A study on the prevalence of sexually transmitted infections, the health care-seeking behavior, and the barriers for the treatment of sexually transmitted infections in the urban slums of Davangere

Vandana C Khargekar[1], Sarvamangala Koujalgi[2]

[1]Department of Community Medicine, The Oxford Medical College, Hospital and Research Centre, Yadavanahalli, Bengaluru, Karnataka, India.
[2]Department of Community Medicine, J.J.M. Medical College, Davangere, Karnataka, India.
Correspondence to: Vandana C Khargekar, E-mail: vandanakhargekar@gmail.com

Abstract

Background: The control of sexually transmitted infections (STIs) is an urgent health priority because STIs are a major public health problem in all countries, particularly developing countries. STIs can lead to major morbidity and mortality. Since the advent of the HIV/AIDS epidemic, there is good evidence that the control of STIs can reduce HIV transmission. In India, the prevalence of self-reported STIs in the population aged 15–49 years is found to be between 21.9 to 92%. The challenge is to develop new interventions and identify barriers to treatment.

Objectives: To know the prevalence of STIs using modified syndromic approach among the slum population, the health care-seeking behaviors and their association with various factors, and the barriers for treatment of STIs.

Materials and Methods: Interview method involving a predesigned, pretested, and semistructured questionnaire was used to identify married women with symptoms who were referred for clinical examination. A cross-sectional study design was chosen. Study setting was in four slums of Davangere. Study period was from September 1 to 30, 2013 and the sample size comprised 200 married women in the age group of 18–49 years. Data were described as proportions and categorically analyzed using chi-squared test.

Results: About 22% were in the age group of 28–32 year. About 25.5% had STIs out of which only 58.8% took treatment. The main barriers identified were fear, no time, and not caring for symptoms.

Conclusion: Slum residents need education to recognize symptoms requiring treatment, and the involvement of partners for treatment should be emphasized upon. The main interventions that could reduce the STIs include IEC campaigns, behavior change communication, and condom promotion.

KEY WORDS: Sexually transmitted infections, health care-seeking behavior, barriers for treatment

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Introduction

The control of sexually transmitted infections (STIs) is an urgent health priority because STIs are a major public health problem in all countries, particularly developing countries.[1] STIs can lead to major morbidity and mortality. Some of the possible consequences of untreated STIs in women include tubal infertility, still births, abortions, neonatal deaths, ectopic pregnancies, recurrent urinary tract infections, pain during

coitus, menstrual irregularities, chronic pelvic pain, and maternal death.[7] Since the advent of the HIV/AIDS epidemic, there is good evidence that the control of STIs can reduce HIV transmission.[2]

The unprecedented population growth in the twentieth century and the movement of people from isolated rural towns and villages to large crowded urban environments have resulted in an increased frequency of exposure to many diseases of which STIs are among the most crucial.[3] STIs constitute a huge health and economic burden for developing countries and account for 17% of economic losses.[4]

The World Health Organization (WHO) estimates that each year, over 333 million new cases of curable STIs occur and most of them are from developing countries.[5] Sexual and reproductive health has also been omitted from the Millennium Development Goals and remains neglected.[6] In India, the prevalence of self-reported STIs in the population aged 15–49 years was found to be between 21.9% and 92%.[2]

Social stigma attached to an illness is sometimes greater for a woman than a man, and therefore a woman is more reluctant to discuss the gynaecological problems with others and is likely to hide her illness.[8]

The health care-seeking behavior of women is dependent on various socioeconomic conditions such as caste, place of residence, education, work status of women, and standard of living. Married women are reluctant to seek medical treatment because of lack of privacy, lack of female doctors at the health facility, cost of treatment, and their inferior social status.[9]

Why focus on urban slums

As per 2011 census, more than one-fourth of the population in million plus cities in India live in urban slums, and this proportion is projected to reach 50% by 2035. The urban slums are characterized by poor housing condition, overcrowding, poor sanitation, lack of access to safe drinking water, environmental pollution, group rivalries and clashes, and stressful living conditions that are detrimental to the physical and mental health of the people in the slums. In addition, the existing public **health-care** infrastructure is inadequate to meet the basic health needs of the group.

