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# DETERMINANTS OF RTIs/STIs AMONG WOMEN IN PUNJAB AND THEIR HEALTH SEEKING BEHAVIOUR

RAHUL DEV BHAWSAR, J.P. SINGH AND ANOOP KHANNA

## INTRODUCTION

Reproductive tract infections including sexually transmitted infections are widespread in the third world. Without early diagnosis and accurate therapy, their complications severely compromise women's health, fertility and productivity, infant health and survival and the effectiveness of health care programmes.<sup>1</sup> Being an important component of RCH care, prevention, detection and management of RTIs and STIs has been overlooked in India despite the fact that many Indian women suffer from RTIs/STIs.<sup>2,3,4</sup> Several studies have also pointed out that women in India often bear the symptoms of RTIs/STIs silently without seeking health care. It is ironic that one of the few syndromes that currently has no curative therapy, such as the acquired immunodeficiency syndrome (AIDS), highlighted the importance of management of RTIs and STIs and other gynaecological morbidity in the country due to close association between them in terms of epidemiological determinants, common

risk behaviour features, their acquisition and modes of transmission.

As in the case with many developing countries, the data on prevalence of RTIs/STIs and other gynaecological morbidities are not available in India. Recent government estimates indicate that 3.5 million people are living with HIV<sup>5</sup> suggesting that the rates for STDs may also be high. Based on a number of community-based and facility-based studies and a review of scientific literature, the annual incidence of STDs in India is estimated at five per cent, which indicates that nearly 40 million new infections occur every year.<sup>6</sup> Consequently, most knowledge in this area is based on hospital statistics while information at the community level is rare. Although, a number of community-based prevalence studies of gynaecological morbidity undertaken in the last decade, in India<sup>7,8,9</sup> and in other developing countries such as Nigeria, Turkey, Bangladesh and Egypt<sup>10,11,12</sup> have led to an increased awareness among researchers and policy makers, of the magnitude of RTIs,

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including STIs and their consequences among women. Moreover, a considerable body of research using the qualitative approach has emerged from India that sheds light on women's perception of gynaecological morbidity including RTIs/STIs in terms of its etiology, illness causation, communicating symptoms and to some extent treatment seeking behaviour. On the other hand, several determinants such as socio-demographic, economic, sexual, medical, behavioural practices and dynamics of health seeking related to RTIs and STIs including other gynaecological morbidities have not been adequately explored in India. In view of these, the paper makes an attempt in this direction and aims to analyse socioeconomic, demographic and cognitive determinants of RTIs and STIs among women and their health seeking behaviour in the north Indian state of Punjab.

## **OBJECTIVES OF THE STUDY**

The aim of the paper is to study the following aspects:

1. To analyse the socio-economic and demographic determinants of prevalence of RTIs/STIs and
2. To examine the health seeking behaviour of women who reported RTIs/STIs problems.

## **MATERIAL AND METHODS**

Data for the present study are drawn from Rapid Household Survey (RHS) under Reproductive and Child Health (RCH) Project phase-2 conducted during 1998-1999. The RHS-RCH survey was undertaken so that the progress of RCH programme can be monitored at the district level. Rapid household survey is the first of its kind in the country, ever conducted to generate basic data at the level of a district. This survey was conducted in two phases –

approximately 50 per cent of the districts in India were covered in the second phase of the project in 1998 and the remaining 50 per cent districts were covered in the second phase of the project in 1999. The information gathered in the survey covered all the major components of RCH such as antenatal care (ANC) and post natal care (PNC), proportion of safe deliveries, immunisation coverage, contraceptive prevalence rate and unmet need for family planning, awareness about RTI, STI and HIV/AIDS and utilization of government health services, respectively. The respondents were eligible women (usual residents, currently married, aged 15-44 whose marriage was consummated) and men (age 20-54).

In Punjab, the data was collected from 8,709 households in phase-2. From these households 7,605 eligible women were interviewed. Information regarding RTI, STI and related health seeking behaviour is available in the survey and the same has been utilized for carrying out in-depth investigations in both rural and urban areas. The data on knowledge and prevalence of RTI and STI was obtained directly from the respondent women during the survey. Besides cross tabulation, multivariate analysis has been utilized to study the socioeconomic, demographic and cognitive correlates of RTIs and STIs among women and their health seeking behaviour in Punjab.

