A Survey on Knowledge and Awareness of typhoid among Children at Dhanmondi, Bangladesh

[A dissertation submitted to the Department of Pharmacy, Faculty of Allied Heath and Sciences, Daffodil International University, Dhaka. This report presented in partial fulfillment of the requirements for the degree of Bachelor of Pharmacy**.]**

Submitted To

The Department of Pharmacy

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APPROVAL

This Project paper, "**A Survey on Knowledge and Awareness of typhoid among Children at Dhanmondi, Bangladesh**" submitted to the Department of Pharmacy, Faculty of Allied Health Sciences, Daffodil International University, has been accepted as satisfactory for the partial fulfillment of the requirements for the degree of Bachelor of Pharmacy and approved as to its style and contents.

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Declaration

I, Sufia Nanjin Nila, hereby declare that, this project is done by me under the guidance of Ms. Farjana Islam Aovi, Assistant Professor, Department of Pharmacy, Daffodil International University, in partial fulfilment of the requirements for the degree of Bachelor of Pharmacy. The results embodied in this project have not been submitted to any other university or institute for the award of any degree.

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Certificate

This is to certify that the results of the investigation that are embodied in this thesis works are original and have not been submitted before in substance for any degree or diploma of this university. The entire present work submitted as a thesis work for the partial fulfillment of the degree of Bachelor of Pharmacy.

Ms Farjana Islam Aovi

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Firstly, I'd like to express my heartfelt gratitude to Allah, the All-Powerful, for providing me with the ability to complete my project work and the opportunity to focus on this topic [Alhamdulillah].

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I also wish to offer my respect to all of the teachers of Pharmacy Department, Daffodil International University and thankful to other members for their excellent cooperation. Finally, I'd like to show my thankfulness to my family members for their unwavering support and motivation in helping me complete this project.

Sufia Najnin Nila

My Parents & My Teachers,

The persons who always encourage me in every sphere of my life

Abstract

Typhoid fever is a bacterial infection caused by the bacterium Salmonella typhi and is spread through contaminated food or water. The current study's objective was to evaluate the children in Dhanmondi, Bangladesh, in terms of knowledge, awareness and methods of treatment of typhoid. In total of 110 children from Dhanmodhi, Bangladesh, took part in a cross-sectional survey that was conducted in the community from January 2023 to April 2023. Information on socioeconomic characteristics and knowledge, awareness, treatment, and practice related to typhoid was gathered using a specific section of the questionnaire. The results of this study showed that, over 80% of survey participants had previously received a typhoid diagnosis, and about 77% of respondents said they were familiar with S. Typhoid. 70% of subjects reported having experienced severe typhoid. Typhoid affected 44% of people for more than 20 days, 31% for 20 days, and 25% for 15 days. Nearly 45% of respondents claimed to have weakness in addition to fever, and 28% claimed to have typhoid in addition to abdominal pain. The majority of participants (42%), however, think that typhoid is brought on by contaminated water and food. Participants' understanding of the typhoid bacteria is 58%. In terms of typhoid therapy, 29% and 49% of individuals, respectively, said they used antibiotics and antipyretics. This particular study contains an in-depth investigation of typhoid fever, which might be helpful in determining whether the healthcare professional should run an awareness campaign to help manage the disease in this region.

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Chapter One

Introduction

1. Introduction

Typhoid fever is a major cause of illness.There were 216,510 fatalities and an estimated 21,650,974 cases worldwide in 2000 [1].Typhoid fever is caused by Salmonella entericasubspecies entericaserotype Typhi (S.Typhi), which is both water- and food-borne. In places where the disease is prevalent, the yearly incidence is close to 1% [2]. Children 5 to 15 years old are said to have the highest incidence rates, although in areas where the disease is very prevalent, children under 5 may have some of the highest infection rates [3][4]. Over 20 million people had typhoid fever in 2000, and it accounts for about 200 000 fatalities each year [5]. Asia is thought to be home to more than 90% of cases of typhoid disease. There are different estimates of the disease load and epidemiology across Asia as a result of the difficulties in accurately diagnosing typhoid fever. Children under the age of five have been found to have the highest occurrence in India and Bangladesh, while children between the ages of 5 and 9 have been shown to have the highest incidence in Vietnam [6]. The World Health Organization (WHO) is starting to concentrate materials on raising awareness of typhoid immunization for children in endemic countries in Asia as a result of the recent increase in fluoroquinolone resistance of Salmonella enteric serotype Typhi, which has raised concerns due to the lack of treatment options available in typhoid endemic countries [7]. In underdeveloped nations with few resources, based on population incidence data are important in identifying high-risk individuals, geographic areas, and age groups for focused vaccination programs for the avoidance of typhoid fever.Additional information on the disease burden of invasive non-Typhi Salmonella could serve as a basis for more aggressive programs to minimize transmission of all Salmonella because the transmission of S. Typhi frequently involves factors such as hygiene, water quality, and food handling, which impact the transmission of other enteric pathogens. Some Asian nations with endemic typhoid fever have reported an increase in the prevalence of S. Paratyphi [8]. Bangladesh's rural communities frequently have sanitation issues as a result of limited water availability and unhygienic garbage and excreta disposal practices. Between rural and urban areas are semiurban areas. Semi-urban areas typically have higher population densities than rural ones. Semi-urban communities may have serious water and sanitation issues since they are unable to provide all the amenities of urban living [9]. Typhoid fever is a year-round issue in Bangladesh that can occasionally reach epidemic proportions. From the perspective of public health, these incidents are caused by hazardous water supplies, faulty sewage systems, and unclean food handling procedures [10][11].

