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Research Article

**THE SEROPOSITIVITY OF TYPHOID FEVER IN FEBRILE
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Abstract:

Objectives: The objective of this research work is to find out the positivity of the typhoid fever in the patients suffering from fever in Allied Hospital Faisalabad.

Methods: This is an observational research work. This study was conducted in Allied Hospital Faisalabad and the duration of this study was from April 2018 to March 2019. The screening of the children who were suffering from fever from last 3 or more days, no clear infection & suspected of having typhoid fever carried out. The collection of samples of blood performed from the feverish patients & compliance of the tests of Widal & Typhidot carried out for the discovery of typhoid fever in the children who were under suspicion.

Results: The screening of a sum of 2964 medically under suspicion patients carried out. Out of total, 18.6% (n: 550) were available as positive. The high occurrence of this problem in the season of hot summer & enhanced pattern of disease was under observation in hot days especially. The occurrence of this complication was high in the children who were school going below the age of ten years. There was no association of this disease with the gender of the patients.

Conclusion: The outcome of this work put light on the significant burden of this fever in the small aged children. There was a variation in the pattern of the disease was present depending upon the variation of the season and various groups of age, all these factors should be under consideration to manage the problem of typhoid fever.

KEY WORDS: Typhoid, Screening, Feverish, Extermination, Infection, Disease, Pollution, Sanitation.

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INTRODUCTION:

Typhoid fever is an epidemic in the countries which are poor economically, its extermination has occurred in the developed countries due to the good system of sanitation & pure water supply [1]. It is an old disease which affected the populations of the human beings because of dirty water and supplies of food [2]. In this developing world of industry, the pollution in the food and water are the major reasons for the disease transmission. The realization of this factor will help in the mitigation and control of this disease in most vulnerable areas [3]. Typhoid fever is widespread in sub-continent, South East part of Asia, Africa, UAE, and Central America due to unavailability of the fresh pure water and well sanitation facility [4]. CDC (center of disease control) stated that the prevalence of this fever in the citizens of United States who were visiting the sub-continent was 18 times greater than the other countries of the world [5]. S.typhi is the main cause of typhoid fever. The water and food are the source for the transmission of this disease. S.typhi is pathogen which dwell in the lymphatic tissues present in the liver, spleen, walls of small intestine & in the blood streams of the humans who had infection [6].

Children above the age of five-year age are the most common victims of the typhoid fever [7]. It was an estimation that the occurrence of this fever in the children having age from 2 to 5 year was 573.20/100,000 people in our country Pakistan. The rate of typhoid fever was very high in the countries of South Asia in comparison with the other countries Asia [8]. Typhoid fever is the most frequent cause of death in our country [9]. It can be the result of the fast drug resistant development, because about 69.0% S. Typhi separates from the samples of blood were available as drug resistant in Faisalabad, Pakistan [10]. Different case works in various parts of the country have displayed the great incidence of this fever in patients having less than 15 year of age [11]. Data from Delhi has showed that the occurrence of this fever is much high in the children who are preschool [12]. This case study performed to find out the occurrence of the typhoid fever and prevention for its cure in the children.

METHODOLOGY:

This research work was conducted to determine the occurrence of typhoid fever in febrile children. This is an observational research work. This study was conducted in Allied Hospital Faisalabad and the

duration of this study was from April 2018 to March 2019. The patients suffering from fever from last 72 hours, no other clear infection and suspected to have typhoid fever were the part of this research work. Children under the age of 18 year after approval of the specialist of CHL included in this case study. The separation of patients carried out according to the age of the patients.

Three milliliters blood received from every patient with the help of syringe then transferred into the sterilize tubes of Gel Test with no application of the anti-coagulant. The separation of the serum carried out with the help of centrifugation at RPM of 3500 & then tested with the utilization of the methods of Widal and/or Typhidot®. Widal test & Typhidot test have different procedures as prescribed by their manufactures. So, the procedures of the manufactures were under consideration for the application of these procedure for the confirmation of the typhoid fever.