## **BACKGROUND OF STUDY AREA**

Situated in the northwest of India, Punjab has a population of 24.3 million according to 2001 Census of India. Its share in the total population of India is 2.40 per cent. Sikhs are the predominant religious community in Punjab and account for 63 per cent of the state's total population followed by Hindus (35 per cent) and Muslims (1 per cent). It is one of the most prosperous states in India. In 1996-97, Punjab had a per capita net state

domestic product of Rs. 18,213 at current prices, second only to Goa in the country (EPW Research Foundation, 1998). According to Planning Commission for 1993-94, only 12 per cent of the total population in Punjab was below the poverty line as compared to 36 per cent for India as a whole.<sup>13</sup> Further data reveals that over the years fertility levels have declined in Punjab and Crude Birth Rate and Total Fertility Rate stands at 19.1 and 2.21, respectively.<sup>14b</sup> The sex ratio in Punjab is 874 females per 1000 males, which is more unfavourable to females than the country as a whole (933). According to RHS-RCH survey, women in their forties have had an average of four children. The proportion of safe deliveries in Punjab is 55 per cent, on the other hand, reproductive morbidity including RTIs/STIs is also high, which can have profound implications on reproductive health and well being of women.

Table 1 presents selected demographic and social indicators for Punjab.

**TABLE 1**  
**Socio-demographic indicators,**  
**Punjab, 1998-99**

| Indicator                                                    | Punjab     |
|--------------------------------------------------------------|------------|
| Total Population <sup>a</sup>                                | 24,289,296 |
| Per cent urban <sup>a</sup>                                  | 33.9       |
| Sex ratio (females per 1000 males) <sup>a</sup>              | 874        |
| Mean children ever born <sup>b</sup>                         | 4.0        |
| Per cent women illiterate <sup>b</sup>                       | 41.4       |
| Mean age at marriage for girls <sup>b</sup>                  | 21.5       |
| Current use of family planning (%) (any method) <sup>b</sup> | 65.1       |
| Women who had safe delivery <sup>b</sup> (%)                 | 54.9       |
| Reproductive morbidity due to pregnancy <sup>b</sup> (%)     | 59.3       |

Source: a Census of India, 2001 b RHS-RCH Survey, Punjab, 1998-99

## RESULTS

### *Characteristics of respondents*

Nearly one-fifth of the sample women were residing in urban areas and the

remaining four-fifths in rural areas. About two-third (66 per cent) were Sikh and a little less than one-third (31 per cent) were Hindu while about two per cent were Muslims and remaining one per cent belonged to other religious group. One-third of them were from scheduled castes, less than a per cent were scheduled tribes, 16 per cent belonged to other backward castes while remaining 50 per cent were from other caste group. The age distribution of the sample was as follows:

Three per cent were below 20 years of age 15 per cent were between 20-24 years of age, 22 per cent were in the age group of 25-29 years and the remaining 60 per cent were above 30 years. More than two-fifth (43 per cent) had never gone to school, about 17 per cent had schooling at the primary level. Fourteen per cent had middle level and remaining 26 per cent had more than high school education. Regarding number of children, 14 per cent had only one child, 56 per cent had between two to three children, 22 per cent had four or more children while eight per cent had no child. One-third of the sample women were not using a contraceptive method at the time of their interview, an almost equal proportion (31 per cent) were sterilized and 7.3 and 13 per cent were using IUD, oral pill and condom, respectively.

### *Awareness and prevalence of RTIs and STI symptoms among women*

RHS-RCH collected information from women on knowledge about RTI and STI, source of knowledge, its mode of transmission and curability, presence of any symptoms of RTIs/STIs and related treatment seeking behaviour. Table 2 presents awareness and prevalence of RTIs and STIs symptoms among women in Punjab. It shows that nearly 82 per cent of women were aware about RTIs while corresponding awareness level of STIs was 31 per cent. It is clearly evident that a higher proportion of women were aware

about RTI while knowledge of STI was comparatively low. Also knowledge of RTI and STI was higher among urban women than their rural counterparts. Regarding modes of transmission and curability, a substantial proportion of women were not aware about transmission of RTIs. Nearly half of the women knew that STIs can be transmitted through sexual route, particularly heterosexual intercourse. Knowledge of curability of RTI and STI is good, though one in every five women do not know about the curability of these infections.

