

**“Studies on awareness and protection of Epidemics-Typhoid: A study in Rural Village in Visakhapatnam District, Andhra Pradesh****Dr. Ch. AshaKiran Raju<sup>1</sup>, Prof. T. Sobha Sri<sup>2</sup>**

<sup>1</sup>Post-Doctoral Fellow (ICSSR), <sup>2</sup>Professor, Department of Social Work  
A.U College of Arts and Commerce,  
Andhra University, Visakhapatnam – 530003, Andhra Pradesh, India  
+91-9912796245 and +91-9848097091

**Abstract:**

Management of typhoid is based on clinical information, diagnosis, and an understanding of the epidemiology of the disease. Despite extensive work, little is known about the biology of this human-adapted bacterial pathogen and the complexity of the disease endemic. A major barrier to control is the development of multidrug resistance, which threatens the effectiveness of non-immune vaccines and antibacterial chemotherapy in young children. Clinicians, microbiologists, and epidemiologists around the world need to be aware of the changing trends in intestinal fever. This knowledge is important for both disease control and case management. Also, the Salmonella serotypes that cause human infection may change in different locations over time. Present study is envisaged on knowledge, living style and protection from epidemic disease like Typhoid.

**1.0 Introduction:**

Knowledge of the burden of illness is important for some reasons. First, data that causes the disease of human health is required to provide information about public health and to notify entrepreneurs. Second, information about local trends is required to assign resources. And third, region and To provide reasonable guidelines for travelers, we need a trend of local diseases. Global estimates for the burden of Typhoid fever (SS TYPHI's symptoms of SS Typhi) are regularly published (9 million cases registered in 26 million cases of other typhoid fever in 2010) are registered in 2010, and these mortality data It is provided in the global and area [1-2]. Typhoid strains are host-restricted human organisms that cause typhoid and paratyphoid fever. In some Asian countries, Salmonella serovarParatyphi A exhibits an evolving degree of intestinal fever [3-5].

**Theory**

Typhoid fever can be contracted by drinking contaminated water or eating food that has been washed in infected water. Other methods to get typhoid fever include using a bacteria-infested toilet and touching your lips before washing your hands. Consuming seafood from a source tainted with infectious faeces or urine. Typhoid fever is a potentially deadly bacterial infection. Typhoid fever is most common in underdeveloped countries. The disease, however, can strike anywhere, including developed countries like the United States.

**Causes of typhoid**

Typhoid fever is caused by the Salmonella typhi (S. typhi) bacteria. The bacteria is transferred by contaminated food, drinks, or water. Salmonella typhi is carried in the intestinal tract and blood of those who have been infected.

Salmonella typhi is excreted (expelled) in the faeces (stool). If you consume food or beverages prepared by someone who is shedding the bacterium and does not adequately wash their hands, you may contract typhoid fever. Sewage harbouring Salmonella typhi could contaminate local water systems in less developed countries. People who have had typhoid fever in the past may

still carry Salmonella typhi germs. These individuals are disease carriers. Even if they have no symptoms, they can spread the infection.

**Preventions for typhoid**

Typhoid fever can be prevented and controlled with safe drinking water, good sanitation, and adequate medical care. Unfortunately, in many underdeveloped countries, achieving these goals may be challenging. As a result, some scientists believe that vaccinations are the most effective strategy to prevent typhoid disease. If you live in or plan to go to locations where typhoid disease is a serious threat, you should get vaccinated.

**Wash your hands:** Hand washing in hot, soapy water on a regular basis is the most effective technique to prevent illness. Before eating or preparing food, as well as after using the restroom, wash your hands. When water isn't accessible, carry an alcohol-based hand sanitizer.

**Avoid drinking untreated water:** In locations where typhoid disease is endemic, contaminated drinking water is a particular problem. As a result, limit yourself to bottled water, canned or bottled carbonated beverages, wine, or beer. Bottled water that has been carbonated is safer than bottled water that has not been carbonated.

