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*Research Paper*

# CLINICAL STATUS AND PREVALENCE OF BACTERIAL STDs IN WARANGAL, ANDHRA PRADESH

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Sexually transmitted diseases (STDs) have great impact on health of the individual and community. Prevalence of STDs varies in developing countries like India. Bacterial STDs are becoming less common and viral STDs are increasing. Therefore we conducted this study to investigate clinical status and prevalence of bacterial STDs. The author has attended STD clinic MGM hospital(Warangal) during 2008 to 2010 and interacted with registered STD patients were recorded symptoms of STDs. Percentage of gonorrhea patients is higher 38.16% (2008), 39.59% (2009), 33.35% (2010) than all other bacterial STDs. Least percentage was observed in gardenerella 0.94% (2008), 1.59% (2009) and 0.98% (2010). Gonorrhoea and chlamydia prevalence was more in females than males while prevalence of syphilis and chancriod was more in males than in females. Overall, there was not significant increase in bacterial STDs from 2008 to 2010 when compared to population growth.

***Keywords:*** Gonorrhoea, Syphilis, Chlamydia, Chancroid and Gardnerella

## INTRODUCTION

Sexually transmitted diseases (STDs) include diseases that are transmitted by sexual intercourse. Sexually transmission requires the agent to be present in one partner, the other partner to be susceptible to infection with that agent and that the sex partners engage in sexual practices which can transmit the pathogen. STD rank among the five leading health problems in the developing countries (MMWR, 1997). WHO estimated that during 1995, 400 million cases of STDs globally including 50 million in India (WHO, 1998). A variety of demographic and medical factors contribute to the high prevalence of STD, especially in the developing countries, where large percentage of population belongs to sexually active age group (Mabey, 1996). In the STD clinic in UK, 9% increase in incidence of STD was observed between 1996 and 1997 (Huges *et al.,* 1998). Prostitution has emerged as an STD multiplier and phenomenon of sex in exchange for drug has contributed to epidemic spread of syphilis, gonorrhea and chancroid in the North America (Fox, 2000). In the developing

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World 10-20% of adults patients attended government health facilities because of STDs (Arya and Lawson, 1997).

In the 1970s and early 1980s syphilis and chancriod were the main cause of genital ulcer disease. In the early 90s the incidence of gonococcal urethritis in Africa was estimated to be approximately 10% annually. Numerous surveys conducted in recent years have shown that gonorrhea is the commonest cause of male urethritis accounting for approximately 53-80% of the cases (DeSchryver and Meheus, 1990). In India also, gonorrhoea is a major health problem. Bacterial vaginosis (BV) is a common cause of abnormal vaginal discharge in women of reproductive age (Morris *et al*., 2001). Adrson achieved the culture of the donovanosis microorganisms in 1943 (Arndt and Bowers, 2002). Our study aims to investigate clinical status and prevalence of bacterial STDs in Warangal, AP.

## MATERIALS AND METHODS

STD testing clinic and counseling room at MGM (Mahatma Gandhi Memorial) hospital, Warangal is well established. STD symptoms of patients from different villages of Warangal (Dist) who have attended the STD clinic during Jan. 2008 to Dec. 2010 were recorded. On the basis of the symptoms, patients have been classified into different types of bacterial STDs. Standard proforma was followed to record presenting complaints. The patients were explained and counseled regarding the steps of examination. Different types of lab procedure were followed (Dyck *et al*., 1999; Richens, 1991; and Strand and Rylander, 1998).

## RESULTS

People from different places who have registered for STD testing were 3945 (2008), 5974 (2009) and 12603 (2010). Bacterial STDs were 1484 (2008), 1936 (2009) and 2039 (2010). Different types of bacterial STDs, percentage wise, year wise, gender wise details are presented in Tables 1 and 2 and Figures 1 and 2. Prevalence of gonorrhoea was highest among all other bacterial STDs and followed by syphilis, chlamydia, chancroid and gardnerella in the year 2008.There was no significant change in the prevalence of different types of bacterial STDs in the year 2009 and 2010.

**Table 1: Number and Percentage of Bacterial STDs During 2008, 2009 and 2010**

| Year | 2008 | | 2009 | | 2010 | |
|---|---|---|---|---|---|---|
| | N | % | N | % | N | % |
| Gonorrhoea | 932 | 38.16 | 1231 | 39.59 | 1084 | 33.35 |
| Syphilis | 311 | 12.73 | 380 | 12.22 | 516 | 15.87 |
| Chlamydia | 152 | 6.22 | 177 | 5.69 | 200 | 6.15 |
| Chancroid | 66 | 2.70 | 112 | 3.92 | 107 | 3.29 |
| Gradnerella | 23 | 0.94 | 36 | 1.15 | 32 | 0.98 |

Note: N – Number; P – Percentage.