TABLE 2

Awareness and prevalence of RTIs and STIs among women, Punjab, RHS-RCH, 1998-99

|                                            | Total<br>N=<br>7605 | Rural<br>N=<br>6169 | Urban<br>N=<br>1436 |
|--------------------------------------------|---------------------|---------------------|---------------------|
| <b>Awareness of RTI</b>                    | 81.7                | 80.5                | 87.0                |
| <b>Awareness of modes of transmission*</b> |                     |                     |                     |
| Homosexual intercourse                     | 0.1                 | 0.1                 | 0.4                 |
| Heterosexual intercourse                   | 3.1                 | 2.9                 | 4.3                 |
| Lack of personal hygiene                   | 2.5                 | 2.4                 | 3.6                 |
| Other                                      | 7.0                 | 6.7                 | 8.5                 |
| Do not know                                | 88.2                | 89.0                | 85.5                |
| <b>Knowledge about curability of RTI*</b>  |                     |                     |                     |
| Curable                                    | 75.4                | 75.1                | 76.8                |
| Not curable                                | 2.3                 | 2.5                 | 1.8                 |
| Do not know                                | 22.2                | 22.4                | 21.4                |
| <b>Awareness of STI</b>                    | 31.3                | 30.0                | 37.1                |
| <b>Awareness of modes of transmission*</b> |                     |                     |                     |
| Homosexual intercourse                     | 0.6                 | 0.9                 | 1.3                 |
| Heterosexual intercourse                   | 45.7                | 43.3                | 55.7                |
| Mother to child                            | 0.8                 | 1.5                 | 0.6                 |
| Transfusion of infected blood              | 1.8                 | 1.7                 | 3.1                 |
| Other                                      | 13.4                | 13.7                | 12.9                |
| Do not know                                | 43.6                | 46.0                | 36.6                |
| <b>Knowledge about curability of STI*</b>  |                     |                     |                     |
| Curable                                    | 76.3                | 75.8                | 77.9                |
| Not curable                                | 4.3                 | 4.8                 | 2.8                 |
| Do not know                                | 19.4                | 19.4                | 19.3                |
| <b>Prevalence of RTI/STI**</b>             | 27.8                | 27.8                | 27.9                |

\* Percentages are based on those who are aware about RTI and STI

\*\* Women reported at least one symptom of RTI/STI

Regarding the prevalence of RTI/STI, the assessment of information was based on some common symptoms of RTIs and STIs, namely problems with abnormal vaginal discharge, or urinary tract infections or intercourse related pain in the last three months preceding the survey. Specifically, the prevalence of reproductive health problems among women was estimated from women's self-reported experience with each of the following problems: burning sensation or pain while urinating or difficult urination; vaginal discharge (accompanied by itching or ulcers around the vaginal area, by bad odour, by severe lower abdominal pain, by fever, or by any other problem); and painful intercourse. Women who had experienced one or more of these reproductive health problems were considered either having or at risk of contracting an RTI/STI. This information is presented in Table 2, which shows that 28 per cent women in Punjab reported problems of RTI/STI. No rural-urban differences were observed in the prevalence of RTI/STI. These findings suggests that more than one in every four currently married women in Punjab report at least one reproductive health problem related to vaginal discharge, urination or intercourse and at the same time most of them lack knowledge about RTI/STI symptoms, modes of transmission and curability and thus, provides opportunity to examine the differentials and to investigate the factors associated with the prevalence of RTI/STI.

### *Differential in RTI/STI prevalence*

The differentials in prevalence of RTI/STI among women in Punjab were examined by socio-demographic and economic attributes of women. The results of the analysis are presented in Table 3.

