

Maternal Awareness Regarding Care of Their Children with Typhoid Fever

*Basma Rabie Abdel-Sadik**, Samah Mostafa Khalaf **, Wesam zakaria Farid*

*Bacalaureate. Science in Nursing Science 2005 Pediatric Nursing\ Faculty of Nursing, Benha University

Abstract

Background: Typhoid fever is a global health and pervasive problem throughout the world, especially in developing countries, it has a great impact on human health which affect on social income. **This study aims to:** Assess maternal awareness regarding care of their children with typhoid fever. **Settings:** The study took place at Benha and Tookh fever hospital at Kaliobia Governorate. **Research:** A descriptive design was used to conduct this study. **Subjects :** A Convenient sample of confirmed typhoid cases were selected from the children' list at fever hospital, itwas including children cases (n=98) and their mothers (n=98). **Tools of data collection: Two tools** were used; A structured Interviewing Questionnaire, consists of two parts: Part one, personal data of children and their mothers. Part two, mothers' assessment sheet. **and Mothers' practice checklist** regarding typhoid fever. **Results :** The study revealed that more than half of the children were male, nearly more than two thirds of children were less than 6 years, the majority of the children had no previous infection with typhoid fever, nearly more than half of mother were 25<30 year. and there was positive correlation between total practice & total knowledge scores ($p > 000$). **Conclusion:** The study concluded that, the mothers' knowledge and practice regarding care of their children with typhoid fever were unsatisfactory. **Recommendation:** The study recommended and emphasized the importance of improving the mothers' knowledge and practice regarding care of their children with typhoid fever through periodical educational programs.

Key words: Care of typhoid fever, Maternal Awareness, Children.

Introduction

Typhoid fever is a disease caused by a bacterium called Salmonella enterica serotype Typhi (S. Typhi). It is also known as Salmonella typhi, it is common in developing countries and is transmitted by contaminate food or water. Children, are more likely to contract it (Heyman, 2015).

Children are infectious as long as bacteria are shed in their stool or urine. Furthermore, Shedding in stool occurs throughout the course of infection, usually lasting several days to several weeks, with

2- 5% of cases becoming chronic carriers capable of excreting the organism for many months. While, urinary shedding is less common than fecal shedding (Hohmann, 2013). Risk factors include; poor sanitation and poor hygiene such as; risk to infection not wash hands frequently, drinking contaminated water, eating raw fruits and vegetables. So, children who travel to the developing world should also avoid eating food prepared by street vendors. (Wain, 2015).

The main symptoms of typhoid fever may involves fever ,chills, and later abdominal pain. While, symptoms less common occur include; diarrhea or

constipation, headache, cough, and intestinal bleeding. Symptoms usually start 8 to 14 days after infection with the bacteria. As, some children have no symptoms. Furthermore, anyone can be infected but young children and the elderly are more susceptible (**Djemgou, 2010**).

The definitive diagnosis of typhoid fever depends on the isolation of *S. typhi* from blood, bone marrow or a specific anatomical lesion. The presence of clinical symptoms characteristic of typhoid fever or the detection of a specific antibody response is suggestive of typhoid fever but not definitive. Blood culture is the mainstay of the diagnosis of this disease. Although, ox bile medium (Oxgall) is recommended for enteric fever pathogens (*S. typhi* and *S. paratyphi*), only these pathogens can be grown on it. In a general diagnostic laboratory, therefore, where other pathogens are suspected, a general blood culture medium should be used. More than 80% of children with typhoid fever have the causative organism in their blood(**The Emerging and acute infectious Disease Guideline, 2016**).

