

ORIGINAL ARTICLE**PREVALENCE OF TYPHOID FEVER AMONG PREGNANT WOMEN: A CLINICAL STUDY**Manju Kumari¹, Sinjini Agarwal²¹M.D, Professor in Obstetrics & Gynaecology, Mahavir Institute of Medical Sciences, Vikarabad, Ranga Reddy, Telangana, India, ²MBBS**ABSTRACT:**

Background: Pregnancy is the physiological state. In pregnant women, the incidence of typhoid fever is common. This is caused by Salmonella typhi. This article reports the incidence of typhoid fever among pregnant women visiting the department of gynaecology and obstetrics. **Materials & Methods:** This study included 250 pregnant women visited the department. A performa was made and all relevant information regarding name, age were entered. The Widal agglutination test was done in all pregnant women. The Widal agglutination technique was carried out using plasmatic reagent containing *S. Typhi* O and H antigens, and *S. Paratyphi* A, B, and C antigens. A titer of > 1/160 was considered positive for typhoid/paratyphoid fever. Stool samples were taken from all women and inoculated into Salmonella-Shigella Agar (SSA) by streaking method after which the plates were incubated at 37°C for 24 hours. Pure isolates obtained were identified and characterized based on colonial morphology, cultural characteristics, Gram stain reaction, and biochemical tests. **Results:** A total of 250 pregnant women were examined during this study. A prevalence rate of 62% was found positive for typhoid fever. The distribution of patients was done according to age groups. Age group 20-30 years showed maximum (108) typhoid positive women, 30-40 (23), <19 women and >40 years showed 12 women. The difference among age groups was significant (P-0.04). Housewife (75) constituted maximum number followed by labourer (62), working (10), others (7) and business (1). The difference was significant (P-0.01). Maximum number of patients was from rural area as compared to urban area and the difference was highly significant (P-0.01). **Conclusion:** Author concluded that pregnant women are prone to get infected with bacteria salmonella typhi. Typhoid fever is quite common as compared to other infection. Hence proper usage of water and food should be done to avoid getting infection.

Key Words: Pregnancy, Salmonella typhi, typhoid

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INTRODUCTION

Typhoid fever is a major public health problem in developing countries of the world. It is an endemic disease in the tropic and sub-tropic and caused by Salmonella Typhi. It has incidence of 540/100,000. WHO in 2008 has reported the annual incidence of typhoid to be 17 million cases worldwide. It is the disease of morbidities and mortalities.¹

Salmonella typhi & paratyphi causes typhoid and paratyphoid fevers which are transmitted from faeces enters through ingestion of contaminated food and water. Contaminated water is one of the pathways of transmission

of the disease. Clean water, hygiene and good sanitation prevent the spread of typhoid and paratyphoid.²

Few authors have found that typhoid fevers is more prevalent in males than in females (Kam, 1996³; Okome-Nkoumou et al⁴, 2000; but Zailani et al.⁵ (2004) found no effect of age, sex and social economic status on the pattern of distribution of typhoid fever in south western Nigeria. Pregnant women and her baby are susceptible to various kinds of diseases. Pregnancy has harmful effect on the outcome of infections such as, malaria, toxoplasmosis and typhoid. Salmonella species infects a variety of hosts and causes broad spectrum of diseases. This bacteria is

responsible for acute self-limiting diarrhoea to bacteraemia and enteric fevers.⁶

According to Van der Klooster et al⁷, young, elderly, pregnant woman, immune compromised and HIV infected individuals are among the high risk populations for Salmonella infections. In endemic areas the incidence is low in the first few years of life, reaches to peak in school-aged children and young adults and then falling in middle age. There are reports of salmonella infection of transplacental spread to the foetus. Endomyometritis, salpingitis, septic abortion, chorioamnionitis, transplacental infection of the foetus, neonatal septicaemia, and meningitis are complications due to salmonella infection in pregnancy.

This article reports the incidence of typhoid fever among pregnant women visiting the department of gynaecology and obstetrics.