The situation with respect to women's health in the urban slums is no different; rather their health is neglected the most. The reproductive health of these women is further compromised by the sexual behavior of their husbands or male partners.[10]

Objectives

The objectives of the study were to know the prevalence of STIs using modified syndromic approach among the urban slum population, the health care-seeking behavior of STIs and their association with various factors, and the barriers for treatment of STIs.

Methodology

A cross-sectional study was carried out in four urban slums of Davangere. The study was conducted for 1 month during September 1 to 30, 2013. The study population comprised married women in the age group of 18–49 years. Based on the population and prevalence rate of STIs as per earlier studies, a sample of 200 married women in the age group of 18–49 years were interviewed. Criteria for inclusion and exclusion were as follows:

- Inclusion criteria: Married women in the age group of 18–49 years who gave consent.
- Exclusion criteria: Married women in the age group of 18–49 years who did not give consent.

Materials and Methods

There were 44 declared slums in Davangere city with population of 37,480. To represent the different geographical and sociocultural characteristics, the city was divided into four areas with the help of the map issued from Davangere City Corporation. The four areas were named north-east, north-west, south-east, and south-west.

The slums are listed according to ward numbers. These wards are rearranged according to the areas they belong. From each area, one slum was selected by using random number table. The selected slums by this sampling procedure are:

- North-east – Bharath Colony
- North-west – Azad Nagar
- South-east – HKR Nagar
- South-west – SMK Nagar

Procedure

To enroll the eligible subjects, a demographic survey using a questionnaire was conducted, which included a house-to-house survey. The questionnaire was a predesigned, pretested, and semistructured one that included data on sociodemographic characteristics, symptoms of STIs, health care-seeking behavior, barriers to treatment, and contraceptive history. During the interviews, women with symptoms were simultaneously referred to the clinic established within the community for the purpose of diagnosis and treatment of STIs, and also culture-sensitive strategies were used to create awareness among all women regarding need for examination. Symptomatic study subjects who were not diagnosed were taken to the peripheral health clinic shortly after the home interviews. In the clinic, a detailed history was taken followed by general physical examination and internal examination. From each slum, one-fourth of the sample size, i.e. 50, was covered. In the street, the first household was selected from a list of random numbers and the next consecutive households till the sample size was obtained. The interview was conducted anonymously and privately.

The flowchart of the selection of the study participants is as shown in Figure 1.

Statistical analysis of the data

The data were entered in Microsoft Excel and analyzed using SPSS version 17 for proportions, frequencies, and associations.
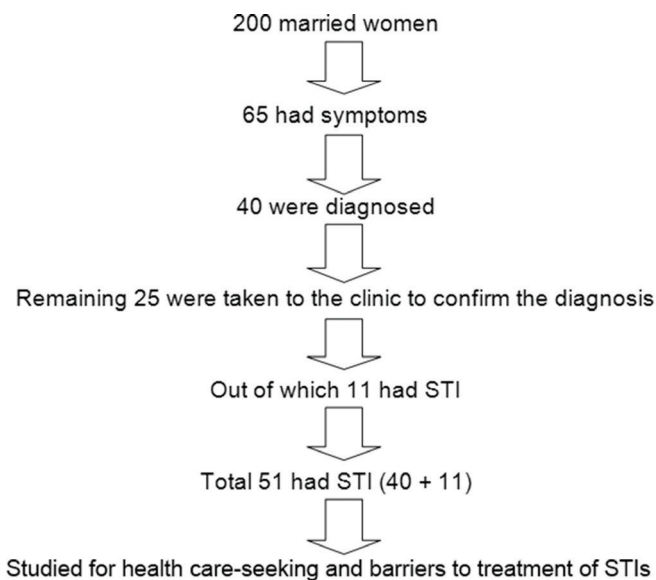
Figure 1: Flowchart of selection of the study participants.

Table 1: Distribution according to demographic characteristics

Characteristics	Number (*n* = 200)	Percentage
Age group (years)	Mean age = 30.6 years; SD = 8.3; range = 16–46	
18–27	79	39.5
28–37	72	36
38–47[a]	49	24.5
Total	**200**	
Religion		
Hindu	88	44
Muslims	112	56
Total	**200**	
Education		
Illiterate	70	35
Primary	48	24
Secondary	50	25
Diploma	18	9
Graduate	14	7
Total	**200**	
Occupation		
Semiprofessional	3	1.5
Skilled	27	13.5
Unskilled	21	10.5
Student	6	3
Housewife	143	71.5
Total	**200**	
Type of family		
Nuclear	172	86
Joint	28	14
Total	**200**	
Socioeconomic status		
Class II	6	3
Class III	64	32
Class IV	88	44
Class V	42	21
Total	**200**	

[a]47 years is taken as the higher limit of the class interval as all the participants were within that range.

