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Research Article

**TYPHOID FEVER: A FACT-FINDING CROSS SECTION
SURVEY OF VARIOUS MAIN HOSPITALS OF HYDERABAD
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Abstract:

Typhoid fever occurs as a consequence of Salmonella typhi infection following use of contaminated water and food most commonly, affecting 21.5 million persons world around with an incidence of 412/100,000 /year in Pakistan accounted as 4th common most reason of death. This survey was arranged to search about the frequency and percentage of this condition from August to Oct 2012. The data for this survey purpose was collected from the pathology labs (using typhi dot) of various main Hospitals of this historical city of Sindh, Pakistan. Typhoid +ve and -ve cases were separated and compared between various hospitals on SPSS using chi-square keeping 0.05 as level of significance. There were 285 patients investigated for typhoid fever in 4 Hospitals, 131 (45%) were found positive for fever while 154 (54%) were declared negative. There was significant difference among various hospitals P-value 0.000089

Conclusion: *Typhoid fever was found prevalent in 45% of the investigated population in Hyderabad.*

Key Words: *Typhoid fever, Typhi dot, hospitals*

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INTRODUCTION:

Typhoid fever also termed as enteric fever due to infection of the gastrointestinal tract by salmonella typhi, a gram -Ve bacillus from Enterobacteriaceae family. It is facultative anaerobe containing a typical endotoxin along with Vi antigen responsible for its enhanced virulence. Invasin (a protein) produced by this organism allows entry of bacterium into the non-phagocytic cells to reside intracellularly, innate immunity is also reduced by inhibition of leucocyte mediated oxidative burst[1]. Important sources for the transmission of the bacteria and thus the infection include contaminated food, water and poor hygienic conditions at home and public places [2]. There are two phases in typhoid fever in 1st phase S.typhi starts its multiplication and moves to blood circulation and sustained fever develops reaching to 40 C, deterioration occurs with vomiting, weakness, abdominal pain, headache, anorexia and constipation. Further movement of bacterium to bone marrow and liver occurs and finally reaches the stools through the bile making the diagnosis easier from stool samples or blood samples. In 2nd phase there is invasion of the intestinal immune system characterized by GI symptoms of severe nature along with persistent hyperpyrexia Severe diarrhea replaces the constipation in 3rd week and blood may be seen in stools. The fever drops in fourth to fifth with gradual improvement in health [3]. Many parts of the world still have typhoid fever as a common health problem due to low standards of sanitation as well as water supply and poor quality of sewerage system. Developing countries show 21.5 million persons of different age groups to be affected by typhoid. Children of age range of 1-5 years are at greater risk due to reduced antibodies from mother and the poorly developed immune system. An estimated 220,000 deaths were caused by typhoid in year 2000 globally [4].

Developed countries like Canada, USA, Europe, Japan and Australia etc has low incidence of typhoid

only 500 cases were reported in USA and Europe per year and believed to be acquired due to international journeys. The estimated typhoid global burden is 16 million while 600,000 deaths are believed to occur annually due to this infection[5]. The endemic situation is seen in India, East Asia, Middle East and Africa as provision clean water and sewerage systems are in adequate in these area of land [6].

WHO reported 412 cases/100000 as the overall incidence in Pakistan per year for typhoid fever [7].

METHODOLOGY:

Laboratory data for surveyed was obtained from 4 well known hospitals of Hyderabad city LUMHS hospital, IUH (Isra University Hospital), Rajputana Hospital and Maa jee Hospital for the period of August 2012 - October 2012. All age groups and both genders were included which were investigated for typhoid fever through typhidot test. Other infectious diseases were excluded total 285 reports were collected through non-probability sampling. Comparison between the positive and negative test among hospitals was made on chi-square using SPSS version 22 at a level of statistical significance of 0.05.

RESULTS:

Out of 285 cases 76(26.67%) were from Liaquat University of Medical & Health Sciences Jamshoro out of which 22 (7.72%) were typhidot positive while 54 (18.95%) were typhidot negative. IUH lab provided us 34 reports 14 (4.91%) out of which were typhidot positive and 20 (7.01%) were negative. Majority of reports 143(50.18%) were from hospital Lab of Rajputana Hospital 71(24.91%) were typhidot positive and 72 (25.26%) negative. Least number of reports were 32(11.23%) from Maa jee Hospital 24 (8.24%) out of which were positive while 08 (2.80%) were negative [Table 1, figure1].

