

Sexually Transmitted Infections: Knowledge and factors affecting the treatment and prevention practices among reproductive age women

SAIMA GUL¹, ADILA ANWAR², MEHWISH MUBARIK³, UZMA SHAH⁴, KANEEZ FATIMA⁵, GUL FATIMA⁶

¹Deputy Director Inspection, Sindh Health Care Commission, Sukkur.

²Gynaecologist of Gynae & Obs Dept. PAF Hospital, Lahore.

³Deputy Director Clinics, Population Welfare Department Sindh.

⁴Senior Medical Officer, Karachi Metropolitan Cooperation, Karachi.

⁵Gynaecologist of Gynae & Obs Dept., PIMS Hospital Islamabad.

⁶House Officer of Gynae & Obs Dept., KMC Civil Hospital Khairpur.

Corresponding author: Dr. Saima Gul, Email: drsaimamemon@yahoo.com

ABSTRACT

Aims: The main purpose of this study was to find to assess the knowledge about STIs among community women of reproductive age (15-49 years) in Rawalpindi.

Methodology: This study was conducted taking 150 women through multistage, cluster randomization from January to June 2017 at Rawalpindi. The ethical committee of Sarhad University, Peshawar approved the study. A self-structured, pre-tested questionnaire was used for data collection. Data analysis was done through SPSS® version 21. Results were generated in tables and graphs.

Results: The mean \pm SD age was 28.7 ± 9.5 years with a minimum of 19, maximum 49. Almost half of all women were age group 19-29 years & 82% were married. Eighty percent was the literacy while CPR was 53.7%. Knowledge about STIs was not sufficient (42%) yet most knew about mode of transmission of STIs (86.67%). Most women identified the factors which contribute to the spread of STIs; 97.33% said STIs are preventable while 92.67%. One third of all women had one or other STI but only 19 women knew about the disease they had.

Conclusion and recommendations: Pakistan faces the persistent threat of STIs. Community women of reproductive age are at specific risk to a high risk of spread of STIs. Education, awareness and intervention at all levels by all stakeholders/ public and private are utmost required to stop STIs and their long standing complications.

Key words: Sexually transmitted infections, STIs, Reproductive age, Knowledge.

INTRODUCTION

Reproductive health (RH) is defined as a state of complete physical, mental, and social well-being in all matters relating to the reproductive system, at all stages of life. Sexually transmitted infections (STIs) are major hurdles in the way to attain RH¹. STIs refers to a variety of infections/ clinical syndromes- caused by 30 different pathogens through sexual activity². STIs have been a significant public health problem. Cheap and cost-effective interventions to combat STIs, their control is not yet achieved³. Some of STIs are treatable while other are not⁴.

Developing as well as industrialized countries are facing huge burden of STIs leading to serious morbidity and mortality. It has been estimated that every year 499 million new STIs cases are added to the burden⁵. These hidden epidemics lead to enormous health and economic consequence- especially for developing countries where they account for 17% of economic losses caused by ill health⁶.

STIs are not only a cause of acute morbidity in adults, but may result in complications including male and female infertility, ectopic pregnancy, cervical cancer, premature mortality, congenital syphilis and fetal loss and others making the women and their infants uniquely vulnerable to the consequences of STIs in a community^{7,8}. Although; high-risk behavior of individual is main contributor of STD acquisition and spread, other factors like lack of awareness, inaccessibility to health facilities and moreover, lately appearance of symptomatology contribute much to disease transmission⁸.

Pakistan's current population is over 220 million with estimate of women of reproductive age is about 55 million in Pakistan. This cohort of women will remain bare to exposure of STIs if it is not equipped with proper knowledge and behavioral training. Only an interventional study about ten years ago (2008) reported prevalence rate of STIs amongst the urban men of 6 cities in Pakistan, Karachi (8.5%) in Peshawar (2.0%)⁹.¹¹ Almost all studies have focused high risk populations like FSW, MSW, IDUs, truck drivers in whom STIs prevalence is much higher¹⁰⁻¹².

The importance of knowledge, awareness and preventive practices from STIs amongst the community women of reproductive age is not documented yet. The aim of this study is to identify gaps in knowledge and awareness and highlight their risk

factors affecting treatment and prevention measures among reproductive age woman.

