INTRODUCTION
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The disease caused by Salmonella is commonly termed as Salmonellosis (Bowmer, 1965). A genus of bacterial family Enterobacteriaceae causing enteric fever, food poisoning is commonly seen in man. Salmonella typhi is the major cause of enteric fever which is transmitted usually by contaminated water or food. The family Enterobacteriaceae is composed of numerous inter-related bacteria all of which are Gram-negative rods, either motile with peritrichous flagella or non-motile. They are non-sporing and grow on ordinary media; all ferment glucose rapidly with or without gas production and reduce nitrates to nitrites. Many species are intestinal pathogens or commensals, whilst a few are saprophytic and found in soil and water. The term enteric fever includes typhoid and paratyphoid.

Salmonella typhi was the first member to the described and is the causative organism of typhoid fever. Paratyphoid fever is clinically similar to typhoid fever and is caused by Paratyphi A, Paratyphi B and Paratyphi C. Salmonella paratyphi A and paratyphi C are rarely encountered. The improvements in environmental sanitation and better knowledge of the epidemiology of the disease led to dramatic reduction in morbidity in developed countries. Typhoid fever occurs in all part of the world, but the disease has declined a good deal in the western countries due to improvement in sanitation and water supply. In India typhoid fever is a major public health problem.
The sources of infection are patients suffering from the disease, including the mild and ambulatory forms and carriers. Typhoid fever is predominantly a water-borne infections and so, in communities where adequate treatment of water supplies is undertaken and where a water-carriage system of sewage disposal is operating, the recognised case of typhoid fever is unlikely to act as a focus of epidemic spread since he should be admitted to hospital and nursed with aseptic precautions.

Carriers of S. typhi are a more likely source of infection in a community with well-developed environmental services. Bacilli present on the hands of the carrier can be transferred to many vehicles; a carrier engaged in dairy work may contaminate milk, which can serve as culture medium and likely mode of spread (there is no evidence that S. typhi causes bovine infection). or distribution of food stuffs, have been incriminated as sources in food-handling either in preparation or distribution of foodstuffs, have been incriminated as sources in epidemic outbreaks. Shell-fish harvested from sewage-polluted sea-water, and vegetables, salads and water, cross contaminated with human excreta have also been noted as vehicles of infection (Criuckshak, 1962).

In materially less favoured countries the absence of community services results in low sanitary standards and greater opportunities for epidemic spread from cases and carriers; in these circumstances also, flies may transmit the bacilli from excreta to foodstuffs.

Salmonella food poisoning is a widespread zoonotic disease. Man gets the infection from farm animals through contaminated meat,
milk, milk products, sausages, custards, eggs, and egg products. The species most often incriminated in human outbreaks is *Salmonella typhimurium*, others are *S. enteridis, S. cholerasuis* (Park, 1995).

*Salmonella* was reported to be transmitted through pork and meat samples about 4.87% (Patnaik, 1995). Among the fishes and prawn 40.38% and 9.09% respectively showed the incidence of *Salmonella* and reported a high prevalence in the retail shop samples as compared to wholesale samples indicating the predominance of secondary contamination (Lakshmana, *et al.*, 1995).

Patnaik in 1967 reported an incidence of 110 among males and 75 among females per 100,000 population in Delhi. The death rate from typhoid fever can be regarded as an index of the sanitary measures practised in a country.

Andre *et al.*, (1967) have detected *Salmonella* in many polluted water system. Parhad *et al.*, (1975) isolated *Salmonella* from the Harsul lake during the epidemic of typhoid in Aurangabad. Sharma *et al.*, (1968) investigated the presence of *Salmonella* in sewage in Mathura city when a large number of pilgrims visited the city, out of 500 samples 31 were found to be positive. *Salmonellosis* was reported in municipal water supply (Patil, 1988). Similar report was given by Musaddiq, (1992).

Typhoid fever occurs in all parts of the world. The incidence of the disease has fallen down remarkably in developed countries because of good sanitation and safe water supply. The occurrence of the disease
in these countries can be ascribed to its acquisition abroad or imported by immigrants (Ryan et al., 1989). In UK typhoid fever has been brought very close to irradication, with approximately one case per 1000,000 population, which is perhaps a lowest incidence of typhoid in the world. Worldwide typhoid fever affects 6 million people with more than 600,000 deaths a year (Anderson et al., 1972).