Table.1: Comparison between the various hospitals

S. No	Hospital Name	Typhoid +ve	Typhoid -ve	Row Total	X ²	P-Value
1	LUMHS Hospital	22(7.72%)	54(18.95%)	76(26.67%)	21.35	0.000089
2	Isra University Hospital	14(4.91%)	20(7.01%)	34(11.93%)		
3	Rajputana Hospital	71(24.91%)	72(25.26%)	143 (50.18%)		
4	Maa Jee Hospital	24(8.42%)	08(2.80%)	32(11.23%)		
5	Column Total	131(45.96%)	154(54.04%)	285(100%)		

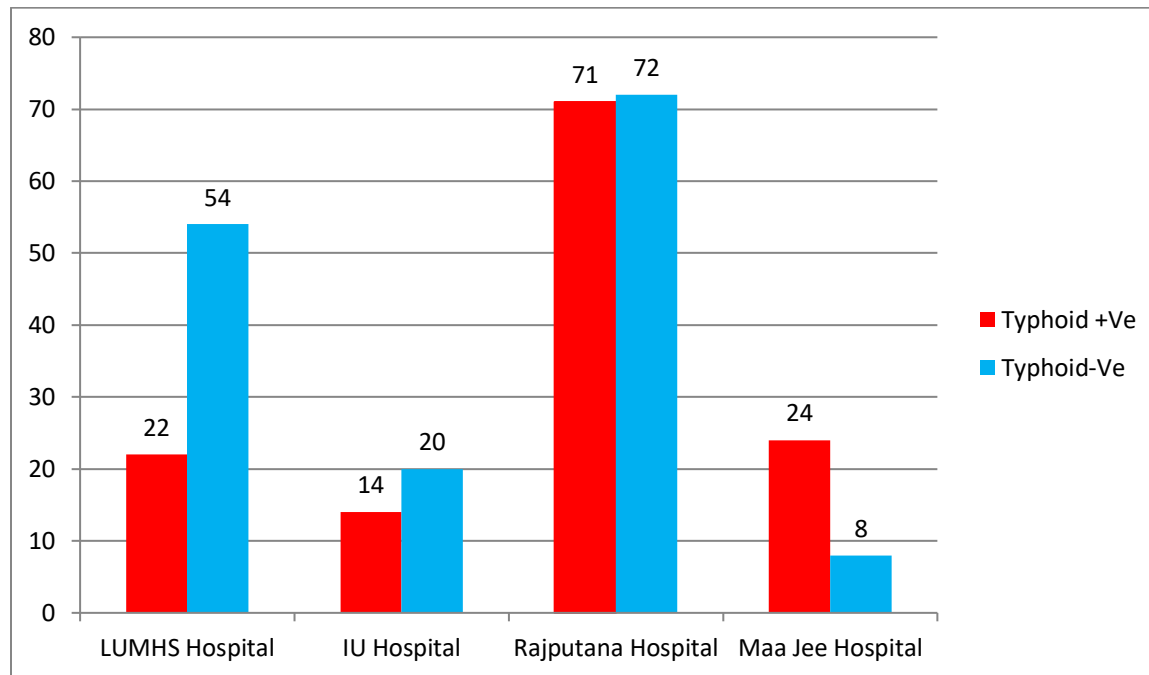


Fig.1: Charts representing the study data distribution

DISCUSSION:

Salmonella typhi is the cause of Typhoid fever which gets transmitted via food or water of contaminated nature or through poor sanitation measures [8]. Word "typhoid" meaning is "resembling to typhus" due similarity of few symptoms between the two diseases but both are distinct illnesses actually caused by separate bacteria [9]. The multidrug-resistance to *S. typhi* infection is associated with severe morbidity as well as mortality (5% -20%) along with the delayed diagnosis. Typhoid is endemic in Pakistan in areas lacking facilities for health, lower literacy, unhygienic, drinking poor quality water, no hand washing after toilets [10]. Annual typhoid incidence in India is reported 980/100,000 population [11]. Azithromycin is the choice of physicians due to MDR, Oral as well as parenteral vaccination reduces the morbidity for 2-5 years post vaccination [12]. Habte et al. (2018) found 21 positive cases out of 421 suspected reporting 5.0% typhoid fever on blood culture that was contrasting with 45% prevalence of our study that may be due to the test method difference between the two studies [13]. Andualem G et al (2014) reported prevalence of typhoid fever as 4.1% that is also inconsistent to our results [14]. An Egyptian study published 13.64% prevalence of typhoid by Hamdy MS et al (2014) which is also falling inconsistent to what we found [15]. A Pakistani study from Balochistan province described 21.04% positive and 78.95% negative results for typhoid fever that

