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Research Article

**SITUATION OF TYPHOID FEVER IN DERA GHAZI KHAN**<sup>1</sup>Dr. Sana Ullah, <sup>2</sup>Dr. Jawad Qasim Khan, <sup>3</sup>Dr. Mahboob Ahmed<sup>1</sup>MO at THQ Hospital Kott Chutta, D.G. Khan, <sup>2</sup>MO at BHU 90/12-L Tehsil Chichawatni, Sahiwal, <sup>3</sup>MO at THQ Hospital Kot Addu, Muzaffar Garh**Abstract:**

*Pakistan is striving hard to overcome the challenges associated with health. Typhoid fever is among one of the common diseases present commonly across the country. The disease is caused by the typhoid salmonella bacteria. The mode of spread of bacteria is waterborne and food borne. Municipal water supplies and the food handler who is also carrier of the bacteria are considered the main source of transmission. Symptoms which are commonly observed in patients are abdominal pain, fever, headache, nausea, diarrhea and also constipation some time. The study was conducted in the Dera Ghazi Khan and its vicinity rural areas. Dera Ghazi Khan is the least developed Division of Punjab and it is the end of south Punjab. Due to poverty and under development many social, economic issues are present which in turn leads to poor health condition of the community. Total sample size of the patients who were involved in the study was 200 from the time period of Jan 2018 to Jan 2019. The age of the participants varied from infants less than two years to adult consisting of both the gender. Blood culture confirmed the presence of bacteria. Antibiotics along with other medicine are used as a primary treatment. Complications is also associated with the typhoid fever and can result in death when treatment is not started on time. The prevalence of typhoid fever from the society can be reduced by providing safe drinking water and developing awareness among the masses about cleanliness of their selves and the environment where they live. Typhoid vaccination is also a step to prevent the disease.*

**Key Words:** Safe drinking water, Salmonella bacteria, Typhoid fever, Antibiotics.

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**INTRODUCTION:**

Prevalence of typhoid fever is observed across the globe, but the developed countries had overcome the issue by providing health education and safe drinking water to their citizens and also better sanitation development has reduced the risk factor. In past typhoid fever has played havoc in the world but in these days, it is considered totally treatable disease if treatment starts timely. In Pakistan the common mode of transmission of typhoid bacteria is water borne and food borne. Drinking of municipal water or contaminated water is the main cause of disease and it can also be spread by the person who is either infected or carrier of the bacteria and is also not well aware about proper washing hands and food before use, can easily transmit the disease to healthy person. The sign and symptoms of the disease develops gradually. The patients with typhoid positive blood culture complained about high grade fever, muscular pain, pain in abdomen along with constipation or diarrhea. The patients were given antibiotics and other symptomatic treatment for relief of discomfort caused by the bacteria. Typhoid fever is a public health issue in Asian developing countries especially in Pakistan, India and in Bangladesh according to the report of WHO published in the year 2014.

**REASONS OF TYPHOID SPREAD:**

Typhoid fever is spread by *Salmonella typhi* from person to person by consumption of contaminated food and water. The persistent common symptoms of typhoid fever are frequent high-grade fever, anorexia, bradycardia, malaise, headache and constipation or diarrhea. The children who are not aware or unable to maintain the good health standard of washing hands is at greater risk of spreading the disease. The food handlers are also the reason spread of typhoid who do not maintain the standardized hygienic practices. Also, the visitors or residents of developed countries when visit the high risk areas are at higher risk of carrying the disease along with them. When visiting public places especially the toilets where chronic infected patients who carry the bacteria in their gall bladder and excrete typhoid bacilli consist of major source of infection. Due to poor development of sanitation and solid waste management the fecal contamination from the carriers can also contaminate water supplies.

**How to control the typhoid bacteria?**

Screening of water samples and food to trace the source in areas where the no of reported cases are increasing alarmingly can help to control the outbreak. Laboratory tests can help to detect the carriers, contaminated food and water at earlier stage and it is also cost effective in preventing and

controlling the disease. It is the duty of Local authorities to provide the safe drinking water, proper sanitation and solid waste management facilities to their communities. Awareness development at community level about the maintaining cleanliness habits and Vaccination availability at Government Hospitals can help to control and prevent disease.

**COMPLICATIONS OF THE DISEASE:**

Although the disease can easily be controlled by the use of antibiotics, but some time complications can also be observed such as perforation of intestine resulting in severe abdominal pain and require medical emergency.

