Cogitare Enfermagem

ORIGINAL ARTICLE

ADHERENCE OF FEMALE SEX WORKERS WITH SYPHILIS TO CLINICAL FOLLOW-UP*

Braulio Vieira de Sousa Borges[1], Elucir Gir[2], Marli Teresinha Gimenez Galvão[3], Maria Eliete Batista Moura[4], Giselle Mary Ibiapina Brito[5], Rosilane de Lima Brito Magalhães[6]

ABSTRACT

Objective: To evaluate the adherence of female sex workers with syphilis to clinical follow-up.
Methodology: An analytical cross-sectional study was carried out in Teresina, a city in the state of Piauí, from January 2016 to September 2017. The respondent-driven sampling method was used for recruitment and valid coupons with information on the place and date of interviews. The Venereal Disease Research Laboratory test considered syphilis when equal to or higher than 1/1 without previous treatment. The data were analyzed by application of Pearson's chi-squared test.
Results: Of the study sample, 27 were diagnosed with syphilis (7.5%), and they were all referred to primary healthcare units by the responsible researcher. Of these, eight (29.6%) sought healthcare services and four (14.8%) underwent appropriate treatment; nine (33.3%) did not adhere to clinical follow-up; and ten (37.0%) were not found after referral.
Conclusion: High syphilis prevalence was found, along with low adherence to clinical follow-up, and need for better care in primary healthcare units.

DESCRIPTORS: Epidemiology; Prevalence; Sex Workers; Syphilis; Treatment Adherence and Compliance.

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[1]Nurse. Master of Nursing. Nurse at the Primary Health Care Network of the Federal District. Brasília, Federal District, Brazil.
[2]Nurse. Doctor of Nursing. Professor of Nursing at the University of São Paulo. Ribeirão Preto, São Paulo, Brazil.
[3]Nurse. Doctor of Nursing. Professor of Nursing at the Federal University of Ceará. Fortaleza, Ceará, Brazil.
[4]Nurse. Doctor of Nursing. Professor of Nursing at the Federal University of Piauí. Teresina, Piauí, Brazil.
[5]Nurse. Master of Nursing. Federal University of Piauí. Teresina, Piauí, Brazil.
[6]Nurse. Doctor of Nursing. Professor of the Nursing Graduate Program at the Federal University of Piauí. Teresina, Piauí, Brazil.

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ADESÃO AO SEGUIMENTO CLÍNICO DE MULHERES PROFISSIONAIS DO SEXO COM SÍFILIS

RESUMO

Objetivo: avaliar a adesão ao seguimento clínico de mulheres profissionais do sexo com sífilis.
Metodologia: estudo transversal analítico, realizado na cidade de Teresina-PI, entre janeiro de 2016 a setembro de 2017. Utilizou-se método Respondent Driven Sampling para recrutamento e cupons válidos com informações sobre local e data das entrevistas. Foi considerada sífilis Venereal Disease Research Laboratory igual ou superior 1/1 sem tratamento prévio. Os dados foram analisados mediante teste Qui-quadrado de Pearson.
Resultados: a prevalência da sífilis nessas mulheres foi de 27 (7,5%) e todas foram encaminhadas pelo pesquisador responsável para Unidades Básicas de Saúde. Desse total, oito (29,6%) compareceram aos serviços de saúde, e quatro (14,8%) realizaram tratamento adequado; nove (33,3%) não fizeram adesão ao seguimento clínico e 10 (37,0%) não foram localizadas após encaminhamento.
Conclusão: verificou-se elevada prevalência da sífilis, baixa adesão ao seguimento clínico e necessidade de melhor acolhimento em Unidades Básicas de Saúde.

DESCRITORES: Epidemiologia; Prevalência; Profissionais do Sexo; Sífilis; Cooperação e Adesão ao Tratamento.

