



Journal of Nursing

Revista de Enfermagem

UFPE On Line

ISSN: 1981-8963

ORIGINAL ARTICLE

POSITIVE SEROLOGY FOR HIV: EPIDEMIOLOGICAL STUDY OF HISTORICAL SERIES

SOROLOGIA POSITIVA PARA O HIV: ESTUDO EPIDEMIOLÓGICO DE SÉRIE HISTÓRICA SOROLOGÍA POSITIVA PARA EL VIH: ESTUDIO EPIDEMIOLÓGICO DE SERIE HISTÓRICA

Ana Fátima Braga Rocha¹, Maria Alix Leite Araújo², Elani Graça Ferreira Cavalcante³, Heber José de Moura⁴,
Ana Patrícia Alves da Silva⁵, Marli Teresinha Gimeniz Galvão⁶

ABSTRACT

Objective: to analyze the cases of positive serology for HIV in a health care unit. **Method:** this is a cross-sectional study of history series. Data collection took place from June to July 2010 in the records of people who sought to carry out the anti-HIV test in the period from 1996 to 2009, in Fortaleza (CE), Brazil. Data were analyzed by the Pearson chi-square test with a significance level of 5% and a 95% confidence interval. **Results:** there were 165 HIV case records found. When analyzed by gender, a statistically significant difference was found between being homosexual/bisexual ($p < 0.001$), having two or more sexual partners in the last three months ($p = 0.002$), having a fixed and occasional partnership ($p < 0.001$) and had the result of VDRL and FTA-Abs reactive ($p < 0.001$ and $p = 0.013$, respectively). **Conclusion:** there was a higher proportion of HIV-positive cases among men with homosexual/bisexual orientation, with fixed and occasional sexual partnerships. **Descriptors:** HIV Seropositivity; Serologic Tests; HIV; Sexually Transmitted Diseases.

RESUMO

Objetivo: analisar os casos de sorologia positiva para o HIV em uma unidade de saúde de referência. **Método:** estudo transversal de série histórica. A coleta de dados ocorreu de junho a julho de 2010 nas fichas de atendimento de pessoas que procuraram realizar o teste anti-HIV no período de 1996 a 2009, em Fortaleza (CE), Brasil. Os dados foram analisados pelo teste qui-quadrado de Pearson com nível de significância de 5% e intervalo de confiança de 95%. **Resultados:** foram encontrados 165 registros de casos de HIV. Quando analisados por sexo, encontrou-se diferença estatisticamente significativa entre ser homem homo/bissexual ($p < 0,001$), ter tido dois ou mais parceiros sexuais nos últimos três meses ($p = 0,002$), ter parceria fixa e ocasional ($p < 0,001$) e ter o resultado de VDRL e FTA-Abs reagente ($p < 0,001$ e $p = 0,013$, respectivamente). **Conclusão:** houve maior proporção de casos HIV positivo entre homens com orientação homossexual/bissexual, com parcerias sexuais fixas e ocasionais. **Descritores:** Soropositividade para HIV; Testes Sorológicos; HIV; Doenças Sexualmente Transmissíveis.

RESUMEN

Objetivo: analizar los casos de serología positiva para el VIH en una unidad de salud de referencia. **Método:** estudio transversal de serie historia. La recolección de datos fue de junio a julio de 2010 en las fichas de atendimento de personas que buscaron realizar el test anti-VIH en el periodo de 1996 a 2009, en Fortaleza (CE), Brasil. Los datos fueron analizados por el test chi-cuadrado de Pearson con nivel de significancia de 5% e intervalo de confianza de 95%. **Resultados:** fueron encontrados 165 registros de casos de VIH. Cuando fueron analizados por sexo, se encontro una diferencia estadísticamente significativa entre ser hombre homo/bisexual ($p < 0,001$), haber tenido dos o más parejas sexuales en los últimos tres meses ($p = 0,002$), tener pareja fija y ocasional ($p < 0,001$) y tener el resultado de VDRL y FTA-Abs reactivo ($p < 0,001$ y $p = 0,013$, respectivamente). **Conclusión:** hubo mayor proporción de casos VIH positivo entre hombres con orientación homosexual/bisexual, con parejas sexuales fijas y ocasionales. **Descriptores:** Seropositividad para VIH; Pruebas Serológicas; VIH; Enfermedades de Transmisión Sexual.