**Ask for drinks without ice:** Brush your teeth with bottled water and avoid swallowing water in the shower.

**Avoid raw fruits and vegetables:** Avoid fruits and vegetables that you can't peel, especially lettuce, because they may have been washed in polluted water. To be on the safe side, stay away from raw foods totally.

**Choose hot foods:** Food that has been stored or served at room temperature should be avoided. The finest foods are those that are steaming hot. And, while there's no guarantee that food served in the finest restaurants is safe, it's recommended to avoid street food because it's more likely to be contaminated.

**Know where the doctors are:** Find out about medical treatment in the locations you'll be visiting ahead of time, and keep a list of recommended doctors' names, addresses, and phone numbers with you.

**2.0 METHOD**

The present study is descriptive survey method. It involves a clearly defined imaginative planning, careful analysis and interpretation of data gathered and logical reporting. To carry out the research of this type of collection of data, for testing the hypothesis and for arriving at certain conclusions, it is necessary to choose the technique and the proper tools to be employed. For this investigation the questionnaire had been considered as a suitable tool for the collection of data. Random respondents in pendurthi village were selected basing on the step wise simple random sampling technique.

**Objectives of the study**

1. To compare the information and idea about their particular living in pendurthiMandal of Visakhapatnam district
2. To compare the knowledge about epidemic diseases in pendurthiMandal of Visakhapatnam district.

**Hypothesis**

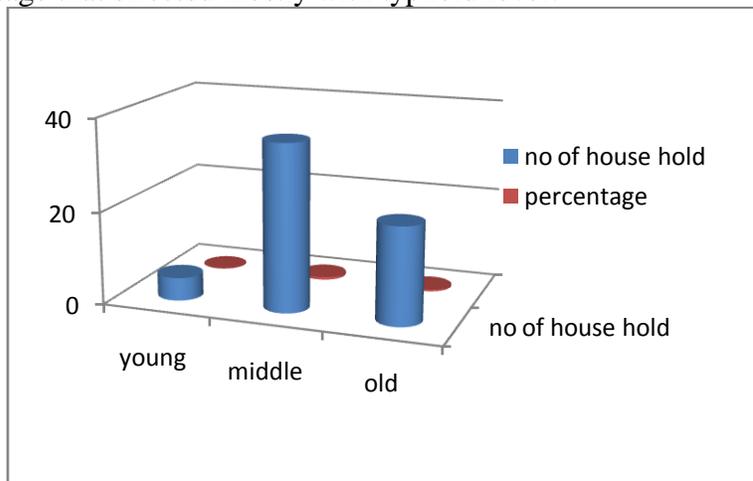
There will be no significant difference between the residing and living style of respondents in pendurthiMandal of Visakhapatnam district.

There will be no significant difference between the knowledge and idea about epidemic diseases in pendurthiMandal of Visakhapatnam district.

**3.0 Results and discussion**

**3.1 Age wise classification**

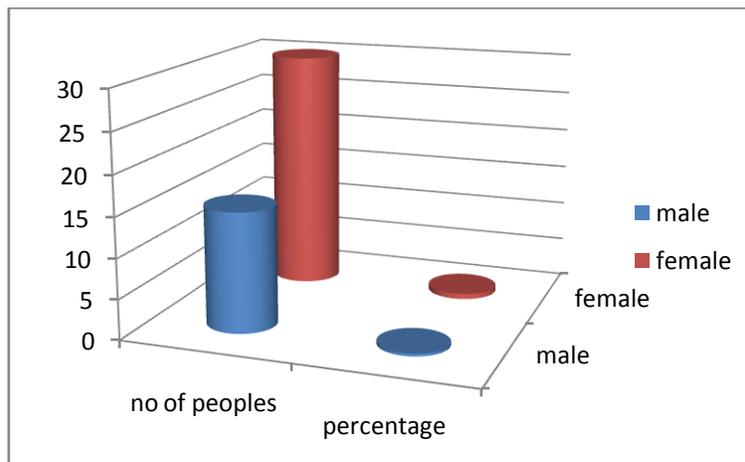
From the Fig 3.1 the graph is plotted against age and % of the people of household work and from the graph it is noted that the middle aged people gets Typhoid fever mostly compared to young and aged. In this fig the blue color line indicates the no of house hold and red color indicates the percentage that effected mostly with typhoid fever.



