

# Master Health Check-up Attendees in High Risk Group for Sexually Transmitted Infections over a Period of 15-Month in a Tertiary Care Hospital: A Retrospective Study

M Selvakumar<sup>1</sup>, R Karthikeyan<sup>2</sup>, K Punithavathi<sup>1</sup>, K Amuthavalli<sup>3</sup>, Heber Anandan<sup>4</sup>

<sup>1</sup>Associate Professor, Department of DVL, Tirunelveli Medical College, Tamil Nadu, India, <sup>2</sup>Senior Assistant Professor, Department of DVL, Tirunelveli Medical College, Tamil Nadu, India, <sup>3</sup>Junior Resident, Department of DVL, Tirunelveli Medical College, Tamil Nadu, India, <sup>4</sup>Senior Clinical Scientist, Department of Clinical Research, Dr. Agarwal's Health Care Limited, Tamil Nadu, India

## Abstract

**Introduction:** High risk group (HRG) for sexually transmitted infections (STI) includes female sex workers (FSW), transgender (TG) with high risk behavior, and homosexual's men having sex with men (MSM). They have high risk of being infected with STI and HIV.

**Aims:** To estimate the prevalence of high risk individuals in Tirunelveli, to compare the number of high risk individuals turning up to STD OPD during master health check-up period and previous years, to assess the type of STI in each HRG, and to estimate venereal disease research laboratory (VDRL), HIV and VIA-VILI positivity among master health check-up attendees.

**Methods:** Master health check-up was conducted at STD OPD, Tirunelveli Medical College Hospital, Tirunelveli. With the help of non-governmental agencies, all the people with high risk behavior were recruited for master health check-up during the stipulated time of 15 months and detailed history was taken, physical and genital examination was done. Investigation for HIV, syphilis, and other sexually transmitted diseases were also done.

**Results:** A total of 474 HRG turned up, among them, 384 were male, 86 were FSW, and 4 were TG. About 14 cases among HRG were VDRL positive and 9 were positive for HIV (all of them were MSM) and 1 case (of FSW) was positive for VIA-VILI. The most common STI symptom found in these MSM was burning micturition followed by itching over the genitals. Trichomoniasis is the common sexually transmitted disease affecting the FSW and it is present in about 5 cases. The next common infection present in them was bacterial vaginosis, which was found in 3 cases. All the 4 TG were asymptomatic and non-reactive for ICTC and VDRL.

**Conclusion:** Among all the HRGs, the STI burden was high in the male having sex with males. Syphilis is the most common infection affecting male homosexuals. Trichomoniasis is the common cervico-vaginal discharge syndrome affecting the FSW. TG, in this study, was asymptomatic and seronegative.

**Keywords:** Bacterial vaginosis, Female sex workers, HIV, Male having sex with males, Master health check-up, Syphilis, Transgender, Trichomoniasis

## INTRODUCTION

High risk group (HRG) is a group of people in the community with a higher than expected risk for developing a particular disease. HRG for sexually transmitted infections

(STI) includes men having sex with men (MSM),<sup>1</sup> female sex workers (FSW), and transgender (TG).

### Male Having Sex with Male

Also called as homosexuals, i.e., a person who predominately or exclusively has sex with a person or persons of same sex.<sup>2</sup> These MSM have a higher prevalence of STI due to the following reasons:<sup>3</sup>

- Male possess penis, which is a penetrative organ. Penis is designed to transmit semen along with infectious organisms if present in the seminal fluid.
- The highly receptive columnar epithelial surface is involved in male to male sex, which includes

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**Corresponding Author:** Dr. Heber Anandan, No.10, South By-Pass Road, Vannarpettai, Tirunelveli - 627 003, Tamil Nadu, India.  
Phone: +91-9894067910. E-mail: clinicalresearch@dragarwal.com

rectal mucosa, anorectal squamocolumnar junction, oropharyngeal and tonsillar mucosa, inner surface of prepuce.

Any breach in these surfaces favors transmission of infection from one person to another.<sup>4</sup>

**FSW**

A sex worker is a person who is employed to provide direct sexual services for the purpose of money or goods. In the case of FSW, the clients are always male. The unequal power differences between the sexes prevent them from effectively negotiating condom use and safe sex, thereby increasing the risk of transmission of STI. Sex trade is regulated by law which is often biased against women thereby pushing sex workers to live at the margins of the society. This unequal gender and social status affects their self-esteem and confidence to access and utilize relevant STI-related services including social entitlements.