However, it continues to be unabated in the developing countries of Asia, Africa and Latin America. The incidence rate varying from 100 - 1500 per Lakh population has been reported (Cvjetanovci et al., 1978). The practice of good sanitation has therefore played a key role in immensely reducing mortality and morbidity in Western countries. Indigenous enteric fever is uncommon in England and Wales. Around 80% of these infections are contracted of which nearly two thirds are in the Indian subcontinent. On the contrary typhoid fever is fairly common in Asia, Africa and Central and South America with an estimated means incidence (per 100,000 people per annum) of 150 in South America and 900 in Asia (Ivanoff et al., 1994). Travellers to these areas are at high risk and in developed countries of North-West Europe, most cases involve returning travellers. In Britain, for example 200-300 cases occur each year, an overall incidence of 0.5 per 1000,000 and at least 70% of the patients have a history of recent foreign travel.

Enteric fever is endemic in India and outbreaks are localised epidemics from time to time. Endemic situations are determined by annual incidence rates that indicate the frequency of transmission of infection. In endemic areas of developing countries an annual incidence of 10 or more
per thousand is not infrequent but in developed countries the rate of one per
lac is now common (Christie, 1987).

Typhoid fever is endemic in India. Health survey
carried out by the central ministry of health in community development areas
indicated the morbidity rate varying from 102 to 2219 per 100,000 population
in different parts of the Indian population (Dutta P. M. 1993). Statistics for the
period 1980 : 1986 showed on an average, more than three lakh cases (3,00,000
cases) of enteric fever each year (Park, 1995). Reported data of the year 1992
shows same picture with 3,52,980 cases and 735 deaths (GOI, 1994).

Although enteric fever has been considered to be one of
the commonest of febrile illness in India, the incidence of isolation of
Salmonella from different parts of country is very low (Naik, 1961).

In recent years to avoid such problems resulting out of
biological environmental hazards researches are being conducted for
development of control systems as filtraton and chlorination of water,
pasteurization of milk and development of conditions for hygienic food
preparation etc. But still due to human or mechanical failure, outbreaks has
been traced following the treatment process (Trivedi, 1994).

Unsatisfactory environmental state increases the incidences
of Salmonellosis as well as drug resistance behavior. An attempt has been done
on environmental samples to develop a preventive corelation between them.
These studies may be helpful to establish a reliable empirical therapy regimens
in Salmonella infection control which will be extended to the betterment of
mankind and the enlightenment of physicians, environmentalist, microbiologists, and teachers in this field.

*Salmonella* species isolated from municipal drinking water supply throughout the year was found to be resistant to Polymyxin B sulphate, Kanamycin, Erythromycin and Streptomycin. This persistence of strains in chlorinated water indicate the emergency of drug resistance in untreated as well as in treated water (Tiwari, 1996).

Village environment is not comfortably clean. The area has open drainage system. Open land area is used for defalcation. Human excreta is important cause of pollution of water and food. The pathogens most frequently transmitted through water are those which cause infection of intestinal tract like enteric fever, dysentery etc.

Akola is constantly facing pollution problems due to unplanned increase in population. The hygienic conditions in the city are unsatisfactory in general and non-sustainable specifically slum areas. The health data obtained from Government Hospital, Akola indicates that communicable diseases are a constant feature including diarrhoea, dysentery and typhoid. Incidences of typhoid fever are constantly reported in every month from July 2000 - July 2003. The infection is more common in certain specific areas of the urban population and is more severe at the time of water shortage. Thus with prophylactic views the studies were carried out to collect epidemiological information on *Salmonella* infection in Akola.

While working with physicochemical and bacteriological
analysis of ground water at Akola (Maharashtra) Musaddiq et al., (2001) observed that most of the well water found unsuitable for both domestic and drinking purposes and preventive measures are necessary to save the people from danger of the health hazards.

In view of the above deteriorating situation of environment it is very much necessary to implement preventive and control measures with respect to Salmonellosis.

Present research is an attempt to study comparative account on incidence of Salmonellosis in and around Akola and to suggest preventive and control measures. Study may provides guidelines to the staff of health centres located in and around Akola for implementation of health schemes.

Similarly information relating to preventive and control measures passed on the people will certainly be of use to keep healthy society and will pave way, for irredication of the disease from Akola.