

# Comprehensive Knowledge and Practices about Sexually Transmitted Infections among Young Married Rural Women in South India

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**Abstract** Sexually transmitted infections are now recognized as a serious global threat to the health of populations. Adolescents and young adults (15-24) are the age groups at the greatest risk for acquiring sexually transmitted infections (STIs) and 3 million become infected each year. These infections and diseases can have severe consequences, especially in women, if not treated. The aim of this study was to assess the comprehensive knowledge and practices about sexually transmitted infections among young married scheduled castes women in rural areas of Thiruvarur district of Tamilnadu state in India. A community based cross-sectional study was conducted in 28 villages selected using multistage sampling technique for selecting 605 women in the age group of 15-24 years during July 2010-April 2011. Data analysis was by use of Statistical Package for Social Sciences version-17, with statistical significance set at p-value of 0.05. The result shows that only 37.9% of women had knowledge about STIs. Nearly 8.8% of women had experienced STIs among study population. Majority of the scheduled caste women had the tendency of seeking treatment for their infection problems (77.4%). The women in households in the highest standard of living index (SLI) were more likely to receive STIs (100%) than women in households in the lowest SLI (72.7%). Birth order had a negative influence on treatment seeking behaviour for STIs. The higher birth order pregnancies were less likely to receive treatment for sexually transmitted infections (66.7%) than lower birth order pregnancies (90%). It concludes that, most of the women do not seek treatment until discomfort is quite high because of women tend to consider many symptoms as normal, feeling of shy and lack of female health workers in health care centers. The low socio-economic status of women appears to have influence on high rate of infection. Education and health care efforts should be implemented to improve the sexual health of young people in rural areas of Tamilnadu state.

**Keywords:** *scheduled castes, sexually transmitted infections, standard of living index, treatment seeking behaviour, young women*

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## 1. Introduction

Sexually Transmitted Disease (STD) is one of the determinants of HIV transmission. In India, it is estimated that 5% of the adult population has STIs symptoms [1]. Reproductive Tract Infections (RTIs) and Sexually Transmitted Infections (STIs) are affecting health, fertility, infant mortality, postorbital and puerperal sepsis, ectopia pregnancy, fatal and prenatal death, cervical cancer, infertility, chronic physical pain, emotional distress and social rejection in women. There are 340 million new cases of largely treatable sexually transmitted bacterial infections occur annually [2], 100 million of them among young people. Many go untreated due to difficulties in diagnosis and lack of access to competent, affordable

services. Many of these infections increase the risk of HIV transmission.

STIs are among the top five disease categories and about one third of STIs globally occur among people younger than 25 years of age [3]. World Health Organization estimated that 400,000 new cases of STIs occur daily in the South East Asian Region (SEAR) [4]. Centers for Disease Control (CDC) estimates that 19 million new infections occur each year, almost half of them among young people age 15 to 24 years [5]. The sexually transmitted infections and diseases can have severe consequences, especially in women, if not treated. Refraining from sexual activity to certain extent can prevent it, and some contraceptive devices such as condoms could be used. Because so many STIs go undiagnosed or have no treatments available, preventing

their transmission is crucial. Risk can be reduced through the adoption of safer behaviors by individuals. Encouragement of these behaviors should then be incorporated into programs and policy [6].

As most of these illnesses progresses to chronic state and remain with the women for the rest of their lives, the importance of early detection and management becomes evident. Until now, a matter of concern that, little is known about the prevalence of Reproductive Tract Infections (RTIs) or Sexually Transmitted Infections (STIs) among women in developing countries such as India. A recent study of young married women aged 16-22 years in a rural community in Tamilnadu reports a very high level of morbidity. The study shows that more than half of the women were suffering from at least one or more RTIs/STIs. Clinical examination also confirmed STIs among majority of them [7]. Adolescent women in India and Nepal report relatively high rates of gynecological morbidities, especially in the settings where girls have limited access to adequate health care [8].

The gynecology morbidity was high among the female because still keep secret about their gynecological problems [9]. Generally women with self reported symptoms of sexual morbidity do not seek treatment due to existing taboos and inhibitions regarding sexual and reproductive health. They hesitate to discuss about the reproductive problem especially, due to shame and embarrassment [10]. Even if they seek treatment, a majority of women seek health care from quacks or unqualified for their health. Untreated infection can not only lead to pelvic inflammatory disease, ectopic pregnancy, infertility and cervical cancer but also fetal loss, health problem of new born and increased the risk of HIV infection. In addition to health consequences, women experience social consequences in terms of emotional distress related to gynecological morbidity.

