHODOLOGY

The study adopted the quasi-experimental design. Specifically the pretest and post-test nonequivalent group design. This is the type of design that both experimental and control groups participate in pre-test and post-test. The sample for the study was one hundred and forty two (142) convicted inmates drawn using a purposive sampling technique from the population of one hundred and eighty nine (189) male and female convicted inmates in Port Harcourt (Port Harcourt correctional statistical Record, 2022). The study focused on a specific inmates in Port Harcourt with the following characteristics below:

- i) Inmates must be 18 years and above
- ii) Must have been locked up for a minimum of 3 months
- iii) Still have at least nine months before bail time

The last criteria was included to ensure that the inmates will stay to the completion of the study period.

The instrument for data collection was a validated self-structured questionnaire titled “Knowledge of Sexually Transmitted Infections Prevention Questionnaire (KAPSTIPQ) with a reliability coefficient value of 0.90. The instrument consists of two Sections A and B. Section A collected demographic data of the subjects, while Section B contains items that measured knowledge of the respondents on prevention of STIs, with response option of true or false. The instrument which was close ended questionnaire requiring of a tick (✓) from the respondents, was administered after a four week health education teaching programme. Out of the 142 copies administered, 114 copies were retrieved and five (5) were invalid which gave a response rate of 95.6%. Data collected was analyzed using statistical package of Social Sciences (SPSS 21) employing descriptive statistic of percentage and while inferential statistic of Analysis of covariance (ANCOVA). To obtain quantitative data (interval) for the Analysis of Covariance (ANCOVA) as knowledge, each correct responses will be scored 1 mark and each wrong responses will be scored zero (0).

RESULTS

Table 1: Summary analysis of the effect of health education intervention on knowledge about prevention of STIs among convicted CFIs in Port Harcourt

S/N		<u>Pre-test</u>				<u>Post-test</u>			
		Correctly answered		Incorrectly answered		Correctly answered		Incorrectly answered	
o	Knowledge about the nature of STIs	F	%	f	%	F	%	f	%
4	Using condoms consistently and correctly reduces the risk of contracting sexually transmitted infections (STIs).	60	55.3	49	44.7	83	76.3	26	23.7
5	Abstaining from sexual activity is an effective method for preventing STIs.	43	39.5	66	60.5	72	65.8	37	34.2
6	Regularly getting tested for STIs is important, especially if you have multiple sexual partners.	57	52.6	52	47.4	89	81.6	20	18.4
7	Educating yourself about different types of STIs and their symptoms can help in early detection and prevention.	49	44.7	60	55.3	80	73.7	29	26.3
8	Knowing your partner's sexual history and discussing STI testing and protection methods can contribute to safer sexual practices.	60	55.3	49	44.7	77	71.1	32	28.9
9	Engaging in sexual activities that do not involve penetration can lower the risk of STI transmission.	55	50	55	50	89	81.6	20	18.4
10	Understanding the importance of open communication with sexual partners about STIs and practicing consent can promote safer sexual experiences.	49	44.7	60	55.3	72	65.8	37	34.2
11	Limiting the number of sexual partners decreases the likelihood of exposure to STIs.	34	31.6	75	68.4	77	71.1	32	28.9
12	Being aware of the signs and symptoms of common STIs, such as genital warts or herpes, can aid in early detection and timely treatment.	40	36.8	69	63.2	72	65.8	37	34.2
13	Avoiding sharing needles or other drug paraphernalia helps prevent the transmission of STIs, including HIV.	49	44.7	60	55.3	69	63.2	40	36.8
14	Getting vaccinated against STIs, such as human papilloma virus (HPV) or hepatitis B, can provide additional protection.	37	34.2	72	65.8	63	57.9	46	42.1
15	Washing genital areas before and after sexual activity can help reduce the risk of certain STIs.	46	42.1	63	57.9	77	71.1	32	28.9
16	Avoiding alcohol and drug use during sexual encounters can prevent risky behaviours and increase awareness of potential risks.	26	23.7	83	76.3	72	65.8	37	34.2
17	Knowing the difference between bacterial and viral STIs can help in understanding treatment options and prevention strategies.	66	60.5	43	39.5	100	92.1	9	7.9
18	Recognizing the importance of regular check-ups with healthcare providers for STI screenings and discussing concerns or questions about sexual health.	55	50	55	50	83	76.3	26	23.7
19	Understanding the limitations of home testing kits and seeking professional medical advice for accurate STI diagnosis and treatment.	49	44.7	60	55.3	86	78.9	23	21.1
20	Promoting comprehensive sex education in schools and communities to empower individuals with knowledge about STI prevention and safe sexual practices.	55	50	55	50	89	81.6	20	18.4
Overall aggregate f and %		54	49.7	55	50.3	84	77	25	23

Table 4.2 presents a summary analysis of the effect of health education intervention on knowledge about the prevention of sexually transmitted infections (STIs) among convicted correctional facility inmates (CFIs) in Port Harcourt. The table displays the participants' responses to various statements related to STI prevention, comparing their pre-test and post-test knowledge. For example, statement 4: "Using condoms consistently and corkrectly reduces the risk of contracting STIs," showed that 55.3% of participants correctly answered this statement in the pre-test, which increased to 76.3% in the post-test. Similarly, statement 5: "Abstaining from sexual activity is an effective method for preventing STIs," had 39.5% correct responses in the pre-test, which increased to 65.8% in the post-test. Overall, the participants' knowledge about STI prevention improved after the health education intervention. The aggregate data showed that the correct responses increased from 49.7% in the pre-test to 77.0% in the post-test. This indicates a 17.3% increase in knowledge.

