

Epidemiological Profile of Sexually Transmitted Infections in the Province of Lualaba, in the Democratic Republic of Congo. Case of Two General Referral Hospitals

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Abstract

Introduction: Sexually transmitted infections are a real public health problem that seems to be ignored these days. Methodology: We carried out a cross-sectional descriptive study on the epidemiological profile of sexually transmitted infections in two health zones of Kolwezi in the province of Lualaba from 01/01/2020 to 30/07/2021. Results: Patients who completed 7 days of treatment were in the majority (84.6%) followed by those who completed 10 (8.4%). Most patients paid \$5 with an average cost of care of \$6.6. Indirect payment was the most observed payment method in our series with 61% versus direct payment method which only represented 39% of cases. There is a statistically significant link between the occurrence of sexually transmitted infections and occupation as well as sex (P-value < 0.05); while there is no statistically significant association between the occurrence of sexually transmitted infections and the patient's marital status as well as having sex with more than one partner (P > 0.005). Conclusion: Health education should be used as an intermediate means before any consultation to sensitize patients to this scourge.

Subject Areas

Public Health

Keywords

Profile, Infections, Sexually, Kolwezi, Lualaba

1. Introduction

Every day, nearly a million people contract a sexually transmitted infection (STI) [1] associated with over 30 different bacteria, viruses and parasites. The annual number of new curable STI cases is estimated at 340 million [1].

Sexually transmitted infections (STIs) are a major public health problem around the world, especially among adolescents and young adults in lower middle income countries in middle income countries in Africa, including Ghana [2].

The reported incidence of Neisseria gonorrhoeae infection has been climbing in Canada since 1997 [3]. In 2012, there were 12,561 reported cases, for an incidence of 36.2 cases per 100,000 people. The highest incidence is among adolescents and young adults: men aged 20 to 24, women aged 20 to 24 and adolescent girls aged 15 to 19 (148.5; 153.0 and 141.3 cases per 100,000 in 2012, respectively) [4]. Eighty cases have also been reported among 10- to 14-year-olds, and less than 5 cases among children under 10 years old. Since the 1990s, the incidence has increased most rapidly in men and women aged 20 to 24 [4].

Syphilis is a sexually transmitted infection (STI) caused by Treponema pallidum. This chronic infection is highly contagious and can be passed through sex, including vaginal, anal, or oral sex. Early stage syphilis causes ulcerative lesions that facilitate HIV transmission [5]. In people living with HIV (PLHIV), it increases the risk of cardiological and neurological complications and treatment failure [6]. Despite the availability of inexpensive and effective treatments, syphilis remains a public health problem around the world [7].

The long-term sequelae of untreated gonococcal infection can be serious [8] [9]. In women, who are often asymptomatic, complications include pelvic inflammatory disease, infertility, ectopic pregnancy, chronic pelvic pain, oculourethro-synovial syndrome (reactive arthritis), and disseminated gonococcal infection. Untreated men could develop orchi-epididymitis, oculourethro-synovial syndrome (reactive arthritis), disseminated gonococcal infection and (rarely) infertility [10]. Adolescent girls are at major and immediate risk of contracting a sexually transmitted infection (STI), HIV/AIDS, or unwanted pregnancy. This situation is worrying for many states [11] [12].

2. Methodology

We conducted a cross-sectional study on sexually transmitted infections in the town of Kolwezi located in the Province of Lualaba and more precisely in the Urban-Rural Health Districts, in 2 health facilities: Mwangeji General Reference the General Hospital for Quarries and Mines (GCM/Kolwezi). From January 2020 to July 2021.

2.1. Study Population

Our study population consisted of patients who were seen at Mwangeji General Hospital or Kolwezi Staff Hospital and diagnosed with a sexually transmitted infection.

2.2. Data Collection

The data were collected from the patient register as well as medical consultation sheets, our sampling is exhaustive, and its size is 500 patients, we performed a statistical analysis of our data using SPSS 23 software and the tables and graphs were designed in excel and arranged in Word.

3. Results

We found a predominance of the female sex in 97.2% of cases (Table 1).

The average age is 31.8 years (\pm 15.5), a minimum age of 15 years, a maximum age of 86 years old. Patients aged 18 or over were mostly represented in our series (**Table 2**).

As shown in **Figure 1**, single patients were the most represented (63%), followed by married (32%), widowers (3%) and divorced (2%).

Figure 2 shows the distribution of patients according to their level of education. Secondary level patients were in the majority (346) versus those with the primary level (89).

Figure 3 shows the distribution of patients by profession. One hundred and eighty (180) patients were housewives, followed by students (167), by those with a liberal profession (113). Students, farmers and the unemployed had 26, 4 and 2 sick, respectively.

As shown in Figure 4, genital discharge was the most frequent 421 patients.