TABLE 3

Socio-demographic and economic differentials in the prevalence of RTI/STI among women, Punjab, RHS-RCH, 1998-99

| Socio-demographic characteristics      | Prevalence of RTI/STI (%) |
|----------------------------------------|---------------------------|
| All women                              | 27.8 (2117)               |
| <b>Residence</b>                       |                           |
| Rural                                  | 27.8                      |
| Urban                                  | 27.9                      |
| <b>Age</b>                             |                           |
| <20                                    | 35.9                      |
| 20-29                                  | 29.4                      |
| 30-39                                  | 29.5                      |
| 40-44                                  | 20.0                      |
| <b>Religion</b>                        |                           |
| Hindu                                  | 30.1                      |
| Sikh                                   | 26.9                      |
| Muslim & other                         | 25.1                      |
| <b>Caste</b>                           |                           |
| SC/ST                                  | 29.0                      |
| OBC                                    | 27.1                      |
| Others                                 | 27.3                      |
| <b>Education</b>                       |                           |
| Illiterate                             | 26.7                      |
| Upto high school                       | 29.6                      |
| Higher secondary+                      | 24.2                      |
| <b>No. of children</b>                 |                           |
| 0                                      | 37.0                      |
| 1                                      | 25.0                      |
| 2                                      | 28.3                      |
| 3+                                     | 26.8                      |
| <b>History of abortion/still birth</b> |                           |
| Yes                                    | 35.6                      |
| No                                     | 25.6                      |
| <b>No. of induced abortion</b>         |                           |
| 0                                      | 26.5                      |
| 1+                                     | 40.3                      |
| <b>Contraceptive use</b>               |                           |
| Not using                              | 26.8                      |
| IUD                                    | 25.3                      |
| Tubectomy                              | 29.6                      |
| Condom                                 | 28.2                      |
| <b>Place of delivery</b>               |                           |
| Institutional                          | 24.8                      |
| Other                                  | 28.3                      |
| <b>Home delivery conducted by</b>      |                           |
| Health personnel                       | 27.8                      |
| Other                                  | 27.8                      |

### Obstetric complications

|     |      |
|-----|------|
| Yes | 38.3 |
| No  | 26.7 |

### Knowledge of RTI/STI

|     |      |
|-----|------|
| Yes | 29.8 |
| No  | 18.1 |

### Standard of Living Index

|        |      |
|--------|------|
| Low    | 30.0 |
| Medium | 28.6 |
| High   | 26.1 |

It is observed from the table that a substantial differential exists in the prevalence of RTI/STI by age-cohort of women in Punjab. The prevalence of RTI/STI problems is high among young women age 15-19 years (36 per cent), which declines to 29 per cent for women age 20-29 years and further to 20 per cent for women age 40-44 years. Surprisingly no difference was observed in the prevalence of RTI/STI problems among women by their place of residence. The prevalence of RTI/STI problems varies little between illiterate women (27 per cent) and women who have completed at most middle school (30 per cent) but it declines with rising levels of education and it is lower for women who have completed at least higher secondary school (21 per cent). Regarding religious affiliation, Muslim women followed by Sikh women are less likely than Hindu women to have RTI/STI problems while marginal differential exists by caste background of women. The prevalence of RTI/STI is found more among women with no children than women with one or more children.

Apart from these, economic factors may have also influenced the RTI/STI prevalence variables, and keeping this in view, 'standard of living index' (SLI) has been included in the analysis. Although in RHS-RCH, information was collected on possession of various household items and availability of basic amenities, but for

analysis the variable 'type of house' alone was used as proxy for judging the economic status of the household. Therefore, in order to get a better estimate of economic status of the household, standard of living index has been constructed here. This index is based upon possession of various household items and scores assigned to each of them. The index is categorized in three groups: low, medium and high. The influence of family income and living standard on prevalence of RTI/STI can be assessed through this index (for details on SLI see appendix). The results of the analysis are presented in Table 3. There appears to be some differential in the prevalence of RTI/STI by standard of living, which represents the overall family income status of the household to which the respondent women belongs. Further, it shows that there has been a simultaneous decline in the prevalence of RTI/STI problems among women with increase in standard of living of households.

Since there are several other underlying factors that affect women's vulnerability to risk of contracting an RTI/STI such as endogenous, sexual and iatrogenic factors, therefore, an attempt has also been made to study some of these factors by including them in the analysis such as contraceptive use (IUDs and tubectomy), abortion history, obstetric practices, etc. The results show that there exist significant differentials in the prevalence of RTI/STI among women who have history of abortion and/or still birth (36 per cent), those who had institutional delivery (25 per cent), and by their contraceptive use-status, particularly those who have undergone tubectomy (30 per cent). The variable 'obstetric complications' takes into account problems women suffer during pregnancy (bleeding, weak or no movement of foetus and abnormal presentation), delivery

(obstructed labour and prolonged labour) and post-delivery period (lower abdominal pain, foul smelling vaginal discharge and excessive bleeding). In the analysis, an attempt has been made to examine the possible influence of obstetric complications on RTI/STI prevalence variable. The finding shows that prevalence of RTI/STI is disproportionately high among women who had obstetric complications during pregnancy, or delivery or after the delivery (38 per cent).

