



**MANAGEMENT OF SEXUALLY TRANSMITTED DISEASES IN COMMUNITY  
PHARMACIES IN RIVERS STATE, NIGERIA: ISSUE OF STANDARD TREATMENT  
GUIDELINES**

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**ABSTRACT**

**Introduction:** Sexually transmitted infections are a group of infections that are transmitted mainly by sexual contact or through congenital route. High prevalence of sexually transmitted diseases (STDs) is a major public health concern. **Objective:** This study aimed to evaluate how STDs are managed in primary care setting. **Method:** A cross-sectional study was conducted in Community Pharmacies spread across Port Harcourt, Rivers State. The study population was Community Pharmacists. Structured questionnaire was used to collect data from 210 community pharmacists systematically selected from 483 registered community pharmacies spread across Port Harcourt City in Rivers State. **Results:** A total 218 questionnaires were distributed but 210 were retrieved, giving a 96.3% response rate, which was used to carry out the study. The participants' age ranged from 25yrs to 65yrs. males were 40% (84) and female 60% (126). 65.7%(138) of the respondents had a basic knowledge of STDs, while 9.5%(20) lacked basic knowledge of STDs. A total of 126 (60%) of the participants know about the World Health Organization guidelines, while 9.0% (19) knew of the standard treatment guidelines (STG). Only 38.1%(80) reported following the guidelines all the time but 20.6%(43) would use the drugs recommended in the guidelines. 53.3% of respondents reported that the complete cost of antibiotic therapy is 6000 Naira and above for a regimen of 7-14 days. **Conclusion:** Basic knowledge about sexually transmitted diseases (STDs) is high among community pharmacists (65.7%) but the practice level is poor. (6.7%) followed the guidelines for treatment of urethral discharge and (13.9%) followed the guidelines for the treatment of vaginal discharge. The remaining 79.4% did not follow the guidelines for the treatment of sexually transmitted diseases.

**KEYWORDS:** Sexually transmitted Disease, management, community pharmacists, Nigeria.

**INTRODUCTION**

Sexually transmitted infection is an infection transmitted either by means of sexual intercourse between heterosexual or homosexual individuals, or by intimate contact with the genitals, mouth, and rectum. STIs include syphilis, gonorrhoea, human immunodeficiency virus (HIV) infection, acquired immunodeficiency syndrome (AIDS), Chlamydia infections, genital herpes, non-specific urethritis, trichomoniasis, genital lice, scabies, genital warts, hepatitis B infection and genital herpes. The medical specialty responsible for sexually transmitted diseases is genitourinary medicine.<sup>[1]</sup>

Sexually transmitted infections (STIs) refer to a variety of clinical syndromes caused by pathogens and that can be acquired and transmitted through sexual activity. Physicians and other health-care providers play a critical role in preventing and treating STDs.

Although the terms sexually transmitted infection and "sexually transmitted disease" has been used interchangeably, they do not mean exactly the same thing. Sexually transmitted infection (STI) refers to a pathogen that causes infection through sexual contact; whereas the term sexually transmitted disease (STD) refers to a recognizable disease state that has developed from an infection.<sup>[2]</sup> Sexually transmitted disease (STD) implies that there is a development of a recognized disease state which is not the case with most infections such as gonorrhoea.<sup>[3]</sup> Since 1999, the World Health Organization (WHO) has recommended that the term "sexually transmitted disease" (STD) be replaced by the term "sexually transmitted infection" (STI). The term STI has been adopted as it better incorporates asymptomatic infections. In addition, the term has been adopted by a wide range of scientific societies and publications (WHO, 2020).<sup>[4]</sup>

As part of the clinical interview, physicians should routinely and regularly obtain sexual history from their patients and address the management of risk reduction. Predisposing factors for sexually transmitted infections includes: having unprotected sex, having sexual contact with multiple partners, having a history of sexually transmitted infections (having one STI makes it much easier for another STI to take hold.), being forced into sexual intercourse or sexual activity, being young (age 15-24), misuse of alcohol or use of recreational drugs, injecting drugs, etc (CDC, 2020.<sup>[2]</sup> Effective interviewing and counseling skills, characterized by respect, compassion, a non-judgemental attitude are essential to obtaining a thorough sexual history and to delivering prevention messages effectively. The STIs are divided into different groups based on their clinical presentations: Diseases characterized by urethritis and cervicitis, vaginal discharge genital ulcers, Pelvic inflammatory diseases, genital warts (human papilloma virus infections), epididymitis, proctitis, proctocolitis, and enteritis; ectoparasitic infections, other STDs.

