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Assessment of Typhoid Fever Awareness among Population in Rural Areas at Kalyobia Governorate

Typhoid fever is a serious disease. It can be life-threatening all over the world and in Egypt. The disease incidence in Egypt in 2009 was 15 cases / 100,000 persons. **A descriptive design** was used in conducting the present study. **Aim** : The study aimed to assess the population awareness in rural areas at Kalyobia Governorate among typhoid fever patients through assessing the relationship between their knowledge regarding typhoid fever and their socio-economic status, assessing the relationship between spread of typhoid fever and population practices, and determining the factors affecting their awareness regarding typhoid fever. **A sample** of convenience consisting of 100 patients, selected from Benha, Toukh, Kalyob Fever Hospitals at Kalyobia Governorate. A structured interviewing questionnaire and an observation checklist were used in collecting data. **Results**: Almost two thirds of the studied sample belonged to age group less than 30 years and the rest belonged to 30 years or more. A highly statistically significant difference was found as regards patient's educational level and adequate knowledge about disease ($P = 0.001$). The study concluded that, the studied subjects had low knowledge about the disease; their practices were unsatisfactory due to knowledge deficit. The study **recommended** that health education about the disease should be provided for the rural population, community participation should be stressed in any typhoid control program by increasing people interest and involvement in improving their own health and achieving better community development.

Key words: Typhoid fever, rural areas, community participation.

INTRODUCTION

Typhoid fever, also known as typhoid, is a common worldwide illness, transmitted by the ingestion of food or water contaminated with the feces of an infected person, which contain the bacterium salmonella enterica, (Weinberg, 2008).

With an estimated 21.6 million cases of annually resulting in 200,000 deaths in endemic areas, the WHO (2009) identifies typhoid as a serious public health problem.

Its incidence is highest in children and young adults between 5 and 19 year old.

Typhoid fever is characterized by a slowly progressive fever as high as 40 °C (104 °F), profuse sweating, gastroenteritis, and nonbloody diarrhea (less commonly), a rash of flat, rose-colored spots may appear (Easmon, 2005).

Flying insects feeding on feces may occasionally transfer the bacteria through poor hygiene habits, and public sanitation

conditions. Public education campaigns encouraging people to wash their hands after defecating and before handling food are an important component in controlling spread of the disease. According to statistics from the United States Centers for Disease Control and Prevention (CDC), (2006) the chlorination of drinking water has led to dramatic decreases in the transmission of typhoid fever.

A person may become an asymptomatic carrier of typhoid fever, suffering no symptoms, but capable of infecting others. According to the CDC (2006), approximately 5% of people who contract typhoid continue to carry the disease after they recover. Many carriers of typhoid were locked into an isolation ward never to be released in order to prevent further typhoid cases. These people often deteriorated mentally, driven mad by the conditions they lived in (Synodinos et al., 2008).

Diagnosis is made by any blood, bone marrow or stool cultures and with the Widal test. In epidemics and less wealthy countries, after excluding malaria, dysentery or pneumonia, a therapeutic trial time with chloramphenicol is generally undertaken while awaiting the results of Widal test and cultures of the blood (Easmon, 2005).

Sanitation and hygiene are the critical measures that can be taken to prevent typhoid. Typhoid does not affect animals and therefore transmission is only from human to human. Typhoid can only spread in environments where human feces or urine are able to come into contact with food or drinking water. Careful food preparation and washing of hands are crucial to preventing typhoid.

There are two vaccines currently recommended by the World Health Organization for the prevention of typhoid: these are the live, oral Ty21a vaccine and the injectable Typhoid polysaccharide vaccine (Typhim Vi). Both are between 50 % to 80 % protective and are recommended for travelers

to areas where typhoid is endemic (O'Hara, 2006).

The treatment of choice is a fluoroquinolone such as ciprofloxacin otherwise; a third-generation cephalosporin such as ceftriaxone or cefotaxime is the first choice. Cefixime is a suitable oral alternative (Ryan et al., 2006).