Thus, the findings show that apart from some socio-demographic and economic variables few selected programme variables and service delivery variables also determine the prevalence of RTI/STI among women in Punjab state. The bi-variate analysis done so far, perhaps, does not take into account the influence of background variables upon prevalence of RTI/STI independently. Also it is possible that there may be compounding effects of each of the background variable upon prevalence of RTI/STI variable, a multivariate analysis has been carried out. The results of multivariate analysis has been presented and discussed in the following section.

### ***Predictors of RTI/STI prevalence***

For the purpose of identifying the predictors and assessing the relationships of selected socioeconomic, demographic and programmatic variables to the prevalence of RTI/STI, a logistic regression was performed. The dependent variable was dichotomized as the presence or absence of RTI/STI problems. The independent or predictor variables selected for the analysis fall into three main groups. The first group, represents the social and economic backgrounds of the women, such as religion, years of schooling and economic status. The second group is demographic in nature, which includes factors like age of the women, history of abortion/still birth,

and number of induced abortions. The last group comprises current contraceptive status and obstetric complications along with service delivery variables like awareness of RTI/STI and place of delivery. These variables are of importance because other studies have suggested a link between certain contraceptive procedures and infection of the reproductive tract.<sup>1, 8,9,10,12</sup> Some procedures, if not properly performed, could cause infections, and also some reproductive tract infections are contraindications for the use of certain contraceptives. Similarly, evidence suggests that women's obstetric experiences are linked to their reproductive morbidity.<sup>8,14</sup>

In the bivariate logistic regression, unadjusted odds ratios and associated p-values were calculated for dependent and individual background variables. All variables were grouped or were categorical in nature and for each variable, one category was selected as the reference category. The results of the bivariate analysis are shown in Table 4.

The prevalence of RTI/STI was found to be significantly lower among Sikh women than among Muslims. Surprisingly, no statistical variations are found in the prevalence of RTI/STI problems by educational level of women. With regard to economic status, the odds of having RTI/STI problems among women with medium and high SLI were about 15-25 per cent less than among those with low SLI.

Further, results show that, the probability of reporting the problem of RTI/STI was found to be lower among women younger than 20 as well as among older women age 30 years and more. Moreover, women who have a history of abortion and/or still birth and specifically those having induced abortion one or more times in the past were found to be significantly more likely to report RTI/STI problems than were women in the corresponding reference categories.

**TABLE 4**  
Bivariate logistic regression of RTI/STI problem, by background characteristics of women, Punjab, RHS-RCH, 1998-99

| Characteristic                        | N      | Prevalence of RTI/STI problems |
|---------------------------------------|--------|--------------------------------|
| <b>Religion</b>                       |        |                                |
| Hindu                                 | (5054) | 1.09                           |
| Sikh                                  | (2380) | 0.85 **                        |
| Muslim (r)                            | (171)  | 1.00                           |
| <b>Education (Years)</b>              |        |                                |
| 0 (r)                                 | (3299) | 1.00                           |
| 1-11                                  | (3580) | 0.96                           |
| 12+                                   | (726)  | 0.82                           |
| <b>Standard of living index</b>       |        |                                |
| Low (r)                               | (1028) | 1.00                           |
| Medium                                | (3630) | 0.75 **                        |
| High                                  | (2947) | 0.84 **                        |
| <b>Age</b>                            |        |                                |
| <20                                   | (206)  | 0.80 *                         |
| 20-29 (r)                             | (2848) | 1.00                           |
| 30+                                   | (4551) | 0.45 ***                       |
| <b>History of abortion/stillbirth</b> |        |                                |
| No (r)                                | (5884) | 1.00                           |
| Yes                                   | (1721) | 1.34 ***                       |
| <b>Number of induced abortion</b>     |        |                                |
| 0 (r)                                 | (6855) | 1.00                           |
| 1+                                    | (750)  | 1.50 ***                       |
| <b>Current use of contraceptives</b>  |        |                                |
| IUD                                   | (545)  | 0.97                           |
| Tubectomy                             | (2371) | 1.28 ***                       |
| Condom                                | (963)  | 1.01                           |
| Not using (r)                         | (3726) | 1.00                           |
| <b>Obstetric complications</b>        |        |                                |
| No (r)                                | (6871) | 1.00                           |
| Yes                                   | (734)  | 1.92 ***                       |
| <b>Place of delivery</b>              |        |                                |
| Institutional (r)                     | (1015) | 1.00                           |
| Non-institutional                     | (6590) | 1.40 ***                       |
| <b>Knowledge of RTI/STI</b>           |        |                                |
| No (r)                                | (1281) | 1.00                           |
| Yes                                   | (6324) | 2.03 ***                       |

