Level of awareness of parents of Chikungunya infected children about Chikungunya in a tertiary level hospital

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Abstract

Background: Chikungunya is a viral disease in humans caused by the bite of mosquitoes. Chikungunya and dengue fever are closely related as they share common symptoms and are often mistreated. Even though the symptoms are almost alike the excruciating arthritic pain is a typical manifestation of Chikungunya infection. The disease also has long term effect on musculoskeletal system causing crippling arthritis in most of the people.

Objectives: The main objective of this study was to assess the level of awareness about Chikungunya among the parents of Chikungunya infected children in a tertiary level hospital. The specific objective was to assess knowledge and attitude of the parents about Chikungunya and to find the socio-demographic factors associated with the level of awareness.

Method: This is a descriptive cross-sectional study conducted at Square Hospital Ltd., Dhaka in order to assess the level of awareness about Chikungunya among the parents of Chikungunya infected children. This survey included parents of 150 children diagnosed as Chikungunya. Non-probability purposive sampling technique was applied. Face to face questioning method was used to collect data from the parents related to their socio-demographic and awareness related factors. Data was compiled in a pre-structured questionnaire and was analyzed in SPSS version 19.

Results*:* Among the studied population, the level of awareness was good in 23.3%, moderate in 24.7% and poor in 52%. Most (86.0%) of the respondents knew about joint pain as a common symptom and 79.3% knew about the mode of transmission of Chikungunya.

Conclusions: This **s**tudy revealed that the level of awareness about Chikungunya was poor among the parents of Chikungunya infected children.

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Introduction

The word Chikungunya is a Makonde word (Bantu language) meaning "The one which bends up" referring to the posture that the affected patient acquires as a consequence of the pain in the joints[1]. Chikungunya virus is a mosquito-borne virus of the Togaviridae family and is transmitted by bites of mosquitoes of the Aedes genus (Aedes aegypti and Aedes albopictus), the same mosquito that transmits Dengue Fever[1]. In 1952 Chikungunya fever was first reported from Makonde plateaus, along the borders between Tanzania and Mozambique[1]. Ross first isolated Chikungunya virus in 1953 from the serum of a febrile human during an epidemic in Newala district of Tanzania[1]. Since then Chikungunya has been reported in Myanmar, Thailand, Cambodia, Vietnam, India, Sri Lanka, Indonesia, West Africa and the Philippines. In 2008, 39 Chikungunya cases were first reported in Bangladesh (Rajshahi and Chapainawabganj districts)[1]. Dhaka, the capital of Bangladesh, recently swayed with a severe outbreak of Chikungunya and so far 2,314 cases have been reported from May to September 2017[1]. The disease caused severe morbidity during acute stage and systemic involvement including neurological and rheumatological manifestations. The disease also had long term effect on the musculoskeletal system causing crippling arthritis in most of the people[2]. There were many factors responsible for rapid spread of the disease during the epidemic in Bangladesh. People of Bangladesh are lacking the knowledge about the natural history of the disease, environmental conditions favouring the vector, changing viral genome, prevention of the disease as well as the management. In this condition, early control of the epidemic was a challenge for the health care system of Bangladesh. This study was an attempt to know the level of awareness of the parents

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of Chikungunya infected children in a private tertiary level hospital in Dhaka city.

Objectives

The main objective of this study was to assess the level of awareness about Chikungunya among the parents of Chikungunya infected children in a tertiary level hospital. The specific objective was to assess knowledge and attitude of the parents about Chikungunya and to find the socio-demographic factors associated with the level of awareness.

Method

This was a descriptive cross sectional study conducted at the Square Hospital Ltd., Dhaka, for a period of six months from July to December'2017. Parents of 150 Chikungunya infected children who were willing to participate in this study were enrolled. The diagnosis of Chikungunya was made by Reverse Transcription Polymerase Chain Reaction (RT-PCR). A pre-structured questionnaire was developed based on literature review and consultation with experts. The questionnaire contained twenty five items five of which were related to the socio-demographic profile of the participants and twenty related to their knowledge or awareness about Chikungunya. The twenty knowledge related questions were grouped under three categories - knowledge of the symptoms, knowledge of transmission and prevention and knowledge of management. Respondents were considered to have adequate awareness (Good) if they correctly answered 80% to 100% (at least 16 out of 20) questions, moderate level of awareness if 50% to 79% (10-15 out of 20) and poor level of awareness if they answered less than 50% (below 10 out of 20) questions. After taking written informed consent data was collected by face to face interviewing of the participants. Analysis of data was done using SPSS version 19. Ethical approval was taken from the appropriate authority prior to the study.