### **1.1. A profile of Scheduled Castes Population in India**

The Indian caste system is a highly complex institution, though social institutions resembling caste in one respect or another are not difficult to find elsewhere, but caste is an exclusively Indian phenomenon. The "Scheduled Castes" is the legal and constitutional name collectively given to the groups which have traditionally occupied the lowest status in Indian society and the Hindu religion which provides the religious and ideological basis for a "disadvantaged" group, which was outside the caste system and inferior to all other castes [11]. At presents, the scheduled castes in India constitute around 16.8% of the total population. Almost one-third of them live below poverty line and do not have access even to the basic needs like food, clothing, and shelter and constitute major part of our labour force and are generally engaged in petty occupations like agriculture labour, construction work, hawking and other low grade jobs [12]. There is a general consensus that the health status of the scheduled castes population is very poor and worst [13]. Under this circumstance, the present study made an attempt to assess the comprehensive knowledge and practices about sexually transmitted infections among young married scheduled castes women in rural areas of Thiruvvarur district of Tamilnadu state in India.

## **2. Materials and Methods**

### **2.1. Selection of the District**

According to 2001 census, Thiruvvarur district was the highest Scheduled Castes populated district and also backward district in Tamilnadu state. All women were living with their husbands and had given at least one birth one year prior to the survey.

### **2.2. Study Design**

A community based cross-sectional study was conducted in 28 villages selected using multistage sampling technique for selecting 605 women in the age group of 15-24 years during July 2010-April 2011.

### **2.3. Selection of the Blocks**

Thiruvvarur district had totally ten blocks, which comprise 573 revenue villages. In the first stage, five blocks were selected which represent the geographical distribution of the study district. The selected blocks were Nannilam from north, Thiruvvarur from east, Tiruturaipundi from south, Valangaiman from west and Mannargudi from central part of the study district.

### **2.4. Selection of the Villages**

There were 352 revenue villages in these selected five blocks. In the second stage, all the villages which had 50% of scheduled castes population were selected. I.e. 87 villages were selected. For covering entire block, one third of the villages (5/6 villages) were selected from each block by simple random sampling method. Thus, 28 villages were selected for the research purpose.

### **2.5. Selection of the Respondents**

In the third stage, house listing operation was carried out prior to the data collection to provide the necessary frame for selecting the households for the study. Totally 6376 houses were listed in all the five blocks. Identification of eligible young married women (15-24 years) in each household was the next step in the research. There were 1164 households with the target population (39 households had two couples). Totally 1203 women in the age group of 15-24 were identified.

Systematic random sampling technique was applied for selecting 21/22 respondents from each village. In order to take care of non-response due to various reasons, an extra 10% of respondents were included in the sample. i.e. 661 respondents were selected for the interview. Totally, 605 respondents were completed the interview and 32 respondents declined to participate interview. The response rate of the research study was 91.5%.

### **2.6. Data Collection Tools**

The respondents were assessed using a structured interviewer administered questionnaire which was pretested in Chidambaram Taluk near Annamalai University, about 102 km away from Thiruvvarur district.

### **2.7. Data Analysis**

Data analysis was carried out using the Statistical Package for Social Sciences (SPSS) version 17. Categorical variables were presented as frequencies and percentages. Bivariate analysis involved the use of the Chi-square test for assessing the significance of association between the women who experienced STIs and their socio-economic and demographic variables.

## 2.8. Ethical Approval

The syndicate review board at Annamalai University, Tamilnadu state, India has approved the research entitled "Reproductive and Sexual Health status of Scheduled Castes Youth in Thiruvavur district, Tamilnadu, India" for the degree of Doctor of Philosophy (Ph D) in Population Studies with effect from July 2012.

## 3. Results

### 3.1. Knowledge of Sexually Transmitted Infections (STIs)

All the women who participated in this research study were asked whether they had ever heard of an illness called sexually transmitted infections (STIs) and results are tabulated. The (Table 1) shows that 37.9% of women had knowledge of sexually transmitted infections and remaining little more than three-fifth of women had no knowledge of STIs (62.1%) in the study area.