Significant at \* $p \leq 0.05$ ; \*\* $p \leq 0.01$ ; \*\*\* $p \leq 0.001$   
(r)=reference category

The odds of reporting RTI/STI problem among women who had been sterilized were about 1.28 times higher than among those not using contraceptives. While no

significant variation was observed among women who had been using IUD in comparison to those not using contraceptives. In addition, those women who reported a recent experience of obstetric complications in their last delivery were almost twice as likely to report problems of RTI/STI than women who reported no obstetric complications in their last childbirth (Table 4).

Likewise, a statistically significant association was found between the prevalence of RTI/STI and place of delivery as well as knowledge of symptoms of RTI/STI among women. The results show that women who delivered at home had higher odds of reporting RTI/STI problems than if they had delivered at a health facility. Similarly, the probability of reporting RTI/STI problems was found to be significantly higher among women who were aware about the symptoms of RTI/STI than those who were not aware.

### *Treatment for RTI/STI problems*

Among women who report any problems of RTI/STI, more than half (55 per cent) have not sought treatment (Table 5). Of those who have obtained treatment, over a third (39 per cent) approached private health sector and less than one-tenth sought treatment from someone in the public health sector. These findings clearly indicate that majority of women bear the problems of RTI/STI silently without seeking advice or treatment. Moreover, women who seek treatment do not usually go to government health professionals.

TABLE 5

Treatment of RTI/STI problems among women,  
Punjab, RHS-RCH, 1998-99

| Provider                    | Per cent |
|-----------------------------|----------|
| <b>Public health sector</b> | 8.4      |
| Government doctor           | 6.2      |
| ANM/LHV/Govt. Nurse         | 2.2      |

|                              |      |
|------------------------------|------|
| <b>Private health sector</b> | 39.0 |
| Private doctor               | 28.2 |
| Private nurse                | 5.3  |
| Medical shop/pharmacist      | 1.0  |
| Traditional practitioner     | 1.2  |
| Dai                          | 0.4  |
| Other                        | 2.9  |
| <b>None</b>                  | 54.6 |
| Number of women              | 2117 |

\* Percentage add to more than 100 because women could report treatment

## DISCUSSION AND CONCLUSIONS

RTIs/STIs and their sequelae are an important component of programmes for family planning, child survival, women's health, safe motherhood and HIV prevention. Although prevalence of RTIs/STIs has been recognized as a public health problem, given the silence that surrounds reproductive health problems, Indian women continue to suffer from these preventable infections. There are several factors responsible for women's vulnerability to risk of contracting RTIs/STIs such as, biological, medical, sexual and iatrogenic factors, as well as socio-cultural environment that influences her reproductive health behaviour and treatment practices. A review of several studies by Campbell and Graham<sup>15</sup> and Oomman<sup>9</sup> shows that studies have concentrated mostly on pathogenic and biomedical risk factors and consequently, information on the socio-economic, demographic and behavioural determinants of reproductive morbidity is virtually non-existent. Thus, in order to fill this gap the present study is an attempt to understand the socio-cultural correlates of self-reported symptoms of RTIs/STIs and related health seeking behaviour among women in Punjab.