**Fig. 3.1 Age wise classification**

**3.2 Sex of people**

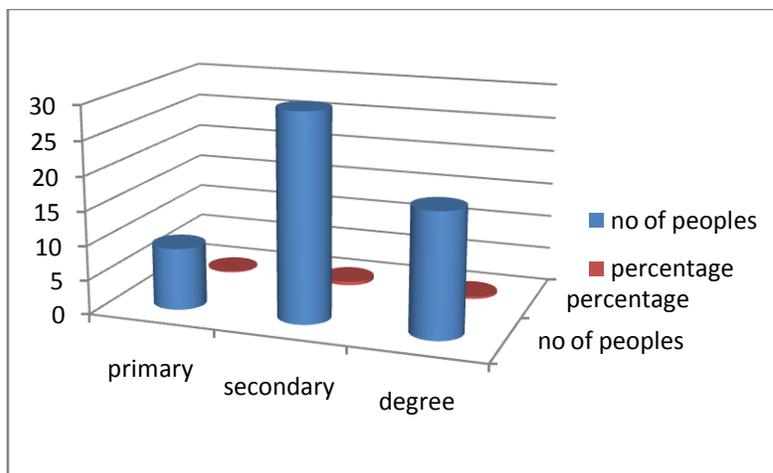
From the Fig. 3.2 the graph is plotted against gender of the people and % of the gender of the people who acquired the most and from the graph it is noted that the female gets Typhoid fever mostly compared to male. In this graph red color indicates the percentage of female peoples and blue color indicates the percentage of male peoples.



**Fig. 3.2 types of peoples**

**3.0 Education level**

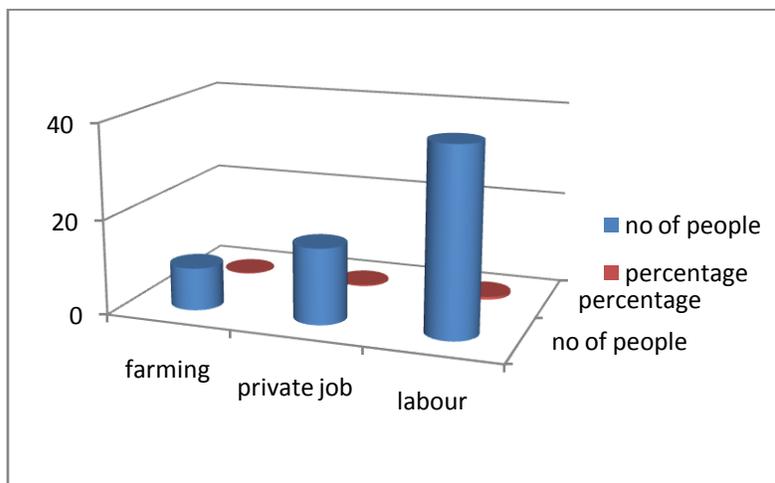
From the Fig 3.3 the graph is plotted against Education level of the people and % of the people who are educated and acquired Typhoid the most and from the graph it is noted that the persons who studied the secondary education gets Typhoid fever mostly compared to primary and degree. In this fig the blue color line indicates the no of people and red color indicates the percentage that effected mostly with typhoid fever.