Table 2: summary of pared sample Z-test on Health education intervention has no significant effect on knowledge about prevention of STIs among convicted CFIs in Port Harcourt

	N	Mean	SD	df	Z.cal	P.Val	Decision	Partial Eta Square
Post-test knowledge	109	77.0	3.581					
Pre-test knowledge	109	49.7	5.643	37	59.936	0.000	Ho rejected	0.433

Table 2 highlighted that for the pre-test knowledge; the mean knowledge score before the health education intervention is 49.7, with a standard deviation of 5.643. The paired sample t-test shows a highly significant difference between pre-test and post-test knowledge scores ($Z_{cal} = 59.936$, $p < 0.001$). For the post-test knowledge; The mean knowledge score after the health education intervention is 77.0, with a standard deviation of 3.581.

Based on the statistical analysis, the null hypothesis (H_0) stating that health education has no significant effect on knowledge about prevention of STIs among CFIs in Port Harcourt is rejected. This implies that the health education intervention had a significant impact on improving the participants' knowledge about STI prevention. The effect size, measured by the partial eta square, is 0.433. This indicates a large effect, suggesting that health education explains a substantial proportion of the variance in the participants' knowledge about STI prevention.

Table 3: Summary of ANCOVA analysis on Health education intervention has no significant effect on knowledge about prevention of STIs among convicted CFIs in Port Harcourt based on age, educational status, and marital status.

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	3.002a	17	.177	.809	.668	.407
Intercept	7.412	1	7.412	33.948	.000	.629
Age	1.525	3	.508	2.328	.105	.259
Marital_Status	1.165	3	.388	1.779	.184	.211
Education	.079	3	.026	.120	.947	.018
Age * Marital_Status	.173	1	.173	.792	.384	.038
Age * Education	.026	1	.026	.119	.734	.006
Marital_Status * Education	.796	2	.398	1.824	.187	.154
Age * Marital_Status * Education	.121	1	.121	.554	.465	.027
Error	4.367	20	.218			
Total	28.000	109				
Corrected Total	7.368	108				

a. R Squared = .407 (Adjusted R Squared = -.096)

b. Dependent Variable: Posttest participants knowledge about STIs

Table 3 presents that the sum of squares for the intercept is 7.412, and the F-value is 33.948, indicating a significant effect of the intercept. Age, Marital Status, and Education are the factors representing the participants' age, marital status, and educational status. The corrected model does not significantly explain the variation in posttest knowledge about STIs among CFIs in Port Harcourt. The adjusted R-squared value is -0.096, indicating that the factors included in the model do not improve the predictive power significantly compared to the intercept-only model.

DISCUSSION

The study revealed a substantial increase in STI prevention knowledge among correctional facility inmates in Port Harcourt following a health education intervention. The participants' accuracy improved significantly from 49.7% on the pre-test to 77.0% on the post-test, indicating a notable 17.3% overall increase in understanding. The paired sample t-test results demonstrated a statistically significant knowledge improvement between the pre-test and post-test ($t_{cal} = 59.936$, $p < 0.001$). The health education intervention effectively raised participants' awareness of preventing sexually transmitted infections (STIs).

The partial eta square, indicating the effect size, was 0.433, underscoring the substantial contribution of the health education intervention to the diversity in STI prevention knowledge. These findings align with research on college students, emphasizing the positive impact of health education on expanding knowledge about STIs. Additionally, a comprehensive review and meta-analysis by Nguyen et al. (2020) emphasized that interventions combining educational aspects with behavioral skills development were more effective in increasing knowledge and reducing risky sexual behaviors.

Similarly, Brown et al. (2020) reported that health education interventions among incarcerated individuals enhanced knowledge about STIs, including condom usage and regular testing. Johnson et al. (2019) found that targeted educational programs within specific high-risk groups were more effective than general interventions. However, Jones et al. (2017) highlighted that improved knowledge did not always lead to behavioral change, emphasizing the importance of assessing practical outcomes alongside cognitive gains.

The study delved into demographic variations in inmates' awareness of STIs, considering factors such as age, marital status, and educational background. Analysis of covariance (ANCOVA) results indicated that these factors did not significantly explain the variation in posttest knowledge of STIs among correctional facility inmates. The adjusted R-squared value of 0.096 suggested minimal impact on participants' knowledge outcomes.

These findings are consistent with Agha et al. (2019), who found that factors like age, marital status, and educational status did not significantly affect the effectiveness of health education interventions on STI knowledge among inmates in Nigerian prisons. Brown et al. (2018) similarly reported no significant changes in knowledge outcomes based on age, marital status, or education among incarcerated individuals in the United States.

Contrary to these findings, Smith et al. (2020) discovered that younger age was associated with higher levels of STI knowledge following a health education intervention among jailed populations in Australia. Johnson et al. (2017) also found that educational status was a major predictor of STI knowledge improvement in a correctional facility in South Africa.

Considering the overall body of evidence, health education interventions within correctional facilities play a crucial role in improving knowledge about STIs, promoting safer sexual behaviors, and reducing risky practices among inmate populations. The importance of tailored educational initiatives is emphasized, addressing the unique needs and vulnerabilities of incarcerated individuals to enhance STI prevention efforts. While individual outcomes may vary, the collective research underscores the significance of specialized training programs for substantial improvements in STI prevention among the incarcerated population.

CONCLUSION/ RECOMMENDATION

Based on the findings of this study, it was concluded that health education serves as an effective tool for enhancing the knowledge which can act as a catalyst for fostering positive changes in their behavior with respect to STI-related outcomes. The study recommended that health education initiatives should be strengthened and expanded in community settings. This includes developing comprehensive educational materials and programs that provide accurate information, address misconceptions, and promote positive attitudes and behaviors related to STI prevention.

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