The results of the study show that the proportion of currently married women

reporting RTIs/STIs in Punjab was 28 per cent which is on the lower side when compared, to the country as a whole and to what is found in other studies in India.<sup>7</sup> This suggests that many symptoms are asymptomatic or produce symptoms that are treated by women as normal. On the other hand, knowledge and awareness about RTIs/STIs, their modes of transmission and curability status is inadequate. This is further supplemented by the fact that most of the women with such problems did not seek treatment. This clearly indicates that women in the study population had a poor understanding of these infections as well as the potential dangers posed to their health by these infections.

Analysis of predictors of prevalence of RTIs/STIs revealed interesting associations, which could have important implications from policy and programme point of view. Women who belonged to the Sikh religion reported RTIs/STIs problems less often than Muslims. No statistical association was observed by educational level of women and place of residence. The low level of standard of living index is found to be more strongly predictive of RTIs/STIs problems among women. This is true, as the level of standard of living increases people tend to adopt practices that improve their health conditions. These results are consistent with other studies<sup>9,11,16</sup> conducted in India and other countries that have found similar relationships.

In this study, women who had a history of stillbirth/abortion (induced or spontaneous) and specifically those who had undergone an induced abortion reported higher risk factors of RTI/STI problems. Various studies have also supported this fact that ascending infection is particularly common, during transcervical procedures such as induced abortion<sup>1</sup> if abortion is performed in women with untreated chlamydial

cervicitis, 10-23 per cent develop PID<sup>17,18</sup> and in those with post abortion complications.<sup>1</sup> In addition, use of contraception, particularly women who had tubal ligation were much more likely to report RTI/STI problems. A similar result was obtained in a study in India<sup>16</sup> and in Bangladesh<sup>11</sup> where they have found a significant link between tubectomy and laboratory-confirmed vaginitis and painful menstruation. In this context it is worth mentioning that Indian family welfare programme relies heavily on permanent methods of family planning and therefore, these findings have vital implications for the programme and require provisions to improve quality of care in the delivery of RCH services.

The analysis has highlighted a strong relationship between obstetric complications and RTI/STI problems. Similarly, place of delivery is also found to be an important determinant in explaining the RTI/STI problems among women in the study area. These associations are important for recognizing women at higher risk of contracting reproductive health problems during pregnancy, childbirth and post-delivery period and helpful in preventing vertical transmission from infected mother to their infants. Studies conducted in India<sup>9,16</sup> and elsewhere<sup>1,12,19</sup> have also reported similar findings.

Lastly, awareness of RTI/STI variable is found to be highly correlated with RTI/STI problems reported by women in the study population. This is expected, as awareness level increases the sensitivity towards a health problem also increases and women are able to recognize and report RTI/STI symptoms that are occurring to them.

The foregoing analysis has provided useful insights that may have far reaching policy implications. One of the important findings that have emerged from the analysis is that apart from various factors,

programme and service delivery factors were found to be more prominent in explaining the RTI/STI problems among women of Punjab state. Apparently, these are the factors that are manageable and are within the control of the health programme. It suggests that the situation can be improved by creating a conducive service delivery environment and effective programmatic interventions that can enhance quality of services and bring about behavioural change.

## APPENDIX

For the present analysis, the summary household measure called standard of living index (SLI), is calculated by adding the following scores:

Source of drinking water: 3 for tap (inside residence/yard/plot), 2 for tap (other), 1 for hand pump or bore well or well, 0 for other sources of water;

House type: 4 for pucca, 2 for semi-pucca, 0 for Kachcha;

Source of lighting: 2 for electricity, 1 for kerosene, 0 for other source of lighting;

Main fuel for cooking: 2 for liquid petroleum gas, 1 for kerosene, 0 for other sources of cooking;

Toilet facility: 4 for own flush toilet, 2 for own pit toilet, 2 for shared toilet of any type, 0 for no facility;

Ownership of durable good: 4 for car, 3 each for a television or motor cycle/scooter, 2 each for a fan, radio/transistor, sewing machine, or bicycle.