¹Nurse, Master, Ph.D. student in Collective Health, University of Fortaleza/UNIFOR. Fortaleza (CE), Brazil. E-mail: ana_lumen@hotmail.com; ²Nurse, Ph.D. Professor, Graduate Program in Collective Health, University of Fortaleza/UNIFOR. Fortaleza (CE), Brazil. E-mail: alix.araujo@hotmail.com; ³Nurse, Master, Secretary of Health of Ceará State. Fortaleza (CE), Brazil. E-mail: elanigfc@gmail.com; ⁴Estatistic, Ph.D. Professor, Graduate Program in Administration, University of Fortaleza/PPGA/UNIFOR. Fortaleza (CE), Brazil. E-mail: heberm@unifor.br; ⁵Nursing student by the University of Fortaleza/UNIFOR. Fortaleza (CE), Brazil. E-mail: pathyalvess@hotmail.com; ⁶Nurse, Ph.D. Professor, Graduate Course/Post-Graduation in Nursing, Federal University of Ceará/UFC. Fortaleza (CE), Brazil. E-mail: marligalvao@gmail.com

INTRODUCTION

According to the United Nations Program on HIV/AIDS¹, there were approximately 35.3 million people infected with HIV in the world in 2012. The prevention and control of the HIV/AIDS epidemic are carried out through different strategies, such as the provision of anti-HIV testing, which should be accompanied by pre and post-test counseling. The objective is the identification of the reactive cases and the early institution of the treatment. On the other hand, the timing of counseling is timely for the development of joint prevention strategies with people whose serology is negative.

Over the years, there have been changes in the scope of HIV testing in Brazil. The test, which was initially confined to the Testing and Counseling Centers (CTA), was expanded and offered in other health services. This strategy, aimed at facilitating population access and increasing coverage for testing, not sufficient to include people vulnerable to infection.^{2,3}

The primary health units should offer the test and stimulate its achievement. However, studies show that testing coverage is low in the general population and that people claim several reasons for not achieving it.² Even with the implementation of the rapid test by the Rede Cegonha policy, in primary care, anti-HIV tests are offered as a routine only during prenatal care.^{2,3} Stimulation of testing in the general population was more considered after the advent of antiretroviral therapy, considering the benefits of this therapy in the life of people with HIV/AIDS and the prevention of vertical transmission.^{1,4}

The offer of HIV testing is universally recommended. However, some populations deserve priority, such as pregnant women and people diagnosed with sexually transmitted diseases (STDs). In people with STD, its achievement is more important, considering the high prevalence of HIV in this population.^{5,6}

The relevance of this study is the fact that the analysis of HIV cases can contribute to the construction of prevention strategies for the control of this infection in STD patients. Thus, it aims to analyze the cases of positive serology for HIV in a health care unit of reference.

METHOD

This study is part of a larger project titled Evaluation of the demands of sexually transmitted diseases treated in the outpatient context and received approval from the

Research Ethics Committee of the School of Public Health of the State of Ceará, under protocol nº 126/2008.

This is a cross-sectional historical study conducted at a reference unit for sexually transmitted diseases in Fortaleza, Brazil, which treats HIV patients. The unit attends cases for the accomplishment of the anti-HIV serology by spontaneous and referenced demand.