As shown in Table 3, most patients only had one sexual partner (99.6%).

Table 4 indicates that 499 (99.8%) patients were not referred against only one who has been referred.

Table 1. Distribution of patients by sex.					
Gender	Frequency	Percentage			
Female	486	97.2			
Male	14	2.8			
Total	500	100			

Table 1. Distribution of patients by sex.

Table 2. Distribution of patients by age.

Age	Frequency	Percentage
<18	11	2.2
±18	489	97.8
Total	500	100

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Having sex with more than one partner	Frequency	Percentage
No	498	99.6
Yes	2	0.4
Total	500	100

Table 3. Distribution of patients according to the number of sexual partners.

 Table 4. Distribution of patients by referral or not.

Referred patients	Frequency	Percentage	
No	499	99.8	
Yes	1	0.2	
Total	500	100.0	



Figure 1. Distribution of patients by marital status.



Figure 2. Distribution of patients according to their level of education.

As shown in **Table 5**, out of 500 patients, 380 (76.0%) had to complete their treatment against 120 (24%) who we haven't finished it.

As shown in Table 6, mwangeji General Reference Hospital has recorded



Figure 3. Distribution of patients by profession.



Figure 4. Distribution of patients by type of sexually transmitted infection.

Table 5. Distribu	tion of patients	according to t	treatment status.
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Full medical Treatment	Frequency	Percentage
No	120	24
Yes	380	76
Total	500	100

several cases of sexually transmitted infectionstransmissible (60%) versus the General Hospital for Quarries and Mines (GCM/Kolwezi) (40%).

As shown in **Table 7**, average length of stay is 7.3 days (± 2.1) with a minimum duration of 5 days and a maximum duration of 30 days.

Table 8 shows the distribution of patients according to the estimated cost.

The majority of the patients had to pay a cost greater than 5 USD with a cost. Average of \$6.6 (\pm 2.4), a minimum cost of \$1.5, and a maximum cost of \$10.

As shown in **Figure 5**, indirect payment was the most observed payment method in our series with 61% versus direct payment method which only represented 39% of cases.

Table 9 indicates that there is a statistically significant link between the occurrence of sexually transmitted infections and occupation as well as gender (P-value < 0.05); while there is no statistically significant association between the occurrence of sexually transmitted infections and the patient's marital status as well as having sex with more than one partner (P > 0.005).

Table 10 indicates that there is a statistically significant link between the occurrence of sexually transmitted infections and occupation as well as gender (P-value < 0.05); while there is no statistically significant association between the occurrence of sexually transmitted infections and the patient's marital status as well as having sex with more than one partner (P > 0.005).

Table 6. Distribution of patients according to the health facility of origin.

Hospital	Frequency	Percentage
Mwangeji General Reference Hospital	300	60
General Hospital for Quarries and Mines (GCM/Kolwezi)	200	40
Total	500	100

Table 7. Distribution of patients according to the duration of treatment.

Duration of treatment I (Days)	Frequency	Percentage
5	28	5.6
7	423	84.6
10	42	8.4
12	2	0.4
14	2	0.4
30	3	0.6
Total	500	100

 Table 8. Distribution of patients according to the estimated cost of treatment for sexually transmitted infections.

Treatment cost in USD	Frequency	Percentage
1, 5 et 5	121	24.2
>5	379	75.8
Total	500	100



Figure 5. Distribution of patients according to payment method.

Table 9. Association between the occurrence of sexually transmitted infections and sex,marital status, age, occupation (a).

	Т	ype of sexual	ly transmitt	ed infectio	on		
Variable	Inguinal bubble	Lower abdominal pain	Vaginal discharge	Genital rash	Genital ulceration	Khi2	P-value
			Gender				
Female	2	6	417	17	44	46	0.000*
Male	0	2	4	4	4		
		Civil	status of th	e patient			
Single	2	4	271	6	31	18	0.119
Divorced	0	0	11	0	0		
Married	0	4	127	13	15		
Widower	0	0	12	2	2		
Age of patient							
<18 years	0	0	10	0	1	0.8	0.9
>18 Years	2	8	411	21	47		

*: Significant.

As shown in **Table 11**, Bactrim was the most prescribed treatment (32.6%) followed by Clamoxyl (28%).

4. Discussion

Out of a total of 3421 patients received in the two health structures, 500 presented with a sexually transmitted infection, ie a prevalence of 14.6%. In Brazil, the prevalence was 20.2% [13]. This prevalence was 13.5% in Liberia and 0.4% in Niger [14].