Results

Table 1 shows that 39.5% were in the age group of 18–27 years, 56% were Muslims, 71.5% were housewives, 86% belonged to nuclear families, and 44% belonged to Class IV socioeconomic status according to modified B.G. Prasad classification.

Table 2 shows 25.5% had STI and 96.1% had discharge. 21.5% had more than one symptom.

Table 3 shows 58.8% had sought treatment for STI, of which 56.7% took treatment from private hospital. None of the partners had taken treatment.

Table 4 shows fear/stigma was the important barrier to STI treatment followed by not caring about the symptoms, not having time, and not knowing where to go.

Table 5 shows forty three percent were using contraceptives, of which 54.6% were using permanent methods and 47.6% were using temporary methods of contraception.

Table 6 shows fear of side effects and lack of awareness as the main reasons for non use of contraceptives.

Table 7 shows that there is no association between contraceptive use and STI.

Table 8 shows that there is significant association between STI, age, and type of family.

Discussion

It was found that 25.5% of the respondents had STI, which was less when compared to 87% in a study done by Phrasisombath et al.[11] About 21.5% had more than one symptom compared to 2.5% in a study done by Sri Devi and Swarnalatha.[2]

About 58.8% had sought treatment for STI when compared to 48% in a study done by Mmari et al.,[12] 67% by Phrasisombath et al.,[11] 26.6% by Sarkar et al.,[13] 63% by Hussain et al.,[14] 30% by Elahee et al.,[15] 60% by Hegde et al.,[16] and 39% by Das and Shah.[10]

About 36.7% sought treatment from public hospital compared to 24% by Phrasisombath et al.,[11] 26% by Hegde et al.,[16] and 56.7% sought treatment from private hospital compared to 12% in a study done by Phrasisombath et al.,[11] and 69% by Hegde et al.[16]

Mean age was 30.6 years when compared to 19.8 years in a study done by Mmari et al.,[12] 17.4 years by Miles et al.,[18] 20 years by Phrasisombath et al.,[11] 26.09 years by Sarkar et al.,[13] 28.2 years by Garg et al.,[17] and 29.84 years by Hegde et al.[16]

Table 2: Respondents' reproductive tract condition

STI sign/symptoms currently	Number	Percentage
Yes	51	25.5
No	149	74.5
Total	**200**	
Length of time having RTI/STI symptoms		
<4 weeks	22	43.1
4–8 weeks	8	15.7
>8 weeks	21	41.2
Total	**51**	
Current RTI/STI sign or symptoms		
Discharge	49	96.1
Lower abdominal pain	11	21.6
Genital itching	0	0
Pain during intercourse	0	0
Genital wart/ulcer	0	0

Table 3: Health care-seeking behavior among respondents who were STI symptomatic ($n = 51$)

Sought care for STI symptoms	Number	Percentage
Yes	30	58.8
No	21	41.2
Total	**51**	
Time delay until seeking care (days)		
<7	16	31.4
7–14	9	17.6
>14	26	51
Source of STI treatment the last time		
Public hospital	11	36.7
Private clinic	17	56.7
Pharmacy	2	6.7
Herbalist	0	

Table 4: Barriers to STI services mentioned by respondents

Barriers[a]	Frequency	Percentage
Inconvenient location	4	19
Opposition from family members	5	23.8
Lack of money	2	9.5
Don't know where to go	8	38.1
Don't have time	10	47.6
Lack of confidentiality	3	14.3
Don't care not important	11	52.4
Fear/stigma	14	66.7

[a]Multiple response

There were 56% Muslims in the study when compared to 41% in a study done by Mmari et al.,[12] 8% by Hegde et al.,[16] and 21% by Das and Shah.[10]

About 77.5% were married when compared to 40% in a study done by Mmari et al.[12]

Most common symptom was discharge which was 96% when compared to 62% in a study done by Mmari et al.,[12] 76.2% by Phrasisombath et al.,[11] 73.4% by Sarkar et al.,[13]