METHODOLOGY

This descriptive study was conducted at Rawalpindi city in a period of six months from January to June 2017. A sample of 150 women of the reproductive age (19-49 years) included through multistage, cluster randomization sampling technique. The ethical committee of Sarhad University, Peshawar reviewed the synopsis and after its approval the study was carried out. Participation of subjects in the study was voluntary and informed written consent was taken from all women. A self-structured, pre-tested questionnaire was used for data collection. Urdu translation of questionnaire was used in case of English illiteracy. Besides demographic data and knowledge about STIs, these participants were asked about the presence of symptoms of STIs. It was followed by relevant microbiological tests with their consent for detection of STIs in them.

Data analysis was done through SPSS® version 21. Results were generated in tables and graphs.

RESULTS

A total of 150 women in reproductive age were approached of which 121 were married. Based on their data the mean \pm SD age was 28.7 ± 9.5 years with a minimum of 19, maximum 49 and range of 30 years. Almost half of all women were age group 19-29 years (Table:1). More than a half of all women were housewives. (Figure:1) Nearly 20% were either illiterate or only educated up to primary. (Figure:2) It was important to note that 35.3% women had no children. (Table:2) Contraceptive prevalence rate was calculated to be 53.7% among these study participants. Table # 3 shows different contraceptive used. Knowledge about STIs was not sufficient yet most knew about mode of transmission of STIs. (Table: 4 & Figure: 3 & 4) All the women knew STIs are preventable and they identified multiple symptoms however; twenty one out of 150 women (14%) didn't know any complications of STI. (Table: 5 & Figure: 5) Women identified the factors which contribute to the spread of STIs. (Table:6) It is of paramount importance that women knew that to treat STIs husbands/ partners along with women are treated and they found it must to prevent

STIs recurrence. One third of all women had one or other STI but only 19 women knew about the disease they had. (Figure: 6)

Table 1. Age distribution of respondents

Age (in years)	Frequency	Percentage (%)
19-29	69	46
30-39	56	37.33
40-49	25	16.67
Total	150	100

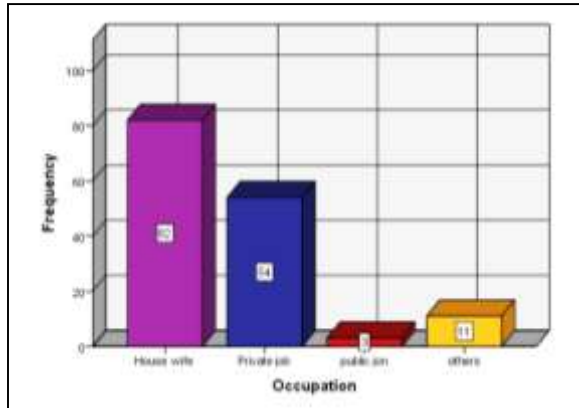


Figure 1. Occupational status of women

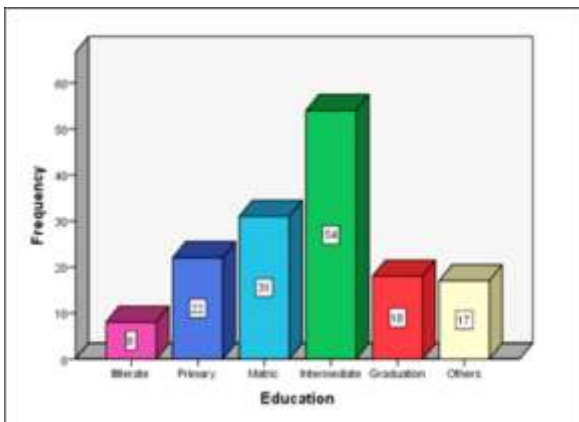


Figure 2. Educational status of women

Table 2. Marital status and number of children of women

Marital Status	Frequency	Percentage (%)
Married	121	80.66
Unmarried/ Widowed/ Seperated	29	29.33

# children	Frequency	Percentage (%)
Nulliparous	53	35.3
1-3	59	39.3
4-6	17	11.3
7-9	17	11.3
10 and above	4	2.7
Total	150	100

Table 3. Use of contraceptive methods

Contraceptive used	Frequency	Percent
Condom	14	9.3
Withdrawal	16	2.7
Condom+ Withdrawal	4	2.7
Contraceptive pill	10	4.0
Intrauterine device	15	10
Femplant	3	2.0
Calendar/mucus method	4	2.7
Female sterilization	1	2.0
None	85	56.7
Total	150	100

