How Gender and High-Risk Sexual Behavior are related to HIV/AIDS as a Result of Insufficient Awareness/ Misinformation and Abuse of Psychoactive Substances among Merchants?

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Abstract

Background: Knowledge about the transmission and prevention of HIV/AIDS does not prevent new infection in young people, particularly women and children.

Objective: To assess the level of knowledge about HIV, substance abuse and unsafe sexual practices among merchants in Kinshasa, DRC ongo.

Methodology: A study was conducted of awareness, attitudes, and practices involving 2,256 randomly selected merchants in the six major open-air markets of Kinshasa from August to September 2016. Data was collected using a standard questionnaire targeting true and incorrect knowledge/misinformation about HIV, high-risk sexual practices and consumption and abuse of psychoactive substances. The means of transmission and the preventive measures were considered as dependent variables. Logistic regression revealed determinants at P<0.005.

Results:

- The mean age was 38.2 ± 12.9 years with a gender ratio of 1H: 1F.

- 77% were educated.

- 53% had insufficient overall knowledge of HIV/AIDS.

- 75% had unprotected sexual practices.

- 47% reported incorrect overall knowledge.

- Age >25 years old, consumption of psychoactive substances and low level of education were the determinants for lack of knowledge/misinformation.

- Age <45 years old, male, high-level of education, unmarried and abuse of psychoactive substances were the determinants of high-risk sexual behavior.

- The consumption of psychoactive substances was more frequent in males.

Conclusion: The young, educated merchants in Kinshasa had a low overall level of education on HIV/AIDS, worsen by erroneous knowledge. They had sexual risk behaviors mediated by male gender, unmarried status and the psychoactive substances abuse.

Keywords: Gender; HIV/AIDS; Incorrect Awareness/misinformation; Psychoactive substances; Risk behaviors

Introduction

More than 40 years ago, the HIV/AIDS pandemic appeared in the Democratic Republic of Congo. In the beginning, it was a contagious and highly deadly disease. By the use antiretroviral drugs, it became a chronic disease. With the advent of these drugs, awareness campaigns on methods of transmission and means of prevention were launched which are still ongoing to this day. But despite these advances, it is clear that the new infections continue and new groups are being affected by HIV/AIDS. In this case, it is women and children.

Objective

To assess awareness of HIV/AIDS, unsafe sexual practices and psychoactive substance abuse in the city of Kinshasa, capital of the Democratic Republic of Congo.

Methodology

Kinshasa is a megacity with more than ten million inhabitants that is divided into 24 communes. The city has many open-air markets including 6 major open-air markets where the present study was conducted from August to September 2016. Using a standard questionnaire, the following data was collected: the sociodemographic, awareness (correct or incorrect) of the methods of transmission, means of prevention, and psychoactive substance abuse. It was a cross-sectional analytical study of 2,256 merchants randomly selected in the six open-air markets. The Chi-square test was used to calculate the means and the statistical regression for the determinants of risky sexual behavior with $p<0.05$ as a threshold value of statistical significance.

Results

The mean age was 38.2 ± 12.9 years. Females outnumbered the males by a ratio of 1.4 F: 1H. The married participants accounted for 48% of the study's population. The most of these participants had done high school or university (78%) and were self-identified as Pentecostals (63%) **(Table 1)**.

Table 2 shows that 23% of study's population was aware of the three methods of transmission.

Table 3 shows that 41% of study's population had reported the 3 means of prevention versus 32% who reported incorrect means of prevention (avoid mosquito bites, consult a medicine man). Overall, 47% of the population reported incorrect knowledge about etiology, means of prevention and methods of transmission.

Table 4 shows that 75% of respondents had unprotected sexual intercourse in the last 12 months versus 25% who had used condom.

Table 5 show that age >25 years old, educational level: None–Elementary, the Kimbanguist religion and cannabis were having higher rates of incorrect knowledge.

After adjustment, **Table 6** shows that age >25 years old, educational level None-Elementary, the Kimbanguist religion, and cannabis were the determinants of incorrect knowledge.

Table 1 Sociodemographic characteristics.

Variables	n=2256	% Total
Age		
x ± and extremes, years	38.2 ± 12.9	13-80
<25 years	360	16
25-34 years	589	26.1
35-44 years	589	26.1
45-54 years	433	19.2
>54 years	285	12.6
Gender		
Male	932	40.9
Female	1334	59.1
Marital Status		
Married	1086	48.1
Divorced	104	4.6
Single	918	40.7
Widower/widow	148	6.6
Level of Education		
None - Elementary	502	22.3
Secondary - University	1754	77.7
Religion		
Catholic	425	18.8
Protestant	285	12.6
Pentecostal	1410	62.5
Muslim	48	2.1
Kimbanguist	88	3.9

Table 2 Awareness of the methods of transmission of AIDS.

Variables	n=2256	% Total
Sexual intercourse+Transfusion	1046	46.4
Sexual intercourse	544	24.1
Sexual intercourse+Transfusion+vertical transmission	529	23.4
Transfusion	94	4.2
Sexual intercourse+vertical transmission	18	0.8
Vertical transmission	3	0.1
Sexual intercourse+vertical transmission	3	0.1
Don't know	19	0.8

Table 3 Awareness of preventive means.