Typhoid causative bacteria are often resistant to some antibiotics (fluoroquinolones), especially when it entered the blood stream causing a blood infection (septicaemia). So, supportive or other parenteral therapy including adequate hydration is also important. Antibiotics are also required to treat infected children who have no symptoms. Antibiotics can help reduce the time a person is infectious. Moreover, it can be used during the acute illness. Both treated and untreated patients may become chronic carriers of the organism (**Thriemer et al., 2012**). Complications of salmonella infection may be nontyphoidal salmonellosis such as; bacteremia, meningitis, pneumonia, endocarditis pericarditis, osteomyelitis, which most common in children with sickle cell anemia and hepatic and splenic

abscess. But, in typhoid fever (enteric fever) intestinal perforation and severe hemorrhage may occurs in 1-10% of children in addition to, toxic encephalopathy, cerebral thrombosis, hepatitis, pancreatitis, arthritis, and myocarditis (**Egorova et al., 2008**). Nurses play a crucial role in caring for children with typhoid fever. So, they requires unique knowledge, competencies, and skills. Likewise, health teaching through teaching members of the family how to report all symptoms to the attending physician especially when child is being cared for at home. Additionally, demonstrating to the family bedside care such as; tepid sponge, feeding, changing of bed linen, mouth care and observe any bleeding from the rectum, blood in stools, sudden acute abdominal pain restlessness, guide the members of the family on nursing techniques which will contribute to the child's recovery. Also, interpret to family nature of disease and need for practicing preventive and control measures (**Hart, 2011**). Mothers have an important responsibility in the care of their children with typhoid fever to recover faster. That role concerning by offering a lot of fluids and food as will lose a lots of fluid through fever, sweat, vomiting and diarrhea. So, the mothers should be taught the diet regimen of the sick child. Whatever, when the child gets stronger the mother can add thicker foods like mashed potatoes and soft bread (**Nizami et al., 2013**).

Care of the child with typhoid fever as he need rest at least another week after the fever has subside and bathing the child every day which this will also relieve fever. Moreover, The mother must told that one of the key ways to stop the spread of typhoid fever is to promote and practice good hygiene (**Loharikar et al., 2012**). **Significance of the study** Typhoid fever is a serious public health challenge having socio-economic problems and an

unaccounted financial burden. It needs joint efforts, promotion of inter sectoral action, regional and international cooperation, as well as technical and financial support. Moreover, the true global incidence of typhoid fever is difficult to determine, the incidence of disease in 2011 it was estimated that 12-33 million cases leading to 216,000 – 600,000 deaths annually (**American Journal of Public Health Research, 2015**). Additionally, in 2013 it resulted in about 161,000 deaths down from 181,000. The risk of death may be as high as 25% without treatment, while with treatment it was between 1 and 4% (**Anna, 2014**).

Satisfactory knowledge about host and environment risk factors for the development of typhoid fever is important in identifying a child at risk for recurrent and persistent typhoid fever. This could result in primary or secondary prevention of typhoid fever and decrease the complications (**Karkey et al, 2013**). Hence, the researcher felt the need to assess the knowledge and practice of mothers regarding care of their children with typhoid fever.

Subjects and Method

Subjects and method of the current study were discussed under the following four designs:-

1-Technical Design:-

II: Operational Design:

III. Administrative Design:

IV. Statistical analysis:

1-Technical Design:-

The technical design includes; research design, setting, of the study, subjects as well as tools of data collection.

A) Research Design: A descriptive design was utilized in the current study.

B) Study Setting:

This study was conducted at fever hospital, in Benha and Tookh city from the first of February 2016 to the end of Aprile 2016. **Benha fever hospital** contains from three floors everyone from this floor contains from wards, pediatric ward lie on the third floor everyone from this wards have specific type of pediatric disease. **Tookh fever hospital** contains from two floors, wards lie on the second floor which contains from department. While, pediatric ward contains from six rooms.

C) Subjects:

Data of the present study were gathered through 6 months period from the above mentioned setting.

Study sample: A convenient sample consisted of all mothers (98) who admitted the previously mentioned setting with their children, 60 children from. **Benha fever hospital** and 38 from **Tookh fever hospital**, regardless their age, gender and free from any congenital anomalies.

D) Tools of data collection:-

Two tools were used in this study

Tool I : A structured Interviewing Questionnaire sheet: It was developed by the researcher after reviewing related local and international literatures (**Andrews et al., 2013; Wain, 2015; Hohmann, 2013**) under supervision of the supervisors. It consists of two parts to collect the necessary data. **Part I: Personal data of children and their mothers.**

Mothers' personal data as; age, occupation, education, marital status; etc **Children's personal data such as;**

name, age, gender, educational level and ranking in the family, etc..... .

