

Women's Health and Reproductive Tract Infections: Modern Challenges.

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ABSTRACT

Objectives: To determine the prevalence, common symptoms & risk factors of (RTIs)/sexually transmitted infections (STIs) among married women of reproductive age group. **Methodology:** For this prospective study, data were collected by face to face interview using a structured questionnaire. At the end of interview each women had pre-speculum examination, vaginal, cervical swab and pap smears collection, which was sent for pathological examination. Samples were also sent for diagnosis of chlamydial infections and urine routine examination. **Results:** In the study group, 500 married females of 18-45 years age were included. More than 50% had one or more RTIs/STIs related symptoms when they were investigated for pathological agents. Out of them, 61% had candidiasis, 37.2% trichomonas vaginalis, 37.1% bacterial vaginosis, 21.4% urinary tract infection while 73% patients had mixed infection. **Conclusion:** The prevalence of reproductive tract infection (RTI) was associated with low parity and illiteracy. Most common, symptom was vaginal discharge while vaginal thrush was the common RTI. Trichomonas vaginalis was the commonest sexually transmitted infective organism.

Keywords: Reproductive tract infection, sexually transmitted infection, bacterial vaginosis, syndromic approach, vaginal discharge.

INTRODUCTION

Reproductive tract infections (RTIs), including sexually transmitted infections (STIs) and non-sexually transmitted infections (non-STIs) are a wide spread health concern among women worldwide. These infections are responsible for major ill-health throughout the world⁽¹⁾.

According to a World Health Organization (WHO) estimate, there are more than 340 million new cases of STIs annually and about 75–85% of these occur in developing world. It causes suffering for both men and women around the globe but their consequences are more devastating and wide spread among women⁽²⁾. Majority of women having RTIs lead to complications like pelvic inflammatory disease (PID), infertility, cervical cancer, post-abortal and puerperal sepsis, chronic pelvic pain, and ectopic pregnancy. Reproductive tract infections are asymptomatic in many cases among women, and this makes the diagnosis difficult⁽³⁾. Poor personal hygiene, harsh living conditions and lack of accessible medical care facilities in villages significantly contribute to the high prevalence of RTIs among rural Chinese women.⁽⁴⁾ Reproductive tract infections and its control is also becoming a major concern in many countries.⁽⁵⁾ WHO recommends the syndromic approach for the diagnosis and management of RTIs/STIs through which a health worker at the most peripheral level without using laboratory support can diagnose RTIs/STIs and prescribe treatment. However, appropriate information is crucial in this context not only for allocation of resources but for planning of appropriate strategies to provide timely management.

⁽⁶⁾ The scarcity of epidemiological data is one of the major hurdles and obstacle in this regard. Only a few population-based studies have been conducted in India⁽⁷⁾, Bangladesh⁽⁸⁾, Egypt⁽⁹⁾ and Nigeria.¹⁰ Situation is not different in Pakistan as there is limited data on the prevalence and health seeking behavior for RTIs in the general population. The objective of the study was to know the prevalence of reproductive tract infections among females of the reproductive age group and the risk factors and socio-demographics that may influence the prevalence of STIs.

METHODOLOGY

The study group comprised of 500 married women between 18-45 years of age who attended Outpatient Department of Obstetrics & Gynecology, Punjab Employees Social Security

Welfare Company Hospital, Manga Road Lahore, during the period of August 2014 – July 2015. A total of 541 women fulfilled the criteria and were recruited. Out of them 21 women did not return for follow up and samples of 20 were found inadequate. So, they were excluded from the study. The data were collected by direct face to face interviews using a pretested structured questionnaire. Pregnant women, women who reported delivery within last six weeks or having antibiotics within last two weeks were excluded from the study. Informed consent was obtained from all participating women. Before recruitment, women were explained the process of enrollment, physical and vaginal examinations and samples collection for investigating RTIs and STIs. Additionally, they were offered incentive that if found infected, free of cost treatment would be provided accordingly.