**Fig. 3.3 Education levels**

**3.4 Occupation level**

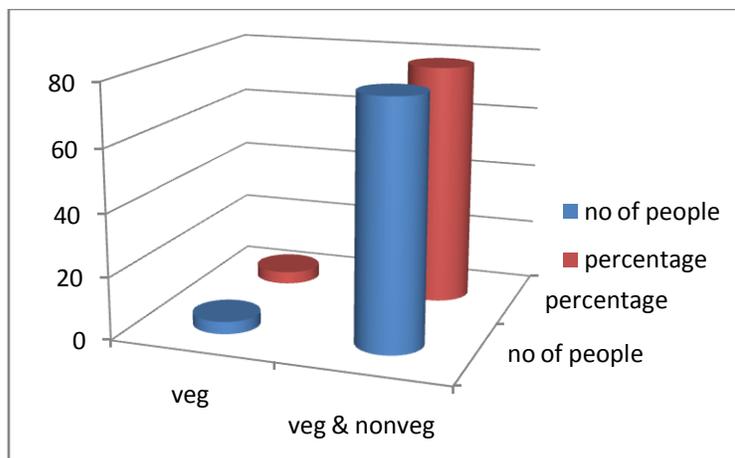
From the Fig. 34 the graph is plotted against occupation of the people and % of the people who are at work and acquired Typhoid the most and from the graph it is noted that the persons who go for the labor work gets Typhoid fever mostly compared to farming and private job. In this graph red color indicates the percentage of occupation levels and blue color indicates the no of peoples.



**Fig. 3.4 occupation level**

**3.5 Food types**

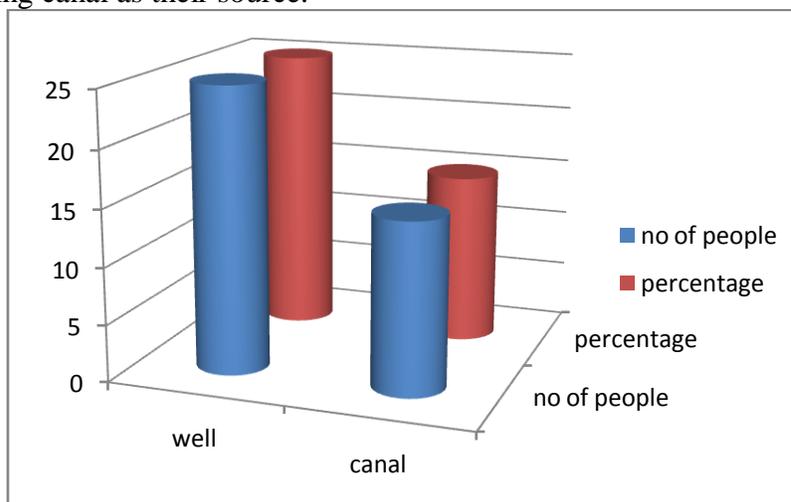
From the Fig 3.5 the graph is plotted against Type of Food habits people eat and % of the Typhoid obtained for the people who are having veg and non-veg in their food habitat and from the graph it is noted that the persons who go both veg and non-veg food acquires Typhoid fever mostly compared to the people having only veg. In this graph red color indicates the percentage of the people food levels and blue color indicates the no of peoples.



**Fig. 3.5 types of food**

**3.6 sources of water**

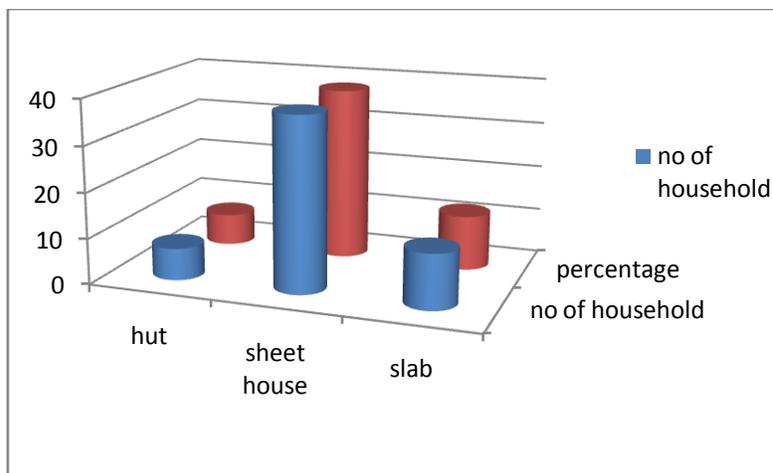
From the Fig 3.6 the graph is plotted against Type of water sources available for people and % of the Typhoid obtained for the people for their water sources and from the graph it is noted that the persons who are using wells as their water sources acquires Typhoid when compared to the people who are using canal as their source.