Scientists and public health professionals can build evidence-based preventative and control strategies by documenting knowledge and awareness of typhoid fever in highly endemic settings. In order to determine knowledge and awareness of typhoid fever in a densely populated urban area of Dhaka, we conducted a case-control research in conjunction with an inquiry into the burden of sickness. Below, we present the findings of this investigation and talk about the best next steps to understand the knowledge and awareness of typhoid fever in this region.

1.1 Typhoid fever

Typhoid fever, usually known simply as typhoid, is an illness that is brought on by Salmonella bacteria that are of the serotype Typhi. [12] The symptoms may range from moderate to severe and typically appear between six and thirty days following exposure to the pathogen. [13] The emergence of a high fever often occurs gradually over the course of many days. [14] Weakness, abdominal pain, constipation, headaches, and mild vomiting are common side effects that come along with this condition. [15-16] A rash that appears as pink dots might manifest themselves in certain individuals. When the condition is severe, individuals could feel bewilderment. If therapy is not received, the symptoms may persist for many weeks or even months. Although diarrhea is very infrequent, it may be rather severe. [17] Some individuals may harbor the bacteria without showing any symptoms of infection; yet, they are still capable of transmitting the sickness to others. [18] The terms typhoid fever and paratyphoid fever both refer to the same kind of enteric fever. It is thought that S. enterica Typhi can only infect people and multiply inside their bodies. [19] The bacterium Salmonella enterica subsp. enterica serovar Typhi is responsible for the development of typhoid fever. This bacterium may be found in the intestines, peyers patches, mesenteric lymph nodes, spleen, liver, gallbladder, bone marrow, and blood. Consuming or drinking food or water that has been contaminated with the feces of an infected individual is the most common way for typhoid to be passed on. Lack of access to good drinking water and inadequate sanitation are also factors that contribute to the risk. The people who are at the most risk for acquiring symptoms are those who have not yet been exposed to the virus but who consume drinking water or food that has been infected. Infection is only possible in humans; there are no animal reservoirs known for this disease. Either cultivating and identifying S. enterica Typhi from patient samples or detecting an immune response to the virus from blood samples might result in a diagnosis of S. enterica Typhi infection [20].

1.2 History

During the time of the Peloponnesian War, an epidemic of typhoid fever was most likely the cause of the plague that ravaged Athens. During the conflict, the citizens of Athens fled to a city that was enclosed by walls in order to protect themselves from invasion by the Spartans. This large inflow of humanity into a concentrated area strained the water supply and waste infrastructure, most likely resulting in filthy conditions as it grew increasingly difficult to find fresh water and as it got more difficult to collect trash and transfer it beyond the city boundaries. In 2006, an examination of the remains from a mass burial site in Athens that dates back to around the time of the plague (around 430 B.C.), revealed that fragments of DNA similar to modern day S. Typhi DNA were detected. It is generally agreed that the French physicians Pierre-Fidele Bretonneau and Pierre-Charles Alexandre Louis were the ones who first described typhoid fever as a distinct illness distinct from typhus [21].

1.3 Signs and symptoms

Intermittent fever is accompanied in the first week by a low heart rate (Faget sign), a general feeling of malaise, a headache, and a cough. 25% of occurrences of epistaxis, or nosebleeds, also involve stomach pain. In the second week, the patient often has a dicrotic pulse wave, is too weak to get out of bed, and has a high temperature in plateau around 40 °C (104 °F) [29].

1.4 Causes

1.4.1. Bacteria

Salmonella enterica serovar, subspecies The germs that cause the spread of typhoid fever are the Gram-negative bacteria known as Typhi. The two basic sequence types of S. Typhi identified by the MLST subtyping approach are ST1 and ST2, and they can be found in various geographical locations [22].

1.4.2. Transmission

Typhoid appears to not be spread from animals in any known mechanism, in contrast to other Salmonella strains.It is currently thought that this infection-caused sickness only affects humans. Enteritidis-related Salmonella enterica serovar Both symptomatic patients and asymptomatic carriers of Typhi may be transmitted through the fecal-oral channel. If a person continues to excrete typhoid germs in their feces for at least a year after the acute stage of infection without displaying any signs of the illness, they are regarded as human carriers of the disease [23].

1.5. Diagnosis

1.5.1. Widal test

Through the utilization of antigen-antibody interactions, the Widal test is able to detect particular antibodies that are present in the serum of individuals who have typhoid [24].