ADHESIÓN AL SEGUIMIENTO CLÍNICO DE TRABAJADORAS SEXUALES PROFESIONALES CON SÍFILIS

RESUMEN:

Objetivo: Evaluar la adhesión al seguimiento clínico de trabajadoras sexuales profesionales con sífilis.
Metodología: Estudio transversal analítico, realizado en Teresina-PI, entre enero 2016 y setiembre 2017. Se aplicó método Respondent Driven Sampling para reclutamiento y volantes con información válida sobre lugar y fecha de las entrevistas. Se consideró sífilis Venereal Disease Research Laboratory igual o superior a 1/1 sin tratamiento previo. Datos analizados mediante test de Chi-cuadrado de Pearson.
Resultados: La prevalencia de sífilis en dichas mujeres fue de 27 (7,5%), todas fueron derivadas por el investigador responsable a Unidades Básicas de Salud. De ese total, ocho (29,6%) comparecieron a los centros sanitarios; cuatro (14,8%) se sometieron al tratamiento adecuado; nueve (33,3%) no adhirieron al seguimiento clínico, y 10 (37,0%) no pudieron ser ubicadas luego de ser derivadas.
Conclusión: Se verificó alta prevalencia de sífilis, escasa adhesión al seguimiento clínico y necesidad de mejor acogimiento en Unidades Básicas de Salud.

DESCRIPTORES: Epidemiología; Prevalencia; Trabajadores Sexuales; Sífilis; Cumplimiento y Adherencia al Tratamiento.

Braulio Vieira de Sousa Borges | Elucir Gir | Marli Teresinha Gimenez Galvão | Maria Eliete Batista Moura | Giselle Mary Ibiapina Brito | Rosilane de Lima Brito Magalhães

INTRODUCTION

It is estimated that each year, six million people from the general population are infected by syphilis worldwide[1]. Among female sex workers (FSWs), rates range from 1.3% to 22.4%[2-3], which is considered high when compared with the general population, which ranges from 4% to 13.3%[4-5].

A study in Mongolia, a country in East Asia, found high presence of syphilis among FSWs (27.8%). In this sample of young women, genital ulcers stood out among the associated factors[6]. In Mexico, a study showed that FSWs with syphilis were aged ≥ 30 years old, had several partners, had commercial sexual relationships prior to the age of 20 years, and were illicit drug users (cocaine, crack, and methamphetamine)[7].

Brazil also presents high syphilis prevalence, difficulties in screening cases, control, and monitoring of follow-up, and possibilities of antimicrobial resistance to treatment[8]. One study found following regional differences in syphilis prevalence in syphilis presence for the general population: 0.48% (South); 0.73% (Southeast); 1.05% (North), 1.14% (Northeast), and 1.20% (Center-West)[9].

Syphilis is a global, severe public health problem that presents high prevalence among FSWs, low-cost treatment, and difficulties with control in several populations. In this respect, it becomes a risk factor for acquiring human immunodeficiency virus (HIV) and for vertical transmission. Therefore, early screening of cases, monitoring of clinical follow-up, and treatment to decrease the number of new cases are of the utmost importance in order to reduce chain transmission and syphilis incidence in this population and their sexual partners.

Female sex workers present a high risk for HIV, considering the occurrence of other sexually transmitted diseases (STDs)[10]. They present higher individual vulnerability due to use of licit and illicit drugs, and inconsistent use of condoms associated with social and programmatic vulnerabilities, such as low education level, restricted access to healthcare services, and social stigma[11].

The objective of the present study was to evaluate the adherence of female sex workers with syphilis to clinical follow-up.

METHOD

This was a descriptive cross-sectional study on the adherence of FSWs with syphilis to clinical follow-up carried out in Teresina, a city in the state of Piauí, from January 2016 to September 2017.

The participants were recruited by the respondent-driven sampling (RDS) method, with the selection of seven seeds with different characteristics regarding individual aspects and place of work, to enable the drawing of a more representative sample.

Regarding characteristics, the following aspects were considered: seed 1- women working in squares; seed 2- women working in pubs; seed 3- young women; seed 4- women working in nightclubs; seed 5- black women; seed 6- adult women; and seed 7- women working on the streets. The seeds were selected with the support of the Association of Prostitutes of Piauí (APROSPI, as per its acronym in Portuguese). The method was justified because this is a network-organized population that is difficult to access[10].

Each seed received three exclusive unforgeable coupons and was asked to invite three FSWs from the same working network. Each eligible participant also received three more coupons, until a significant sample was drawn.