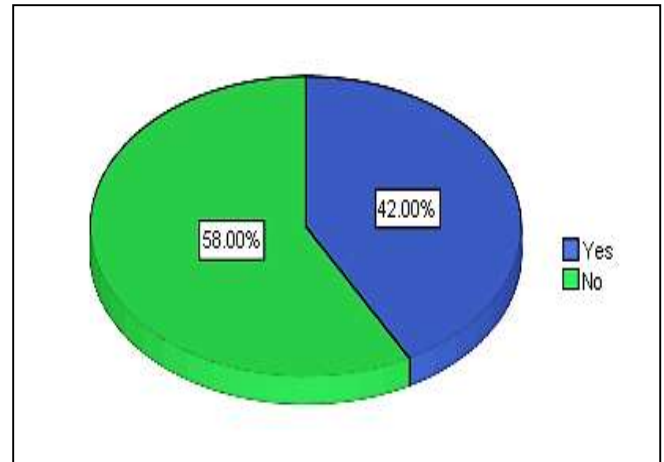


Figure 3. Frequency of knowledge about STIs

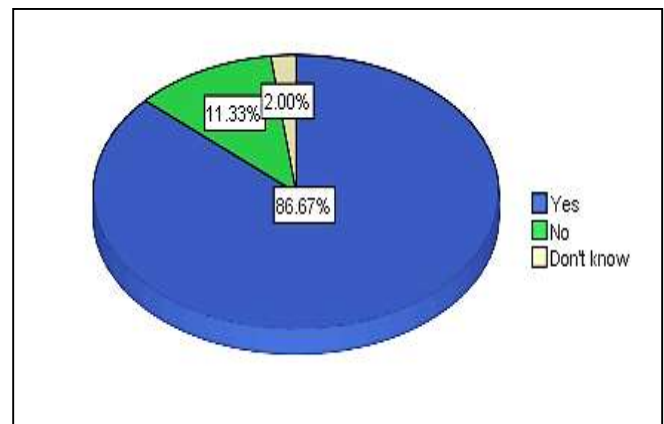


Figure 4. Knowledge about STI transmission through sexual route

Table 4. Knowledge of symptoms of STI

Sr		Yes	No
1	Abnormal vaginal discharge (female)	143	7
2	Urethral discharge (male)	78	72
3	Genital ulcers	66	84
4	Genital warts	27	123
5	Genital itching	106	44
6	Pain during urination	76	74
7	Pain during sexual intercourse	113	37
8	Lower abdominal pain (female)	97	53

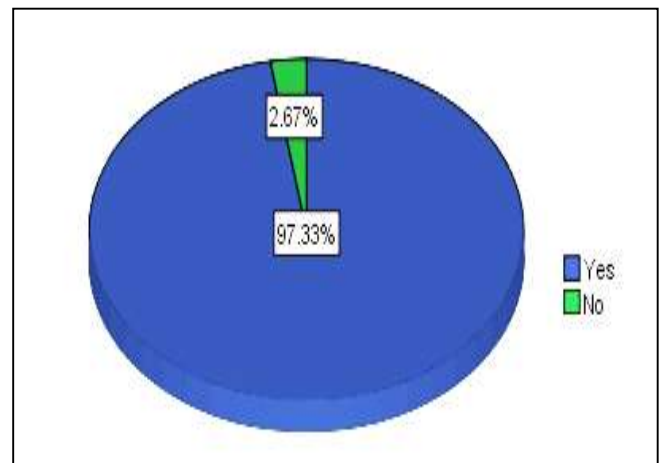


Figure 5. Do you think that STIs are preventable?

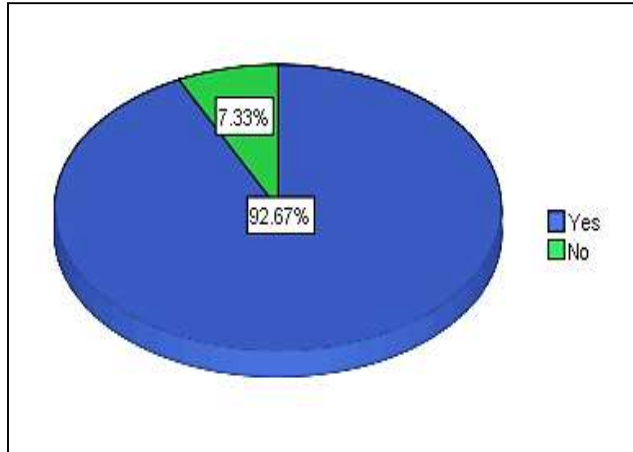


Figure 6. Knowledge about treating husband/ partner and wife simultaneously.