Preventive means	n=2256	%	Total
Condom use+fidelity+abstinence	921	40.8	41%
Condom use+fidelity	323	14.3	37.20%
Fidelity+abstinence	280	12.4	
Fidelity	238	10.5	
Condom use	192	8.5	21.90%
Condom use+abstinence	85	3.8	
Abstinence	49	2.2	
Do not know	168	7.4	-
Incorrect awareness about means of prevention			
Avoid mosquito bites	543	24.1	31.50%
Consult a medicine man	167	7.4	-

Table 7 shows that gender, marital status, educational level, religion and the consumption of psychoactive substances were associated with risky behavior.

After adjustment, **Table 8** shows that those <45 years of age, males, unmarried, those with a high education, and the consumption of beer and cannabis were the determinants of risky behaviors.

All psychoactive substances were more often consumed by males than females **(Table 9)**.

Discussion

Socio-demographic characteristics

Educational level and religion

The mean age observed in this study corresponds to the age of sexual activity [1]. The gender ratio is in line with the population profile in the Democratic Republic of Congo [2].

Table 4 HIV infection risk behavior.

Variables	n=1801	%	Total
Had sexual intercourse in the last 12 months	1801	79.8	80%
Protected sexual intercourse	449	25	-
Unprotected sexual intercourse with business partners	212	9.4	
Unprotected sexual intercourse with a boyfriend/girlfriend	842	37.3	75%
Unprotected sexual intercourse with casual partner	298	13.2	

Educational level and religion

This high level of education of respondents is justified by the invasion of the informal sector by intellectuals because of the high level of unemployment in the country. This population often frequents Pentecostal churches that prophesy prosperity and the dynamics of persecution [3].

Psychoactive substances

Beer and cannabis were the most consumed psychoactive substances. This can be explained by media advertising linking virility to beer and the low cost of cannabis and locally-brewed alcohol. These drugs are used for anxiolytic purposes to ward off existential stress.

Awareness of the etiology, methods of transmission and means of preventive

The awareness of this educated population is insufficient (<50%) unlike the study carried out in Burkina Faso where they were evaluated at 61% for prevention and 78% for transmission [4]. This difference reflects a lack of formal information in Kinshasa. The insufficient awareness of the etiology (witchcraft, bewitchment, punishment of God) is in accordance with the African tradition [3].

Risk behaviors

The low condom use rate of 25% was close to that found in the Ivory Coast, i.e., 20% [5]. This could be explained by a misperception of this disease by young people who currently don't see and don't know many people who suffer from HIV/AIDS due to advances in treatment. These results are higher than

Table 5 Factors associated with the incorrect knowledge of merchants in Kinshasa.

Variables	All n=2256	Incorrect knowledge n=1054	Correct knowledge n=1202	p
Age				
≤ 25 years old	427 (18.9)	543 (51.5)	594 (49.4)	0.034
>25 years old	1829 (81.1)	511 (48.5)	608 (50.6)	
Gender				
Male	922 (40.9)	149 (39.8)	503 (41.8)	0.167
Female	1334 (59.1)	635 (60.2)	699 (58.2)	
Marital Status				
Married	1086 (48.1)	499 (47.3)	587 (48.8)	0.253
Other	1170 (51.9)	52 (4.9)	52 (4.3)	
Education level				
None - Elementary	502 (22.3)	259 (24.6)	243 (20.2)	0.008
Secondary - University	1754 (77.7)	795 (75.4)	959 (79.8)	
Religion				
Catholic	425 (18.8)	184 (17.5)	241 (20.0)	0.064
Protestant	285 (12.6)	144 (13.7)	141 (11.7)	0.094
Muslim	48 (2.1)	20 (1.9)	28 (2.3)	0.288
Pentecostal	1410 (62.5)	653 (62.0)	757 (63.0)	0.324
Kimbanguist	88 (3.9)	53 (5.0)	35 (2.9)	0.007
Psychoactive substances				
Beer	1015 (45.0)	483 (45.8)	532 (44.2)	0.241
Cannabis	61 (2.7)	40 (3.8)	21 (1.7)	0.033
Liquor	145 (6.4)	68 (6.5)	77 (6.4)	0.516
Locally-brewed alcohol	41 (1.8)	21 (2.0)	20 (1.7)	0.335

Table 6 Determinants of misinformation among merchants in a multivariate analysis.

Variables	B	ORa	IC 95%	P
Age				
≤ 25 years	-	1	-	-
>25 years	0.234	3.26	1.99-5.59	0.005
Level of education				
None – Elementary	0.255	1	-	-
Secondary – University	-	3.29	1.05-6.58	0.014
Religion				
Other	-	1	-	-
Kimbanguist	0.553	2.738	1.121-4.695	0.013
Cannabis				
No	-	1	-	-
Yes	0.716	2.045	1.148-3.645	0.015
Constant	-3.048	0.046	-	0.002

Table 7 Factors associated with risk behavior among merchants.