It is estimated that approximately 600 FSWs are involved in prostitution in Teresina. Based on this information and a study carried out with a population of 402 FSWs[12], and considering a 4% syphilis prevalence[13], 2% tolerable risk of error, 95% confidence level, and 10% increase due to eventual losses, the final sample was made up of 358 participants.

The following inclusion criteria were considered: being aged ≥18 years; working as FSWs in the city for the last four months; having at least one sexual relationship a month in exchange for money in the last four months; and presenting a valid coupon to participate in the study. The following exclusion criteria were considered: being visibly under the influence of illicit drugs, including alcohol, at the time of interview; and being pregnant, since outpatient follow-up for pregnant women is carried out once a month, differing from the general population.

A structured form was used to record the following independent variables: sociodemographic characteristics; sexual behavior; and adherence to clinical follow-up. The dependent variable was being Venereal Disease Research Laboratory (VDRL) test reagent through the flocculation technique.

The present study considered syphilis cases when the VDRL result with titration ≥ 1/1, without previous treatment. Adherence to clinical follow-up was considered with titration decline around two dilutions after three months of treatment[8]. Titration decrease around two dilutions indicated treatment success and case conclusion[8]. Data collection occurred in specific places where FSWs worked, that is, private (pubs and nightclubs) and public (squares and streets) places, with date and time defined by means of a valid and unforgeable coupon.

The FSWs were informed of the syphilis diagnosis verbally and in writing in appropriate form, for referral to a primary health unit.

Eligible participants underwent a rapid test for syphilis detection. A quantitative VDRL test was investigated for reagent results. After confirmation of this diagnosis, and after approximately seven days, all FSWs with titration ≥1/1 without previous treatment were referred to a primary health unit and had their return scheduled within an interval of 30 days, with the aim of evaluating adherence to clinical follow-up. After 60 days, a new VDRL test was carried out for FSWs who sought treatment, in order to evaluate the decline in titration levels.

The data were double entered in a Microsoft Excel spreadsheet, and after validation, were exported to the Statistical Package for the Social Sciences (SPSS) version 21 IBM® software. Means and minimum and maximum values were presented for analysis of quantitative variables. The chi-squared test was used to verify relationships among variables, considering $p<0.005$ as statistical significance value.

The present study was approved by the Research Ethics Committee of the Federal University of Piauí under protocol no. 0425.0.045.000-11.

RESULTS

Of the 358 FSWs, 241(52.3%) had less than eight years of education, 19 (5.4%) had steady partners outside prostitution, and 165 (46%) reported being white. Monthly income ranged from no income to 10 minimum wages, with a mean from one to two in 147 (41.1%). Of the participants, 301 (84.1%) had from one to two children, and 136 (38.0%) worked in public places (streets and squares) (Table 1).

Table 1 – Distribution of the number and percentage of female sex workers according to sociodemographic aspects and syphilis prevalence – 2016/2017, Teresina, Piauí, Brazil, 2017

Variables	N (%)	Syphilis prevalence (n=358)		95% CI*
		N (%)	P	
Age group (years)				
18 - 24	93 (26)	10 (2.8)		(21.4-30.5)
25 - 39	222 (62)	14 (3.9)	0.390	(56.9-67)
40 - 59	43 (12)	3 (0.8)		(8.6-15.3)
City of origin				
Teresina	277 (77.4)	23 (6.4)		(73.0-81.7)
Other places	81 (22.6)	4 (1.1)	0.313	(18.2-26.9)
Steady partner outside prostitution				
Yes	19 (5.4)	1 (0.3)		(3.0-7.7)
No	339 (94.6)	26 (7.2)	0.057	(92.2-96.9)
Skin color				
Black	118 (33)	8 (2.2)		(28.1-37.8)
White	165 (46)	9 (2.5)	**0.001**	(40.8-51.1)
Other	75 (21)	10 (2.8)		(16.7-25.2)
Religion				
Yes	307 (85.8)	22 (6.1)		(79.1-92.4)
No	51 (14.2)	5 (1.4)	0.215	(10.5-17.8)
Years of education				
Illiterate	20 (5.6)	1 (0.2)		(3.2-7.9)
1 to 8	244 (68.2)	19 (5.3)	0.901	(63.3-73)
> 8	94 (26.2)	7(2)		(21.6-30.7)
Monthly income (minimum wages)**				
< 1	161 (45)	14 (4)	0.755	(39.8-50.1)
1 to 2	168 (47)	11(3)		(41.8-52.1)
≥ 3	29 (8)	2 (0.5)		(5.1-10.8)
Number of children				
None	200 (56)	9 (2.5)		(50.8-61.1)
1 to 2	103 (28.7)	12 (3.4)	**0.049**	(24.0-33.3)
≥ 3	55 (15.3)	6 (1.6)		(11.5-19)
Work place				
Streets and squares	136 (38)	13 (3.6)	0.241	(32.9-43)
Pubs and nightclubs	222 (62)	14 (3.9)		(56.9-67)