RESULTS:

A sum of 2946 assessed for the presence of typhoid fever with the utilization of Widal test (1526) & Typhoid test (1420). Total 550 patients found positive with total occurrence rate of 18.660%. Total 48.360% (n: 266) patients diagnosed with the utilization of Typhidot while 51.63% (n: 284) diagnosed with the help of Widal test. In three hundred and fifty four suspected children, only 4.50% (n: 16) found positive having less than one year of age, while in the age group from 1 to 5 years, screening of 1261 children carried out & 216 were available as positive with an prevalence rate of 17.120%. Total 22.20 prevalence was available in the age group from 5 to 10 year of age where 183 patients found positive among total 822 patients. Total 108 patients were positive among 401 suspected patients with a prevalence rate of 26.90 in the age group of 10 to 15-year age. In the group of adolescents, suspected patients were 108 & 27 were available as positive.

1678 were the total male patients in which 318 found positive while out of 1268 total females. There was a great effect of the season on the prevalence of typhoid fever with a least range of 151.5 patients in January to highest 226.3 patients in month of October for per thousand suspected patients of fever. The increase in the temperature was also causing the increase in the prevalence of the disease which is present in record (Figure-1).

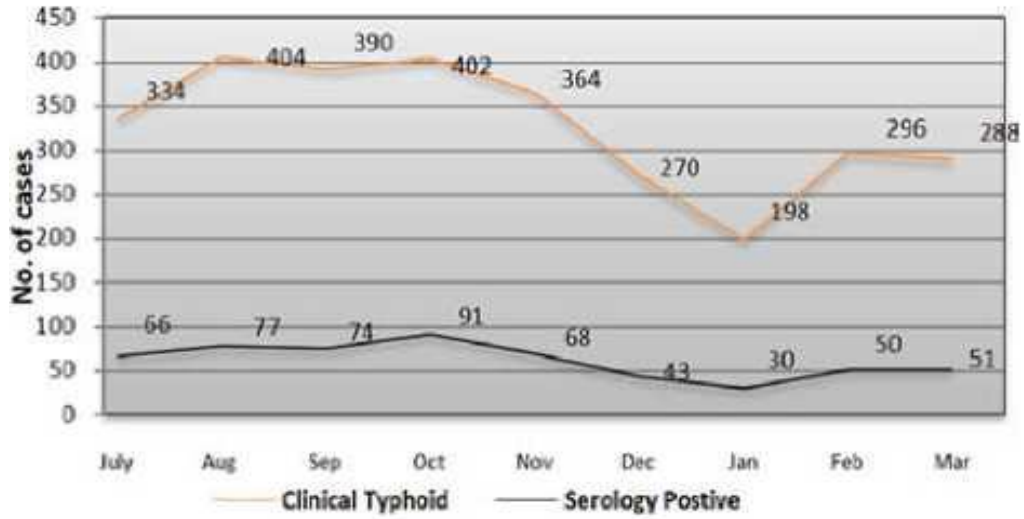


Figure 1: The prevalence of typhoid in summer and winter

Gender	Clinical Subjects	Positive (No)	Positive (%)
Male	1678.0	318.0	18.950
Female	1268.0	232.0	18.300
Total	2946.0	550.0	18.660