The data were collected in the months of June and July 2010 in the care records of people who attended the unit to perform the anti-HIV test in the period from 1996 to 2009. The serological sample is collected at the unit after informed consent, obtained during the counseling. After the collection, the material is sent to the Central Laboratory of the State of Ceará (LACEN-CE), responsible for most of the serological diagnoses for HIV in the State and following the rules recommended by the Brazilian Ministry of Health.⁷ Diagnosis is given by two stages: Classification by the immuno-enzymatic method (ELISA) and depending on the result, the diagnosis is confirmed by indirect immunofluorescence (IFI). In Brazil, a second blood sample is recommended to confirm the diagnosis.⁸ For the analysis, all the reactive results already confirmed by the second sample were considered.

The variables of interest were year of the test, age group, gender, full years of study, if the patient returns to receive the result, sexual orientation, sexual partner and number of partners in the last three months, if the partner attended to the consultation, the reason for the HIV test, the achievement and outcome of the Venereal Disease Research Laboratory and FTA-Abs examinations and the use of illicit drugs.

Data were typed in a spreadsheet and analyzed in the Statistical Package for Social Science (SPSS) 15.0 program and association tests were performed between variables, using the statistic χ^2 . The level of significance of 5% was considered.

RESULTS

There were 167 cases of people with HIV-positive results, two of them being excluded due to vertical transmission, totaling 165 cases analyzed for this study.

The ratio of HIV cases among men and women was 1.06:1 and most diagnoses occurred in 1997, 1999, 2009 with 19 cases (11.5%) and in 2004 with 18 cases (10.9%) (Figure 1). In 2000 and 2008, there was a significant reduction in HIV diagnoses and

there were cases predominating in the city of Fortaleza (163/98.8%).

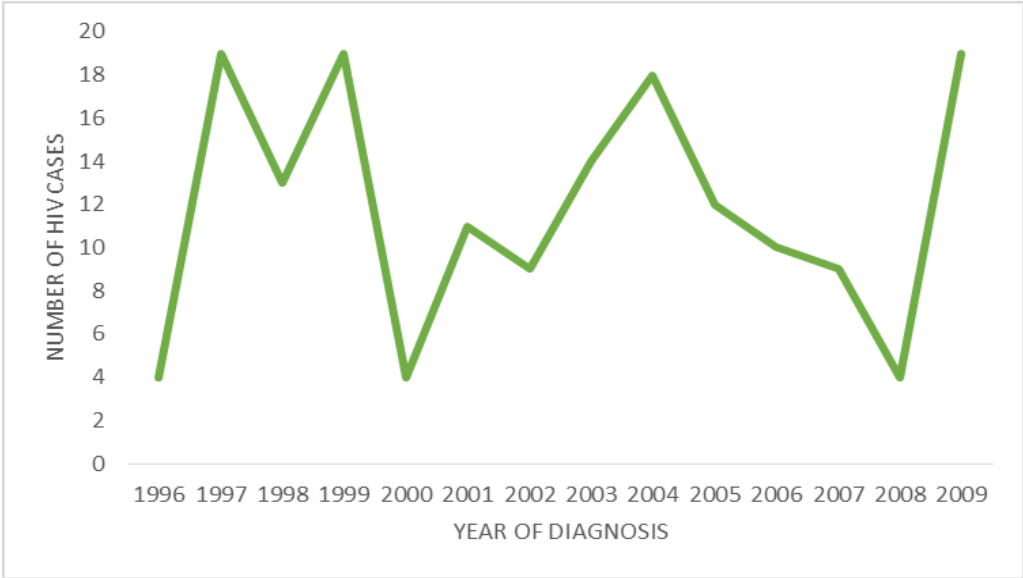


Figure 1. Reactive HIV cases per year of diagnosis. Fortaleza (CE), Brazil, 2010.