**Table2: Number and Percentage of bacterial STDs among men and women during 2008, 2009 and 2010**

| Year | 2008 | | | | 2009 | | | | 2010 | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Male | | Female | | Male | | Female | | Male | | Female | |
| | N | % | N | % | N | % | N | % | N | % | N | % |
| Gonorrhoea | 454 | 32.73 | 478 | 45.30 | 656 | 36.42 | 575 | 43.96 | 444 | 24.34 | 640 | 44.88 |
| Syphilis | 262 | 18.88 | 49 | 4.64 | 337 | 18.71 | 43 | 3.28 | 459 | 25.16 | 57 | 3.99 |
| Chlamydia | 45 | 3.24 | 107 | 10.14 | 46 | 2.55 | 131 | 10.01 | 53 | 2.90 | 147 | 10.30 |
| Chancroid | 57 | 4.10 | 09 | 0.85 | 102 | 5.66 | 10 | 0.76 | 97 | 5.31 | 10 | 0.70 |
| Gradnerella | - | - | 23 | 2.18 | - | - | 36 | 2.75 | - | - | 32 | 2.24 |

Note: N – Number; P – Percentage.

**Figure 1: Number of Different Types of Bacterial STDs Among Men and Women During 2008, 2009 and 2010**

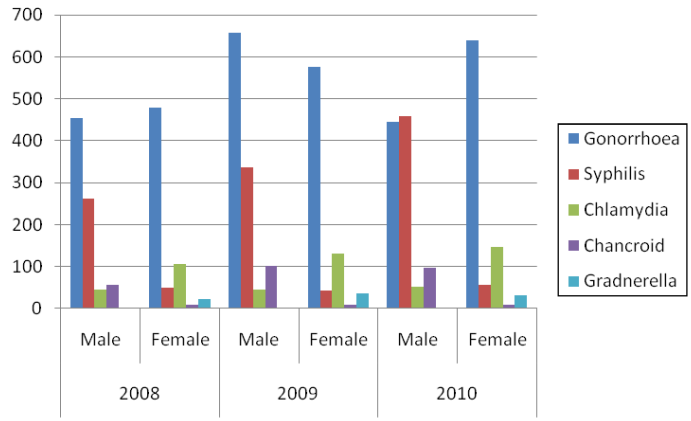
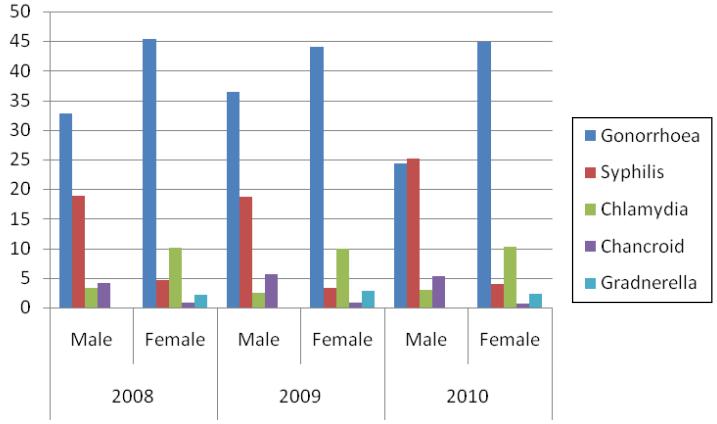



**Figure 2: Percentage of Different Types of STDs Prevalence Among Men and Women During 2008, 2009 and 2010**



# DISCUSSION

Gonorrhoea is well recognized public health problem. It is still one of the commonest bacterial STD in the World. Approximately 62 million new gonorrhea infections occur annually worldwide, making it a major health problem. In the developed countries, there has been a constant decline in the incidence of gonorrhea. In Sweden, the incidence decreased from 487 per 100,000 in 1970 to 3 per 100,000 in 1995. Similarly in England, decline occurred from 210 per 100,000 to approximately 34.1 per 100,000 in 1995.In the United States, decline occurred from 473 per 100,000 to133.2 per 100000 in 1999 [13]. This decline may be related largely to behavioral changes resulting from the fear of AIDS and treatment of a symptomatic infected persons and their sexual partners there by interrupting the disease transmission.