**Fig. 3.6 sources of water**

**3.7 Type of house**

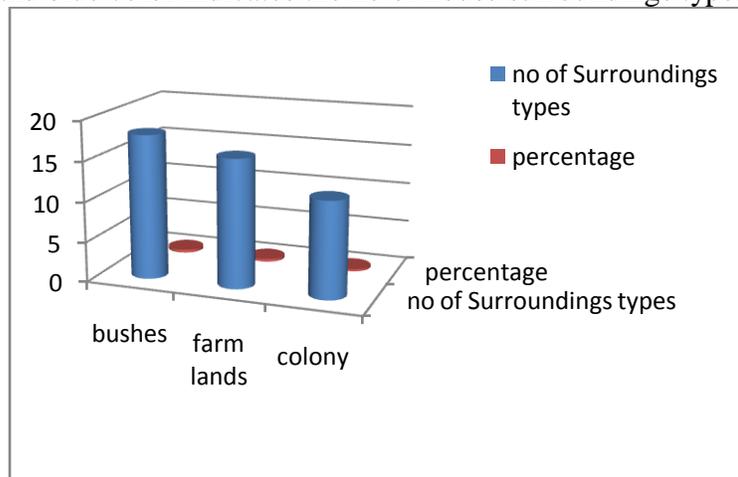
From the Fig. 3.7 the graph is plotted against Type of house used by the people and % of the Typhoid obtained for the people for their type of house and from the graph it is noted that the persons who are using sheet house acquires Typhoid when compared to the people who are using hut and slab. In this graph red color indicates the percentage of the houses and blue color indicates the no of peoples.



**Fig. 3.7 types of houses**

**3.8 House surroundings**

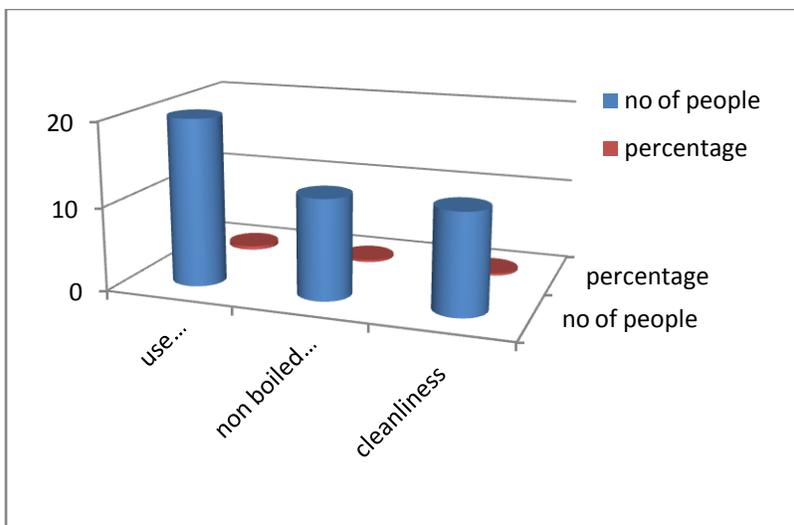
From the Fig 3.8 the graph is plotted against house surroundings of the people and % of the Typhoid obtained for the people based on their surroundings and from the graph it is noted that the peoples who have bushes around them acquires Typhoid when compared to the people who are surrounded by farmlands and colonies. In this graph red color indicates the percentage of the house surroundings and blue color indicates the no of house surroundings types.