Results

Distribution of respondents according to the socio-demographic characteristics is shown in Table 1.

Participants were assessed based on their knowledge about the common symptoms of Chikungunya infection (Table 2), knowledge about transmission and prevention of Chikungunya (Table 3), and knowledge about management of Chikungunya (Table 4),

Table 1
Distribution of respondents according to the socio-demographic characteristics (n=150)

Socio-demographic characteristic	Number (%)
Religious community	
Muslim	93 (62.0)
Hindu	40 (26.7)
Others	17 (11.3)
Fathers' education	
Secondary school certificate	29 (19.3)
Higher secondary certificate	63(42.0)
Graduation and above	58 (38.7)
Mothers' education	
Secondary school certificate	59 (39.3)
Higher secondary certificate	60(40.0)
Graduation and above	31(20.7)
Fathers' occupation	
Business	61 (40.7)
Service	44 (29.3)
Others	15 (10.0)
Unemployed	30 (20.0)
Mothers' occupation	
Housewife	89 (59.3)
Service	31 (20.7)
Others	30 (20.0)

Table 2
Knowledge about symptoms of Chikungunya (n=150)

Symptom	Number (%)
High grade fever	
Yes	71 (47.3)
No	79 (52.7)
Headache, nausea, vomiting	86 (57.3)
Yes	64 (42.7)
No	
Muscle & joint pain	
Yes	129(86.0)
No	21(14.0)
Pain behind the eyes	
Yes	36 (24.0)
No	114 (76.0)
Rashes in the body	
Yes	100 (66.7)
No	50 (33.3)
Abdominal pain	
Yes	43 (28.7)
No	107 (71.3)

Table 3: ***Knowledge about transmission & prevention of Chikungunya (n=150)***

Variable	Number (%)
Chikungunya is transmissible	
Yes	121 (80.7)
No	29 (19.3)
Mode of transmission	
Mosquito-borne	119 (79.3)
Don't know	31(20.7)
Mosquito spray	
Yes	40 (26.7)
No	110 (73.3)
Mosquito repellants prevent mosquitoes	
Yes	73 (48.7)
No	77 (51.3)
Window and door screen	
Yes	42 (28.0)
No	108 (72.0)
Mosquito net	
Yes	128 (85.3)
No	22(14.7)
Standing water is breeding site	
Yes	102 (68.0)
No	48(32.0)
Cleaning house	
Yes	50 (33.3)
No	100 (66.7)
Removal of standing water can prevent mosquito breeding	
Yes	79 (52.7)
No	71 (47.3)

Table4: ***Knowledge about Chikungunya management (n=150)***

Variable	Number (%)
Antibiotic for Chikungunya	
Yes	18 (12.0)
No	132 (88.0)
Antipyretics & painkiller for Chikungunya	
Yes	99 (66.0)
No	51(34.0)
Any treatment for Chikungunya	
Yes	67 (44.7)
No	83 (55.3)
Arthritis is a complication	
Yes	95 (63.3)
No	55 (36.7)
Arthralgia is a complication	
Yes	72 (48.0)
No	78 (52.0)

Table 5 revealed that the level of awareness was good in 35 (23.3%) study subjects, moderate in 37 (24.7%), and poor in 78 (52.0%). The level of awareness among the surveyed population was distributed according to the socio demographic variable of the participants in Table 6.

Table 5

Level of awareness about Chikungunya (n=150)

Awareness	Number (%)
Good	35 (23.3)
Moderate	37 (24.7)
Poor	78 (52.0)

Table 6: ***Socio-demographic characteristics and level of awareness about Chikungunya (n=150)***

Variable	Level of awareness		
	Poor	**Moderate**	**Good**
Religious community			
Muslim	50	23	20
Hindu	19	10	11
Others	09	04	04
Fathers' education			
Secondary school certificate	15	07	07
Higher secondary certificate	35	13	15
Graduation and above	28	17	13
Mothers' education			
Secondary school certificate	31	14	14
Higher secondary certificate	31	16	13
Graduation and above	16	07	08
Fathers' occupation			
Business	22	12	10
Service	31	15	15
Others	08	03	04
Unemployed	17	07	06
Mothers' occupation			
Housewife	46	23	20
Service	16	08	07
Others	16	06	08

Discussion

In this study 62% of the participants were Muslim, 26.7% were Hindu, and 11.3% were from and other communities. A randomized controlled trial in India included 80 participants, all belonging to the Hindu community[3].