**TG**

A TG is a person, who dresses as, desires to be, has undergone a surgery to become or identifies as a person of opposite sex. A disproportionate number of TG finds employment in the sex industry because of discrimination and subsequent financial hardship. In some countries, it is the only way for the TGs to earn money and to afford hormonal and surgical treatments. Also because of the stigmatization in the sex industry, they are more likely to engage in unprotected intercourse.<sup>5</sup>

STI as cofactor and frequent unprotected sex puts these HRG at increased risk of acquiring and transmitting STIs and HIV to clients and other partners.<sup>6</sup> Although they are one of the groups most affected by STD and most likely to respond well to STI prevention programs, they are also the people who do not seek medical services. Hence, preventive programs should target this HRG for effective reduction in STI. This needs identification and knowing the true prevalence of HRG in the community, so regular screening and testing can be done and treatment of concurrent STI can be ensured, thus decreasing the transmission which is essential in implementing any sexual health-care program.

**MATERIALS AND METHODS**

Master health check-up was conducted in STD outpatients department at Tirunelveli Medical College Hospital, Tirunelveli. With the help of non-governmental agencies (NGO), all the people with high risk behavior were recruited for master health check-up during the stipulated time of 15 months and detailed history taking including history of burning micturition and urethral discharge,

genital ulcer or vesicle or painful genital lesion or swelling in the genitalia were enquired of, in either genders, and h/o abnormal vaginal discharge and lower abdominal pain (LAP) was asked in females. H/o oral and perianal lesions were enquired.

Exposure history including marital, premarital, and extramarital contact were asked. Types of exposure-active/passive, insertive/receptive, urogenital, and anogenital were also enquired. The patients were ensured about the confidentiality of the clinical data. After obtaining consent from the patient, thorough physical examination including examination of genitals, perianal region, oral mucosa, palms and soles, bones and joints, and skin examination were also performed.

Speculum examination is done for visualization of vagina and cervix in female, swabs taken from vagina and cervix for saline mount, grams stain, KOH mount, and examined under microscope and whiff test was done. For males proctoscopy was done to visualize anal canal and patulous anus if present was noted. Moreover, swab for gram stain was taken in cases with urethral discharge and anorectal discharge. Blood Investigation for HIV, syphilis, and other sexually transmitted diseases were also done with the consent of the patient.

**RESULTS**

Patients screened during the study are 474, of which 384 were male homosexuals, 86 were FSW, 4 were TG. 21% of the OPD were HRG during the MHC period. Among these HRG, 14 were found to be RPR positive and they were all MSM and 9 cases were positive for HIV, and they were also only MSM 1 case of CSW was positive for VIA-VILI (Table 1).

The total number of cases who attended the OPD during the study period was 2310 of which 78 cases were HRG. Among them 48 were male homosexuals, 29 were FSW, 1 was TG. 3.3% of the OPD patients were HRG.

During the MHC period, a total of 474 cases of HRG were recruited with the help of TI-NGOs, whereas in the same period during the previous year, only 78 HRG had turned up to STI OPD. This shows that MHC has increased the

**Table 1: VDRL, HIV, VIA-VILI positivity in HRG**

| Total number of cases | Male homosexuals | Female sex workers | Transgender | Total |
|-----------------------|------------------|--------------------|-------------|-------|
|                       | 384              | 86                 | 4           | 474   |
| Total VDRL positive   | 14               | -                  | -           | 14    |
| Total HIV positive    | 9                | -                  | -           | 9     |
| VIA-VILI positive     | -                | 1                  | -           | 1     |

VDRL: Venereal disease research laboratory, HRG: High risk group

recruitment of HRG about seven times than that during normal OPD. The occurrence of syphilis and HIV in HRG is 2.9% and 1.8%, respectively, whereas in the normal OPD, it is only 0.17% and 0.13%, which is more than 10 times higher occurrence than the normal population. This indicates that syphilis and HIV were found higher in the HRG. Among 86 FSWs, 10 cases were symptomatic with complaints of cervico-vaginal discharge (CVD) and LAP. Of them, 8 cases presented with both CVD and LAP and 7 had severe itching of genitals. Total number of symptomatic cases in FSW = 10 (Table 2).

On speculum examination of 5 cases had CVD, LAP and severe itch, a profuse frothy, yellowish green discharge was seen in the vagina. Microscopic examination of saline mount showed jerky motile organisms, and they were diagnosed to have trichomoniasis. 3 cases had bacterial vaginosis, which was confirmed by whiff test and gram staining, which showed the presence of more than 20% of vaginal epithelial cells as clue cells in cytology. Clue cells are vaginal epithelial cells, studded with numerous bacteria, both gram positive and negative both aerobic and anaerobic, obscuring the margin of epithelial cells. 2 cases with only CVD were diagnosed to have vulvovaginal candidiasis by saline mount and KOH preparation. Among 384 male homosexuals, 9 were symptomatic. The most common STI symptom found in MSM were burning micturition (5 cases), followed by itching over the genitals (2 cases) (Table 3).