**Fig. 3.8 house surroundings**

**3.9 factors of typhoid**

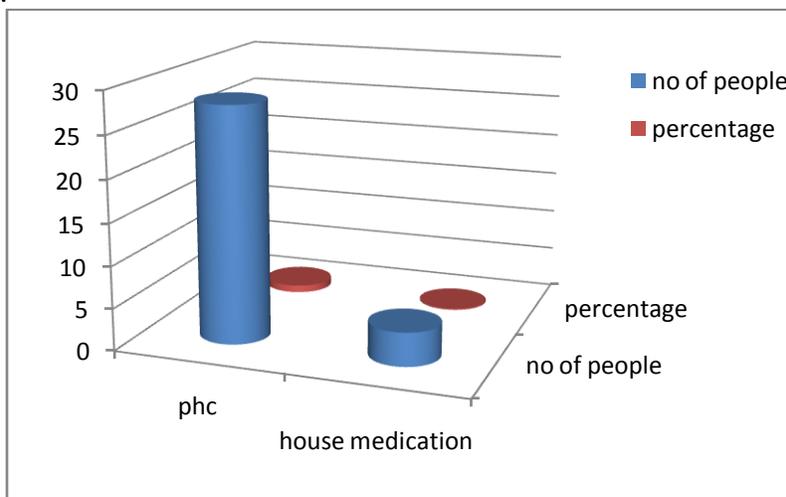
From the above fig. 3.9 shows the factors of typhoid and affected no of peoples from this fig mostly high percentage peoples are affected with use of contaminated water and food compare to cleanliness. In this graph red color indicates the percentage of people different causes ofTyphoid and blue color indicates the no of peoples causes of typhoid.



**Fig. 1.9 factors of typhoid**

**3.10 handling diseases**

From the above fig shows the types of illness treatment and no of peoples and percentage from the fig home medication and none of the peoples are get high percentage compare to Phc. In this graph red color indicates the percentage of the people’s treatment levels and blue color indicates the no of peoples.



**Fig. 3.10 diseases handling**

**Table 1.1 ANOVA single factors for typhoid**

Anova: Single Factor

**SUMMARY**

<i>Groups</i>	<i>Count</i>	<i>Sum</i>	<i>Average</i>	<i>Variance</i>
sl no	30	465	15.5	77.5
age	30	62	2.066667	0.409195
sex	30	45	1.5	0.258621
Education	30	57	1.9	0.506897
Occupation	30	64	2.133333	0.74023

Food	30	82	2.733333	0.478161
Source of water	30	40	1.333333	0.574713
Type of house	30	57	1.9	0.368966
Surroundings	30	46	1.533333	0.533333
factors of typhoid	30	44	1.466667	0.533333
handling diseases	30	32	1.066667	0.064368

**ANOVA**

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	5208.885	10	520.8885	69.90272	2.67E-74	1.860438
Within Groups	2377.067	319	7.45162			
Total	7585.952	329				

**Conclusions**

Typhoid Fever is a bacterial disease that you can get from overcooked or undercooked food, and contaminated water. The main disease in Typhoid Fever is salmonella. Typhoid fever remains a major public health problem in Pendurthi village. The infection however can be prevented by good sanitation, improving good water supply, the provision of proper sewage disposal system, as well as the effective use of the available typhoid vaccines.

**Acknowledgements**

The author is thankful to the Department of Social Work and Andhra University for providing all the facilities and also expresses deep sense of gratitude to ICSSR PDF fellowship for carrying out this researchwork with full financial support.

**References**

1. Crump, John A., Stephen P. Luby, and Eric D. Mintz. "The global burden of typhoid fever." *Bulletin of the World Health Organization* 82 (2004): 346-353.
2. Buckle, Geoffrey C., Christa L. Fischer Walker, and Robert E. Black. "Typhoid fever and paratyphoid fever: systematic review to estimate global morbidity and mortality for 2010." *Journal of global health* 2, no. 1 (2012).
3. Milligan, Rachael, Mical Paul, Marty Richardson, and Ami Neuberger. "Vaccines for preventing typhoid fever." *Cochrane Database of Systematic Reviews* 5 (2018).
4. Date, Kashmira A., AdwoaBentsi-Enchill, Florian Marks, and Kimberley Fox. "Typhoid fever vaccination strategies." *Vaccine* 33 (2015): C55-C61.
5. Anwar, Elspeth, Elad Goldberg, Abigail Fraser, Camilo J. Acosta, Mical Paul, and Leonard Leibovici. "Vaccines for preventing typhoid fever." *Cochrane Database of Systematic Reviews* 1 (2014).