MATERIALS & METHODS

The present study was conducted in the department of gynaecology and obstetrics. This study included 250 pregnant women visited the department. A performa was made and all relevant information regarding name, age were entered.

The Widal agglutination test was done in all pregnant women. The Widal agglutination technique was carried out using plasmatic reagent containing S. Typhi O and H antigens, and S. Paratyphi A, B, and C antigens. A titer of

> 1/160 was considered positive for typhoid/paratyphoid fever.

Stool samples were taken from all women and inoculated into Salmonella-Shigella Agar (SSA) by streaking method after which the plates were incubated at 37°C for 24 hours. Pure isolates obtained were identified and characterized based on colonial morphology, cultural characteristics, Gram stain reaction, and biochemical tests. Results were tabulated and subjected to statistical analysis for correct inference using chi-square test.

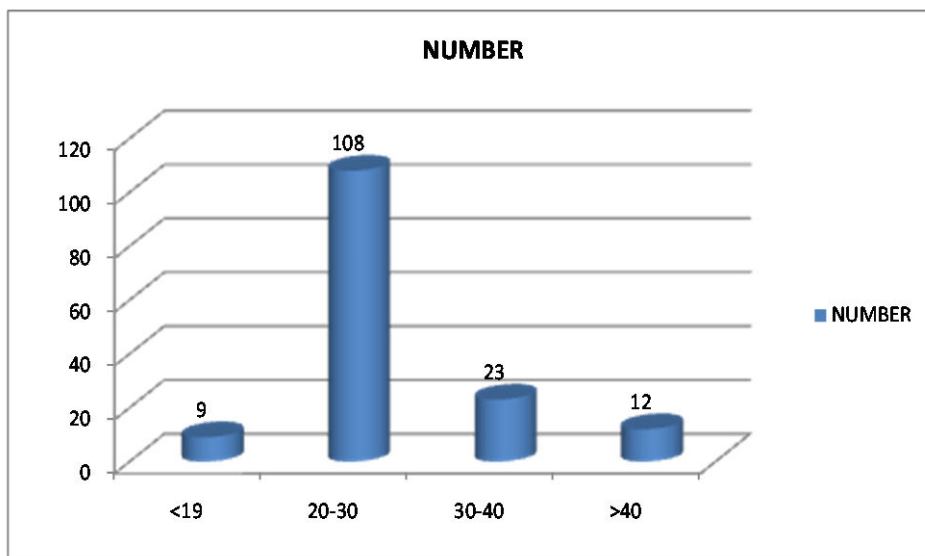
RESULTS

A total of 250 pregnant women were examined during this study. A prevalence rate of 62% was found positive for typhoid fever. The distribution of patients was done according to age groups. Age group 20-30 years showed maximum (108) typhoid positive women, 30-40 (23), <19 women and >40 years showed 12 women. The difference among age groups was significant (P-0.04) (Graph I). Graph II shows the distribution according to different occupation. Housewife (75) constituted maximum number followed by labourer (62), working (10), others (7) and business (1). The difference was significant (P-0.01). Maximum number of patients was from rural area as compared to urban area and the difference was highly significant (P-0.01) (Graph III).

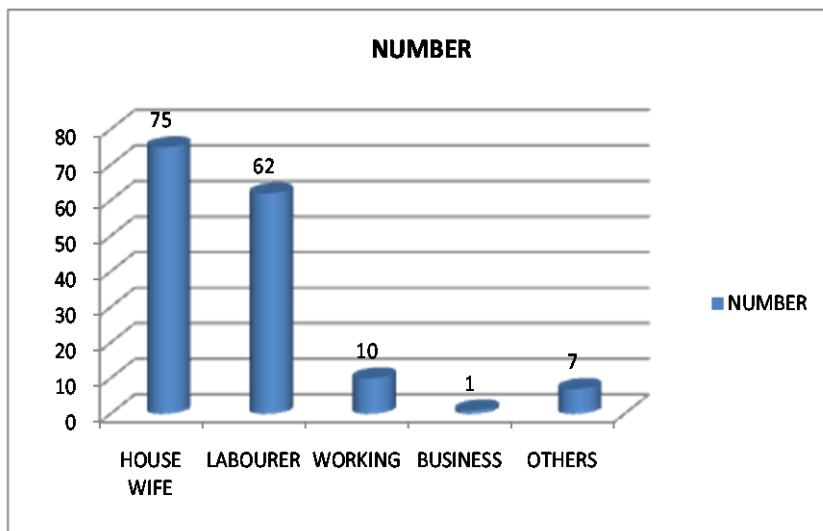
TABLE I Prevalence of typhoid among patients