The age of the individuals ranged from 16 to 66 years old, predominantly with the age group of 20 to 29 years old, with 88 (53.3%) cases. The mean age was 29.6 years (SD=8.5), being 28.3 for women and 30.8 for men. For the full years of study, 106 (64.2%) people

were five to nine years old. The mean number of years of study was 7.8 (SD=2.6). There were 163 people who returned to receive the exam result (98.8%). There were 110 heterosexual (66.7%) and 53 homosexual/bisexual (32.1%) (Table 01).

Table 1. Socio-demographic variables, if return to receive HIV test result and sexual orientation. Fortaleza (CE), Brazil, 2010.

Variables	Average (SD)	N	%
Gender			
Male		85	51,5
Female		80	48,5
Age group	29,6 (8,5)		
16 to 19		10	6,1
20 to 29		88	53,3
30 to 39		47	28,5
40 to 66		20	12,1
Education (years of study)	7,79 (2,6)		
0 to 4		15	9,1
5 to 9		106	64,2
10 to 14		44	26,7
Return to receive the test result			
Yes		163	98,8
No		02	1,2
Sexual orientation			
Heterosexual		110	66,7
Homosexual/Bisexual		53	32,1
Ignored		02	1,2
Total		165	100

When analyzed by gender, the variables that presented a statistically significant association were: homosexual/bisexual man (p<0.001), had two or more sexual partners in the last three months (p=0.002) 0.001) and had the result of VDRL and FTA-Abs reactive (p<0.001 and p=0.013 respectively) (Table 02).

Table 2. Gender analysis of sexual orientation, the number of sexual partners in the last three months, type of partnership, drug use, achievement and results of VDRL and FTA-Abs exams. Fortaleza (CE), Brazil, 2010.

Variables	Gender				p-value
	Male		Female		
	n	%	n	%	
Sexual Orientation (n = 163)					0,000
Heterosexual	32	29,1	78	70,9	
Homosexual/Bisexual	52	98,1	01	1,9	
N° of partners in the last 03 months (n=144)					0,002
One partner	34	42,5	46	57,5	
Two or more partners	44	68,8	20	31,3	
Type of partners					0,000
Fixed	30	40,0	45	60,0	
Occasional	28	62,2	17	37,8	
Fixed and Occasional	20	83,3	04	16,7	
Use of drugs (n = 133)					0,508
Yes	02	33,3	04	66,7	
No	65	51,2	62	48,8	
VDRL result* (n=120)					0,000
Reactive	22	84,6	04	15,4	
Not Reactive	38	40,4	56	59,6	
FTA-Abs result** (n=19)					0,013
Reactive	13	92,9	01	7,1	
Not Reactive	02	40,0	03	60,0	

*VDRL: Venereal Disease Research Laboratory; **FTA-Abs: Fluorescent Treponemal Antibody-Absorption

Not shown data show that all the sexual partners of the 144 people who reported sexual partners in the last three months were notified to attend the health unit to take care of the topic of their interest (no contact information was given or revealed in case of HIV) with 53 individuals (36.8%) attending, 20 (37.7%) were male partners, and 33 (62.3%) were female.

The reasons for the test were: 70 (42.4%) people due to the complaint of genital syndrome, 32 (19.4%) were called by the unit for having had sexual intercourse with a person with or supposedly with STD or HIV, 22 (13.3%) had spontaneous demand, 21 (12.7%) had prenatal care, ten (6.1%) presented AIDS signs and symptoms, eight (4.8%) had VDRL reactive, and two (1.2%) were referred by the blood center (Data not shown in the table).

DISCUSSION

It can be observed that over the years, there was a variation in cases of HIV diagnosed in the unit. During this period, there were situations that may have increased or decreased the demand for testing in the unit such as implementation of sexually transmitted infections, decentralization of testing for primary care, recommendation of testing of pregnant women, availability in the network of the Unified Health System of antiretroviral therapy and also the campaigns to encourage the test.^{9,10}

The predominant age group of HIV cases was in people between 20 and 29 years old. Studies show that there is divergence regarding the age range in CTAs from different

regions of the country.^{3,11-2} This difference may be related to the profile of the people who sought these two services, considering that in the CTA is the highest demand by spontaneous demand and in the service studied, perhaps because it is a reference service for STDs, most people sought the test because they had genital complaints.