inconsistent too for our results [16]. This was first study of its pattern in Hyderabad, there were certain limitations like culture would have been preferred over typhidot but hope the work will pave the way for others.

CONCLUSION:

The prevalence of typhoid fever is 45% while significant difference lies among various hospitals

REFERENCES:

1. Kaferstien F, Abdussalam M. (1999) Food safety in the 21st century. Bull world Health Organ 77(4):347-51.
2. Bhan MK, Bahl R, Bhatnagar S (2005). The Epidemiology of Typhoid fever Lancet 366: 749-762
3. Choo KE, Oppenheimer SJ, Ismail AB, Ong KH. (1994) Rapid serodiagnosis of typhoid fever by dot enzyme immunoassay in an endemic area. Clin Infect Dis 19(1):172-6
4. Sinha A, Sazawal S, Kumar R, Sood S, Reddaiah VP, Singh B et al. (1999) Typhoid fever in children aged less than 5 years, Lancet 354:734-737.
5. Edelman R, Levine MM (1996). Summary of an international workshop on typhoid fever. Reviews of infectious diseases 8:329-49.
6. Khan MN, Shafee M, Hussain K, Samad A, Arif Awan M, Manan A, & Wadood A (2013). Typhoid fever in pediatric patients in Quetta, Balochistan,

- Pakistan. Pakistan Journal of Medical Sciences. 29(4): 929-932.
7. Ochiai RL, Ascota CJ, Danovaro-Holiday MC, Baiging D, Bhattacharya SK, Agtini MD(2008). A study of typhoid fever in five Asian countries: disease burden and implications for control: Bulletin of the world, Health organization, 86(4):260-8
 8. Giannella RA (1996). "Salmonella". Baron's Medical Microbiology (Baron S et al., eds.) (4th ed.). Univ of Texas Medical Branch. ISBN 0-9631172-1-1.
 9. Cunha BA (2004). "Osler on typhoid fever: differentiating typhoid from typhus and malaria". Infect. Dis. Clin. North Am.18(1): 111–25. doi:10.1016/S0891-5520(03)00094-1. PMID 15081508.
 10. Parry CM, Hien TT, Dougan G, et al(2002). Typhoid fever. N Engl J Med. 347(22):1770-82.
 11. Sinha A, Sazawal S, Kumar R, Sood S, Reddaiah VP, Singh B et al. Typhoid fever in children aged less than 5 years, Lancet 354:734–737.
 12. E. Gotuzzo(2018). Typhoid fever: A current problem Abstracts / International Journal of Infectious Diseases 73S 3–398.
 13. Limenih Habte, Endale Tadesse, Getachew Ferede, Anteneh Amsalu(2018). Typhoid fever: clinical presentation and associated factors in febrile patients visiting Shashemene Referral Hospital, southern Ethiopia BMC Res Notes . 11:605 <https://doi.org/10.1186/s13104-018-3713-y>.
 14. Andualem G, Abebe T, Kebede N, Gebre-Selassie S, Mihret A, Alemayehu H(2014). A comparative study of Widal test with blood culture in the diagnosis of typhoid fever in febrile patients. BMC Res Notes. 7:653.
 15. Hamdy MS, Abdel-Rahman S(2014). Evaluation of enterocheck WB test in diagnosis of typhoid fever among Egyptian adults. Egypt J Med Microbiol.23(4):47–50.
 16. Kamran Hussain , Muhammad Kamran Taj ,, Syed Muhammad Ishaque , Zahoor Ahmed , Sana Arif et al(2017) seroprevalence of typhoid fever in children of different ethnic groups of balochistan .IJPSR, 8(10): 1000-05.