Part II: Mothers' assessment sheet which included; two parts:-

- **Knowledge about medical history of the child illness which include;** pervious infection with typhoid fever, number of pervious infection, exposure to digestive system disease, duration of abdominal pain and pervious family member infected with typhoid fever.

Mothers' knowledge regarding typhoid fever: It included; meaning, causes, signs and symptoms, complications, treatment, prevention, care of children with hyperthermia, child care during typhoid fever infection, child nutrition and personal hygieneetc.

Scoring system for mothers' knowledge:-

Scoring system for knowledge of the studied mothers was designed as following:-

Knowledge contents include (43) questions divided into 5 groups as following:-

Knowledge about typhoid fever contain (9) questions.

- Care of children with hyperthermia contain (8) questions.
- Child care during typhoid fever infection contain (6) questions.
- Child nutrition contain (6) questions.
- Personal hygiene contain (14) questions.

Scoring system for each knowledge item (43question)

Scoring item	Score
complete & correct	2
correct& incomplete	1
don't know	Zero

Scoring for level of total knowledge

Scoring item	Percent
Adequate	≤ 75
Inadequate	>75

Tool II : Mothers' practice check list regarding typhoid fever. which are adopted from the Egyptian Ministry of Health and Population Guideline for nurses, 2008 & Leaton, 2012 & Young, 2013, and modified by the researcher to suit the nature of Egyptian mothers.

It included mothers' actual care related to fever, hand washing and applying cold compress.

Scoring system for mothers' practice items

Scoring item	Score
correctly done	2
incorrectly done	1
not done	Zero

Scoring for level of total practice

Scoring item	Percent
Satisfactory	≤ 75
Unsatisfactory	>75

II: Operational Design:

The current study was carried out as following: Preparatory phase, pilot study and fieldwork.

Preparatory phase: A review of the past and current literatures which done by using books, magazines, article, and periodicals to get acquainted with various

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aspects of research problem and developed the tools for data collection.

Pilot study:

Pilot study was carried out on 10% of predetermined sample which account as ten children and ten mothers providing care to their children to test the validity, reliability, applicability and estimate their needs for filling the questionnaires and observational checklist. The necessary

Validity and reliability:-

The Validity of the content for the knowledge and observational checklist were examined by 5 experts (2 medical surgical, 3pediatric nursing) from Faculties of Nursing at Benha University. Experts reviewed the content for clarity, relevance, applicability and ease for implementation.

Reliability:

Cronbach's Alpha reliability analysis for tool was 0.92 for 72 questions (variable)

Fieldwork:

The data was be collected by using the previous study tool in a period of six (6) months started from the end of February 2016 to the end of August 2016. The researcher was available at each study setting by rotation, and The researcher was collected data on each Saturday and Thursday per week during morning and afternoon shifts in Benha fever hospital. While, the data was collected form Tookh on Sunday and Friday per week during morning and afternoon shifts. The researcher started by filling the personal data about mother and child this tookh about 10-15 minutes for each mother and her child. Then the researcher, assessed mothers' knowledge about typhoid fever by using predesigned interviewing sheet and

this took about 15-20 minutes. Afterwards, the researcher asked and observe the mothers' practices for their children with typhoid fever using predesigned tools which took about 15-20 minutes. The researcher gave the studied educated mothers the questionnaire to fill it and uneducated mothers the researcher fill it by her self and each mother was observed separately to assess her practice by using observational checklist.

Limitations of the study:-

- Lack of cooperation of some of the study subjects during data gathering stage.

Ethical consideration and human rights

Ethical aspects would considered before starting the study that included the following:

The study sample was informed about the purpose and expected outcomes of the study and they were assured that no harm for children & their mothers maintain confidentiality, esteem, dignity of the mothers and their children. Having the right to withdraw from the participation at any time and an informed consent was obtained from the mother after explanation the study for them. modifications were done according to the answers and comments. Those who shared in the pilot study were excluded from the study sample.