The educational background of the fathers in this study revealed that 42% completed their higher secondary certificate (HSC) and 38.7% completed graduation and above. In the case of the participant mothers, 40% completed HSC, 39.3% completed secondary school certificate (SSC) and the remainder (20.7%) were graduate or above. Another study in Bangladesh[1] showed that 92.5% participants were students and 59.4% had education up to HSC. A controlled trial in India[3] showed that educational level of 50% of the participants was higher secondary in the experimental and control group. In a study in Tanzania[4], 60% of the participants in the experimental group and 80% in the control group completed primary level of education. Most (64.8%) of the participants were nurses, followed by health attendants (12.8%), medical doctors (8.8%), clinical officers (4.0%) and laboratory technicians (4.0%) whereas in this study 40.7% of the fathers were businessman and 59.3% of the mothers were housewives.

Among the participants of this study, 57.3% had knowledge about headache, nausea and vomiting, 86% knew about muscle and joint pain, 66.7% knew about rash, 52.7% knew about high grade fever, 76% knew about retro-orbital pain and 71.3% knew about abdominal pain. In a study by Haroon[1], fever was the most consistent response (18%) followed by body pain (13.6%), headache (12.2%), skin rash (7.3%) and joint pain (14%) and in the study in Tanzania[4], 3.2% of participants reported fever as a symptom of Chikungunya. In another study in Pakistan[5], out of 202 participants, 27.7% responded that bleeding occurs in Chikungunya, while 72.2% had no idea about that. In the same study[5], 17.3% knew that Chikungunya is fatal and 25.7% predicted the disease is treated symptomatically[5].

Among the surveyed population 80.7% knew that Chikungunya is a transmissible disease and 79.3% knew about the vector (mosquito borne). Knowledge about mosquito net, breeding site and removal of stagnant water was present in 85.3%, 68% and 52.7% respectively. Majority had no knowledge about mosquito spray, mosquito repellants, windows and door screen and house cleaning. In the Tanzania[4] study, majority (87.2%, n = 109) did not know about Chikungunya, whilst 2.4% knew mosquitoes as the transmitting vector. Most (89.6%) did not know whether Chikungunya had been a problem in the community and only 4% had heard about Chikungunya case in their community. In Pakistan[5] most of the respondents considered Chikungunya to be a contagious disease and more than half of the respondents knew that Chikungunya infection is not transmitted from person to person. In another study in Bangladesh[1], 92.5% have heard about Chikungunya infection. Most of them (84.2%) knew that Chikungunya is a viral disease and transmitted through mosquito bites.

Fifty percent opined that Chikungunya infection spreads by Aedes mosquito. Most of the respondents (56.4%) knew that mosquito usually bites any time in the day. When asked about the breeding habitat of the vector, only 43.2% responded correctly that they breed in clear storage water and 9.4% did not know about the breeding habitat.

In this study most (66.0%) of the participants knew about the use of antipyretics and painkiller in Chikungunya but had no knowledge on the use of antibiotics. This is similar to the study by Haroon[1] where 83.1% of the respondents knew that paracetamol is enough for the treatment of Chikungunya, whereas in Pakistan[5] majority opined that there is no specific treatment for Chikungunya.

This study showed that the level of awareness was good in 23.3% study subjects, moderate in 24.7% and poor in 52%. Studies from other countries have shown considerable variation in knowledge at the community level, with good knowledge among 12% of respondents in Nepal[6], compared to 54% in Jamaica[7], 61.5%) in Philippines[8] and 63.2% in Malaysia[9]. There is a need to sensitize parents to spread awareness about these diseases in children.

Conclusions

This **s**tudy revealed that the level of awareness about Chikungunya was poor among the parents of Chikungunya infected children.

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