

Knowledge of Women Sex Workers about HIV/AIDS

ORIGINAL

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Abstract

Objective: Analyze the knowledge of female sex workers about HIV/AIDS, whereas the variables age, education, monthly income, professional practice and participation in educational activities.

Methods: Exploratory and quantitative study, conducted with 90 women sex workers, from May to September 2014, through a questionnaire consisting of socio-demographic information and a test of knowledge about HIV/AIDS with 66 items as the forms of contagion and prevention, physiological and behavioral attributes of aids (D3); that HIV causes symptoms in humans (D4); treatment of aids (D5). Friedman's test was held, \wedge of Wilk and Wald ($p < 0.05$), in addition to the cutting point and percentages observed and expected through the T score, being considered low knowledge with score less than 60 hit points.

Results: The women had an average age 23.7 years; 84.4% (76) and 62.2% (56) amount to the level of education above the high school. Knowledge in the D3, D4 and D5 dimensions feature significantly different hit percentage ($p < 0.001$). D3 showed lower percentage (53.8%) hit and D5 (70.8%). The T score revealed a discrepancy between the percentage of women's knowledge about the observed and expected. There was no influence of schooling in relation to knowledge about HIV ($p = 0.476$) and the professional exercise, age, marital status, income and participation in educational activities ($p > 0.05$). The knowledge presented significant difference in the average percentage of hit by D3, D4 and D5 dimensions ($p < 0.001$).

Conclusions: The low knowledge of women may indicate vulnerability to infection by HIV, which reinforces the need for implementation of new strategies for prevention of virus in this social group which features odd conditions of risk to HIV.

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Introduction

The epidemic of HIV infection remains a public health problem, and is considered unstable, dynamics, reaching individuals at all stages of the life cycle. This infection presents a higher prevalence in the population groups that perform risk behaviors, such as men who have sex with men, drug users and sex workers of the female gender. [1]

Since the beginning of the HIV epidemic in 1980 until June 2014 that Brazil registered accumulated aids cases 757,042, being 265,251 (35%) cases in women, with infected through sexual and 168,897 12162 cases in injecting drug use. In the year 2013 39501 in total were reported cases of aids and in the period from January to June 2014 15768 record cases in the country, with a national detection rate (2013) from 20.4 cases for every 100,000 inhabitants, being the Northeast region with a rate of 16.0 cases and the State of Paraíba with 10.6 cases. [2]

In this context the aids epidemiology, women sex workers tend to be part of this reality by being a social group that performs sexual activity as a means of subsistence, using licit and illicit drugs, often without a condom in the sexual act and showing individual, social and programmatic vulnerabilities, such as low education, restricted access to health services and experiencing social stigmas. [3, 4, 1]

Study in 2014 with 2523 sex workers in 10 cities in Brazil (Manaus, Recife, Salvador, Campo Grande, Brasília, Belo Horizonte, Santos, Rio de Janeiro, Curitiba and Itajaí) to investigate the differences in the practices of HIV infection risk and the effects of hemophilia in estimating HIV prevalence, points out how crucial the longest practices of prostitution, low cost charged in the program, other sexually transmitted infections and requirement of customers not to use a condom. [5]

Strategies for prevention of HIV infection in women sex workers has been based traditionally on individual behavior change, involving education, promotion and guidelines regarding the use of

condoms and sexual health. There is a recognition that the epidemic of HIV suffers cultural influence, social, community and psychological, leading to the adoption of safe sexual behavior. [6]

Study conducted in southern India (2014) with women sex workers organized community movements by means of meetings for guidance on safe sex, resulted in a positive way about these women's empowerment by the knowledge acquired on the subject, leading to the reduction of HIV/AIDS and sexually transmitted diseases in this group. [7]

Considering the importance of knowledge about HIV/AIDS to adopt safe sex practices, as well as the prevalence of HIV/AIDS in individuals who perform risky behavior, being included the women sex workers that demand attention of public policies for the specifics of your professional practice that potentially encourages the transmission of the disease.

Thus, the present study may support the identification and adoption of infection prevention strategies targeted to these women with HIV, contributing to better health indicators and deconstructing the history of be liable while disseminators of diseases.