Table 5. Knowledge about complications of STI if untreated

Sr.	Complications	Yes	No	No comments
1	Infertility	85	2	42
2	Ectopic pregnancy	24	2	103
3	Cervical cancer	105	0	24
4	Premature birth	34	0	95
5	Still birth	20	0	109
6	Miscarriage	36	0	93
7	Neonatal death	15	0	114

Table 6. Opinion of women regarding factors contributing to STIs.

Sr	Factors	Yes	No
1	Bad hygiene of man	106	44
2	Bad hygiene of woman	125	25
3	Being unfaithful	117	33
4	Intrauterine device	58	92
5	Having sex soon after delivery	76	74
6	Sex during menses	103	47
7	Intravenous drug use	91	99
8	Blood transfusion	50	100
9	Multiple abortion/childbirths	61	89
10	Using unclean water	8	142
11	Soaking body in water	5	145

DISCUSSION

The current study focused women of reproductive age which-although live far from the hubs of STIs spread yet; are at equal risk but ignored^{10, 11}. The current study found that 42% women knew about STIs while of these a huge majority (>86%) had knowledge about STIs spread through sexual route while 93% knew that STIs are preventable. Studies conducted on STIs and their modes and ways of spread in Pakistan reported that the most serious transmission modes are injectable drugs users (IDUs), transgender, male and female sex workers with prevalence rate as high as 27.2%¹³⁻¹⁵.

A study found that 41.1% males and 27.2% of the female university students could name a STIs correctly, and less than one percent knew the clinical signs of HIV/AIDS¹⁶. This study shows that even the highly educated are less aware of STIs. However; it was notable that more than 80% of them knew STIs prevention methods. These finding are in concordance with the current study however; on the other hand, in a study it was found that nearly two thirds (60%) patients were aware modes of transmission of STIs and the associated complications. Only one fifth of them (20%) used condom and 21% had knowledge of safe sex¹⁷. 53% did not know about condom and its use. Comparing to this; the current study noted that prevalence of condom use was 12%.

From total 150 women, 69 (46%) were of age group 19-29 years. Other studies from 20-30 years studies conducted on

university students while in case of general population the maximum age was 60 years^{12, 13, 18, 19}.

It was found in this study that younger age, lower education, having multiple partners were factors responsible for low knowledge and spread of STIs. Likewise; other studies noted that elder age, urban residence, good education status, media access and higher economic status significantly (P value < 0.0001) positively affect the knowledge regarding prevention from STIs¹⁸.

In the current study nearly one fifth (20%) of women were illiterate or having no formal education contrary to studies that reported 80% of respondents were illiterate¹². This finding reiterates the association of low STIs knowledge and low education. A study in Bangladesh also found same association.³⁰ Nasir JA et al found that knowledge about STIs was 70% among males in Pakistan while 50% said that prevention from risk of HIV/ADS can be reduced by always using condoms during sex. In the current study 86% of the women reported that STIs are transmitted from one person to person and 92% agreed that partners having STI should be treated.

Rural areas living people have lesser knowledge and awareness of STIs prevention. A study in a rural district of Sindh, reported that only one third (31%) males/ females knew symptoms of STIs²⁹. However; the study had included only healthy individuals/ couples that time and situation must be different now.

Doctors are the mainstay of knowledge on STIs. But any universal/ standard practice is missing in both public and private sectors. Additionally; there is no any motivation regarding screening of probable but asymptomatic cases of infections²⁰. This is a great gap in our overall policy and implementation strategies for STIs management at national level.

The key strategy for prevention of STIs is education and counselling of at-risk persons. Secondary prevention of further transmission of STI to the partners by standardized detection and effective treatment facilities. And the tertiary prevention is early and upto mark treatment and rehabilitation.

CONCLUSION

Pakistan is facing the persistent threat of STIs. Young age population, those with no education, financially low status, not having reached to effective media and those living in rural areas are very vulnerable and exposed to a high risk of spread of STIs. Education, awareness and intervention at all levels by all stakeholders/ public and private are utmost required for stopping STIs and their long-standing complications.