Note: *CI = 95% confidence interval **Minimum wage value at the time of the study: R$ 788.00.

Syphilis prevalence of 7.5% was found among a population of 358 FSWs, with

statistically significance differences regarding skin color (p≤ 0.001, 95% CI=40.8-51.1), number of children (p≤ 0.049, 95% CI=24.02-33.38), and sexual practices (p≤ 0.009, 95% CI=82.41-89.59) (Tables 1 and 2).

Table 2 – Distribution of the number and percentage of female sex workers according to sexual behavior and syphilis prevalence – 2016/2017, Teresina, Piauí, Brazil, 2017

Variables	N (%)	Syphilis prevalence (N=358)		CI 95%*
		N (%)	P	
Sexual behavior				
Heterosexual	340 (94.9)	25 (6.9)		(92.6-97.1)
Homosexual	15 (4.1)	1 (0.3)	0.039	(2.0-6.1)
Bisexual	3 (1)	1 (0.3)		(0-2)
Steady partner paid in prostitution				
Yes	152 (42.5)	13 (3.6)		(37.3-47.6)
No	206 (57.5)	14 (4)	0.534	(52.3-62.6)
Number of casual partners in the week prior to data collection				
1 to 5	106 (29.6)	8 (2.2)		(24.8-34.3)
6 to 10	173 (48.4)	12 (3.3)	0.688	(43.2-53.5)
11 to 15	52 (14.5)	4 (1.1)		(10.8-18.1)
> 15	27 (7.5)	3 (0.9)		(4.7-10.2)
Sex type				
Vaginal	308 (86.0)	19 (5.3)		(82.4-89.5)
Anal	10 (2.8)	3 (0.8)	0.009	(1.1-4.5)
More than one type	40 (11.2)	5 (1.4)		(7.9-14.4)
Intercourse during menstrual period				
Yes, without condom	9 (2.5)	1 (0.3)		(0.8-4.1)
Yes, with condom	61 (17.0)	6 (1.7)	0.680	(13.1-20.8)
No	288 (80.5)	20 (5.5)		(76.4-84.6)
Use of contraceptive methods				
Yes	107 (29.8)	10 (2.8)		(25.0-34.5)
No	251 (70.2)	17 (4.7)	0.405	(65.4-74.9)
Use of male condoms with steady partners in prostitution (n=112)				
No use	91 (25.5)	10 (2.8)		(20.9-30)
Rarely	21 (5.8)	2 (0.5)	0.300	(3.3-8.2)
Use of male condoms with casual partners				
Yes	285 (79.6)	25 (7.0)		(75.4-83.7)
No	69 (19.2)	2 (0.5)	0.215	(15.1-23.2)
Sometimes	4 (1.2)	0 (0)		(0.1-2.3)

Note: *CI=95% confidence interval

In this scenario, regarding sexual behavior, 340 (94.9%) reported being heterosexual and 152 (42.5%) reported having steady partners paid in prostitution. The number of casual partners prior to the data collection week ranged from 1 to 15 clients, and 27 (7.5%) had more than 15 clients.

Vaginal sexual intercourse was reported by 308 (86.0%) women, followed by more than one type of sexual practice, reported by 40 (11.2%). Sexual practice during the menstrual period was reported by 70 (19.5%). Regarding the use of contraceptive methods, 107 (29.8%) reported using some method (Table 2).