1.5.2. Rapid diagnostic tests

Tests like Tubex, Typhidot, and Test-It, which are considered to be rapid diagnostic tests, have demonstrated only modest diagnostic accuracy [25]

1.5.3. Typhidot

The presence of specific IgM and IgG antibodies to a certain 50Kd OMP antigen is required for the Typhidot test to be valid. In this test, a particular S. typhi outer membrane protein is bonded to a cellulose nitrate membrane in the form of fixed test lines. The membrane is then subjected to the test. It recognizes IgM antibodies and IgG antibodies in a distinct manner. IgM indicates a recent infection,

whereas IgG indicates a more distant infection. The fact that Typhidot can only provide either positive or negative information is its most significant drawback [26].

1.5.4. Test for tubex

Both brown magnetic particles coated with antigen and blue indicator particles coated with O9 antibody are found in the Tubex test. Both kinds of particles are coated with their respective antibodies. If the serum contains antibodies, those antibodies will bind to the brown magnetic particles during the test, causing those particles to sink to the bottom of the container. Meanwhile, the blue indicator particles will remain in the solution, causing the color of the solution to turn blue. This indicates that the test was successful. If there is no antibody present in the serum, the blue particles will bind to the brown particles and sink to the bottom, resulting in a colorless solution. This indicates that the test was negative [27].

1.5. Stages of typhoid fever

The symptoms of typhoid fever might appear gradually, in a progression of four phases. Treatment with antibiotics at an early stage helps prevent the disease from advancing to a later stage.

Stage 1. The incubation period for stage 1 typhoid fever ranges from five to fourteen days following the first exposure to S. Typhi. Symptoms of stage 1 typhoid fever include: The first sign is a temperature that gradually becomes higher over the course of a few days; this kind of fever is referred to as "stepwise" since it rises in stages. During this stage, the germs are making their way into your bloodstream.

Stage 2. In the middle of the second week of having a fever, the bacteria that are present in your Peyer's patches begin to grow (part of your immune system that identifies harmful invaders). You may have abdominal discomfort along with other gastrointestinal symptoms, such as diarrhea or constipation, when this condition first begins. You can get something called "rose spots," which are little pink dots that seem like a rash and appear on your skin.

Stage 3. Around the third week following the onset of your symptoms, if you do not get antibiotic treatment, the germs may cause significant harm if they are not stopped. Some patients have life threatening consequences, such as internal bleeding and encephalitis (inflammation in your brain).

Stage 4. The fourth stage, or stage four, is when the majority of patients start to feel better. The high temperature you've been experiencing starts to come down. Because S. Typhi may exist in your gallbladder without generating symptoms, it is possible that you might still be infectious even after you have started to feel better [28-29].

1.6. Prevention

Sanitation and hygiene are very vital in the fight against typhoid fever. Only in settings where human feces have the potential to come into touch with food or water does it have the potential to spread. Typhoid fever may be avoided by practicing proper food hygiene and washing one's hands often. The development of industry was a significant factor in the eradication of typhoid fever [31]. The chlorination of drinking water has reportedly resulted in significant reductions in the spread of typhoid fever, as shown by data compiled by the Centers for Disease Control and Prevention in the United States [30].

1.6.1 Vaccination

The live, oral Ty21a vaccine (which is marketed and sold under the brand name Vivotif by Crucell Switzerland AG) and the injectable typhoid polysaccharide vaccine are the two typhoid vaccines that have been approved for use in the prevention of typhoid (sold as Typhim Vi by Sanofi Pasteur and Typherix by GlaxoSmithKline). Both are effective in preventing typhoid and are suggested for anyone traveling to regions where the disease is common. Two different vaccinations for typhoid fever have been suggested by the World Health Organization (WHO) since the 1990s. The ViPS vaccination is administered through injection, whereas the Ty21a vaccine is taken orally in capsule form. The ViPS vaccine should only be administered to persons who are at least two years old. People aged five and older are encouraged to have the Ty21a vaccination, which is effective between 51% and 67% of the time for a duration of 5–7 years. Both vaccinations have been shown to be both safe and effective in preventing pandemic illness across a variety of geographic areas [36]. In December 2019, the findings of a phase 3 study of the typhoid conjugate vaccine (TCV) indicated an 81% reduction in the number of illnesses among children [31-32].

1.7. Treatment

1.7.1 Oral rehydration therapy

Oral rehydration therapy, which was rediscovered in the 1960s, offered a straightforward approach to reducing the number of fatalities associated with diarrheal disorders in general. [39] Antibiotics In settings with a low prevalence of drug resistance, the therapy of choice is a fluoroquinolone antibiotic like ciprofloxacin. [33-34] In any other case, a cephalosporin from the third generation, such as ceftriaxone or cefotaxime, is the medication of choice. [35-36] Oral cefixime is a viable alternate treatment option [37-38]. Antibiotic therapy results in an approximate one percent reduction in the case fatality rate [40]. Some patients will experience a persistent fever, bradycardia, hepatosplenomegaly, gastrointestinal symptoms, and even pneumonia if they do not receive therapy.. These complications may prove deadly in 10%–20% of the cases. Children under the age of 4 had the highest case fatality rates that have been reported. Bacteria can continue to thrive in the biliary tract

long after the symptoms of typhoid fever have disappeared, making between 2% and 5% of those who have the disease permanent carriers [37]. Typhoid fever typically does not result in death if it is properly treated. Antibiotics such as amoxicillin, ciprofloxacin, ampicillin, chloramphenicol, trimethoprimsulfamethoxazole, and trimethoprim-sulfamethoxazole have traditionally been used to treat the condition [39].