The total of the scores may vary from the lowest of 0 to a maximum of 33. On the basis of total score, households are divided into three categories as:

a) Low if total score is less than or equal to 9

b) Medium if total score is between 10-19

c) High if total score is greater than 19

## REFERENCES

1. Wasserheit JN. The significance and scope of reproductive tract infections among third world women, *International Journal of Obstetric and Gynaecology* (suppl.) 3:145-168, 1989.
2. Bang RA and Bang A. Why women hide them: Rural women's viewpoints on reproductive tract infections, *Manushi*, 69:27-30, 1991.
3. Jeejeebhoy SJ and Rama Rao S. Unsafe motherhood: A review of reproductive health in India, Paper presented at the workshop on Health and Development in India, sponsored by the National Council of Applied Economic Research and Harvard University, Centre for Population and Development Studies, New Delhi, 2-4 January, 1992.
4. Pachauri S and Gittlesohn J. Summary of research studies and implications for health policy and programmes. In Gittlesohn J., Bentley ME, Pelto PJ, Nag M, Pachauri S, Harrison AD and Landman LT (eds.), *Listening to women talk about their health issues and evidence from India*, New Delhi: Ford Foundation and Haf-Anand Publications, 1994.
5. The Times of India (TOI). 1 per cent of adult Indians are HIV-infected. *The Times of India*, Mumbai, 12 November, 1999.
6. Singh KK, Bloom S, Tsui AO. Husband's reproductive health knowledge, attitudes and behaviour in Uttar Pradesh, India, *Studies in Family Planning*, 29(4), 1998.
7. Bang RA, Bang AT, Batule M, Choudhary Y., Sarmukadda S and Tole O. High prevalence of gynaecological diseases in rural Indian women, *The Lancet*, 8, 629, 1:85-88, 1989.
8. Bhatia JC, Cleland J. Self reported symptoms of gynaecological morbidity and their treatment in south India, *Studies in Family Planning*, 26, 4:203-216, 1995.
9. Oomman N. A decade of research on reproductive tract infections and other gynaecological morbidity in India: What we know and what we don't know. In Ramasubban R., Jeejeebhoy SJ (eds.), *Women's reproductive*

- health in India. Rawat Publications, Jaipur, India, pp. 236-279, 2000.
10. Bulut A, Fillipi V, Marshall T, Nalbant H, Yolsal N and Graham W. Contraceptive choice and reproductive morbidity in Istanbul, *Studies in Family Planning*, 28, 1:35-43, 1997.
  11. Wasserheit JN, Harris JR, Chakraborty J, Kay BA and Mason KJ. Reproductive tract infections in a family planning population in rural Bangladesh. *Studies in family planning*, 20, 2:69-80, 1989.
  12. Younis N, Khattab H, Zurayk H, El-Mouelhy M, Amin MF and Farag AM. A community study of gynaecologist and related morbidities in rural Egypt, *Studies in family planning*, 24,3:175-186, 1993.
  13. Central Statistical Organisation (CSO). Selected socio-economic statistics, India 1998. New Delhi: CSO, Department of Statistics and Programme Implementation, Ministry of Planning and Programme Implementation, 1999.
  14. Arrowsmith S.; Hamlin EC and Wall LL. Obstructed labour injury complex: Obstetric fistula formation and the multifaceted morbidity of maternal birth trauma in the developing world. *CME review article*, 51, 9:568-574, 1996.
  - 14b. International Institute for Population Sciences. National Family Health Survey, Punjab, International Institute for Population Sciences, Mumbai, 1998-99.
  15. Campbell OMR and Graham W. Measuring maternal mortality and morbidity: Levels and trends, *Maternal and Child Epidemiology*, Unit Pub. No. 2, London School of hygiene and Tropical Medicine, 1991.
  16. Bhatia JC, Cleland J, Bhagavan L and Rao NSN. Levels and determinants of gynaecological morbidity in a district of south India, *Studies in Family Planning*, 28, 2:95-103, 1997.
  17. Osler S and Persson K. Postabortal pelvic infection associated with *Chlamydia trachomatis* and the influence of humoral immunity. *American Journal of Obstetric and Gynaecology*, 50:699, 1984.
  18. Ovigstad E, Skaug K, Jerve F. Therapeutic abortion and *Chlamydia trachomatis* infection, *British Journal of Veneral diseases*, 58:182, 1982.
  19. Elias C. Determinants of RTI: types, prevalence and consequences. Paper presented at a workshop on reproductive tract infections, Baroda, 27-29 February 1996. Organized by the Society for Operations Research and Training, Baroda, India, 1996.