Of the 27 VDRL reagent FSWs, the first titration ranged from 1/1 to 1/64, and all the infected women were referred for treatment. Of this total, 8 (29.6%) sought public healthcare services and 9 (33.3%) did not carry out clinical follow-up. Of the women who sought healthcare services, titration reduction was found with a range from non-reagent to 1/16. Regarding treatment received, 7 (25.9%) initiated treatment after the first visit, and one of the women (3.7%) did not freely receive prescribed medication.

Of the FSWs who underwent treatment, 6 (22.2%) reported having steady partners in and outside prostitution. Regarding diagnosis notification to partners, 4 (14.8%) notified their steady partners outside prostitution. Regarding the use of condoms after diagnosis, only 4 (14.8%) reported their use.

With regard to conduct adopted by healthcare professionals, 8 (29.6%) of the FSWs were not asked to repeat the VDRL test. Regarding guidance received during syphilis treatment, 6 (22.2%) were explained the importance of the use of appropriate medication. Regarding asking partners to carry out tests, only 2 (7.4%) were asked.

DISCUSSION

There was a 7.5% (n=7) syphilis prevalence in FSWs, which was considered six times higher than the syphilis prevalence in pregnant women from a state in the northeast region of Brazil[9]. This result is corroborated by studies carried out worldwide with FSWs with syphilis[3,6,13].

In this respect, higher syphilis prevalence in FSWs was found in Argentina and Mongolia, ranging from 22.4% to 27.8%[6,14]. In the national scenario, studies have shown prevalence ranging from 4.0% to 13.3%[4-5].

The sample of the present study was a young population, and most had spent their entire reproductive period in prostitution. These data may be found in other studies[10-12]. Most of the women were young adults and presented a higher prevalence when compared with others. These findings were also evidenced in international studies[13,15].

Syphilis infection is a reason for concern, especially for women of reproductive age, considering the possibility of vertical transmission. One study found a syphilis infection rate in pregnant women in the state of Piauí of 1.1% in 2013[9].

The present study showed that syphilis prevalence was higher in women with low education level and lower monthly income, without partners. In China, a study carried out with a similar population showed that being of advanced age, lower education level, offering commercial sex in rented houses, having had more clients in the previous week, unsafe sex, and use of illicit drugs were factors associated with syphilis infection[16].

In the present study, a significant association with syphilis prevalence was found regarding white skin color ($p \leq 0.001$), number of children ($p \leq 0.049$), and type of sex practice ($p \leq 0.009$); however, no other studies with this information were found.

Female sex workers work in public and private places, with higher syphilis prevalence in private environments. One study showed that number of sexual partners, consumption of alcohol, and use of illicit drugs were higher in private places[17]. This suggests that FSWs who work in private places are more exposed to syphilis infection, considering the range of partners and difficulty of dealing with the use of condoms.

Regarding types of partners, they had steady and casual partners, inside and outside prostitution. This reality was also found in the global scenario[2,6]. Regarding the use of condoms, the present study showed higher frequency with casual partners, behavior found in different regions in the world[18].

However, in Ethiopia, FSWs reported that the use of condoms occurred in less than half of their sexual encounters, regardless of the type of client[18]. In the present study, higher syphilis prevalence was found, even with higher frequency of use of condoms with casual partners.

The results of the present study also showed that FSWs who did not use some contraceptive method presented higher syphilis rates. This shows that use of contraceptive methods may be a protective factor, considering opportunities to receive condoms and guidance for damage reduction measures. A study in Argentina found that condoms were the most common contraceptive method among FSWs (50.3%), followed by birth control pills (15.8%), and injections (11.8%)[14].

In the present study, vaginal sexual practice was found to be more associated with syphilis prevalence, a finding that is corroborated by another study. Anal sexual practice among FSWs is more profitable, and the use of condoms is low because it is inappropriate for anal intercourse. Therefore, it is of utmost importance to recognize that the absence of prevention, regardless of the type of sexual activity, is a risk factor for contracting STDs/HIV.

Regarding adherence of FSWs to clinical follow-up, the present study presented high levels of titration by means of the VDRL test among FSWs. The VDRL test, properly used as a routine test in most national outpatient care, presents high agreement with confirmatory tests, considering not only high 1/8 titrations, but also low 1/1 titrations. It is worth mentioning that the exclusive use of the VDRL test represents an appropriate predictor of syphilis infection[20].