This research has purpose to analyze the knowledge of female sex workers about HIV/AIDS, whereas the variables age, education, monthly income, professional practice and participation in educational activities.

Methods

Exploratory study of a quantitative approach, carried out with the population base of 90 women sex workers out of a total of 92 registered in the year 2013, in association of Prostitutes of Paraíba (APROS/PB), located in the municipality of João Pessoa/Paraíba. These women followed inclusion criteria of: exercise professional activity in the city of João Pessoa/PB and meet between 18:30 years of age. The definition for this age group is justified by its large number of prevalence of HIV infection cases in the country. [2]

For data collection were used two instruments applied in the period from May to September 2014. The first refers to a questionnaire prepared by 11 questions with regard to socio-demographic data closed alternatives of participants (age, place of birth, education, marital status, religion, monthly income and participation in income at home, professional time, participation in educational activities on HIV/AIDS, HIV serological testing and its result). The second instrument that is the Test of scientific knowledge to HIV/AIDS [8], built and validated in Brazil, consisting of 85 affirmative phrases and distributed in six dimensions that include theoretical themes about HIV and aids. The present study used the three dimensions (D3), four (D4) and five (D5). The D3 composed of 32 items refers to the forms of contagion and prevention, physiological and behavioral attributes of aids; The D4 is contained in 26 items on the symptoms that HIV causes in the human being and the D5 with 08 items covering aids treatment, making a total of 66 issues in instrument used.

The implementation of data collection was initiated after a survey in the records of the entity (APROS/PB) of names and contacts of members that met the inclusion criteria. Then, in agreement with the Board, the researcher reported the associated, on the occasion of his voluntary attendance at social and cultural activities promoted by the entity. Right now, the methodological and ethical respect steps were exposed to women, in addition to the request to work responding to the proposed instruments. Set the professionals who attended the request to participate in the study, the date and location of data collection were established according to the convenience of each, being the place of labour exercise the option suggested by the majority.

The collected data were processed in the statistical package Statistical Package for the Social Sciences (SPSS) version 19.0. The first instrument data regarding socio-demographic variables of the parti-

cipants were submitted to descriptive statistics with absolute and relative frequency, mean, standard deviation of the average, maximum and minimum.

The second instrument for the Testing of Knowledge on HIV/AIDS followed the template proposed by its authors [8], establishing general hits scores ranging from one (1) point for every correct answer to zero (0) for the answers wrong and I don't know. The data of the D3, D4 and D5 dimensions were submitted to descriptive statistics (mean, median, standard deviation, minimum and maximum) for scores of hits and comparison between the test scores of Friedman ($p < 0.05$).

The Score values that represent the number of items of each dimension with hit were not comparable, since each dimension has a specific number of items. To convert the percentage scores of hit multiplied 100 times the score and divided the result by the number of items of each dimension. Dimensions are divided D3D4D5 Score by the number $32 + 26 + 8 = 66$ which is total number of items of the instrument used.

Still, following the processing of the data, for each item of the dimensions of knowledge survey were calculated the absolute frequency of the sum of all the arrangements and the corresponding relative frequency. The largest sum of average score per item are hit 90 points. It was considered as a greatest hit those items with scores closer to 90 and hit those items with points near zero.

To evaluate the influence of schooling on the D3, D4 and D5 dimensions using the statistical model Multivariate analysis of variance (MANOVA) with repeated measurements where schooling was regarded as independent variable and dimensions (D3, D4 and D5) and the dependent variables.

The MANOVA was accomplished through the Lambda (Λ) statistics Wilks ($p < 0.05$), obtained by the method of maximum likelihood for being considered the more usual to decide about the chances that there is difference between the medium for education and between dimensions.

To establish the cut-off in rank as high or low knowledge of women, we used the T-score less than 60 hit points considered as low knowledge and those at or above 60 points as high as knowledge Lindeman [9] (1974).

Still checking the knowledge of women as satisfactory, it has been calculated the probabilities associated with each T score, being converted into percentages and named as expected and Observed.

It was also the logistic regression model through the Wald test, with the significance value greater than 1.96 and $p < 0.05$, to check the effect of the independent variables (age, monthly income, professional time, participation in educational activities, marital status, education) on knowledge of aids (low and high). It was also a measure of Association by the odds ratio with superior value to 3.84.