Data Collection: The women who consented to participate were given the questionnaire and were supervised by trained interviewers to collect information regarding the following areas: menstrual and obstetric history (menstrual pain and irregularities, number of births, places of delivery and birth attendants, pregnancy outcomes), gynecologic symptoms (vaginal discharge; itching, sores or ulcers in the genital area, lower abdominal pain, frequency, burning or pain during micturation), health-seeking behavior (treatment sought, health care providers consulted, if not, why?), sexual history (marital age, frequency of coitus and history of dyspareunia) and contraceptive use (use of modern/natural contraceptive methods). At the end of interview each women had pre-speculum examination, vaginal cervical swab and pap smear were collected and sent for pathological examination by gram staining, whiff test and wet smear. All patients were treated by syndromic approach. Patients were called for follow up after 2 weeks and 4 weeks. Women having blood mixed vaginal discharge were called after 6 weeks for repeat Pap smear, after taking treatment.

RESULTS

This study revealed that majority of the women had one or more RTIs/STIs related symptoms. (Table 2). Vaginal discharge was present in 326 (65.2%), abdominal pain in 270 (54%), vaginal and perineal itching in 252 (50.4%), foul smelling discharge in 186 (37.2%), pain during or after coitus in 113 (22.6%) and heavy discharge which stained under clothes was present in 140 (28%) women. Blood mixed discharge was present in 17 (3.4%) and urinary complaints were found in 142 (28.4%) women. Many causative agents were found in this study (Table 3). Candidiasis was present in 305 (61%), bacterial vaginosis in 188 (37.6%), urinary tract infection in 107 (21.4%), trichomonas vaginalis in 186 (37.2%), gonorrhoea in 16 (3.2%), Chlamydia in 60 (12%) and mixed infection was

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found in 265 (73 %) women. All the patients were treated by syndromic approach and follow up was done at two weeks. Vaginal discharge was relieved in 264 (81%), abdominal pain in 167 (62%), foul smelling discharge in 132 (71%), heavy discharge which stained under clothes in 105 (75%) and blood mixed discharge was relieved in 11 (64.7%) women. One hundred (20%) women had normal Pap smear and 395 (79%) of the women showed inflammatory Pap smear who were managed medically, while 03 (0.6%) had low grade squamous intraepithelial lesion and 02 (0.4%) had high grade squamous intraepithelial lesion. They were treated with cryotherapy along with medical management or hysterectomy. Vaginal and perineal itching was relieved in 224 women (88.9%) and pain during and after coitus improved in 76 (67.3%).

Table 1: Distribution of cases according to socio-demographics

	Percentage
Age	
• <35 years	64.0%
• >35 years	30.0%
Education of female	
• Illiterate	62.0%
• Literate	48.0%
Occupation of female	
• Housewife	78.8%
• Working	16.2%
Occupation of husband	
• Permanent place of work	43.0%
• No permanent place of work	60.2%
Gravida status	
• Nulliparous	11.0%
• <2 gravida	47.2%
• >2 gravida	36.0%
Place of delivery	
• Hospital	37.4%
• Outside hospital	59.0%
Delivery conducted by	
• Skilled attendant	45.6%
• Unskilled attendant	54.0%

Table 2 Distribution of cases according to symptoms of RTI/STI

Symptoms	Percentage
Vaginal discharge	65.2%
Pain in lower abdomen	54%
Vaginal on perineal itching	50.4%
Foul smelling discharge	37.2%
Pain during and after coitus	22.6%
Heavy discharge staining under clothes	28%
Blood mixed discharge	3.4%
Urinary complaints	28.4%

Table 3 Distribution of RTI/STI causative agents

Symptoms	Percentage
Candidiasis	61%
Bacterial vaginosis (BV)	37.6%
Urinary tract infection	21.4%
Trichomonas vaginalis	37.2%
Gonorrhoea	3.2%
Chlamydia	12%
Mixed infection	73%

Table 4 Distribution of cases according to relief in symptoms after (syndromic approach) management

Symptoms	Percentage
Vaginal Discharge	81%
Pain in the lower abdomen	62%
Foul smelling discharge	71%
Heavy discharge staining under cloth	75%
Blood mixed discharge	64.7%
Vaginal and perineal itching	88.9%
Pain during or after coitus	67.3%