	EXAMINED	PREVALENCE
TOTAL	250	155
PERCENTAGE	100%	62%

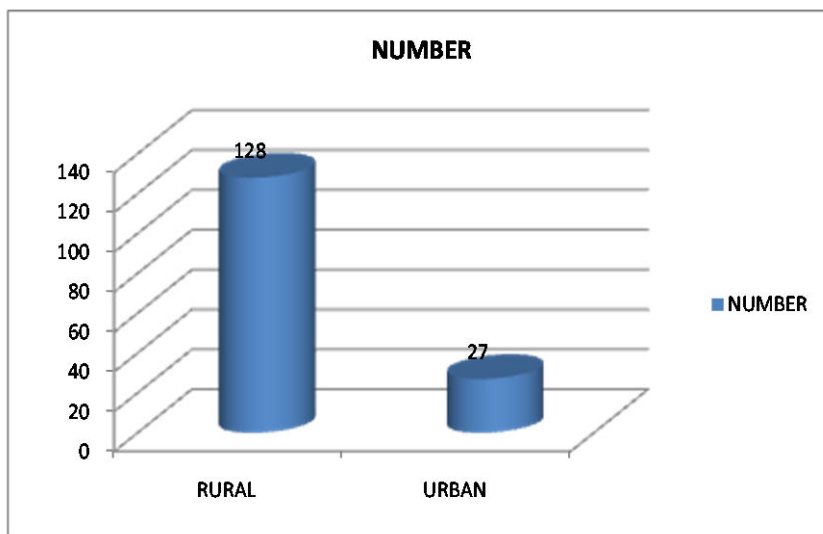
GRAPH I Distribution of patients according to age groups



GRAPH II Distribution of patients according to occupation



GRAPH III Distribution of patients according to area



DISCUSSION

Typhoid fever is a disease of mortality and morbidity and has continued to pose considerable health problems world-wide. It is caused by bacteria *Salmonella* contaminated foods and drinks. It is highly seen in pregnant ladies. The present study was conducted on pregnant women visiting gynaecological department. Out of 250 women, 155 were found positive for typhoid fever confirmed by serological examination and stool test. The prevalence found to be 62%. The results are comparable to other studies.

We also recorded the distribution of patients according to age groups. Maximum number was found in 20-30 years of age. Results are in agreement to the results of study conducted by Adeleke et al⁸. in year 2006. However Geeta

et al⁹ in their study found higher prevalence in age group 30-40. In our study maximum number was found in housewife as compared to working women, labourer and others. This shows that housewife being present for longer duration in house are susceptible to get infected with salmonella infection depending upon the ingestion of food which is easily available to them as compared to working women.

Moreover, housewife performs most household chores and fetches water from polluted streams. They also handle foods that are liable to contamination.

We also distributed the patients according to locality. In this study we found that maximum number was seen in rural area as compared to urban. In rural, treated pipe-borne

water is scarce and waste disposal systems are poor. Toilet facilities are usually absent and nearby bushes are used for defecation; while domestic wastes are indiscriminately disposed of in the surroundings. Water is more likely to be polluted in the wet season because the rains may wash debris and littered garbage into wells and streams used as domestic sources of water.¹⁰

CONCLUSION

Author concluded that pregnant women are prone to get infected with bacteria salmonella typhi. Typhoid fever is quite common as compared to other infection. Hence proper usage of water and food should be done to avoid getting infection.

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