Table 5: Contraceptives used by the study subjects

Contraceptives	Number	Percentage
Condom	3	1.5
Cu T	19	9.5
Oral contraceptive pills	19	9.5
Tubectomy	47	23.5
Nil	114	57

Table 6: Reasons for non use of contraceptives

Reasons[a]	Number	Percentage
Husband dislike	20	17.5
Difficult to obtain	14	12.3
Lack of awareness	29	25.4
Failure	11	9.6
Fear of side effects	35	30.7
Misconceptions	10	8.8

[a]Multiple response

Table 7: Association between contraceptive use and STI

Contraceptive use	STI		
	Yes (%)	No (%)	Total
Yes	23 (26.7)	63 (73.3)	86
No	28 (24.6)	86 (75.4)	114
Total	51 (25.5)	149 (74.5)	200

$\chi^2 = 0.123$, df = 1, $p = 0.726$, not significant

21.3% by Sri Devi and Swarnalatha,[2] 57% by Garg et al.,[17] 43.7% by Hegde et al.,[16] and 32% by Das and Shah.[10]

Thirty five percent were illiterate compared to 67% in a study done by Sarkar et al.,[13] 83.6% by Elahee et al.,[15] and 72% by Garg et al.[17] About 71.5% were housewives compared to 61.4% in a study done by Sarkar et al.[13] and 85% by Das and Shah.[10] Eighty six percent belonged to nuclear families compared to 46.8% in a study done by Sarkar et al.[13] and 87% by Elahee et al.[15] About 25.5% had STI compared to 45.4% in a study done by Sarkar et al.,[13] 72.7% by Elahee et al.,[15] 56% by Sri Devi and Swarnalatha,[2] 26.8% by Hegde et al.,[16] and 17% by Das and Shah.[10] Forty three percent used family planning methods compared to 17.3% in a study done by Elahee et al.[15]

Recommendations

The main interventions to reduce the STIs include information, education, and communication (IEC) campaigns, behavior change communications, and condom promotion. The health services should also be made more accessible so that women feel comfortable in seeking treatment and are not deterred by concerns over privacy and confidentiality. Patient education to complete their treatment, change risky behavior, and the importance of partner treatment must be explained to the patients in order to prevent recurrence. The challenge is not just to develop new interventions, but also to identify barriers to the implementation of existing tools.

Table 8: Association between SD factors and STI treatment

Characteristics	STI treatment		
	Yes	No	Total
Age group (years)			
18–27	5	13	18
28–37	20	8	28
38–47	5	0	5
Total	**30**	**21**	**51**
$c^2 = 12.49$, df = 2, $p = 0.002$, significant			
Religion			
Hindu	19	9	28
Muslims	11	12	23
Total	**30**	**21**	**51**
$\chi^2 = 2.09$, df = 1, $p = 0.2$, not significant			
Education			
Illiterate	11	11	22
Primary	9	2	11
Secondary	6	4	10
Diploma	1	4	5
Graduate	3	0	3
Total	**30**	**21**	**51**
$\chi^2 = 8.91$, df = 4, $p = 0.06$, not significant			
Occupation			
Semiprofessional	0	0	0
Skilled	3	3	6
Unskilled	3	1	4
Student	3	3	6
Housewife	21	14	35
Total	**30**	**21**	**51**
$\chi^2 = 0.83$, df = 3, $p = 0.7$, not significant			
Type of family			
Nuclear	29	16	45
Joint	1	5	6
Total	**30**	**21**	**51**
$\chi^2 = 4.99$, df = 1, $p = 0.03$, significant			
Socioeconomic status			
Class II	0	0	0
Class III	8	9	17
Class IV	13	10	23
Class V	9	2	11
Total	**30**	**21**	**51**
$\chi^2 = 3.4$, df = 2, $p = 0.3$, not significant			

Note: There is significant association between STI, age (0.002), and type of family (0.03).

More attention should be paid to those respondents who claimed that they did not know where they could get the services they needed. This indicates the need to upgrade the existing information and find creative ways of communicating this information. Timely detection, correct diagnosis, and appropriate treatment are essential factors for quality STI services.