The highest proportion of reactive cases occurred in homosexual/bisexual men. A study carried out in the five Brazilian regions found that the epidemic remains concentrated in male homosexuals despite an increase in HIV cases among heterosexual women and men.¹³

It was possible to observe that men have more sexual partners than women, a fact confirmed by other studies.¹⁴⁻⁵ The sexual behavior of men and women is related to social and cultural issues.¹⁶⁻⁷ In Brazil, the macho culture favors sexual activity among men, making them consider it natural to have sexual relationships with different partners.¹⁴

Only 36.8% of the partners attended the consultation. The convocation and testing of sexual partners of people with HIV have been a great problem for the control of this pathology. In the case of HIV, the study shows that there are few partners who attend the convocation¹⁸, a situation that is aggravated by the fact that people after receiving the positive result are afraid to tell their partner and suffer prejudice or be rejected, discriminated, abandoned and even suffer some violence.^{19,20}

Partner notification is an essential part of the management of cases of sexually transmitted infection, contributing to

reducing transmission in the population exposed to the virus.²¹ Notification, testing, and treatment of sexual partners of people living with HIV or AIDS always bring tension moments to the professionals and the patient. In general, professionals have difficulty approaching when the subject is coming from the partner to the unit.²²

Complaints of genital syndrome predominated as a reason to perform the test in both genders and a considerable percentage of people with VDRL and FTA-Abs reactive examination were found. This fact calls attention to the importance of valuing genital complaints in people who seek health services, considering that there is an association between STD and HIV.²³

The percentage of return to receive the result was higher than the findings of a study carried out in Rio de Janeiro²⁴ explained by the differentiated process of attending the unit, considering that the professionals received permanent qualification to perform the counseling, condition that qualified him better, besides the accomplishment of the consented search that is carried out routinely in the unit.

CONCLUSION

Serology with HIV positive results was found in young adults with good education whose main route of infection was sexual. There was a higher proportion of cases among men with homosexual/bisexual orientation, with fixed and occasional sexual partnerships and a result of VDRL and FTA-Abs reactions.