The study answered the ethical requirements laid down in Resolution 466/2012 National Health Council that rules on Research Involving Humans 10, as opinion favorable by Research Ethics Committee of the Health Sciences Center/CCS/UFPB under paragraph 646,790 and 30177914.9.0000.5188 CAAE.

Results

Of the 90 women sex workers in the study, 84.4% (76) if defined with marital status of single, 8.9% (8) as married, 5.6% (5) divorced and just 1.1% (1) being a widow.

With regard to schooling, 50% (45) completed high school, 20% (18) with complete elementary school, 17.8% (16) illiterate, 6.7% (6) higher education complete and 5.6% (5) incomplete higher education, i.e. 62.2% (56) amount to the level of education above the high school.

The still significant number of women (70%) who attended educational activities for prevention of STDS and HIV/AIDS and claimed to have carried out anti-HIV test, stating the serological result as no reagent (87.8%).

The age of the women is located to 18 to 30 years, with average of 23.79 years and 3.84 standard deviation. The monthly income up to four minimum wages (sm), being a minimum wage in force at the time of real R\$724,00. It is observed that there is a variability in time of professional practice of these women, being the shortest time of a month and the largest with 15 years.

The knowledge of the sex workers in relation to HIV in D3, D4 and D5 exhibit significantly different hit percentage ($p < 0.001$) (Table 1).

The arrangements of the responses of the sex workers about HIV knowledge distributed the items dimension (D3, D4 and D5) stands 100% (90) to hit items that says condom use as a means of prevention; HIV transmission through sexual intercourse with vaginal, oral and anal penetration; the presence of HIV in the blood and semen of the carrier; assignment of thinness the person with HIV and the extension of those with the disease by the use of drugs (Table 2).

Table 1. The Distribution of descriptive measures about the arrangements of the responses of dimensions D3, D4, D5. João Pessoa/PB, 2014 (N = 90).

Dimension	Average	DP	Minimum	Maximum	Friedman	
D3						
Score	17.23	2.60	12.00	30.00	< 0.001 *	
% hit	53.85	8.13	37.50	93.75		
D4						
Score	17.99	1.90	14.00	22.00		
% hit	69.19	7.30	53.85	84.62		
D5						
Score	5.67	1.08	3.00	8.00		
% hit	70.83	13.51	37.50	100.00		
D3 D4 D5						
Score	40.76	3.16	33.00	49.00	-	
% hit	61.75	4.79	50.00	74.24		

Source: 2014 research data.
* $p < 0.05$ significant. SD = standard deviation.

Table 2. Distribution of responses of the dimensions of the test of knowledge about HIV/AIDS for women sex workers as to items with higher and lower. João Pessoa/PB, 2014. N = 90.

	Dimensions	Sum of hits	
		n	%
D3: ways of transmission and prevention, physiological and behavioral attributes of aids	Items with greatest hit		
	The use of condoms (male or female condom) is a way to prevent infection by the aids virus.	90	100.0
	HIV can be transmitted through hugs.	90	100.0
	The aids virus can be transmitted through sexual intercourse with penetration, whether vaginal, oral or anal.	90	100.0
	Items with lower setting		
	A person with HIV has sexual intercourse with penetration (whether oral, vaginal, anal) with someone who has the virus, certainly will transmit the virus to that person.	15	16.6
	At the time that a person with HIV dies, the virus in his blood becomes inactive (unable to be transmitted).	17	18.8
	Disinfectants such as alcohol, hydrogen peroxide and sodium hypochlorite (bleach) are able to destroy the aids virus present in objects.	10	11.1
	If a baby was born with HIV, certainly his father also has the virus.	7	7.7
	A person who already has the aids virus cannot be contaminated again.	3	3.3
D4: that HIV causes symptoms in humans	One person transmits HIV if she is sick with aids.	29	32.2
	If two people virgins do penetrative sex (vaginal, anal or oral), there is the possibility of contamination by HIV among them.	19	21.1
	Items with greatest hit		
	There may be a man's semen HIV carrier of the aids virus.	90	100.0
	There may be HIV in the blood of a person with aids.	90	100.0
	If a person has HIV, certainly it will be too thin.	90	100.0
	Items with lower setting		
It has already been found HIV in the urine of people with aids.	6	6.6	
Generally the initial symptoms of aids are: fever, chills, headache, sore throat, muscle pains, blotchy skin, appearance of languages.	27	30.0	
If a person infected with the aids virus today, only in three months she would be able to pass it on to someone else.	32	35.5	
D5: aids treatment.	Item with biggest hit		
	In General, the drugs used in the treatment of aids increases the lifespan of people with the disease.	90	100.0
	Item with lowest setting		
Once a person finds out who is HIV carrier, should start taking aids drugs.	13	14.4	

Source: survey data, 2014.