Several sexually transmitted infections in particular, HIV and Syphilis, can also be transmitted from mother to child during pregnancy and childbirth (congenital) or while breastfeeding; and through blood products and tissue transfer (WHO, 1997.<sup>[5]</sup>)

Currently, management of sexually transmitted infections is guided by the "global health sector strategy on sexually transmitted infections, 2016-2021"; adopted by the World Health Assembly in 2016 and the 2015 United Nations global strategy for Women's Children's and Adolescent's health which highlight the need for a comprehensive integrated package of essential interventions including information and services for the prevention of HIV and other STIs.

Diagnostic tests for sexually transmitted infections are usually unavailable in the developing world unlike in the developed world (Bosu, 1999).<sup>[6]</sup>

Hence what is usually obtainable in Nigeria and other developing countries is "Syndromic management" which is defined by the WHO as "The identification of consistent groups of symptoms and easily recognized signs (syndromes) and the provision of treatment that will deal with majority of most serious organisms responsible for producing a syndrome".

Syndromic management is highly advantageous because it is simple, assures rapid same day treatment, and avoids expensive or unavailable diagnostic tests for patients that present with symptoms. The disadvantage of the above is that it could lead to over treatment and missed treatment as majority of STIs are asymptomatic. Hence, in addition to Syndromic management, screening strategies are essential. To interrupt transmission of infection and prevent reinfection, treating sexual partners is an

important component of STI case management. (Bosu, 1999).<sup>[6]</sup>

### Study objectives

This study aimed to assess the knowledge level about sexually transmitted diseases and its management strategies by pharmacists in community pharmacy in Rivers State.

## MATERIALS AND METHOD

### Study area

Rivers State is located in the South - South Zone of Nigeria in Niger Delta Region. The State capital, Port Harcourt is a metropolitan City and a hub of many visitors, including foreigners from many parts of world due to oil exploration. A lot of human interaction is very evident.

### Study population

In Rivers State 483 registered Community Pharmacies<sup>[7]</sup> spread across the State, and distributed into zones, covering all parts of the State. Each of the pharmacy is managed by a registered pharmacist. These community pharmacists provide primary care to the communities in the various zones. A sample size of 218 community Pharmacies was obtained at 95% confidence interval and  $\pm 5\%$  margin of error from a total population of 483 registered community pharmacies in the State using sample size method by Araoye (2004).<sup>[8]</sup>

### Study Design

A Cross-sectional study was conducted to assess the management processes of sexually transmitted diseases among these community pharmacists. Structured questionnaire was used to obtain information from community pharmacists working in community pharmacies. A total of 218 questionnaires were distributed to community pharmacies, but 210 were retrieved giving a recovery level of 96.3%. The sample size was systematically obtained. The questionnaire was structured in parts: A. demographic; B. knowledge of the disease C. treatment guidelines; D. management strategies; E The prescription pattern was assessed for therapeutic class of the drugs in relation to the syndrome or disease condition being managed. The basic knowledge of the community pharmacists on sexually transmitted diseases was also assessed. Assessments of deviations from the WHO and national treatment guidelines was done accordingly.

### Data Analysis

The data was analyzed using the Statistical Package for Social Sciences (SPSS) version 23.0 and descriptive statistics for the demographic data. Numeric values were placed as mean values  $\pm$  SD. A value of  $P < 0.05$  was considered statistically significant.

### Study Limitations

Time: the study was limited to a period of 6 weeks (June 2021 to July 2021) and because data were collected at a

single time, it was difficult to measure changes in the population.

The study relied on the responses of the community pharmacists. The study accepted their responses as "honest" -on its face value; and it was difficult to discover a dishonest response or a hidden agenda. Since the study relied on the responses of community Pharmacists, actual management practices was not observed; and this may differ from what was reported in the questionnaire.