REFERENCES

1. Global Report: Unaid report on the global AIDS epidemic 2013 [Internet]. Geneva: UNAIDS; 2013. [cited 2014 July 22]. Available from: http://www.unaids.org/en/media/unaids/contentassets/documents/epidemiology/2013/gr2013/unaid_global_report_2013_en.pdf
2. França Junior I, Calazans G, Zucchi EM, Grupo de Estudos em População, Sexualidade e Aids. Changes in HIV testing in Brazil between 1998 and 2005. Rev Saúde Pública [Internet]. 2008 June [cited 2015 Jan 22];42(Suppl 1):84-97. Available from: <http://www.scielo.br/pdf/rsp/v42s1/11.pdf>
3. Schneider IJC, Ribeiro C, Breda D, Skalinski LM, d'Orsi E. Perfil epidemiológico dos usuários dos Centros de Testagem e Aconselhamento do Estado de Santa Catarina, Brasil, no ano de 2005. Cad Saúde Pública [Internet]. 2008 July [cited 20 Jan 2015];24(7):1675-88. Available from: <http://www.scielo.br/pdf/csp/v24n7/22.pdf>
4. Geocze L, Mucci S, De Marco MA, Nogueira-Martins LA, Citero VA. Qualidade de vida e adesão ao tratamento anti-retroviral de pacientes portadores de HIV. Rev Saúde Pública [Internet]. 2010 Aug [cited 2015 Jan 21];44(4):743-49. Available from: <http://www.scielo.br/pdf/rsp/v44n4/19.pdf>
5. Campos A, Amaral E, Levi JE, Portugal P, Villarroel M, Bezerra KC, et al. Carga viral vaginal de HIV em mulheres brasileiras infectadas pelo HIV. Rev Assoc Med Bras [Internet]. 2008 Jan/Feb [cited 2015 Jan 19];54(1):67-71. Available from: <http://www.scielo.br/pdf/ramb/v54n1/23.pdf>
6. Cavalcante EGF, Araújo MAL, Galvão MTG, Moura HJ, Gondim APS, Silva RM. Sexually transmitted infections associated syndromes assisted in the primary health care in Northeast, Brazil. BMC Public Health [Internet]. 2012 Aug [cited 2015 Jan 20];12:595. Available from: <http://bmcpublihealth.biomedcentral.com/articles/10.1186/1471-2458-12-595>
7. Ministério da Saúde (BR), Agência Nacional de Vigilância Sanitária. Portaria n. 59, de 28 de janeiro de 2003. Dispõe sobre a sub-rede de laboratórios do Programa Nacional de DST e Aids [Internet]. Brasília: Ministério da Saúde; 2003 [cited 2015 Feb 21]. Available from: <http://pegasus.fmrp.usp.br/projeto/legislacao/Portaria%2059%20de%2028%2001%2003.pdf>
8. Ministério da Saúde (BR), Secretaria de Vigilância em Saúde. Portaria SVS/MS n. 151 de 14 de outubro de 2009 [Internet]. Brasília: Ministério da Saúde; 2009 [cited 2015 Feb 21]. Available from: http://www.aids.gov.br/sites/default/files/portaria151_2009.pdf
9. Ministério da Saúde (BR), Secretaria de Vigilância em Saúde, Departamento de IST, Aids e Hepatites Virais. Aids. História da Aids [Internet]. Brasília: Ministério da Saúde; 2010 [cited 2015 Feb 20]. Available from: <http://www.aids.gov.br/pagina/2010/257>
10. Ministério da Saúde (BR), Secretaria de Vigilância em Saúde, Departamento de IST, Aids e Hepatites Virais. Notícias e Mídia. Campanhas [Internet]. Brasília: Ministério da Saúde; 2010 [cited 2015 Feb 21]. Available from: <http://www.aids.gov.br/campanhas>
11. Gama AP, Silva RAR, Miranda FAN, Costa DARS. Perfil epidemiológico de usuários atendidos no centro de testagem e aconselhamento para DST/HIV/Aids. Rev enferm UFPE on line [Internet]. 2011 [cited 2015 Jan 20];24(7):1675-88. Available from: <http://www.scielo.br/pdf/csp/v24n7/22.pdf>

Rocha AFB, Araújo MAL, Cavalcante EGF et al.

Positive serology for hiv: epidemiological...

2014 Dec 20];5(8):1855-61. Available from: http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/1873/pdf_644

12. Vilela MP, Brito TRP, Goyatá SLT, Arantes CIS. Perfil epidemiológico dos usuários do Centro de Testagem e Aconselhamento de Alfenas, Minas Gerais. Rev eletrônica enferm [Internet]. 2010 [cited 2015 Jan 17];12(2):326-30. Available from: <http://www.fen.ufg.br/revista/v12/n2/v12n2a15.htm>.

13. Barbosa Júnior A, Szwarcwald CL, Pascom ARP, Souza Júnior PB. Tendências da epidemia de AIDS entre subgrupos sob maior risco no Brasil, 1980-2004. Cad Saúde Pública [Internet]. 2009 Apr [cited 2015 Jan 20];25(4):727-37. Available from: <http://www.scielo.org/pdf/csp/v25n4/03.pdf>

14. Aboim S. Risco e prevenção do HIV/Aids: uma perspectiva biográfica sobre os comportamentos sexuais em Portugal. Ciênc saúde coletiva [Internet]. 2012 Jan [cited 2015 Jan 19];17(1):99-112. Available from: <http://www.scielo.br/pdf/csc/v17n1/a13v17n1.pdf>