The D3 that contemplates the ways of transmission and prevention, physiological and behavioral attributes of aids presented a lower percentage of hit responses (53.8%) compared to the other dimensions (D4 and D5). The D5 which checks the knowledge about aids treatment stands out among the other (D3 and D4) for highest percentage of responses hit (70.8%) (**Figure 1**).

Knowledge about HIV by women as the variable percentage of hit in D3D4D5 presented a minimum value of 50.0% and 74.2% maximum setting (**Figure 1**), meaning to say that on a scale of 0 to 100, the professional who has more knowledge among other women has a deficit of 25.0% of total knowledge of the instrument, being considered as unsatisfactory.

Notes on D5 that among the 90 women in the study, three sex workers have contributed to a low knowledge on HIV/AIDS (score less than five points), among which, two women present education medium-high level, profession of five and three years, respectively.

On D3D4D5 you can see the record of a woman who presents a level of knowledge considered high, although lower than point (60 points), compared to other (40 hit points score), with higher education and schooling 14 years of professional practice (**Figure 1**).

The influence of education in knowledge about HIV and the dimensions D3D4D5 shows no significant difference in the averages of the percentages of hit by educational level ($p = 0.476$), however there are significant differences in the average percentage of hit by D3, D4 and D5 dimensions ($p < 0.001$) (**Table 3**).

The logistic regression model used to evaluate the effect of the independent variables on the aids knowledge in high and low groups knowledge (above or below 60 points) represented in **table 3**, reveals significant effect in D3, D4 and D5 and shows an indirect instrument qualification in the assessment of knowledge of HIV more effectively than the other independent variables.

Figure 1: Diagram about the hit percentage dimensions D3, D4, D5 and D3D4D5. João Pessoa/PB, 2014. N = 90.

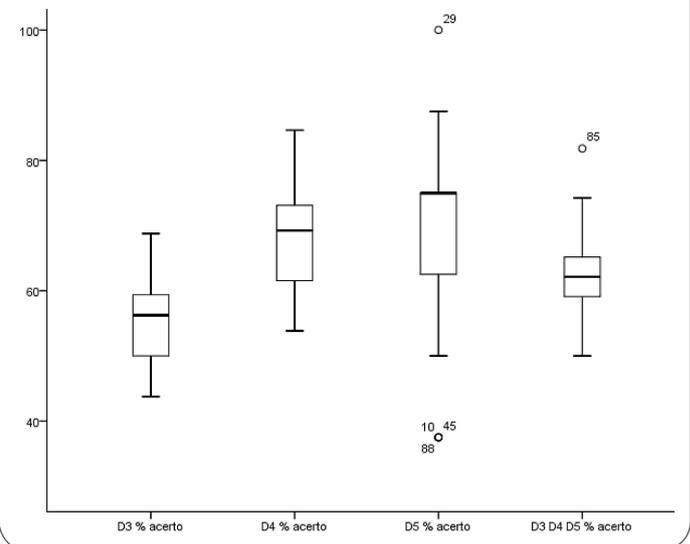
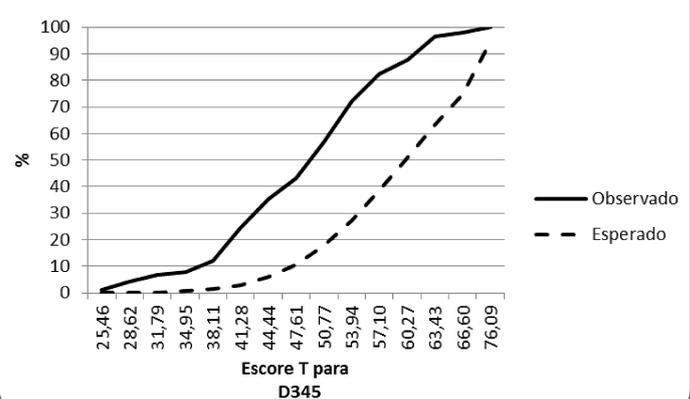


Figure 2: Accumulated between observed values Percentage for the respondents and the percentage expected values obtained by the T score distribution for D3D4D5. João Pessoa/PB, 2014. N = 90.