III. Administrative Design:

The official request to conduct the study was directed from the Faculty of Nursing Benha University to the managers of Benha and tookh hospital fever. Where a clear explanation was given about the nature , important and the expected out comes of the study.

IV. Statistical analysis: The collected data were organized, tabulated, and statistically analyzed using SPSS software (statistical package for the Social Science, version 20, SPSS Inc. Chicago, IL,

USA). Using frequencies, percentage, mean and standard deviation and chi square were calculated. Data were presented in the form of tables and figures.

The Results

Table (1): Distribution of the studied mothers regarding their personal data (No = 98)

Personal data	No	%
Mothers' age		
20 < 25	15	15.3
25 < 30	55	56.1
30 ≤	28	28.6
X̄ ±SD	26.2±5.1	
Marital status		
Married	64	65.3
Widowed	28	28.6
Divorced	6	6.1
Educational level		
Illiterate	38	38.8
Read and write	15	15.3
Primary	5	5.1
Preparatory	15	15.3
Secondary	10	10.2
High education	15	15.3
Occupation		
Work	25	25.5
House wife	73	74.5

As viewed in table (1) regarding personal data of the studied mothers, more than half of the studied mothers (56.1%) have age 25 < 30 years. While, more than two thirds of them (65.3%) were married. while, slightly more than one third of them (38.8%) were illiterate. On the other hand, nearly three quarter of the studied mothers (74.5%) were house wife.

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Table (2): Distribution of the studied children regarding their personal data (No = 98).

Personal data	No	%
Child age in years		
< 6	61	62.2
6 < 12	29	29.6
12 ≤ 18	8	8.2
$\bar{X} \pm SD$	4.9±3.3	
Educational level		
Pre nursery stage	21	21.4
Nursery stage	39	39.8
Primary stage	30	30.6
Preparatory stage	8	8.2
Rank of child in the family		
First	46	46.9
Second	27	27.6
Third	17	17.3
Fourth and more	8	8.2

As illustrated in table 2, regarding personal data of the studied children. It was found that, slightly more than two thirds of studied children (62.2%) were less than 6 years. In addition, more than one third of the studied children (39.8%) were in nursery stage. Moreover, nearly half (46.9%) of the studied children were the first child in family.

Figure (1): Distribution of the studied children regarding gender

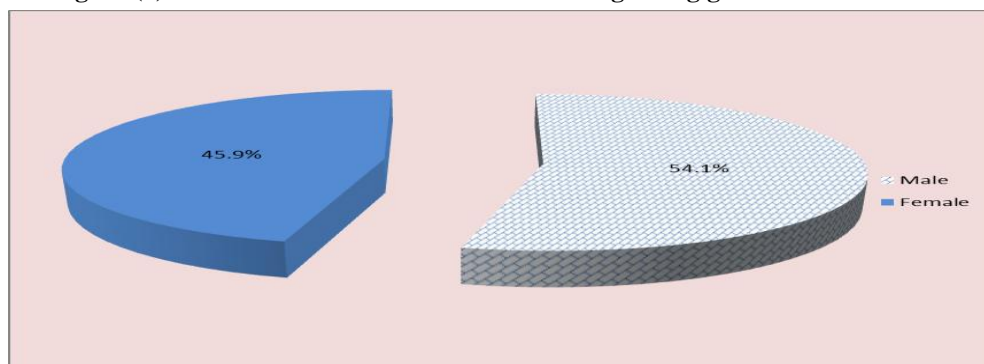


Figure1, illustrate that, more than half (54.1%) of the studied children were males. While, the rest (45.9%) of them were females.