15. Scanavino MT, Abdo CHN. Parceiros sexuais nos últimos 12 meses e parceiros significativos ao longo da vida, segundo o Estudo da Vida Sexual do Brasileiro. Diagn tratamento [Internet]. 2010 July [cited 2015 Jan 21];15(3):138-42. Available from: <http://files.bvs.br/upload/S/1413-9979/2010/v15n3/a1545.pdf>

16. Figueiredo MAC, Terenzi NM. Relações conjugais de parceiros HIV soropositivos concordantes: uma visão masculina. Psicol estud [Internet]. 2008 Oct/Dec [cited 2015 Jan 22];13(4):817-25. Available from: <http://www.scielo.br/pdf/pe/v13n4/v13n4a20.pdf>

17. Rodrigues LSA, Paiva MS, Oliveira JF, Nóbrega SM. Vulnerability of women in common-law marriage to becoming infected with HIV/AIDS: a study of social representations. Rev Esc Enferm USP [Internet]. 2012 Apr [cited 2015 Jan 21];46(2):349-55. Available from: <http://www.scielo.br/pdf/reeusp/v46n2/a12v46n2.pdf>

18. Luz PM, Miranda KCL, Teixeira JMC. As condutas realizadas por profissionais de saúde em relação à busca de parceiros sexuais de pacientes soropositivos para o HIV/aids e seus diagnósticos sorológicos. Ciênc saúde coletiva [Internet]. 2010 June [cited 2015 Jan

22];15(Supl1):1191-200. Available from: <http://www.scielo.br/pdf/csc/v15s1/028.pdf>

19. Barros C, Schraiber LB, França-Junior, I. Association between intimate partner violence against women and HIV infection. Rev Saúde Pública [Internet]. 2011 Apr [cited 2015 Jan 23];45(2):365-72. Available from: http://www.scielo.br/pdf/rsp/v45n2/en_1924.pdf

20. Miranda DB, Matão MEL, Campos PHF, Pereira JG, Faria VS. Seropositivity for HIV: from the social context to the serodiscordant conjugality. J Nurs UFPE on line [Internet]. 2013 Feb [cited 2015 Jan 10];7(2):589-97. Available from: http://www.revista.ufpe.br/revistaenfermagem/index.php/revista/article/view/2929/pdf_2085

21. Ward H, Bell G. Partner notification. Medicine (Abingdon) [Internet]. 2014 June [cited 2015 Jan 18];42(6):314-17. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4065334/pdf/main.pdf>

22. Silva NEK, Ayres JRCM. Estratégias para comunicação de diagnóstico de HIV a parceiros sexuais e práticas de saúde. Cad Saúde Pública [Internet]. 2009 Aug [cited 2015 Jan];25(8):1797-806. Available from: <http://www.scielo.br/pdf/csp/v25n8/16.pdf>

23. Mhlongo S, Magooa P, Müller EE, Nel N, Radebe F, Wasserman E, et al. Etiology and STI/HIV coinfections among patients with urethral and vaginal discharge syndromes in South Africa. Sex Transm Dis. 2010;37(9):566-70.

24. Soares PS, Brandão ER. Não retorno de usuários a um Centro de Testagem e Aconselhamento do Estado do Rio de Janeiro: fatores estruturais e subjetivos. Physis (Rio J.) [Internet]. 2013 July/Sept [cited 2015 Jan 17];23(3):703-21. Available from: <http://www.scielo.br/pdf/physis/v23n3/03.pdf>

Submission: 2015/07/24

Accepted: 2016/12/08

Publishing: 2017/01/01

Corresponding Address

Ana Fátima Braga Rocha
Av. Washington Soares, 1321
Bairro Edson Queiroz
CEP: 60811-905 – Fortaleza (CE), Brasil