It turns out that the dimension D5 is the one that contributes to greater statistical weight in knowledge ($p = 0.02$) value odds demonstrate the likelihood of the individual who answered correctly the D5 owning 31.5 more likely to possess the knowledge of the other dimensions, highlighting also the statistical significance of the confidence interval between 1.95 and 508.37.

The knowledge of professionals on HIV has a level regarded as underwhelming, exemplified when

Table 3. Distribution of education, average of the percentage arrangement in respect of D3, D4, D5 and demographic correlation variables with the knowledge of the dimensions by estimating the parameters of the logistic regression model with dependent variable low and high level of knowledge. João Pessoa/PB, 2014 (N = 90).

Schooling	N	%	% (D3)	% (D4)	% (D5)	% (D3D4D5)	Λ of Wilk (p)	
Illiterate	16	17.8	53.32	68.27	71.09	61.36	0.476	
Education Fund. Complete	18	20.0	53.99	69.23	76.39	62.71		
Complete high school	45	50.0	53.96	69.23	70.28	61.95		
Incomplete higher education	5	5.6	48.13	73.08	65.00	60.00		
Complete Higher Education	6	6.7	58.85	67.95	62.50	59.85		
Total	90	100.0	53.85	69.19	70.83	61.75		
Λ of Wilk (p)	< 0.001 *							
Independent variables	(B)	EP	Wald	GL	SIG (p)	Odds	IC 95%	Odds
Age	0.17	0.24	0.50	1	0.48	1.19	0.74	1.89
Monthly income	0.22	0.84	0.07	1	0.80	1.24	0.24	6.44
Time of professional practice	-0.28	0.31	0.80	1	0.37	0.76	0.42	1.39
Participation in educational activities	1.99	1.56	1.62	1	0.20	7.31	0.34	156.70
Marital status	-2.74	1.85	2.19	1	0.14	0.07	0.00	2.43
Schooling	-1.07	0.86	1.55	1	0.21	0.34	0.06	1.85
D3	1.11	0.44	6.32	1	* 0.01	3.03	1.28	7.17
D4	2.04	0.67	9.32	1	0.00 *	7.71	2.08	28.61
D5	3.45	1.42	5.91	1	0.02 *	31.50	1.95	508.37
Constant	-80.42	26.49	9.21	1	0.00 *	0.00		

Source: survey data, 2014. P < 0.05. EP = padrão.gl Error = degree of freedom. Sig = Significance. Odds = Odds Ratio. IC 95% = Odds with 95% confidence interval. * < 0.05 statistically significant p

performing a cutting point of 80.0%, T score of respondents is between 53 and 57 items answered correctly while the standard expected would be between 66 and 76 (Figure 2). One can notice a discrepancy between the Expected and the Observed percentage values.

Discussion

The prevalence of marital status of single women sex workers (84.4%) is also a reality in study with women (76%) in Fortaleza/CE (2009). [11]

The low income financial monthly the professionals also shares with 100 women sex workers in China [12] (2015) when the study was value of less than 360 dollars, being considered a low income. Also highlights that in relation to the time of exercise professionals that are optional, the minimum was up to six months with 38% and menenergy gain with 9% hfor over three years. Thewomen in this study engaged in labour activity in time Maxof 15 years imo as sex workers. [12]

The lowest percentage of hit in the knowledge of the D3 (53.8%) becomes a matter of concern

for the importance of the topic in the professional exercise of these women, since it addresses issues that contemplate the ways of transmission and prevention, physiological and behavioral attributes of aids. This fact can be characterized as a weakness of the national policy of Integral care to women's health (WOMAN INTEGRAL HEALTH ASSISTANCE PROGRAM), reflect that the actions of prevention have not attended the sex workers in their specifics, leading increasingly to the distancing of this professional category to health services. [13]