Also on physical examination, smegma (due to poor genital hygiene) was seen in 3 cases, phimosis was present in 3 cases due to balanoposthitis, and patulous anus was found in 2 cases who were engaged in receptive anal intercourse. All the 4 cases of TG were asymptomatic and were ICTC and venereal disease research laboratory negative.

## DISCUSSION

HRG formed 21% of STD OP population during the master health check-up period, whereas during the same period in the previous year, they contributed only to 3.3% of the OPD. There was seven-fold increase in population of HRG group attending STD clinic for master health check-up. The occurrence of syphilis and HIV in HRG is 2.9% and 1.8%, respectively, whereas in the normal OPD, it is only 0.17% and 0.13%, which is more than 10 times higher occurrence than the normal population. This indicates that syphilis and HIV were found higher in the HRG. This is similar to the study conducted by Malta *et al.* in Brazil.<sup>7</sup> In this study, about 2.9% of HRG were found to have affected by syphilis. In a similar study conducted at Nanjing in China, syphilis is the most common infection among the HRG (10.3%). Both studies conclude that

**Table 2: Symptoms seen in FSWs**

| Symptoms            | Number of cases |
|---------------------|-----------------|
| LAP+CVD             | 8               |
| CVD only            | 2               |
| LAP+CVD+severe ITCH | 5               |

LAP: Lower abdominal pain, CVD: Cervico-vaginal discharge

**Table 3: Symptoms present in MSMS**

| Symptoms                         | Number of cases |
|----------------------------------|-----------------|
| Venereal symptoms                |                 |
| Burning micturition              | 5               |
| Itching over the genitals        | 2               |
| Premature ejaculation            | 1               |
| Nocturnal emission               | 1               |
| Non-venereal dermatosis          |                 |
| Intertrigo                       | 5               |
| Scabies                          | 2               |
| Scrotal eczema                   | 1               |
| Vitiligo on prepuce              | 1               |
| Non-venereal surgical conditions |                 |
| Inguinal hernia                  | 1               |
| Hydrocele                        | 1               |
| Others                           |                 |
| Smegman                          | 3               |
| Phimosis                         | 3               |
| Patulous anus                    | 1               |

MSM: Men having sex with men

syphilis was found in a greater percentage in high risk population.<sup>8</sup> And about 1.8% of HRGs were affected by HIV, which is more than 10 times higher occurrence than the normal population. Only 0.2% of them were positive for VIA-VILI. All the cases of HRG who were positive for HIV and syphilis in my study belonged to male having sex with males, and all the FSW and TG were non-reactive for both HIV and syphilis. This is similar to the study done by Hawkes *et al.* in Pakistan, where no FSW had HIV prevalent in them.<sup>9</sup> The most common cervico-vaginal discharge syndrome among the CSW in this study was trichomoniasis which is 0.5%, followed by bacterial vaginosis (0.3%) and candidiasis (0.2%). This is in contrast to the study by Alvis *et al.*, where bacterial vaginosis was the common followed by *Chlamydia trachomatis*, *Neisseria gonorrhoeae*, *Trichomonas vaginalis*, and *Candida albicans* in that order.<sup>10</sup> In MSM, the most common STI symptom was burning micturition, which is present in about 1.3% of the cases. The second common symptom is itching over the genitals, present in about 0.5% of cases and premature ejaculation and nocturnal emission were present in about 0.2% of the cases. Intertrigo is the most common non-venereal dermatosis found in about 1.3% of the MSM. Other non-venereal dermatosis found in MSM was scabies (0.5%), vitiligo on prepuce (0.5%), and scrotal eczema (0.2%). On physical examination, smegma and phimosis is present in about 0.7% and patulous anus in about 0.5%

of them. Other non-venereal surgical conditions present in MSM include inguinal hernia (0.2%) and hydrocele (0.2%). All the syphilis cases in this study were MSMs. 3.64% of MSMs were positive for syphilis. This is in contrast to the study by Bleeker *et al.*, where 36% of the MSMs were positive for syphilis. The difference may be due the period of the study which was in early 1980s.<sup>11</sup> All the TG were asymptomatic and seronegative for both HIV and syphilis. Master health check-up has caused a sevenfold increase in number of HRG attending STD OPD which is very significant. HIV and syphilis seroreactivity was seen the highest in male having sex with males.<sup>12</sup>

## CONCLUSION

This study had concluded that master health check-up had resulted in significant increase in the number of high risk individuals turning up to STD OPD. Thus, periodic master health check-up should be conducted to identify HRG and to diagnose them to prevent the STI outbreak in the community.

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