REFERENCES

1. Wagenlehner FM, Brockmeyer NH, Discher T, Friese K, Wichelhaus TA. The presentation, diagnosis, and treatment of sexually transmitted infections. *Deutsches Ärzteblatt International*. 2016;113(1-2):11.
2. Organization WH. Sexually transmitted infections factsheet 2019 [Available from: <http://www.who.int/mediacentre/factsheets/fs110/en/>].
3. Low N, Broutet NJ. Sexually transmitted infections—Research priorities for new challenges. *Public Library of Science San Francisco, CA USA*; 2017. p. e1002481.
4. Hokororo A, Kihunrwa A, Hoekstra P, Kalluvya SE, Changalucha JM, Fitzgerald DW, et al. High prevalence of sexually transmitted infections in pregnant adolescent girls in Tanzania: a multi-community cross-sectional study. *Sexually transmitted infections*. 2015;91(7):473-8.
5. Organization WH. Sexually transmitted infections (STIs) Geneva 2017 [cited 2018 Nov 23]. Available from: <http://www.who.int/mediacentre/factsheets/fs110/en/>.
6. Mayaud P, Mabey D. Approaches to the control of sexually transmitted infections in developing countries: old problems and modern challenges. *Sexually transmitted infections*. 2004;80(3):174-82.
7. van de Wijgert JH. The vaginal microbiome and sexually transmitted infections are interlinked: consequences for treatment and prevention. *PLoS medicine*. 2017;14(12):e1002478.
8. Jolly DH, Mueller MP, Chen M, Alston LM, Hawley M, Okumu E, et al. Concurrency and other sexual risk behaviors among black young

- adults in a southeastern city. *AIDS Education and Prevention*. 2016;28(1):59-76.
9. Mir AM, Wajid A, Reichenbach L, Khan M. STI prevalence and associated factors among urban men in Pakistan. *Sexually transmitted infections*. 2009;85(3):199-200.
 10. Butt M. Increasing incidences of STIs in Pakistani youth; Role of Family Physicians in prevention, treatment and control of STIs. *MIDDLE EAST JOURNAL OF FAMILY MEDICINE*. 2015;7(10):25.
 11. Ishtiaq R, Asif A, Jamil AR, Irfan A, Ishtiaq D. Knowledge and attitude about sexually transmitted infections amongst truck drivers in Southern Punjab, Pakistan. *Cureus*. 2017;9(3).
 12. Ganatra B, Gerds C, Rossier C, Johnson Jr BR, Tunçalp Ö, Assifi A, et al. Global, regional, and subregional classification of abortions by safety, 2010–14: estimates from a Bayesian hierarchical model. *The Lancet*. 2017;390(10110):2372-81.
 13. Nasir JA, Imran M, Zaidi SAA. RISK FACTOR OF SEXUALLY TRANSMITTED INFECTIONS AMONG PAKISTANI MALES. *Khyber Medical University Journal*. 2016;8(2):66-71.
 14. Haque N, Zafar T, Brahmabhatt H, Imam G, Ul Hassan S, Strathdee S. High-risk sexual behaviours among drug users in Pakistan: implications for prevention of STDs and HIV/AIDS. *International journal of STD & AIDS*. 2004;15(9):601-7.
 15. Rehan N, Bokhari A, Nizamani NM, Jackson D, Naqvi HR, Qayyum K, et al. National study of reproductive tract infections among high risk groups of Lahore and Karachi. *J Coll Physicians Surg Pak*. 2009;19(4):228-31.
 16. Hashmi I, Ahmed I, Nadeem M, Ahmed S, Jeoffrey M, Sajjad R, et al. Knowledge Regarding Sexually Transmitted Disease Amongst University Students in Pakistan. *Global Journal of Medical Research*. 2014;14(5):245-68.
 17. Maan MA, Hussain F, Iqbal J, Akhtar SJ. Sexually transmitted infections in Pakistan. *Annals of Saudi medicine*. 2011;31(3):263-9.
 18. Hossain M, Mani KK, Sidik SM, Shahar HK, Islam R. Knowledge and awareness about STDs among women in Bangladesh. *BMC public health*. 2014;14(1):1-7.
 19. Satterwhite CL, Torrone E, Meites E, Dunne EF, Mahajan R, Ocfemia MCB, et al. Sexually transmitted infections among US women and men. *Sexually transmitted diseases*. 2013;40(3):187-93.
 20. Khan AA, Khan A. Sexually transmitted infection care in Pakistan: The providers perspective. *J Pak Med Assoc*. 2012;62:941-5.