	Risk behavior			
Variables	All n=2256	Yes n=212	No n=2044	p
Age				
<45 years	427 (18.9)	45 (21.2)	382 (18.7)	0.209
≥ 45 years	1829 (81.1)	167 (78.8)	1662 (81.3)	
Gender				
Male	922 (40.9)	160 (75.5)	762 (37.3)	<0.001
Female	1334 (59.1)	52 (24.5)	762 (62.7)	
Marital Status				
Married	1086 (48.1)	65 (30.7)	1021 (50.0)	<0.001
Other	1170 (51.9)	147 (69.3)	1023 (50.0)	
Educational level				
None – Primary	502 (22.3)	58 (27.4)	444 (21.7)	0.039
Secondary – University	1754 (77.7)	154 (72.6)	1600 (78.3)	
Religion				
Catholic	425 (18.8)	58 (27.4)	367 (18.0)	0.001
Protestant	285 (12.6)	32 (15.1)	253 (12.4)	0.153
Muslim	48 (2.1)	12 (5.7)	36 (1.8)	0.001
Pentecostal	1410 (62.5)	101 (4.6)	1309 (64.0)	<0.001
Kimbanguist	88 (3.9)	9 (4.2)	79 (3.9)	0.447
Psychoactive substances				
Beer	1015 (45.0)	144 (37.9)	871 (42.6)	<0.001
Cannabis	61 (2.7)	31 (14.6)	30 (1.5)	<0.001
Liquor	145 (6.4)	34 (6.0)	111 (5.4)	<0.001
Locally-brewed alcohol	41 (1.8)	13 (6.1)	28 (1.4)	<0.001

those of the "enquête démographique et de santé" in the DRC - 12% for women and 22% for men [6].

Determinants and factors associated with incorrect knowledge/misinformation

Those with >25 years of age with a low level of education and

Table 8 Risk behavior determinants in multivariate analysis.

Variables	B	OR (IC 95%)	p
Age			
≥ 45 years old	-	1	-
<45 years old	0.412	1.509 (1.18-1.93)	0.001
Gender			
Male	0.585	1.795 (2.48-4.92)	<0.001
Female	-	1	-
Marital status			
Married	-	1	-
Other	1.321	3.746 (3.08-4.56)	<0.001
Level of education			
Netherlands	-	1	-
High	0.393	1.581 (1.18-1.86)	0.001
Beer			
No	-	1	-
Yes	0.589	1.803 (1.49-2.18)	<0.001
Cannabis			
No	-	1	-
Yes	0.833	2.301 (1.20-4.43)	0.013
Liquor			
No	-	1	-
Yes	0.315	1.371 (0.93-2.01)	0.108
Locally-brewed alcohol			
No	-	1	-
Yes	0.623	1.865 (0.90-3.88)	0.096
Constant	-3.695	0.025	0

cannabis usage increased risk by 3.3 and 2, respectively. This age range could be explained by the sex education course given in high school to younger generations in recent years. Young merchants of Kinshasa have a low level of knowledge about HIV AIDS. This low level of education confirms the data from the "enquête démographique et de santé" that the means of avoiding HIV/AIDS were positively associated with the level of education [6]. The use of cannabis could be justified by its anxiolytic properties, and its ability to suppress memories and unpleasant experiences. Cannabis is known to disrupt judgment [7-9].

Determinants of risk behaviors and factors associated with risk behaviors

Those who were <45 years of age, males, high level of education, unmarried, beer and cannabis were the determinants of risky sexual behavior. The age of 45 is the age of maximum sexual activity. It is often the case in Africa that 45 is the age of material success, allowing the acquisition of multiple partners [7]. It should also be noted that men take inherently more risk than women in sexual matters. A high educational level was also noted in the "enquête démographique et de santé" study [6]. Temah [10] also, has observed in her study that this section of the population is increasingly less affected because it is better informed about prevention. At the same time, it is increasingly more exposed because it is a high socio-professional category. It travels a lot and has more and more financial means to have multiple sexual partners [10].

Table 9 Gender and psychoactive substance abuse.

Psychoactive substances	Whole group n=2256	Male n=922	Female n=1334	P
Beer	1015 (45.0)	534 (5.9)	481 (36.1)	<0.001
Cannabis	61 (2.7)	52 (5.6)	9 (0.7)	<0.001
Liquor	145 (6.4)	116 (12.6)	29 (2.2)	<0.001
Locally-brewed alcohol	41 (1.8)	34 (3.7)	7 (0.5)	<0.001

Gender and psychoactive substances abuse

The consumption of psychoactive substances was more frequent in males. This study confirms the literature data that ¾ of psychoactive substance users are male. For this study, the consumption of psychoactive substances and the risk taking areas a result of media claims of enhanced virility [8]. The literature also recognizes that alcohol is the drug most associated with sexual assault and risky sexual behavior followed by cannabis [11].

Conclusion

This study showed that the young merchants had a low level of knowledge level about HIV/AIDS. Those who were >25 years of age, low educational level who consumed cannabis were the determinants of their misinformation. Those who were <45 years, with a high level of education, unmarried and consumed psychoactive substances were the determinants of their risky sexual behavior. Substance abuse was an exclusively male trait, making HIV/AIDS violence against women.

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