## RESULTS

A total of 218 community pharmacists participated in the study but 210 questionnaires were retrieved and used to carry out the study. The age range was from 27 years to 61years. The males were 40% females 60%. 65.7% of the respondents had a basic knowledge of STDs, only 9.5% lacked basic knowledge of STDs. Majority (60.0%) know of the World Health Organization (WHO) guidelines, while 9.0% know of the standard treatment guidelines (STG). Only 38.1 % reported to follow the guidelines all the time but only 20.6% would use the drugs recommended in the guidelines. 53.3% reported that the complete cost of antibiotic therapy is 6000 Naira and above for a regimen of 7-14 days.

**Table 1: Demographic distribution of the respondents.**

Variables	Proportion (n)	Percentage
<b>Gender:</b>		
Male	84	40%
Female	126	60%
<b>Age (years)</b>		
20-29	54	25.7%
30-39	105	50%
40-49	29	13.8%
50-59	12	5.7%
>60	10	4.8%
<b>Marital status</b>		
Single	64	30.5%
Married	95	45.2%
Widowed	36	17.1%
Others	15	7.2%
<b>Educational status (Level of Training)</b>		
B.Pharm	137	65.2%
Pharm.D	73	34.8%

**Table 4.2: Basic Knowledge about STI, mode of transmission and guidelines.**

Cause	Proportion	Percentage
Mainly by sexual contact	138	65.7%
A disease only by sexual contact	52	24.8%
A disease that cannot be spread	20	9.5%
Total	210	100%
Guidelines	Proportion (n)	Percentage
WHO	126	60%
CDC	63	30%
STG	19	9.0%
National Treatment Guideline	2	1.0%
Total	210	100%

**Table 3: Management strategy and counseling given for STI.**

Importance of laboratory diagnosis	Proportion (n)	Percentage
Yes	147	70%
No	63	30%
<b>Total</b>	<b>210</b>	<b>100</b>
Strategies used	Frequency	Percentage
Follow guidelines all of the time	67	31.9%
Follow guidelines most of the time	83	39.5%
Follow guidelines some of the time	29	13.8%
Follow guidelines none of the time	31	14.8%
<b>Total</b>	<b>210</b>	<b>100%</b>
Advice given	Proportion(n)	Percentage
Advised patients to abstain from sex/use of condom during treatment	66	31.4%
Advised patients to comply with drug treatment and reasons for/consequences of non-compliance	58	27.6%
Advised patients to return if treatment fails	34	16.2%
Referred patients to clinic/doctors	33	15.7%
Referred patients to a laboratory for a test	19	9.0%
<b>Total</b>	<b>210</b>	<b>100%</b>

Use of condom	Proportion (n)	Percentage
Yes	153	72.9%
No	57	27.1%
<b>Total</b>	<b>210</b>	<b>100%</b>

## DISCUSSION

The importance of proper management of sexually transmitted diseases cannot be over emphasized. Proper management of sexually transmitted diseases (including correct and early diagnosis) will help to reduce the spread and decrease the prevalence of the disease. It will also prevent/ curtail the incidence of antimicrobial resistance, treatment failure, waste of resources, patient dissatisfaction with the healthcare system, it will also stop or reduce the development of complications and infertility. Proper management of sexually transmitted diseases will also reduce HIV transmission and improve the patients quality of life.

In this study, basic knowledge of community pharmacists on sexually transmitted diseases was high, as majority (65.7%) were able to correctly identify what STI means, 24.8% had an idea of what it is but could not exactly define it; 9.5% could not identify it correctly at all. 60.0% admitted knowledge of the WHO guidelines while 30.0 % admitted knowledge of the Center for Disease Control (CDC) guidelines, 9.0% admitted knowledge of the standard treatment guidelines, and 1.0 % reported knowledge of other guidelines. 38.1% said they follow the guidelines all the time. 14.8% admitted that they do not follow the guidelines at all. Most of the respondents (72.9%) agreed that proper use of condom could reduce the spread of sexually transmitted diseases. Most of the respondents(53.3%) agreed that the complete cost of an antibiotic therapy for sexually transmitted disease is 6000 Naira and above for a duration of 7-14 days. This cost is slightly higher than the average cost of antibiotic therapy for management of sexually transmitted diseases in community pharmacies as reported by (Leiva, et.al., 1999<sup>[9]</sup> in which the cost then was equivalent to 4,375 Naira. This could be because of inflation as the study was carried out earlier and could also be due to difference in prices of drugs and antibiotics across different geographical locations. 27.6% of the respondents advised patients on treatment compliance, reasons for compliance and consequences of non compliance. This is similar to the result of the an early study<sup>[9]</sup> in which 29% of the respondents advised on treatment compliance.