Figure (2): Frequency distribution of the studied mothers regarding their total knowledge scores

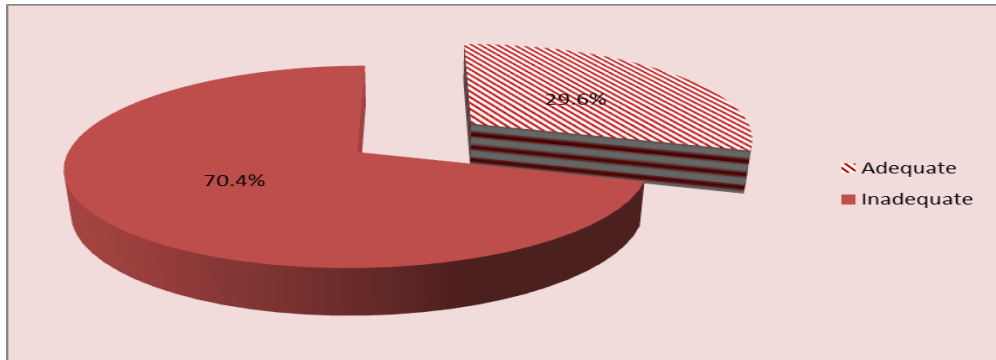


Figure 2, demonstrated that, nearly to three quarters (70.4%) of the studied mother had inadequate knowledge, while the rest (29.6%) of them had adequate knowledge

Table(3):Correlation between total practices score and total knowledge scores

	Total knowledge	
	R	p-value
Total practices	0.60	0.000

Table (3), demonstrated that, there was a positive correlation between total practices and total knowledge scores ($p > 000$).

Discussion

Regarding personal data of the studied children, the results of the present study revealed that, majority of the children' ages were less than 6 year. This could be due to the under developed immune system of children which makes them more prone to salmonella infection as few cells are required to initiate infection. Additionally, another point of view this could be due agrees with to the children purchasing habits that, more exposed to the sale of products that have not been checked by health service. This finding of the study Mengistu et al., (2014) in a study entitled (typhoid fever)Which

done on India Who reported that the most case of typhoid fever ages were 1-5 years. Regarding gender of the studied children the results of the present study revealed that, the majority the children were males. This could be attributed to, male less personal hygiene than female such as; hand washing after toilet and cutting nails as they playing outside at contaminated media and difficult to be controlled at home. This finding of study agrees with Onyido et al., (2014) in a study management of laying outside at contaminated media and difficult to be controlled at home. This finding of study agrees with Onyido et al., (2014) in a study entitled (current trends in the

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management of typhoid fever) which done on Nigeria who reported that the majority number of the minority were female who had tested positive of typhoid fever.

According to total knowledge scores of the studied mothers, the present study demonstrated that, more than two thirds of them gave inadequate knowledge. This could be attributed to, the mother have lack of knowledge about health education and care during illness. This findings agreed with the finding of the study done by **Abou el- khair, (2012)** in a study entitled (factors affecting the occurrence of typhoid in different age at fever hospital), which done in Menoufia who reported that total knowledge scores of the studied cases was unsatisfactory.

According to correlation between total knowledge scores and total practice scores. The present study revealed that, there was a positive correlation. This could be attributed to, if there is adequate knowledge already there is satisfactory practice. This findings agreed with the finding of the study done by **Mail, (2012)** in a study entitled (Effectiveness of structured teaching program on Knowledge of mothers of under five children on domiciliary management and prevention of infectious disease),who stated that teaching mother with planned instructional material help mothers in improving knowledge and practice of mothers with regard to the care of their children at home.

Conclusion

Based on the current study findings, it was concluded that, there was unsatisfactory level of the mothers' knowledge and practice regarding care of their children. In addition, personal data had their reasonable impact on mothers'

knowledge and practice such as level of education, age and residence areas. Moreover, there was positive relationship between mothers' knowledge and practice

Recommendations

Based on the results of the present study, the following recommendations can be suggested:-

- Periodical educational programs for mothers regarding typhoid fever and its management with illustrated medias.
- Development of a guiding leaflets for mothers of children with typhoid fever is essential to upgrade their knowledge about care of children with typhoid fever.
- This study can be repeated on a large sample at different settings to generalized the result.

Educational programs regarding protocol of care of infectious communicable diseases should be prepared.

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