Yet as the contagion aspect, aids prevention and physiological attributes (D3), it fits to concern the low percentage of hits (3.3%) on the affirmative of the possible recontamination of HIV for a person that lives with the aids virus. This finding should be valued by preventive actions, because these people can connect with other HIV positive, obviating the use of a condom. It is an insecure practice due to exchange of different HIV, causing resistance to antiretroviral drugs. [14]

The knowledge of women sex workers about the symptoms that HIV causes in humans, showed low level of knowledge on items related to symptoms such as fever, chills, headache, sore throat, muscle pains, blotchy skin, appearance of languages (30.0%) and presence of HIV in the urine of people with aids (6.6%). The low knowledge about the presence of these symptoms can encourage women to its membership not to possible HIV infection and delay the search for a healthcare.

The non-recognition by the sex workers about the signs and symptoms of HIV infection becomes relevant, since it reinforces the need to facilitate the access of these women to the health system. [15]

Still points out that health services need to demand strategies in raising awareness of the implications of these women provided that the greater the time remain infected, without proper treatment, will enable a greater number of clients infected, favoring the chain of transmission. [11]

It is worth noting a change in the appearance of people with aids when 100% of the answers from hit women deny that the HIV carrier will surely be too skinny.

The knowledge about aids treatment exhibited a deficit for the moment of starting treatment corresponding to 14.4%. However, currently the Ministry of health recommends that treatment should be started earlier after discovery of seropositivity, because they increase the possibilities of high levels of CD4 lymphocytes. [16]

Women stand out as for schooling by graduating high school complete (62.2%), while in other groups of women predominates elementary school complete or in progress. [11, 17, 18]

However, the schooling of women sex workers not influenced ($p = 0.476$) in knowledge about HIV/AIDS, but there was a significant difference in the average percentage of hit by dimensions ($p < 0.001$). Such findings suggest a single vulnerability of women sex workers to HIV, referring to gaps relating to STD and aids programs; socioeconomic, political and cultural profile; degree of awareness and knowledge about HIV/AIDS. [4]

Important to note that although women studied present knowledge about HIV/AIDS in certain items of the instrument, there hasn't been a satisfactory score determined by the T score still emphasizes that schooling of women showed no statistical significance ($p > 0.05$) on the knowledge of the dimensions in time of professional practice, marital status, income and participation in educational activities.

In this respect, one can understand the need for the adoption of strategies for which information on HIV are seized and practiced by women sex workers, following the example of positive experiences made with women sex workers in other contexts in Brazil, Kenya, Thailand and Ukraine (2014), the example of intervention in the form of training in order to reduce HIV infection in this population group. [19]

Conclusion

The study found that socio-demographic variables (age, monthly income, professional time, marital status, education and participation in educational activities) were not significant to explain the low or high knowledge on HIV for women sex workers.

Women with a low educational level and increased professional exercise showed greater knowledge about HIV in relation the other brings us the reflections about the need for other studies which could contribute to a better understanding of the relationships that emerge and reproduce in contexts experienced by these women. Nevertheless, the dimensions laid down in the instrument by itself showed significant to assess the knowledge and revealed distinct hits scores for each dimension, being the D5 as the knowledge about aids treatment with the lowest percentage of errors.

Still it was possible to observe that despite the knowledge of HIV appear satisfactory in test items, do not reach the recommended values for T scores in any of the dimensions, which implies the need to rethink the strategies adopted in educational actions promoted to this female population.

The low awareness of the women sex workers about HIV/AIDS contagion deserve attention when considering that sex is the main raw material of their work and the main form of spread of the virus.

However, the high knowledge of women about condom use as a way to prevent infection by the aids virus, although that knowledge does not guarantee its use, primarily by social contexts experienced by these women.

In this sense, strategies that feed back into the knowledge about the possibility of HIV infection/Aids, minimizing their transmission and increasing safe sexual practice, becomes essential in the process of combating the HIV epidemic.

With the results presented in this study, it is expected to contribute to other investigations or discussions on the subject, which has been sold out

in complex dimension that aids have presented to the world.

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