Limitation

Risk behavior assessment was not done because most of the women refused to disclose their extra-marital relations due to shyness or the prevailing local customs. Though adequate precautions were taken to maintain privacy and confidentiality because the topic was sensitive, women might have been apprehensive to reveal their problem to the interviewer. Hence, the prevalence of STI in our study might be an underestimate.

Conclusion

There was significant association between STI, age, and type of family. Partner treatment was found to be poor. About 25.5% had STIs out of which only 58.8% took treatment. Most of them took treatment from the private hospitals. Fear/stigma was the important barrier to STI treatment followed by not caring about the symptoms, not having time, and not knowing where to go.

Acknowledgment

References

1. AIDS Action/AHRTAG/HAIN. All about STDS. Asia-Pacific Edition, 26, 1995. January–March.
2. Sri Devi B, Swarnalatha N. Prevalence of RTI/STI among reproductive age women (15–49 years) in urban slums of Tirupati town, Andhra Pradesh. Health Popul Perspect Issues 2007;30(1):56–70.
3. Yasmini I. Study of reproductive tract infections and awareness in tribal women in Keamari District, Karachi, Pakistan. South East Asian Studies Manual 2000;141–2.
4. Mayaud P, Mabey D. Approaches to the control of sexually transmitted infections in developing countries: old problems and modern challenges. Sex Transm Infect 2004;80:174–82.
5. http://www.popcouncil.org/rhfp/rti_fact_sheets/index.html (last accessed on September 23, 2013).
6. Glasier A, Gülmezoglu AM, Schmid GP, Moreno CG, Van Look PF. Sexual and reproductive health: a matter of life and death. Lancet 2006;368:1595–607.
7. Selvarani G. An intervention programme for reproductive tract infections among women in a selected area in rural Tamil Nadu, India. South East Asian Studies Manual 2000;121–3.
8. Chaturvedi J. Screening of married women in the reproductive age group for reproductive tract infections in a village of Garhwal. South East Asian Studies Manual 2000;134–8.
9. Dixon-Mueller, R. Wasserheit J. The culture of silence: reproductive tract infections among women in the Third World; International Women's Health Coalition, New York, 2001. Available at: http://www.iwhc.org/docUploads/CULTUREOFSILENCE.PDF (last accessed on September 23, 2013).
10. Das, NP, Shah U. A study of reproductive health problems among men and women in urban slums with special reference

to sexually transmitted infections. A Project Report prepared for ICMR, New Delhi. Population Research Centre, M.S. University of Baroda, Baroda, India, 2007.

11. Phrasisombath K, Thomsen S, Sychareun V, Faxelid E. Care-seeking behaviour and barriers to accessing services for sexually transmitted infections among female sex workers in Laos: a cross-sectional study. BMC Health Services Res 2012, 12:37.

12. Mmari KN, Oseni O, Fatusi AO. STI treatment-seeking behaviors among youth in Nigeria: are there gender differences? Int Perspect Sex Reprod Health 2010;36(2):72–9.

13. Sarkar M, Akter SFU, Rahman MZ. Reproductive tract infection and treatment seeking behaviour of the married women of reproductive age in a slum of Dhaka City. Ibrahim Med Coll J 2007;1(2):13–6.

14. Hussain MA, Rahman GS, Banik NG, Begum N. A study on prevalence of RTI/STDs in a rural area of Bangladesh: save the children (USA), Bangladesh Field Office 1996.

15. Elahee SMA, Mahmud S, Tanvir S, Rahman MZ. Breaking the silence: reproductive tract infections (RTIs) among women in slums of Khulna City, Bangladesh. Bangladesh e-J Sociology 2013;10(2):119–34.

16. Hegde SKB, Agrawal T, Ramesh N, Sugara M, Joseph PM, Singh S, et al. Reproductive tract infections among women in a peri-urban under privileged area in Bangalore, India: knowledge, prevalence, and treatment seeking behavior. Annals Tropical Med Public Health 2013;6(2):215–20.

17. Garg S, Sharma N, Bhalla P, Sahay R, Saha R, Raina U, et al. Reproductive morbidity in an Indian urban slum: need for health action. Sex Transm Infect 2002;78:68–9.

18. Miles K, Shaw M, Paine K, Hart GJ, Ceesay S. Sexual health seeking behaviours of young people in the Gambia. J Adolesc 2001;24(6):753–64.