1.7.2. Surgery

When intestinal perforation develops, surgery is typically recommended as the treatment option. According to the findings of one study, the disease burden is carried primarily by low-resource countries, where the 30-day death rate was found to be 9% (8/88), and surgical site infections were found to be 67% (59/88) [38]. The majority of surgeons believe that the best course of action for surgical treatment is to simply close the perforation and drain the peritoneum. Patients who have suffered multiple perforations may benefit from having their small intestines removed. In the event that hepatobiliary carriage is not eliminated despite antibiotic treatment, the gallbladder should be removed surgically. Cholecystectomy can be successful, particularly in individuals who have gallstones, although it does not always succeed in eradicating the carrier state due to persistent hepatic infection. Cholecystectomy can be successful in those who do not have gallstones [39].

Chapter Two

Purpose of the Study

2. Purpose of the study

a) To understand the knowledge and level of awareness of typhoid fever among the children in this particular area.
b) To determine the prevalence of typhoid fever in children.
c) To follow up the current scenario of typhoid fever.
d) To find out the causes of typhoid
e) To find out the treatment option for typhoid fever.

Chapter Three

Literature review

2.1. This looked into both the mucosal and systemic immune responses in S. Typhi bacteremic young children (aged, 1 to 5 years). We also used a 3H-thymidine incorporation test to evaluate the proliferation of T cells. To compared the reactions of older children (aged 6–17) and adults (aged 18–59) who were bacteremic with S. Typhi to those of age-matched healthy controls (HC). Lymphocyte discharges at the start of disease are similarly affected in younger children, older children, and adults. Antibody responses in plasma for MP are not the same between young children and adults. Late in the convalescence period, T cell proliferative responses rose across all age groups. The clinical profile was consistent across age groups. However, the emergence of MDR S. Typhi strains in early infants has little effect on either clinical signs or immunological responses. This research demonstrates that both young infants and adults may develop an immune response to naturally occurring illnesses [41]

2.2. During the course of fever monitoring in a Dhaka urban slum, we were able to establish that there was an incidence of 3.9 bouts of bacteremic typhoid fever per 1,000 person-years. The relative risk for preschool-aged children was 8.9 when compared to the danger for older people. The results of our regression model indicated that these kids were clinically sick, which points to the importance of vaccination in early childhood settings [42].

2.3. In the blood of 538 of the 4650 individuals that were tested, an 11.6% prevalence of bacterial infections was found. S. typhi was the single most prevalent pathogen that was found, accounting for almost three-quarters of the isolates (72.7%; 391 of 538). The rate of S. typhi being isolated was found to be at its maximum during the summer and monsoon seasons, and its lowest during the winter months. The bulk of S. typhi isolates were from children less than 5 years old (54.5 percent; 213 of 391), and 27 percent of the isolates came from children in their first two years of life (105.1 percent; 105 of 391). During the second year of life, the rate of social isolation was at its greatest point (17.4%, 68 out of 486). The quantity of bacteria in blood, measured in colonyforming units per milliliter of blood and broken down by age group, had a negative correlation with increasing age [43]

Chapter Four

Methodology

4.1. Study Population and period

The survey opens with an overview and 11 pertinent questions. This study is looking for 110 participants age ranging from under 10 years old. This study was conducted in Dhanmodi, Bangladesh during the month of January 2023 to April 2023.

4.2. Research Design:

The purpose of this survey was to learn how people thought about typhoid fever's severity and how it impacts their health and happiness. The target audience of the survey was invited to participate in the field research, where they would be expected to respond to each and every question personally.

4.3. Method of Data Analysis:

Each piece of information was collected, verified for accuracy, and checked for internal consistency to eliminate any missing or inconsistent information. The widely used upgraded version of Microsoft was used for information research.

4.4. Ethical Considerations:

The members of the investigation were spoken to and given the go-ahead verbally for the information gathering process. The respondents' identities were kept secret, and participants in the study were informed that they might opt out of the program at any time.

4.5. Survey Question

1. Patient Name ……
2. Gender
    - Male
    - Female
    - Others
3. Do you know about Typhoid?
    - Yes
    - No
4. Did you suffer from Typhoid?
    - Yes
    - No
5. How long have you suffered from Typhoid?
    - 15 days
    - 20 days
    - More than 20 days
6. What do you think about the cause of Typhoid?
    - Contaminated water, food

- Using public toilet
- All of this

7. Do you ever suffer the severity of Typhoid?
    - Yes
    - No
8. Which symptoms you have suffered most for Typhoid beside fever?
    - Abdominal pain
    - Weakness
    - Loss of appetite
    - All of this
9. Do you know about the microorganism of typhoid?
    - Yes
    - No
10. Which type of medical therapy do you take for typhoid?
    - Antipyretic
    - Intravenous fluid
    - Antibiotics
    - All of this
11. Did you Drink untreated water before two days of fever?
    - Yes
    - No

Chapter Five

Result and Discussion

5.1 Result.

This has been carried out among 110 children age under 10 years old in Dhanmondi, Bangladesh.

