

A study of health comprehension about the cholera among a slice of University of Baghdad employee

BY

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Introduction:

Cholera is a specific infectious disease of humans caused by *Vibrio cholerae* serogroup O1 and O139. It is an enzymatic process causing a brief, acute onset diarrhoeal illness, with recurrent vomiting and stools that resemble rice water. This leads to acute rapid dehydration with fluid and electrolyte loss, ending with acidosis and hypovolaemic shock, which is usually fatal if untreated⁽¹⁻⁵⁾. Cholera spreads mainly via drinking water supplies contaminated by human excreta, especially from sub-clinical carriers and mild cases. Humans are the reservoir of the disease, despite isolation of *V. cholerae* O1 from blue crabs⁽⁶⁾ and from the faeces of some aquatic birds⁽⁷⁾. Cholera differs from other enteric diseases in its clinical course (a very short incubation period) and epidemic pattern (rapidly spreading to different countries and disappearing rapidly when outbreaks subside)⁽⁸⁾. Cholera is endemic in Asia; from 1817 to 1923 there were 6 pandemic waves which moved through Asia then through the Americas and Africa⁽⁹⁻¹¹⁾. Iraq is at risk of epidemics spreading from neighbouring countries because it lies on the routes of pilgrimage to Mecca and contains a number of holy shrines. During the epidemic of 1820, when cholera first spread to Basra, there were a great number of deaths and many sectors of the city were completely depopulated⁽¹²⁾. The disease spread to Baghdad, with similar consequences. After that, cholera continued to appear in several epidemic forms during the years 1871, 1889, 1894, 1899 and 1917⁽¹³⁾, after which the disease completely disappeared from Iraq to reappear again in August 1966 as a part of the 7th pandemic spread^(9,14). After subsidence of the 7th pandemic in Iraq, occasional outbreaks of cholera continued in Iraq. Recent outbreaks that occur in Iraq during August - October 2008 - As of 29 October 2008, a total of 644 laboratory-confirmed cholera cases, including eight deaths, had been verified in Iraq⁽¹⁵⁾.

Materials and Method

An informational survey was conducted using a structural questionnaire form in which data was collected regarding:

- Residency sector
- Gender
- Age
- Route of transmission
- Symptoms of the disease
- The causative agent

In this survey, 98 questionnaire forms have been enrolled among personnel's from University of Baghdad as (study group), and 30 questionnaire forms among randomly selected persons as (control group), both groups are scattered in both sectors of Baghdad city (Al-Khrakh and Al-Resafa) in equal manner. The vast majority of study group having a bachelor degree and the rest of them were holding a higher degree (MSc. or PhD.) in different science; meanwhile most of the control group were holding high school degree and just very few have a bachelor degree. The study was designed to interrogate both study and control group about their knowledge and health comprehension regarding the disease and to know their suggestion about the Ministry of Health campaign to contain the disease through the recent outbreak that occurred in Iraq during 2008⁽¹⁵⁾. The study was carried out through the period from April 2008 to October 2008.

Results

A total of 98 persons that participated in this survey (study group), 79% of them were female and only 21% were male, they were divided into two age groups; 81% of them were among 20-40 years and 19% were 41-60 years; meanwhile the control group recorded 73% female and 27% male, there were 73% of them in the first age group and 27% in the second age group as shown in table (1). In this study, the risk factors were divided into three major points: routes of the disease transmission, symptoms of the disease and the causative agent as shown in table (2). According to the route of transmission they were divided into

3 routes: via water which is consider the main source of the disease transmission, through food and through **both** (water and food) which considered the second likely possible rout of transmission, only 37% of the study group crimated water meanwhile 62% of the answers were directed towards both (water and food). As far as concern the control group answers; 33% crimated water and 54% considered that the disease transmission is through water and food. The symptoms of the disease: they were divided into three symptoms: fever and chills; which they are general signs for many diseases, bloody diarrhea; an important feature for parasitic infection and **watery diarrhea**; a characteristic sign of cholera infection. 72% of the study group chooses the watery diarrhea and amazingly that 90% of the control group know the significant sign of the disease as shown in table 2. The causative agent were divided into bacteria, virus, and parasite; 56% of the study group chooses bacteria as the cause of infection, meanwhile 47% of the control group considered the disease causes by bacteria. Both groups (study and control) had recorded relatively same answers regarding the virus as causative agent (28% and 30%) respectively as shown in table 2.