The community health nurse has an important role in preventing and controlling of typhoid fever through providing rural population health education about the disease its causes, mode of transmission, signs and symptoms, and methods of control of infection. As well, the nurse must inform them about vaccination and its importance (Lundy et al., 2009).

The nurse educates the infected individuals to modify their behaviors and assists in the prevention of the spread of infection. Patient should be isolated and enteric precautions to be taken while admitted, concurrent disinfection of feces, urine and soiled articles with a suitable disinfectant (Basavanthappa, 2008). Then, she must evaluate outcomes of infected patient based on the established plan of care.

Significance of the study:

The World Health Organization identifies typhoid as a serious public health problem (16–33 million cases annually). Its incidence is highest in children and young adults between 5 and 19 years old (WHO, 2007). When untreated, typhoid fever persists for three weeks to a month, death occurs in between 10% and 30% of untreated cases. In some communities, however, case-fatality rates may reach as high as 47 % (WHO, 2008).

Typhoid still is a major public health issue in Egypt. According to Ministry of Health and Population in year (2009) the overall infected persons of typhoid fever are 7.711 persons with a percentage of 10/100.000 persons, the number of cases at Kalyobia Governorate calculated about 560 cases (EMHP, 2010).

Aim of the work

The aim of this study is:

To assess the population awareness in rural areas at Kalyobia Governorate regarding typhoid fever. This aim was achieved through the following objectives:

- Assessing the relationship between knowledge of population regarding typhoid fever and their socioeconomic status.
- Assessing the relationship between spread of typhoid fever and population practices.
- Determining the factors affecting population awareness regarding typhoid fever of the point of view of patients.

Research question:

-What are the factors affecting population awareness regarding typhoid fever?

Subjects and Methods

Research design:-

A descriptive design was used to achieve the study aim.

Setting:

This study was carried out at Benha, Toukh, and Kalyob Fever Hospitals (3 hospitals). These three hospitals were selected randomly from a total of seven hospitals, at Kalyobia Governorate.

Sample:

A sample of convenience of 100 patients were recruited from the previously mentioned settings through six months. The studied participants were chosen according to the following criteria: Patients diagnosed as typhoid fever, of both sexes, age: 10 years or more, and from rural areas.

Tools of the study:-

Two tools were used for data collection.

1-A structured interviewing questionnaire format developed by the researcher, and guided by her supervisors, after reviewing

of current related literature. Designed in simple Arabic language to assess patient's awareness, it consisted of three parts:

Part I: This part covered general socio-demographic characteristics of the sample :(sex, age, education, occupation, family income, home condition, etc). **Part II:** This part was concerned with patient's knowledge about typhoid fever (e.g., definition, causes, mode of transmission, signs and symptoms, prevention, etc). **Part III:** This part dealt with the factors affecting the population knowledge about typhoid fever (e.g. ,poverty, ignorance, poor sanitation, overcrowds ,etc).

Scoring system:

For questionnaire sheet:

One point was provided for each correct item. The total score for patients' knowledge was 54 points. Patients who had 27 points or more (< 50%) had adequate level of knowledge and patients who had less than 27 points (> 50%) had inadequate level of knowledge.

2- Observation checklist: Developed by the researcher, it was guided by her supervisors, and used to observe and evaluate patient's practices, as personal hygiene, food handling, patients' environment , etc.

Scoring system:-

***For observation checklist:**

The total observed items were 26; a practice done takes one point, and zero for a not done one. The practice was considered satisfied if scored 13 points or more (< 50%), and unsatisfied if scored less than 13 points (> 50%).

Pilot Study:-

A pilot study was carried out, on 10% of the sample after the development of the tools, to test the clarity of the designed questionnaire as well as to test the time needed to answer it. Modifications and clarifications on data collection tools were done. This sample was excluded from the main study sample.