Exactly 31.4% of the respondents advised on condom use, abstinence and safe-sex practices. This is less than the number(38%) who offered similar advice in the previous study.<sup>[9]</sup>

The results of our study show that most community pharmacists in Rivers State possess the basic knowledge of the concept of sexually transmitted diseases but do not have adequate knowledge about it's management and the recommended guidelines.

Most of the community pharmacists (68.1%) do not follow the guidelines always, only 38.1% admitted to follow the guidelines all the time, but this self-admittance was brought to question by the actual drug treatment and management strategy the respondents selected which was at variance with the recommendations of the guidelines.

For genital ulcer syndrome, 26.6% of the respondents used Azithromycin throughout whereas the W.H.O guidelines on syndromic management recommends parenteral Benzathine penicillin for syphilis; Ciprofloxacin, erythromycin, or Azithromycin for Chancroid and Azithromycin, doxycycline for granuloma inguinale; and doxycycline, erythromycin, for lymphogranuloma venereum. For abdominal pain, 34.7% of the respondents used doxycycline alone whereas the W.H.O guidelines on syndromic management recommends single dose Ceftriaxone plus 100mg doxycycline orally twice daily as first line for 14 days. For scrotal swelling, 18.1% of the respondents used doxycycline whereas the W.H.O guidelines recommends Ciprofloxacin, Azithromycin, Ceftriaxone or Cefixime and spectinomycin for gonorrhoea; and it recommends doxycycline and Azithromycin for Chlamydia. The above findings are consistent with current research findings in the management of sexually transmitted diseases in Nigeria and in Africa. This study, identified that the male community pharmacists in Rivers State contributed 40% of the entire population of community pharmacists in the state. This differed from the study on "Patent medicine dealers, community pharmacists and STI management in Abuja by (Okonkwo and Okonkwo, 2010.<sup>[10]</sup> The study had male respondents as 49.1 % of the total population under study, the researcher admitted that convenience sampling was used. The number of community Pharmacies in the population was over two hundred (200) whereas only 24 community pharmacists participated. The age with the highest frequency was 30-39 years(50%). This agrees with the previous study<sup>[10]</sup> in which 50.5% of the community pharmacists respondents were between 30-39 years This means that most of the people into community pharmacy practice in Rivers state are young men and women. The minimum educational qualification attained by most of the community pharmacist respondents was Bachelor of Pharmacy (B.Pharm) degree(65.2%) this agrees with the study by Mugaba and Klauser, 2003,<sup>[11]</sup> which states the minimum educational qualifications of most (64%) of the respondents as Bachelor of Pharmacy degree. It also agrees with the study on management of sexually transmitted diseases<sup>[9]</sup> which reports that 70% of the community pharmacists respondents has Bachelor of Pharmacy (B.Pharm) degree as their minimum educational qualification. Another study by<sup>[12]</sup> evaluated

the management of STI by community Pharmacies in Lagos. The study reported that most community pharmacists do not follow the guidelines in the management of sexually transmitted diseases, that less than 15% used the drug as recommended by the guidelines similar to 13.9% who used the right drug as recommended by the guidelines for vaginal discharge in this study Only 6.7% got the right drug for the management of urethral discharge as recommended by the guidelines, whereas only 13.9 % would use the right drug as recommended for the treatment of vaginal discharge. The remaining 79.4% did not use the right drugs as recommended by the guidelines. This is similar to a study<sup>[9]</sup> which evaluated the management of sexually transmitted diseases in community Pharmacies in the Gambia where only 11% of the respondents mentioned the right drug for urethral discharge syndrome, but it was only given to 4.4% of simulated clients. The results of this study also agrees with the study conducted<sup>[11]</sup> in Western Cape region of South Africa. The study assessed the current and potential future roles of community pharmacists in the treatment of sexually transmitted infections. 13% of urban and 17% of rural pharmacists identified the correct medication for male urethral discharge, 8% of urban pharmacists and none of the rural pharmacists identified correct treatment for genital ulcers, and none of the pharmacists identified the correct medication for vaginal discharge.