**RESEARCH METHODOLOGY:**

The purpose of the research was to analyze the presence of typhoid disease in region which is considered least developed area of South Punjab Dera Ghazi Khan. The sample size of the research is 200 including patients who came with the sign and symptoms of typhoid fever. After the clinical examination and lab test of their blood 100 patients were those who have positive reports of the presence of typhoid bacteria. The age group which was at higher risk were children who have age less than five years as compared to the adults and senior citizens. People from rural areas and living in slums were the victim of disease due to their exposure to contaminated food and water and also living in poor hygienic conditions. After clinical and lab diagnosis the treatment of antibiotics were given and patient's condition started getting better in few days.

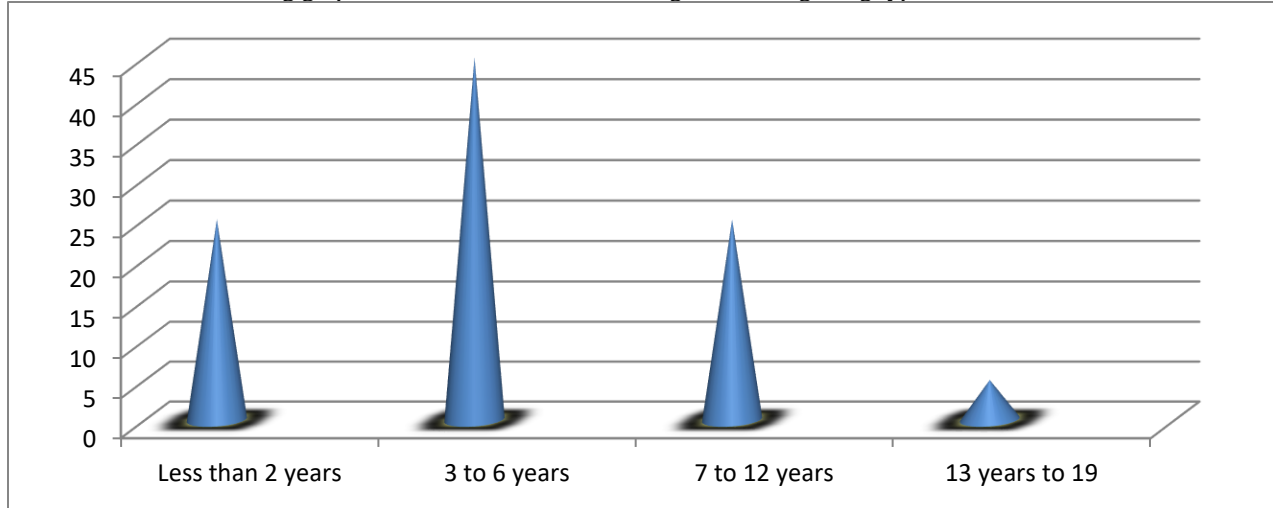
**RESULTS AND DISCUSSIONS:**

As we have already mentioned that Dera Ghazi Khan is the least developed division of south Punjab and is facing many infra structural and health facilities challenges. Typhoid fever is one of the challenges faced by the citizens of Dera ghazi Khan. Typhoid is spread by food borne and water borne source. Access to safe and clean drinking water is an issue in rural and urban areas. The hygienic awareness among the masses is also poor therefore the infants and younger children are prone to more risk of getting the disease as compared to the adult. The age group distributions of the patients are as follow in table 1. The infants who suffered from typhoid fever was 25 % of the sample and the children from age group of 3 to 6 years were counted 45 %. Younger children before their teen age was counted 25 % of the sample selected. The reason behind is the children are not well aware of washing their hands properly after passing stool and washing food properly before use. Poor living standard is also risk factors of getting typhoid fever.

Table 1 Age group of Participants

Age	Cases	Percentage
Less than 2 years	25	25%
3-6 years	45	45%
7-12 years	25	25%
13 to 19 years	5	5%

Following graph shows that children are at higher risk of getting typhoid infection.