**Table 1. Percentage distribution of women by Knowledge of Sexually Transmitted Infections**

| Knowledge of Sexually Transmitted Infections | Frequency | Percentage |
|----------------------------------------------|-----------|------------|
| Yes                                          | 229       | 37.9       |
| No                                           | 376       | 62.1       |
| Total                                        | 605       | 100.0      |

### 3.2. Comprehensive Knowledge of STIs

The (Table 2) discloses the knowledge on symptoms of STIs among the SC population in the study area. Out of the 229 respondents who heard about STIs, Discharge with unpleasant odor' was the most common STIs symptom known by the majority of women (70.6%), followed by the symptom of 'Frequent and uncomfortable urination' (42.1%). More than one fourth of women were aware that 'Pain during sexual intercourse' was a symptom of STIs (27.6%). 'Spotting after sexual intercourse' was also identified as a symptom of STIs by 12.7%.

**Table 2. Percentage distribution of women by Awareness of symptoms of STIs (Multiple responses)**

| Awareness of symptoms of STIs        | Frequency (n = 229) | Percentage |
|--------------------------------------|---------------------|------------|
| Discharge with unpleasant odor       | 161                 | 70.6       |
| Frequent and uncomfortable urination | 96                  | 42.1       |
| Pain during sexual intercourse       | 63                  | 27.6       |
| Spotting after sexual intercourse    | 29                  | 12.7       |

### 3.3. Curability Knowledge of STIs

Awareness of curability of STIs among SC women is presented in (Table 3). The result discloses that more than seventy percent of women believed that STIs could be a

curable disease (71.9%) and another two third of women understood that STIs was a communicable disease (66.7%). At the same time 64% of SC women strongly believed that STIs was a preventable disease.

**Table 3. Percentage distribution of women by Curability knowledge on STIs (Multiple responses)**

| Curability knowledge on STIs   | Frequency (n = 229) |      |
|--------------------------------|---------------------|------|
|                                | Yes                 | No   |
| STIs is a curable disease      | 71.9                | 28.1 |
| STIs is a communicable disease | 66.7                | 33.3 |
| STIs is a preventable disease  | 64.0                | 36.0 |

### 3.4. Source of Information

The (Table 4) indicates that 81.6% of women heard about symptoms of STIs from their friends or relatives. The other major sources of information of STIs were school teachers (30.3%) and television (28.1%). The print media and husband/spouse played an equal role in disseminating the knowledge on STIs symptoms (14.9% each). The health workers played insignificant role (14%) in spreading of STIs information among this study area.

**Table 4. Percentage distribution of women by Source of information of STIs**

| Source of information | Frequency | Percentage |
|-----------------------|-----------|------------|
| Friends/relatives     | 186       | 81.6       |
| School teacher        | 69        | 30.3       |
| Television            | 64        | 28.1       |
| Print media           | 34        | 14.9       |
| Husband/spouse        | 34        | 14.9       |
| Health worker         | 32        | 14.0       |

### 3.5. Incidence of STIs

All the women who participated in this research were asked whether they had experienced any infections of STIs for the last six months prior to the study and result are tabulated. The result (Table 5) reveals that 8.8% of women had experienced any one type of STIs in the study area. Nearly 4.6% of women reported that they suffer from 'Discharge with unpleasant odor' and another 3.6% of women experienced 'Frequent and uncomfortable urination'. Meager portion of women stated that they experienced 'Pain during sexual intercourse' (3.1%) and very negligible portion respondents experienced 'spotting after sexual intercourse' (1%).

**Table 5. Percentage distribution of women who experienced various symptoms of STIs (Multiple responses)**

| Experienced various symptoms of STIs | Frequency | Percentage |
|--------------------------------------|-----------|------------|
| Experienced any one type of STIs     | 53        | 8.8        |
| Discharge with unpleasant odor       | 28        | 4.6        |
| Frequent and uncomfortable urination | 22        | 3.6        |
| Pain during sexual intercourse       | 19        | 3.1        |
| Spotting after sexual intercourse    | 6         | 1.0        |
| Total                                | 605       | 100.0      |

### 3.6. Treatment Seeking Behaviour

The (Table 6) shows women who sought treatment for sexually transmitted infections in the study area. A significant portion of women sought treatment (77.4%) and the remaining 22.6% of women did not receive any kind of treatment for their sexual health problems among scheduled caste women. The women who had 'Discharge with unpleasant odor' problems, about 82.1% of them had undergone the treatment and 81.8% of women who had experienced the 'Frequent and uncomfortable urination'

had taken treatment. Nearly 73.7% of women had sought treatment for their 'Pain during sexual intercourse' problem, and also two-third of SC women had undergone treatment for their 'Spotting after sexual intercourse' problem (66.7%).