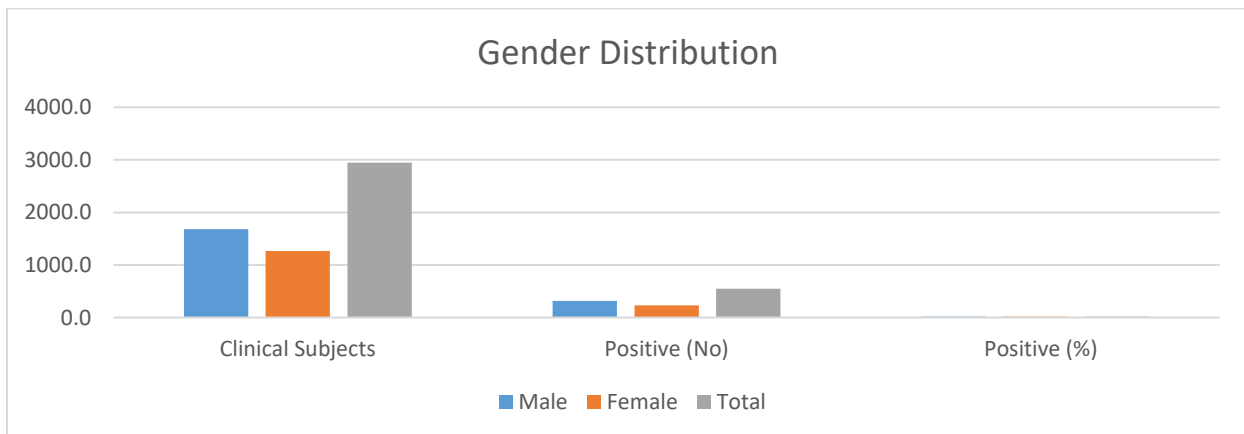
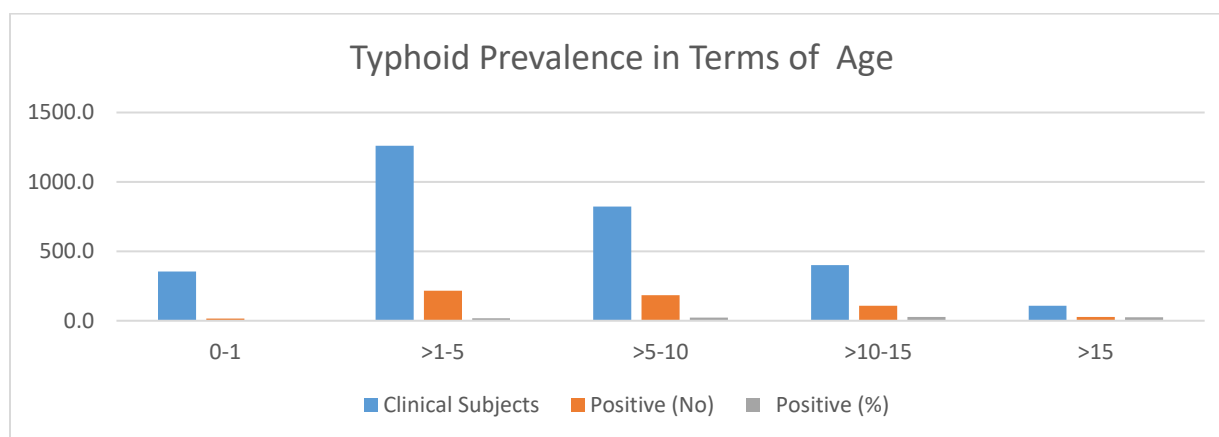


Table-II: Age Wise Prevalence of Typhoid in Patients Visiting Allied Hospital Faisalabad

Age (In Years)	Clinical Subjects	Positive (No)	Positive (%)
0-1	354.0	16.0	4.510
>1-5	1261.0	216.0	17.120
>5-10	822.0	183.0	22.260
>10-15	401.0	108.0	26.930
>15	108.0	27.0	25.000

**DISCUSSION:**

Typhoid fever is a severe problem of the health in the under developed countries. There is a highest occurrence of this disease in the countries of South Asia with more than 100 patients per 100000 population [13]. In our country Pakistan, this fever is very widespread, the main factors for the high occurrence of the disease are high population, poor education, poorness, bad sanitation & improper facilities for the supply of the safe water for drinking. A case study of Karachi showed an occurrence of 170 & 710 per 100000 on the basis of cultures of blood and serology respectively [14]. The gathered data showed that low occurrence in the children who are preschool as compared to the aged children. These findings validate with the results of Sinha, Lin & Rafiq who stated 44.0%, 11.0% and 17.0% patients in children who are in age of preschool in India, Vietnam & Pakistan correspondingly [12, 15, 16].

Levi & Ferric stated that this fever is not frequent in the children having less than five year of age [17, 18]. His research work showed a high prevalence in the adolescents & preschool children while Crump stated

a high prevalence in infants, adolescent & children [13]. The high occurrence of the disease was occurring in the months of summer in Indonesia & Karachi a big city of Pakistan [14, 15]. The use of the ice creams and local cold drinks are the major risk factors of this health issue in the children of Karachi according to Luby in collaboration with the disaster of flooding which causes the mixing of the sewage and drinking water [19]. Typhoid is present in both genders with insignificant disparity, this is similar to the results of Abdel Wahab while Mubeena & Fazil found a high occurrence in males as compared to the female [20-22].

CONCLUSION:

The fever of typhoid is very widespread in Faisalabad, existing in both genders at the same rate who have less than 15 year of age. The results of this research work are in favor to provide vaccination to the children against this fever. Vaccination on a large scale and betterment in the fields of water supply and sanitation are very important to tackle the complication of typhoid fever.

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