Therefore, investment in primary healthcare units is of utmost importance to increase screening of syphilis cases, in addition to better laboratory support for carrying out VDRL testing, since every treatment plan will initially depend on a laboratory diagnosis.

When evaluating adherence to clinical follow-up, reduction in titration levels of FSWs who made use of medication was found, as well as completely negative results in half of the cases. Treatment success is identified with reduction in titration of around two dilutions within three months, and three dilutions within six months after treatment conclusion[8]. Therefore, appropriate treatment is of utmost importance for possible syphilis control and eradication.

Female sex workers sought healthcare services within appropriate time frames and received care in less than one week. However, return to healthcare services was low among almost all the women. Female sex workers only seek health care when it is totally necessary, choosing the use of other means such as self-medication to relieve their problems, before seeking healthcare units[21]. Therefore, it is important to increase access to healthcare services with resolutive and appropriate care, in order to avoid follow-up loss of clinical cases.

In the present study, of the total number of women referred, nine reported difficulties in accessing healthcare services, even after new attempts. The authors highlight that stigma and discrimination toward FSWs are among the main barriers to access to healthcare services[22]. Therefore, it is of utmost importance to encourage FSWs to seek healthcare

services and increase investment in preventive measures.

In the present study, notification of the healthcare condition of FSWs to their sexual partners did not occur in all cases detected. One study showed the following main factors associated with the absence of notification by index patients to their sexual partners: fear and insecurity in revealing the diagnosis; complicity and concern about the health of partners; and diagnosis disclosure as a way of preserving their relationship[23].

Appropriate treatment of sexual partners is, as well as the promotion of actions that involve control of cases, notification of diseases, active search, and serological follow-up to confirm the cure of cases[24].

In the present study, according to reports of referred FSWs, approaches to STDs/HIV/AIDS and viral hepatitis among FSWs in healthcare units did not meet the needs of this population, considering lack of appropriate guidance about the use of medications and the importance of adherence to treatment, failure to request other tests, and lack of vaccination against hepatitis B.

The use of rapid tests is useful in situations of limited resources with poor access to laboratories and syphilis screening, leading to better access to screening and treatment of syphilis cases[25]. Actions for syphilis control must be paramount for public health policies, with emphasis on screening, diagnosis, and early treatment strategies, aiming at reducing morbidity and increasing the improvement of sexual and reproductive health of the general population, especially the most vulnerable[26].

In this respect, knowledge on the theme is essential for syphilis prevention and adherence to treatment, and gaps in this knowledge will impair the cure and prevention of the disease[27]. Appropriate care is necessary for effective adherence to clinical treatment, and lost opportunities may not occur.

According to the clinical protocol and treatment guidelines for comprehensive care for people with STDs, healthcare professionals must provide people with STDs/HIV with condoms and lubrication gel, vaccination against hepatitis and human papillomavirus, emphasis on adherence to treatment, information and education on health, and bringing in their sexual partners[8].

A possible limitation of the present study is that it was carried out with a population that is difficult to access and approach, and sought information of a private nature, which may have caused embarrassment and fear, minimizing and concealing situations that influenced the results.

CONCLUSION

Female sex workers present high syphilis prevalence and low adherence to clinical follow-up, showing the need for better investment in screening syphilis cases and improvement of care in primary healthcare units.

Studies of this nature may contribute to higher visibility of the syphilis issue and other diseases in FSWs, and contribute to the implementation of health policies, considering that this population is difficult to access and there is a need for better investment in health education activities to ensure safer sexual practices aiming at reducing new STD cases.

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Corresponding author:
Braulio Vieira de Sousa Borges
Universidade Federal do Piauí
CA 02, Bloco F, 229, Lago Norte, 71503-502, Brasília, DF, Brasil
E-mail: braulitos89@hotmail.com

Role of Authors:
Substantial contributions to the conception or design of the work; or the acquisition, analysis, or interpretation of data for the work - BVSB, RLBM
Drafting the work or revising it critically for important intellectual content - BVSB, MEBM, GMIB
Final approval of the version to be published - EG, MTGG
Agreement to be accountable for all aspects of the work in ensuring that questions related to the accuracy or integrity of any part of the work are appropriately investigated and resolved - RLBM