**Table 6. Percentage distribution of women who sought treatment for various symptoms of STIs (Multiple responses)**

| Sought treatment for various symptoms of STIs | Received Treatment |      | Total |
|-----------------------------------------------|--------------------|------|-------|
|                                               | Yes                | No   |       |
| Women who had sought treatment                | 77.4               | 22.6 | 53    |
| Discharge with unpleasant odor                | 82.1               | 17.9 | 28    |
| Frequent and uncomfortable urination          | 81.8               | 18.2 | 22    |
| Pain during sexual intercourse                | 73.7               | 26.3 | 34    |
| Spotting after sexual intercourse             | 66.7               | 33.3 | 6     |

**Table 7. Percentage distribution of women by Treatment seeking, according to background characteristics**

| Background Characteristics              | Sought treatment |      | Total | X <sup>2</sup> | P    |
|-----------------------------------------|------------------|------|-------|----------------|------|
|                                         | Yes              | No   |       |                |      |
| <b>Age of women</b>                     |                  |      |       |                |      |
| 18-20                                   | 87.5             | 12.5 | 10    | 8.78           | .077 |
| 21-23                                   | 77.1             | 22.9 | 35    |                |      |
| 24 years                                | 70.0             | 30.0 | 8     |                |      |
| <b>Education of women</b>               |                  |      |       |                |      |
| Illiterate                              | 70.0             | 30.0 | 15    | 11.06          | .017 |
| Primary education                       | 71.4             | 28.6 | 10    |                |      |
| Secondary education                     | 93.3             | 6.7  | 28    |                |      |
| <b>Occupation of women</b>              |                  |      |       |                |      |
| Non-workers                             | 73.7             | 26.3 | 4     | 1.33           | .515 |
| Agricultural labourers                  | 76.7             | 23.3 | 30    |                |      |
| Non-agricultural labourers              | 100.0            | -    | 19    |                |      |
| <b>Standard of living index</b>         |                  |      |       |                |      |
| Low                                     | 72.7             | 27.3 | 33    | 17.17          | .006 |
| Medium                                  | 78.6             | 21.4 | 11    |                |      |
| High                                    | 100.0            | -    | 9     |                |      |
| <b>Age at marriage</b>                  |                  |      |       |                |      |
| Less than 18 years                      | 100.0            | -    | 1     | 7.37           | .532 |
| 18-19 years                             | 72.8             | 27.2 | 28    |                |      |
| 20-21 years                             | 75.0             | 25.0 | 18    |                |      |
| 22-23 years                             | 78.1             | 21.9 | 6     |                |      |
| <b>Birth order</b>                      |                  |      |       |                |      |
| First                                   | 90.0             | 10.0 | 30    | 8.95           | .029 |
| Second                                  | 70.0             | 30.0 | 20    |                |      |
| Third                                   | 66.7             | 33.3 | 3     |                |      |
| <b>Exposure to mass media</b>           |                  |      |       |                |      |
| More frequently                         | 78.3             | 21.7 | 7     | .16            | .687 |
| Less frequently                         | 71.4             | 28.6 | 46    |                |      |
| <b>Distance to health care facility</b> |                  |      |       |                |      |
| Within one KM                           | 92.3             | 7.7  | 8     | 11.23          | .027 |
| 2-3 KM                                  | 75.0             | 25.0 | 13    |                |      |
| 4 or more KM                            | 71.9             | 28.1 | 32    |                |      |
| Total                                   | 77.4             | 22.6 | 53    |                |      |

### 3.7. Treatment Seeking Behaviour by Background Characteristics

The result shows (Table 7) that the percentage distribution of women by treatment seeking behavior according to background characteristics of women in the study area. It is observed from the table that younger women were much more likely to receive treatment for their STIs than the older women. Results depicts that women in age group 18-20 were more likely to receive

treatment for STIs (87.5%) than those in old age (77.1% among 21-22 and 70% among 24 years). Education of women had a positive association with the treatment seeking behaviour of women. Overwhelming proportion of women received treatment for STIs who had completed secondary education (93.3%) than those who completed primary education (71.4%) and illiterates (70%). The treatment for STIs was more pronounced among employed women than their counterparts.