6. Lynch, Michael F., Elizabeth M. Blanton, Sandra Bulens, Christina Polyak, JazminVojdani, Jennifer Stevenson, Felicia Medalla et al. "Typhoid fever in the United States, 1999-2006." *Jama* 302, no. 8 (2009): 859-865.
7. Luby, S. P., M. K. Faizan, S. P. Fisher-Hoch, A. Syed, E. D. Mintz, Z. A. Bhutta, and J. B. McCormick. "Risk factors for typhoid fever in an endemic setting, Karachi, Pakistan." *Epidemiology & Infection* 120, no. 2 (1998): 129-138.
8. Fraser, Abigail, Elad Goldberg, Camilo J. Acosta, Mical Paul, and Leonard Leibovici. "Vaccines for preventing typhoid fever." *Cochrane database of systematic reviews* 3 (2007).
9. Steele, A. Duncan, Deborah C. Hay Burgess, Zoey Diaz, Megan E. Carey, and Anita KM Zaidi. "Challenges and opportunities for typhoid fever control: a call for coordinated action." *Clinical Infectious Diseases* 62, no. suppl\_1 (2016): S4-S8.
10. Tilahun, GetachewTeshome, Oluwole Daniel Makinde, and David Malonza. "Modelling and optimal control of typhoid fever disease with cost-effective strategies." *Computational and mathematical methods in medicine* 2017 (2017).
11. Radhakrishnan, Amruta, DainaAls, Eric D. Mintz, John A. Crump, JeffereyStanaway, Robert F. Breiman, and Zulfiqar A. Bhutta. "Introductory article on global burden and epidemiology of typhoid fever." *The American journal of tropical medicine and hygiene* 99, no. 3 Suppl (2018): 4.
12. Bhutta, Zulfiqar A. "Current concepts in the diagnosis and treatment of typhoid fever." *Bmj* 333, no. 7558 (2006): 78-82.
13. Steinberg, E. B., R. Bishop, P. Haber, A. F. Dempsey, R. M. Hoekstra, J. M. Nelson, M. Ackers, A. Calugar, and E. D. Mintz. "Typhoid fever in travelers: who should be targeted for prevention?." *Clinical infectious diseases* 39, no. 2 (2004): 186-191.
14. Crump, John A., and Eric D. Mintz. "Global trends in typhoid and paratyphoid fever." *Clinical infectious diseases* 50, no. 2 (2010): 241-246.
15. Date, Kashmira A., Adwoa D. Bentsi-Enchill, Kimberley K. Fox, NihalAbeyasinghe, Eric D. Mintz, M. Imran Khan, SushantSahastrabuddhe, and Terri B. Hyde. "Typhoid fever surveillance and vaccine use—South-East Asia and Western Pacific regions, 2009–2013." *MMWR. Morbidity and mortality weekly report* 63, no. 39 (2014): 855.
16. Bhutta, Zulfiqar A., and John Threlfall. "Addressing the global disease burden of typhoid fever." *Jama* 302, no. 8 (2009): 898-899.
17. Ram, P. K., A. Naheed, W. A. Brooks, M. A. Hossain, E. D. Mintz, R. F. Breiman, and S. P. Luby. "Risk factors for typhoid fever in a slum in Dhaka, Bangladesh." *Epidemiology & Infection* 135, no. 3 (2007): 458-465.
18. Ochiai, R. Leon, Camilo J. Acosta, M. Danovaro-Holliday, Dong Baiqing, Sujit K. Bhattacharya, Magdarina D. Agtini, Zulfiqar A. Bhutta et al. "A study of typhoid fever in five Asian countries: disease burden and implications for controls." *Bulletin of the world health organization* 86 (2008): 260-268.
19. Jin, Celina, Malick M. Gibani, Maria Moore, Helene B. Juel, Elizabeth Jones, James Meiring, Victoria Harris et al. "Efficacy and immunogenicity of a Vi-tetanus toxoid conjugate vaccine in the prevention of typhoid fever using a controlled human infection model of Salmonella Typhi: a randomised controlled, phase 2b trial." *The Lancet* 390, no. 10111 (2017): 2472-2480.
20. Engels, Eric A., and J. Lau. "Vaccines for preventing typhoid fever." *Cochrane Database of Systematic Reviews* 4 (1998).