5.1.2 Gender of respondents

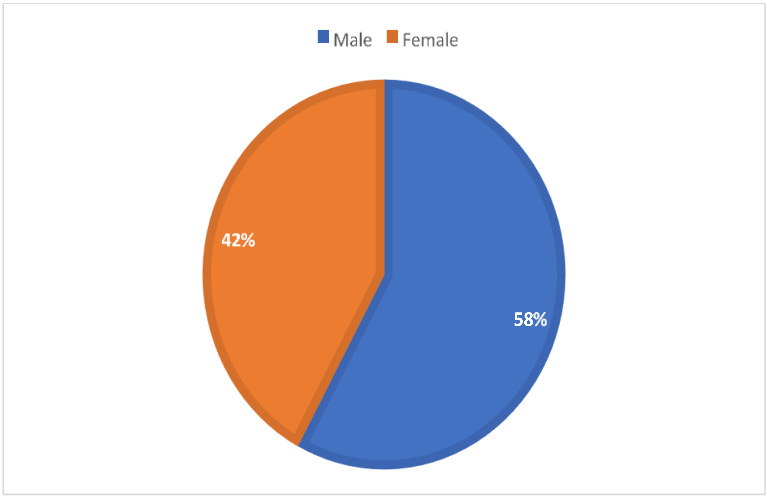

Fig 5.1.2: Gender

In this survey around 58% respondents are male and 42% respondents are female. Males' rates are higher than female.

5.1.2. Knowledge about typhoid

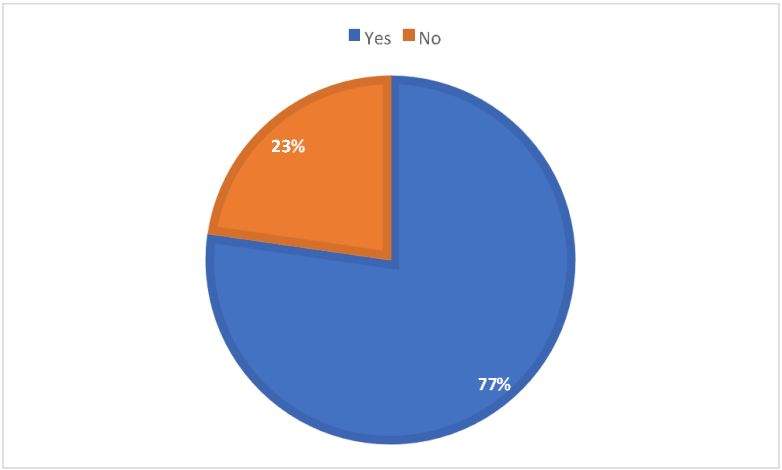

Fig 5.1.2: Knowledge about typhoid

In accordance with this survey, 77% of participants are aware of S. Typhoid, while 23% are unaware of it.

5.1.3. Prevalence of typhoid

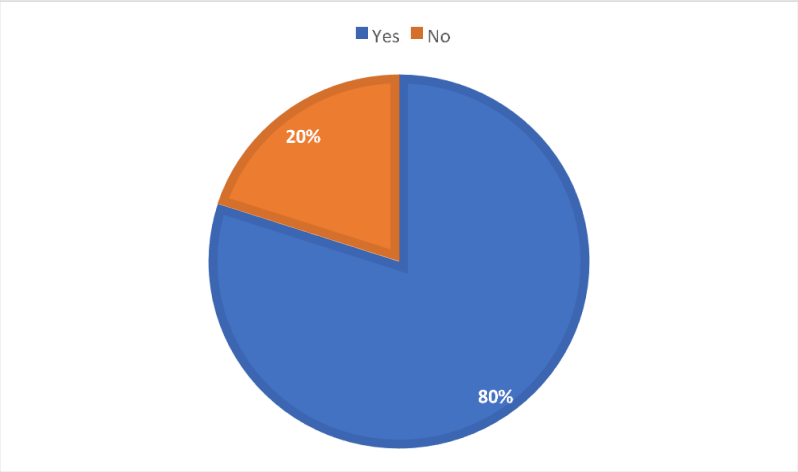

Fig 5.1.3: Prevalence of typhoid

In this survey, over 80% of respondents had previously been diagnosed with typhoid, whereas the remaining 20% had not received a diagnosis and hence are unsure.