The finding indicates from the (Table 7) that, women in households in the highest standard of living index (SLI) were more likely to receive treatment for STIs (100%) than women in households in the lowest SLI (72.7%). Further, it shows that women's SLI was significantly associated with the treatment seeking behaviour ( $X^2 = 17.17$  and  $p = .006$ ). Evidence from the result shows that relationship between treatment seeking behaviour and age at marriage follows positive association. Birth order had a negative influence on treatment seeking behaviour for sexually transmitted infections. The higher birth order pregnancies were less likely to receive treatment for sexually transmitted infections (66.7%) than lower birth order pregnancies (90%). The data reveal that the proportion of women who received treatment for STIs was higher among women who frequently exposed to media (78.3%) than less exposed to media (71.4%). The result reveals that about 92% of women who residing within one KM radius of health care institutions received treatment for STIs than women residing four KM away from health care institutions (71.9%). It observed from the table that the proportion of receiving pattern of treatment for STIs decreased, when the distance between the residence and health care institution increased.

## 4. Discussion

Through this study, we tried to highlight the magnitude of prevalence and treatment seeking behavior of women regarding sexually transmitted infections in rural areas of Tamilnadu state. The present study shows that 37.9% of women had knowledge of sexually transmitted infections.

Better health awareness affects the health seeking behaviour of the individuals and the compliance with the suggested treatment. The power to demand better quality services arises from informed individuals and hence forming a part of the vicious circle that would help in enhancing the quality of health care services. Awareness regarding sexual health issues would raise participation and involvement with understanding about individual and community rights. This would go a long way in improving utilization of services and demand for high quality care.

The present study reveals that around nine percent of women had experienced STIs in the study area. More than three fourth of women were sought treatment for their sexual health problems among scheduled caste women. Many women and men suffer from reproductive tract infections, including sexually transmitted infections. An estimated 340 million new cases of curable STIs occur each year, with 151 million of them in South and Southeast Asia [14]. Prevalence of STIs is detraind by number of factors. An association between pelvic inflammatory diseases (PID) women and husband extramarital sexual relation has been well documented

[10]. The present study reveals that, less proportion of women was received treatment for their sexual health problems in the study area. This suggests that village women retain their infections for long durations, which could mean they suffer more sequelae, and their partners are at greater risk of infection. The reasons given for not seeking care were similar to those reported in other studies in India: stigma and embarrassment, lack of privacy, lack of female doctors at health facilities and treatment cost [14]. Both in this study and nationally, only a small minority of women who sought care did so at the government health facilities, with the majority preferring private health care despite the cost [16].

The role of socioeconomic status in the development of STIs has been highlighted in a number of studies [17,18]. Low socio-economic status is associated with greater high risk sexual behaviour [19] and this would lead to a higher incidence of STIs. In an Ethiopian study, it was shown that 51% of women who came to STI clinic with symptoms had a confirmed clinical diagnosis [20]. Another study in India reported that 72% of women with STI symptoms had a clinically confirmed diagnosis. Despite these results it needs to be stressed that the presence of STI symptoms is not indicative of an STI diagnosis. Increasing age was found to protect against having STI symptoms. Sexually transmitted infections are diseases of young sexually active women so it is expected that older women would have fewer symptoms [21].

Educated women are more capable to seek the source of treatment and they can use health care facilities more efficiently. Educated women can process health related information from mass media (Radio/Television). They can make good investment in terms of health. If the women have spontaneous and induced abortions, then maternal resources get deplete through continuous pregnancies and lactation. The probability of STIs increases due to the weakness in women body. In India most of the deliveries take place at home and not being assisted by health practitioner. Morbidity during delivery often results into STIs. Women from the rural areas and lower income groups are more likely to affect STIs.

## 5. Conclusions

More than one third of the women from rural area do not have knowledge of different modes of STIs transmission and not heard about STIs. The present study reveals that STIs prevalence was more observed among illiterate women and less standard of living index. More than three-fourth of women were received treatment for their STIs. Financial consideration was not much of a factor when seeking help, compared to accessibility to health care facilities and the stigma or shame of having STIs. The participant's belief system, influence of family, friends and partners were important factors that motivated the health seeking behaviour of women. Therefore more information is required in rural area through mass media (Radio/Television). At the same time more health care facilities at the door step of rural women is best-touted option. In order to make better maternal and child health, the health worker needs to provide knowledge and treatment to high-risk behaviour women. Similarly, behaviour and communication change and proper STIs

information are the best options to reduce the prevalence of STIs among women. There is need for female counselor at each health facility to discuss the STIs problem among women. Similar education and health care efforts should be implemented to improve the sexual health of young people in rural areas of Tamilnadu state.

## Conflict of Interests

The authors declare that there is no conflict of interest.

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