In the developing countries, the incidence of gonorrhea is very high. In Africa in the early 90s, the incidence of gonorrhea was estimated to be approximately 10% annually [14]. A study from Bangladesh has shown disease positivity in 35.5% of the female workers. In India also, gonorrhea is a major health problem with incidence rates varing from 3% to 19% among the STD clinic attendees from different regions.

Prevalence rate of gonorrhoea was higher than all other bacterial STDs in Warangal (Dist) during our study period (2008 to 2010). It's percentage of prevalence has been recorded as 38.16 (2008), 39.59 (2009) and 33.35 (2010). Prevalence of gonorrhea was more in females 45.30% (2008), 43.96 % (2009) and 44.88 % (2010) than in males 32.75 % (2008), 36.42 % (2009) and 24.34% (2010).This percentage of prevalence is within the different types of STDs but not in general population.

The incidence of syphilis in 1984-1994 ranged from zero to 87 per 100,000 populations in United States (Koumans *et al*., 2000). It was being 2.5 per 100,000 population in 1999 and 2.2per 100.000 in the year 2000 (Finelli *et al*., 2001). In England and Wales, after almost two decades of consistent decline, infections of syphilis is again on the increase. In Tanzania, seroprevalence of syphilis in the 90s was high, with rates ranging from 5.9% to 12.8 %. Higher rates were reported in illiterates with early sexual debut and multiple partners.

In India, syphilis continues to be a major health problem. However, a constant decline in its prevalence has been observed in recent years. Significant decline in syphilis trends have been observed in Chandigarh. This reduction may be attributed of regular supply and consistent use of effective drugs (Garg *et al*., 2002). Prevalence of syphilis was not increased from 2008(12.73) to 2009 (12.22) in Warangal (Dist) but there was a slight increase from 2009 (12.22) to 2010 (15.87). Prevalence of syphilis was more in males than in females in all the years of study period (2008-2010).

Prevalence of chlamydia infection was 7% among non-Hispanic black population, 3%in Mexican, Americans and 2% in non-Hispanic whites. The prevalence rate was greater among women than men. In Europe, chlamydial infection is a major bacterial STD with prevalence rates varying from 2.6 % to 51.5%. It has been shown to be higher among the abortion and STD clinic attendees than family planning. The incidence rates using this criterion have been reported to vary from 1.5% to 19% among the STD clinic

attendees from different parts of India. Among women seeking medical service for reproductive health complications, chlamydial infection rates varying from 3% and 3.2% to 23.3% to 33% have reported from different parts of the country (Brabin *et al*., 1998; and Hook and Holmes, 1985). The prevalence of chlamydia is slightly decreased from 2008 (6.22%) to 2010 (6.15) even population rates has been increased in Warangal (Dist). Prevalence rate of Chlamydia was higher among women (10%) than in men (3%) in all the years of the study period.

In United States, annual number of chancroid cases have constantly declinde from 1399 to approximately 250 cases in 1999. However, in 1997, in New York, chancroid was the third major cause of genital urethral diseases. It is a rare disease in Australia and in the Scandinavian countries. Chancriod is the leading cause of GUD in sub-Saharan Africa and South-East Asia. In the African Countries, the prevalence was varies from 9.8% to 68% (Kamali *et al*., 1999). In India, the incidence rates have been shown to range from 1.6% in Patiala to as high as 51, 9% in Mumbai (Hira, 1997). Lateron the significant decrease may be due to the availability of newer antibiotics, their use at the primary care level due to free availability, greater awareness among masses. The prevalence of chancroid has been slightly increased from 2008 (2.7%) to 2010 (3.29%) in Warangal (Dist). Prevalence of this disease was higher in males than in females in all the years of the study period.

Prevalence of gardnerella was lowest among bacterial STDs in Warangal (Dist). There was not significant increase of this disease from 2008 to 2010. There was gradual increase in the prevalence of STDs from 1975 to 1998 and rapidly increasing from 1999 to 2003, then slowly decreased till 2007 and rapidly decreased from 2008 onwards throughout the World (WHO reports).

## CONCLUSION

Prevalence of gonorrhea and chalamydia were more in females than in males whereas prevalence of syphilis and chancroid were more in males than in females.Overall the prevalence of bacterial diseases were not significantly increased from 2008-2010 in Warangal, A.P. It may be related largely behaviorial changes resulting from the fear of AIDS and treatment of a symptomatic infected persons and their sexual partners there by interrupting the disease transmission.

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