Table 1: Distribution of demographic data of the study group

| Demographic data | Variables | Study group | | Control group | |
|------------------|--------------|-------------|-------|---------------|-------|
| | | No. | (%) | No. | (%) |
| Residency sector | Al-Kharkh | 44 | (45) | 15 | (50) |
| | Al-Resafa | 54 | (55) | 15 | (50) |
| | Total | 98 | (100) | 30 | (100) |
| Gender | Female | 77 | (79) | 22 | (73) |
| | Male | 21 | (21) | 8 | (27) |
| | Total | 98 | (100) | 30 | (100) |
| Age group | (20-40) year | 79 | (81) | 22 | (73) |
| | (41-60) year | 19 | (19) | 8 | (27) |
| | Total | 98 | (100) | 30 | (100) |

Table (2): The risk factors of the cholera infection

| Risk factors | Variables | Study group | | Control group | |
|-------------------------|------------------|-------------|-------|---------------|-------|
| | | No. | (%) | No. | (%) |
| Route of transmission | Water | 37 | (37) | 10 | (33) |
| | Food | 1 | (1) | 4 | (13) |
| | Both | 60 | (62) | 16 | (54) |
| | Total | 98 | (100) | 30 | (100) |
| Symptoms of the disease | Fever and chills | 14 | (14) | 1 | (3) |
| | Bloody diarrhea | 13 | (13) | 2 | (7) |
| | Watery diarrhea | 71 | (72) | 27 | (90) |
| | Total | 98 | (100) | 30 | (100) |
| Causative agent | Bacteria | 55 | (56) | 14 | (47) |
| | Virus | 28 | (28) | 9 | (30) |
| | Parasite | 9 | (9) | 5 | (16) |
| | No answer | 6 | (6) | 2 | (7) |
| | Total | 98 | (100) | 30 | (100) |

Discussions

Cholera is an acute enteric infection caused by the ingestion of bacterium *Vibrio cholerae* present in faecally contaminated water or food. Primarily linked to insufficient access to safe water and proper sanitation⁽¹⁶⁾. Our study reveals that 62% of the study group and 54% of the control group answered that both water and food are responsible of the disease transmission which may indicate them relatively good comprehension concerning the mode of transmission.

Concerning the symptoms of the disease, 72% of the study group answered that the watery diarrhoea is the main symptom the disease which is a very good indicator on them knowledge about the disease symptoms; meanwhile 90% of the control group have the correct answer which may indicate either them knowledge with disease symptoms because there is an infection happen among them family or the they may choose the correct answer by chance. Both high percentage among the study and control group concerning the main symptom of the disease (watery diarrhoea) had an advantage to community in which may led to control the disease in

case it occur especially when we know that Cholera is characterized in its most severe form by a sudden onset of acute watery diarrhoea that can lead to death by severe dehydration. The extremely short incubation period - two hours to five days - enhances the potentially explosive pattern of outbreaks, as the number of cases can rise very quickly. About 75% of people infected with cholera do not develop any symptoms. However, the pathogens stay in their faeces for 7 to 14 days and are shed back into the environment, possibly infecting other individuals. Cholera is an extremely virulent disease that affects both children and adults. Unlike other diarrhoeal diseases, it can kill healthy adults within hours⁽¹⁶⁾.

About the causative agent, (56% and 47%) of the study group and the control group respectively answer that the bacteria was responsible for the infection, (28% and 30%) respectively say that the virus was responsible for the infection. Only (9% and 16%) of study group and control group respectively say that the parasite is the causative agent. This diversity in the answers regarding the causative agent of the infection may indicated the lack of knowledge about the causative agent; nevertheless 56% is enough percent indicating them knowledge since the diagnosis of the disease is not the responsibility of the patients or the patient's relatives as well as the treatment of the infection and the diagnosis is responsibility of the medical professionals in the health sectors.

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