	Ту	pe of sexually	v transmitte	d infecti	on		
Variable	Inguinal bubble	Lower abdominal pain	Vaginal discharge	Genital rash	Genital ulceration	P-value	Khi2
		Patier	nt's profess	ion			
Unemployed person	0	0	2	0	0	54.5	0.000*
Farmer	0	0	4	0	0		
Pupil	2	0	23	0	1		
Student	0	4	139	5	19		
Liberal	0	2	99	1	11		
Household	0	2	146	15	17		
Worker	0	0	8	0	0		
Having sex with more than one partner							
No	2	8	419	21	48	0.377	0.984
Yes	0	0	2	0	0		

Table 10. Association between the occurrence of sexually transmitted infections and sex, marital status, age, occupation (b).

*: Significant.

Table 11.Traitement reçu.

received Treatment	Frequency	percentage
Clamoxyl	140	28
Azithromycin	46	9.2
Ceftriaxone	60	12
Doxycycline	43	8.6
Furadantine	13	2.6
Levofloxacin	12	2.4
Ciprofloxacin	23	4.6
Bactrim	163	326
Total	500	100

We found a predominance of the female sex in 97.2% of cases against the male sex. Daniel's study found male predominance (55.9%) [15].

The average age is 31.8 years (\pm 15.5), a maximum age of 86, a minimum age of 15. Patients whose age is greater than or equal to 18 years were predominantly represented in our series (97.8%) versus those whose age was less than 18 years. Our results are different from those found by JED Jones [16]. In Senegal, the average age was 25 [17].

Single patients were the most represented (63%), followed by married (32%),

widowers (3%) and divorced (2%). These results are similar to those found by Guéye in Dakar [17].

Patients with a secondary level (Baccalaureate) predominated (346 patients) against those with a primary school certificate (12 patients).

One hundred and eighty (180) patients were housewives, followed by students (167), by those with a liberal profession (113). Pupils, farmers and the unemployed had 26.4 and 2 sick, respectively.

Genital discharge was the most frequent 421 patients. In Ethiopia, smelly genital discharge (13.8%), genital ulcers (11.2%) and a burning sensation (14.5%) during urination were the most common [18].

Most patients only had one sexual partner (99.6%). ROBERT results show alarming increase in gonorrhea and syphilis in men who have sex with men and bisexual men [19].

Out of 500 patients, 380 (76.0%) had to complete their treatment against 120 (24%) who did not.

Mwangeji Hospital recorded several cases of sexually transmitted infections (60%) versus Kolwezi Staff Hospital (40%).

Average length of stay is 7.3 days (± 2.1) with a minimum duration of 5 days and a maximum duration of 30 days. Most patients who completed 7 days of treatment (84.6%) followed by those who completed 10 days (8.4%).

Patients who paid more than \$5 were in the majority in 75% of cases against those whose cost was between \$1.5 and \$5 with an average cost of \$6.6 (\pm 2.4), a minimum cost of 1, 5 USD and a Maximum cost of 10 USD in the United States, the net cost per notified case was 75 USD [20].

Indirect payment was the most observed payment method in our series with 61% versus direct payment method which only represented 39% of cases.

Our results are different from those of Morocco where between 2000 and 2001; 85.5% of total health expenditure was disbursed directly from the household purse, or the equivalent of 2 170 and 351 DH per person [21]. They are also different from those found in Lubumbashi by ILUNGA Kandolo Simon [22].

In Burkina-Faso, direct payment for health is the current mode [23].

In low-income countries, there are real difficulties in accessing healthcare, and the direct costs involved in seeking healthcare are one of the most significant barriers, especially in the African sub-region, where 70% of the population lives on less than \$2 a day in 2010 [24].

Our observations indicate that there is a statistically significant association between the occurrence of sexually transmitted infections and occupation as well as gender (P-value < 0.05); while there is no statistically significant association between the occurrence of sexually transmitted infections and the patient's marital status as well as having sex with more than one partner (P > 0.005).

5. Conclusions

We conducted a cross-sectional study on sexually transmitted infections in two

health structures in the town of Kolwezi, namely the Mwangeji General Reference Hospital and the Gécamines Kolwezi staff hospital.

We observed that the prevalence was 14.6%, the mean age is 31.8 years (\pm 15.5), a maximum age of 86 years, a minimum age of 15 years. Patients whose age is greater than or equal to 18 years were predominantly represented (97.8%). Single people were the most represented (63%), followed by married (32%), wid-owers (3%) and divorced (2%). Most patients came from the Manika health zone (57%) versus those who came from the Dilala health zone (43%). Genital discharge was the most frequent 421 patients.

Mwangeji General Referral Hospital recorded several cases of sexually transmitted infections (60%) versus Kolwezi Staff Hospital (40%). It is important to proceed through awareness-raising campaigns such as communication for change to reduce the cases of sexually transmitted infections in the province of Lualaba.

Conflicts of Interest

The authors declare no conflicts of interest.

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