DISCUSSION

Our study indicates a high prevalence of RTIs among married women aged 18-45 living in the catchment areas of Punjab Employees Social Security Welfare Company Hospital, Manga Road Lahore. Candidiasis is the most prevalent endogenous infection and trichomoniasis as the most common sexually transmitted infections. Similar findings have been reported by other community-based studies conducted in Pakistan.⁽¹¹⁻¹⁴⁾ Parallel trends have been evident by the studies conducted in South Asian regions such as India⁽¹⁵⁻¹⁶⁾ and Bangladesh^(17,18) which reveal endogenous infections to be more prevalent as compared to STIs. However, there has been some difference in the prevalence of two common endogenous infections i.e. bacterial vaginosis and thrush. Our study has revealed higher prevalence of thrush similar to studies conducted in other parts of Pakistan⁽¹²⁻¹⁴⁾ as well as India^(15, 16) and Bangladesh.⁽¹⁷⁾ However, two studies conducted in India showed a higher prevalence of bacterial vaginosis compared to candida infections.^(19,20) In this study prevalence of reported morbidity of RTIs/STIs was 25.6%. This figure was reported with a range from 50% - 84% in four community based studies conducted in urban slum areas of India.⁽²¹⁾ The prevalence of RTIs in the present study is on lower side when compared with above mentioned studies. In current study prevalence of the symptoms was highest in patients 18-35 years of age and more common in illiterate females. Nandan et al reported the highest prevalence of RTIs/ STIs in 25-34 years old women.⁽²²⁾ The reason for the higher prevalence of symptoms suggestive of STI/ RTI in their work was probably due to lower education level because of poor hygiene and use of ordinary/unhygienic cloth during menstruation. A study revealed significantly higher prevalence of RTIs/STIs in 20-24 years old women, who had no or one live birth and/or whose delivery was conducted by unskilled birth attendant⁽²³⁾. Our study shows higher number of RTI/STI in women (62%) whose husband had no permanent place of work. It is probably because of high risk behavior by husband and lack of partner's treatment. This is relevant in view of migration or travel in search of occupation, playing a role in the spread of STIs. This finding is supported by other researchers.⁽²⁴⁾ The most common symptoms reported by the women sufferers under investigation was vaginal discharge 65.2% followed by pain in abdomen 54%, then vaginal or perineal itching 50.4% and foul smelling vaginal discharge 37.2%. These findings were also supported by another study.²³ Most common causative agents after laboratory investigation were candidiasis (61%) followed by bacterial vaginosis 37.6% and trichomonas vaginalis 37.2%. However about 73% women suffered from mixed infections. The presence of trichomonas vaginalis (TV) infection among participants is also a matter of great concern. Trichomonas vaginalis has been reported to be the most common curable STI worldwide and is likely to increase the risk of Human immune deficiency virus (HIV) transmission.⁽²⁾ The later is a matter of concern for a country like Pakistan which is categorized as 'low prevalence and high risk' in context of HIV/AIDS. Parikh et al⁽²⁵⁾ reported that the

most commonly observed infections were Chlamydia 14% and trichomoniasis (10%) but the other STDs such as gonorrhoea and syphilis were rarely observed. Most of RTI/STI patients were not using any contraceptive measures. However incidence of RTIs/STIs was significantly lower in condom users with a significant p value of 0.1. Other contraceptive measures did not influence the incidence of RTIs/STIs. We managed the patients by syndromic approach and 60-80% symptoms were improved in different patients. In an Indian study relief was observed in 39.5% cases. Higher percentage of relief was found in candidiasis and bacterial vaginosis.⁽²³⁾ The difference is due to advancement in the management strategies with each passing day.

CONCLUSION

Prevalence of Reproductive tract infections (RTIs)/sexually transmitted infections (STIs) among married women of reproductive age is quite high with rural women being worse sufferers. Illiteracy, younger age and low parity are the major risk factors. Such high frequency of RTIs/STIs requires specific diagnosis and treatment through adoption of the recommended syndromic approach which is an appropriate way for tackling this huge problem. The findings of the study have certain policy implications for improving the reproductive health of women in the country. To increase the access, RTIs/STIs treatment facility should be part of the primary health care. Village health worker should be trained to identify RTIs/STIs among women by syndromic approach. They should be well managed with proper communication strategies to sensitize women about reporting their reproductive problems. There is immense need to adopt culturally relevant and effective reproductive health education including menstrual hygiene. To know the burden of RTIs/STIs in society adolescents and men of reproductive age need to be studied so that we can improve reproductive health of our population.

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