5.1.4. Duration of illness

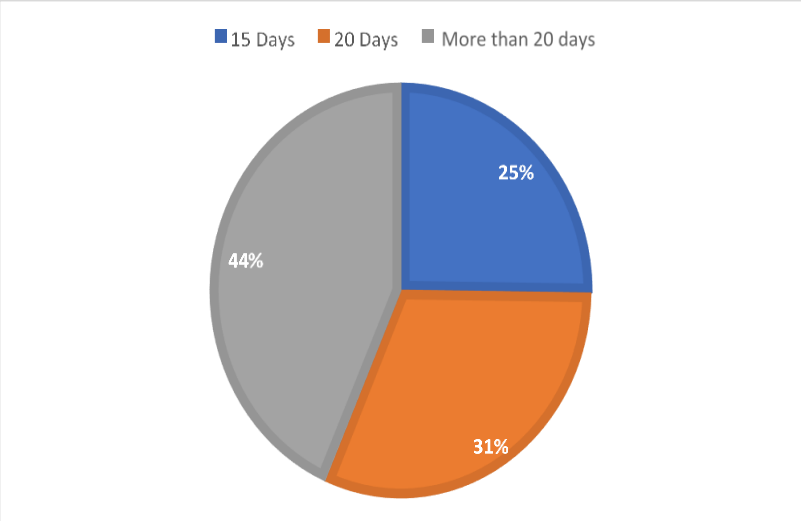

Fig 5.1.4: Duration of illness

In accordance with the results of this study, 44% of participants had typhoid for more than 20 days, 31% had typhoid for 20 days, and 25% had typhoid for 15 days.

5.1.5. Cause of typhoid

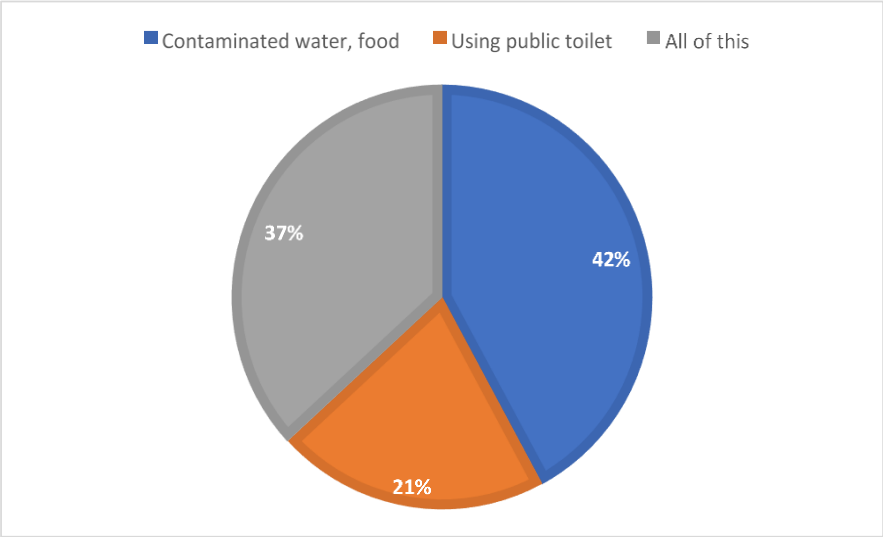

Fig 5.1.5: Cause of typhoid

According to the results of this survey, 42% of participants believe that typhoid is caused by contaminated water and food, while 21% of participants believe that using public toilets is the cause of typhoid, and 37% of participants believe that all of these factors cause typhoid.

5.1.6. Prevalence of severe typhoid

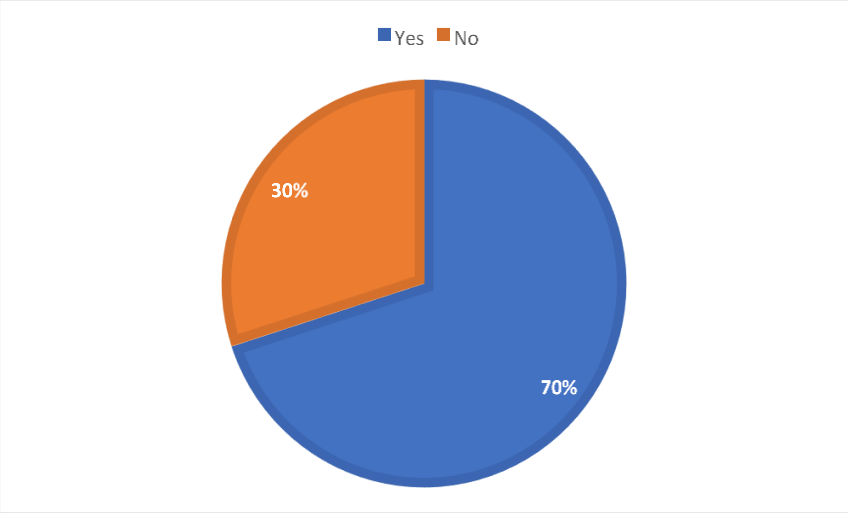

Fig 5.1.6: Prevalence severe typhoid

According to this survey around 70% participants they have suffered from the severe typhoid and 30% had no relation with that.