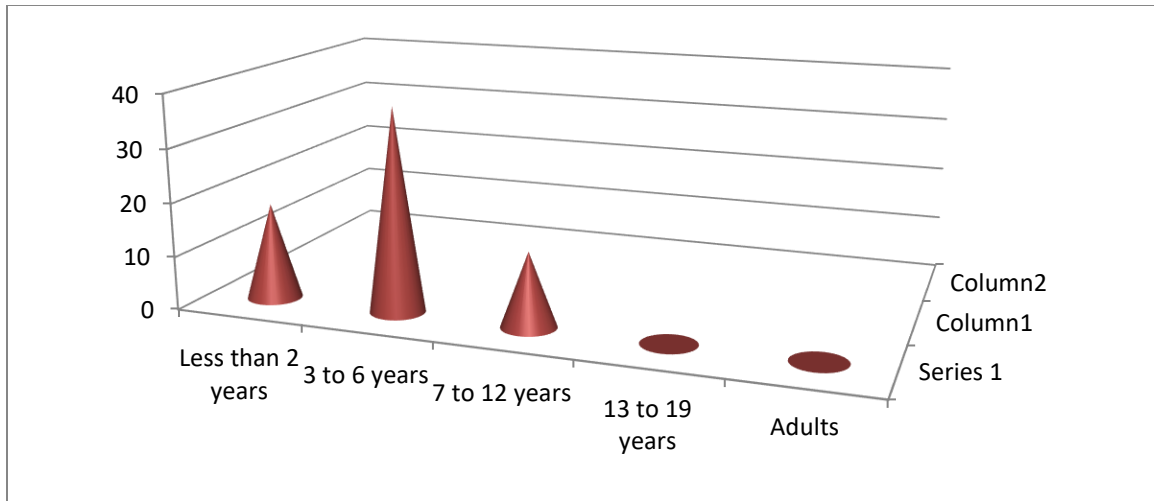
The treatment of the disease depends upon the clinical examination and also laboratory diagnostic tests. But due to poor financial position and obvious symptoms of the disease the antibiotics are given to the patients according to their age weight and complexity of the condition. The patients who got

both the blood cultural reports in addition to clinical examinations were as follow infants less than 2 years counted 18 % of the sample and the children from the age group of 3 to 6 years counted 38 %. The younger kids from the age group of 7 to 12 years counted 14 % of the sample.

Table 2 Febrile illness with blood culture

Age	Cases	Percentage
Less than years	18	18%
3- 6 years	38	38%
7-12 years	14	14%
Adult	NA	

Graphical illustration is as follow.



During the clinical examination following conditions were present in almost all the patients and are considered the common signs for typhoid disease.

Table 2 Symptoms of typhoid fever

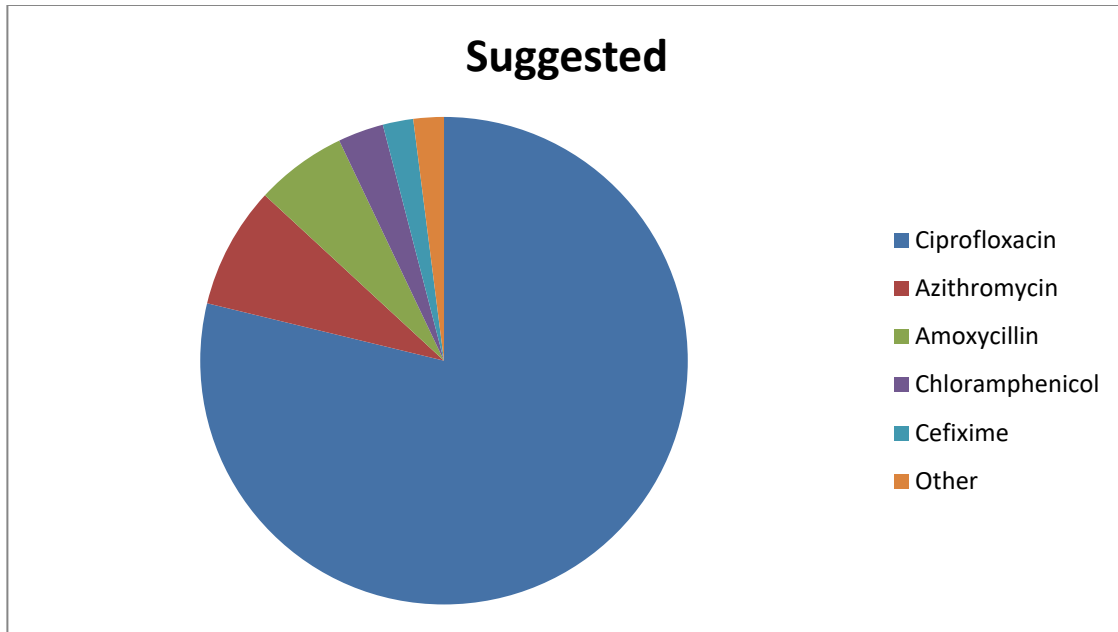
Symptoms	Observed	Not observed
High grade Fever	+	
Nausea/Vomiting		-
Headache	+	
Anorexia		-
Abdominal Pain	+	
Constipation	+	
Diarrhea	+	
Perforation of intestine		-
Bradycardia		-
Red spots/rash	+	

The common antibiotics given by the consultants and health professionals are as follow

Table 3 Use of Antibiotics

Antibiotics	Suggested	Percentage
Ciprofloxacin	78	78%
Azithromycin	8	8%
Amoxycillin	6	6%
Chloramphenicol	3	3%
Cefixime	2	2%
Other	2	2%

The reason ciprofloxacin is suggested is because typhoid fever is not resistant to this antibiotic. Mostly the physician suggests the use of good antibiotic. Other antibiotics which were suggested by the medical officials were as follow.