Most of the community pharmacist respondents (70%) agreed that laboratory test is essential for accurate diagnosis of sexually transmitted diseases but in practice, only 9.0% referred patients to laboratory for a test. This could be an indication that most patients prefer treatment to commence same day as the day they visit the community pharmacy.

The significance of this is that community pharmacists need to possess adequate knowledge on the proper management of sexually transmitted diseases in the community pharmacies according to the recommendations in the guidelines. This is because they are the first port of call for most young people with sexually transmitted infections because they are easily accessible, non-judgemental and affordable.<sup>[10]</sup> Exactly 35% of the community pharmacists documented the treatment process this is higher than the result of another study<sup>[9]</sup> in which only 20% of the community Pharmacists documented the treatment process. Also, 56% of the respondents admitted to follow up the patients being managed for sexually transmitted diseases in the community pharmacy. There is the need for a multidisciplinary approach to ensure the proper management of sexually transmitted diseases according to the stipulated guidelines. This will reduce the development of complications such as infertility and incidence of antibiotic resistance will be curtailed.

## CONCLUSION

Evaluation of the management of sexually transmitted diseases is important in order to assess the management practices and services offered by pharmacists and other healthcare providers. It will also serve as a fulcrum for the modification of disease state management in order to improve the quality of life, and decrease the economic, social and healthcare burden and also reduce development of complications such as infertility and also reduce incidence of antimicrobial resistance.

Basic knowledge of most community pharmacists in Rivers State on sexually transmitted diseases was high (65.7%). But Only 31.9 % of the respondents admitted to follow the guidelines all the time. But in practice, most community pharmacists (79.4%) did not follow the guidelines as they did not use the correct drug or management strategy for the management of sexually transmitted diseases as stipulated by the guidelines.

## REFERENCES

1. Weller B.F., (2005). Baillere's nurses dictionary 24th edn. London: Elsevier publishers.
2. Centre for Disease Control and prevention (2021) guidelines for the treatment of sexually transmitted diseases: MMWR, 2021: 47(No. RR-1)
3. Joda, A. E. (2011). Pharmaceutical Care and Syndromic management of sexually transmitted infections (STIs) by Community Pharmacists in Lagos State. A Thesis submitted in partial fulfillment of the requirement for the award of Doctor of Philosophy (Ph.D) in Clinical Pharmacy.
4. WHO, (2003). World Health Organization. Guidelines for the management of sexually transmitted infections. Geneva: WHO, 2003.
5. WHO, (2001a) World Health Organization. Report of the consultation meeting on improving management of sexually transmitted diseases. Geneva: WHO, 2830 Nov, 2001.
6. Bosu W.K. The control of sexually transmitted diseases in Ghana: the real issues! *Genitourinary Medicine*, 1997; 73: 228–229.
7. ACPN (2019). Association of community pharmacists of Nigeria. 2019 updated register of community pharmacies in Rivers state. Port Harcourt.
8. Araoye MO. Sample size determination in Araoye, M.O. (Ed) *Text book of Research Methodology with statistic for health and Social Scientists*, Nathadex, Ilorin, Nigeria, 2004; 117-120.
9. Leiva A., et al (1999) Management of sexually transmitted diseases in urban Pharmacies in the Gambia. *International Journal of STD and AIDS*, 2001; 12: 444-452.
10. Okonkwo, A.D. & Okonkwo U I (2010). Patent medicine dealers, community pharmacists and sexually transmitted diseases management in Abuja, Nigeria. *African health sciences*, 2010.
11. Ward K, Butler N, Mugabo P, & Klausner J. Provision of syndromic management of sexually

transmitted infections by community Pharmacists: a potentially underutilized HIV prevention strategy. Pubmed sexually transmitted diseases, 2003; 30(8): 609-13.

12. Aina B.A & Adetuyi C.C. Intervention to improve the Knowledge of STIs and syndromic management among community pharmacists in Lagos State, Nigeria. African journal of Pharmacy and Pharmacology, 2012; 6(22): 1587-1593.