5.1.7. Symptoms of typhoid

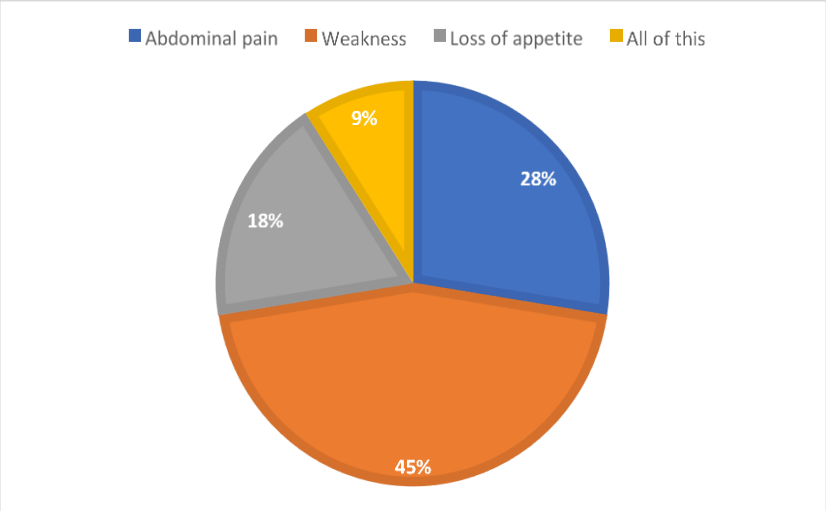

Fig 5.1.7: Symptoms of Typhoid beside fever

According to this study, almost 45% of respondents said they had weakness in addition to fever, 28% said they had abdominal discomfort in addition to typhoid, 18% said they had lost their appetite in addition to fever, and 9% said they had all of these symptoms in addition to fever.

5.1.8. Knowledge of the typhoid bacterium

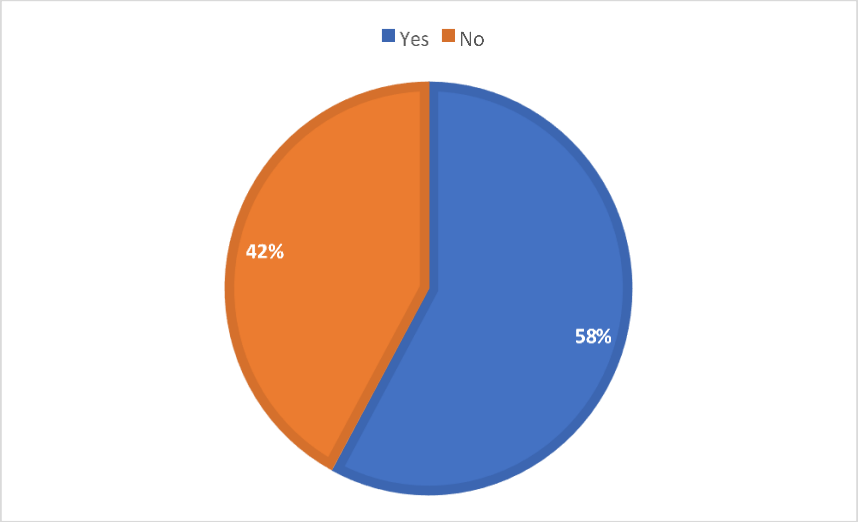

Fig 5.1.8: knowledge of the typhoid bacterium

In accordance with this survey, 58% of people have awareness about the typhoid bacterium, whereas 42% do not.

5.1.9. Treatment

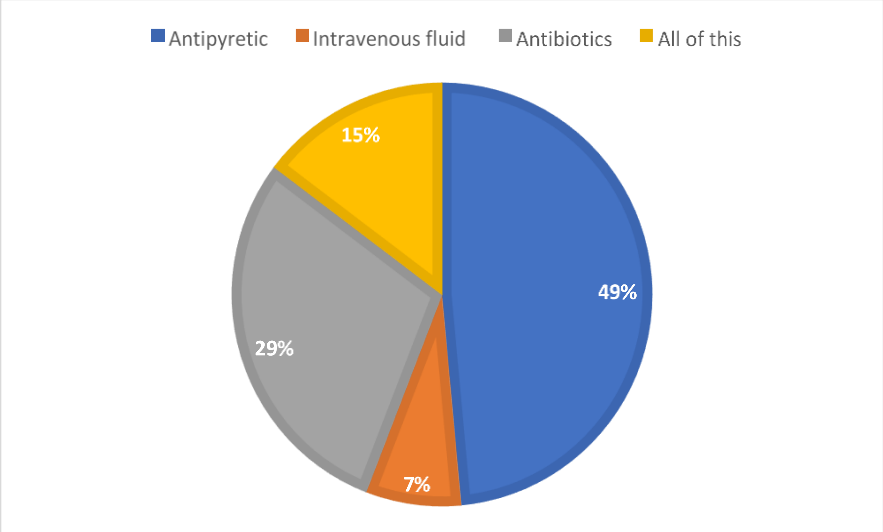

Fig 5.1.9: Treatment for typhoid

In this survey, about 49% of participants reported using antipyretics for typhoid therapy, 29% reported using antibiotics, 15% reported using all of these treatments, and 7% reported using intravenous fluid.