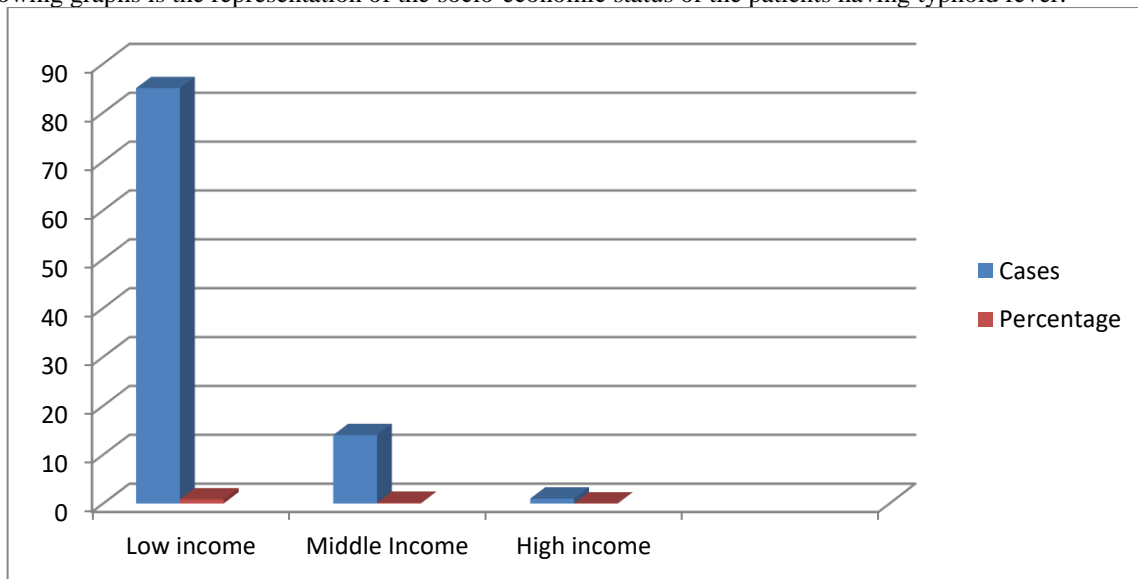
The demographic characteristics of the patients were also noted .Patients that was coming to Government Hospitals belonged to poor and low income group. Their living standard was poor and also they were living a life in areas where the access to basic necessities of life is scarce like access to clean drinking water, clean and neat roads, proper

sanitation system and awareness about good standard of health. From the table below it is clear that 85 % of the population was from lower income group and only 14 % of the sample belonged to lower middle income group and only 1 % was from the higher income group.

Table 4 Financial Status

Income	Cases	Percentage
Low income	85	85%
Middle Income	14	14%
High income	1	1%

Following graphs is the representation of the socio-economic status of the patients having typhoid fever.



The personal habits of the patients and their care takers were noted and it was shocking that the disease was due to the presence of all the bad practices which have become part and parcel of their life style. The patients and their care takers were not in good habit of washing their hands with clean water and soap. Access to better health, education, drinking water, sanitation facilities, clean toilets were missing in majority cases. The eating habits of the patients were also not healthy. They use raw food without properly washing it and if cooked the food is handled by unhygienic person. Following table shows the presence of good habits and the absence of good

habits and access to better life style of the patients. The patients and the community are given proper awareness about their health and importance of cleanliness the burden of the disease can be reduced drastically. Being Muslim one should also remain clean and transfer the cleanliness habits among the new generation. Government should also intervene and should provide the underserved areas the basic facilities of life on priority basis. Vaccination of typhoid should be introduced among the free immunization plan so that the resistance against the disease can be developed in infants and children.

Table 6 Presence of Healthy Habits among patients

Response	Present	Missing
Washing Hands	20 %	80%
Use of Soap	5%	95%
Clean Drinking Water	20%	80%
Using raw food	60%	40%
Food cooked at home	70%	30%
Food consumption from outside	30%	70%
Washing Food before use	20%	80%
Access to clean toilets	25%	75%
Sanitation Access	20%	80%
Cleanliness of the living area	10%	90%
Hygienic condition of patient	18%	82%
Medical health education	8%	92%
Access to health facilities	40%	60%
Access to Education	60%	40%
Cleanliness of Patient	20%	80%

### CONCLUSION:

Cleanliness is next to better health and our education program should be embedded about how to maintain good standard of health in our available resources. What practices should be our part and parcel of life which can help to lead a better life. Disease is common in infants and among children so the parents should be trained about the hygienic habits so that the disease can be avoided. The government should provide access to safe drinking water and better sanitation facilities to the people so that they can have a chance to live healthy life.

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