5.1.10. Phenomena of drinking untreated water

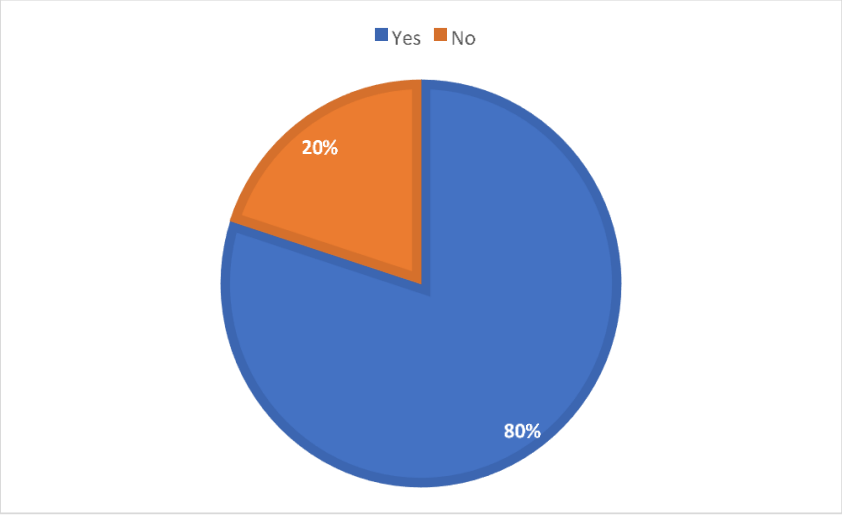

Fig 5.1.10: Phenomena of drinking untreated water

In this survey, almost 80% of subjects claimed to have drunk untreated water before experiencing two days of fever, while 20% were unable to recall.

5.2 Discussion

This study highlights the knowledge and awareness of typhoid fever among the children residing in Dhanmondi, Bangladesh. The analysis also highlights the prevalence, causes and treatment of typhoid fever. In this 58% respondents are male and 42% respondents are female. Salmonella enteric aserovar typhi, or commonly known as S. typhi, is the bacterium that causes typhoid fever. It is now uncommon in affluent countries but is still a major cause of gastrointestinal disease in poor nations, where it is thought to cause between 216,000 and 600,000 deaths annually, mostly in children [44]. Over 80% of survey respondents had previously been diagnosed with typhoid, 70% of the participants said they had had severe typhoid. 44% of patients were affected by typhoid for over 20 days, 31% for 20 days, and 25% for 15 days. Typhoid toxin offers insight into the biology of Salmonella Typhi and typhoid disease.journal published by the National Academy of Sciences. Mentioned that poor communities and vulnerable groups, including children, are at highest risk for contracting typhoid. Typhoid risk is higher in populations that lack access to safe water and adequate sanitation [45]. In this study from the knowledgable aspect, 58% of people have awareness about the typhoid bacterium, according to this study, which also found that 77% of respondents were familiar with S. Typhoid. It is possible to manage more than 90% of patients at home with oral antibiotics and routine follow-up. However, patients who are seriously ill and have severe diarrhea, persistent vomiting, or abdominal distension need to be hospitalized and receive parenteral antibiotic therapy [46]. Accordance with this study, almost 45% of respondents said they had weakness in addition to fever and about 49% of participants said they had received typhoid treatment with antipyretics, 29% had received antibiotics, 15% had received all of these treatments, and 7% had received intravenous fluid. All 41 cases and 81 of 82 controls drank water from the public water system. Drinking unboiling water at home was a significant risk factor in the multivariate analysis [adjusted odds ratio (aOR) 12.1, 95% CI 2.2-65.6]. 23 cases (56%) and 21 controls (26%) stated that the water from the primary source smelled bad (aOR 7.4, 95% CI 2.1-25.4) [47]This study showed, 42% of participants believe that typhoid is caused by contaminated water and food. 80% of subjects claimed to have drunk untreated water before experiencing two days of fever. Over 80% of survey participants had previously received a typhoid diagnosis, and about 77% of respondents said they were familiar with S. Typhoid. 70% of subjects reported having experienced severe typhoid. Typhoid affected 44% of people for more than 20 days, 31% for 20 days, and 25% for 15 days. Nearly 45% of respondents claimed to have weakness in addition to fever, and 28% claimed to have typhoid in addition to abdominal pain. The majority of participants (42%), however, think that typhoid is brought on by contaminated water and food. Participants' understanding of the typhoid bacteria is 58%. In terms of typhoid therapy, 29% and 49% of individuals, respectively, said they used antibiotics and antipyretics.

Chapter Six

Conclusion

6. Conclusion

Based on the results of this study, it can be said that most respondents had an acceptable degree of knowledge regarding typhoid illness. According to this study, children have a very high chance of contracting typhoid fever. The positive aspect is that most study participants were aware of typhoid fever and the typhoid bacterium. The majority of responders think typhoid is brought on by contaminated food and water. In this study, typhoid is frequently treated with antibiotics and antipyretics. Our findings may be used by the International Centre for Diarrheal Disease Research in Bangladesh to improve typhoid fever prevention and control initiatives.

Chapter Seven

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