

Knowledge Among General Population of Rawalpindi, about Crimean-Congo Haemorrhagic Fever (CCHF)

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Abstract

Background: To find out the awareness about Crimean-Congo Hemorrhagic Fever (CCHF) among residents of Rawalpindi

Methods: In this descriptive cross sectional survey, participants from general population of Rawalpindi were included. The sample size for the study consisted of 300 individuals. The data was collected using a self structured pre tested questionnaire and was analyzed using SPSS 21.

Results: Majority of the participants in the study were males (79%). Regarding their educational status 55.7% were illiterate and almost 63% had heard previously regarding it and claimed to be having information regarding CCHF. Their sources of information were variable but the majority (25.3 %) got it through sources like friends, colleagues, warning posters, brochures etc. according to the people who were aware, 19.7% viewed its transmission from infected person and almost same number stated it to be transmitted by animal source, almost 13.3% labeled it as airborne, while 11% thought its transmission through ticks.

Conclusion: CCHF is a life threatening disease and has more chances to become prevalent in Pakistan. A meticulous multidisciplinary effort is required to manage the situation. Due to poor infrastructure, lack of education and limited access to health-related and livestock-related facilities, preventive measures are rare. The general population of rural and urban areas should have awareness about the signs and symptoms, mode of spread and seriousness of the disease.

Key Words: Knowledge, Crimean-Congo Hemorrhagic Fever, General Population.

Introduction

Crimean-Congo Hemorrhagic fever (CCHF) is a disease which is due to arbo virus. Arbo virus belongs to genus Nairovirus and family Bunyaviridae. The incubation period of arbo virus is small. Sudden fever,

shivering, disequilibrium, lumbago, headache and painful involuntary contraction of abdominal muscles are the main symptoms of CCHF. Further symptoms of this disease can be diarrhorrea, nausea, vomiting, circulatory, cardiac & neuropsychiatric changes. In advanced stages of CCHF, haemorrhages occur which may vary from minor petechiae to a large ecchymosis.¹ Attained human contamination cases have been reported from different countries.² Except for Homo sapiens, virus has been sequestered from ticks or mammals in Central African Republic, Nigeria Madagascar, Afghanistan, Hungary, Ethiopia, Senegal and Greece and nosocomial contaminations outburst in Pakistan, Iran and Dubai in late nineteen-seventy's, while in around 2000, outdoor situation was created in Kosovo due to vulnerability of battle at a large scale, in Albania in roughly around 2001, and Pakistan from 2001 to around 2002.³

In various regions of Pakistan, CCHF patients were inspected. In 1960's, CCHFV strain was isolated in Chaanga Maanga forest in Lahore, while in 1976, the first case of CCHF was diagnosed in General Hospital, Rawalpindi. In 1994, a case was reported in Quetta.⁴ Experiments were then conducted to inspect the ways of CCHFV transmission by blood and body fluids of infected people. In December 2005, a CCHFV victim was inspected in Combined Military Hospital of Abbottabad city located in north of Hazara division, Pakistan. In 2000, CCHFV was revealed in Peshawar. In 2002, a 25 years old woman was diagnosed with CCHFV fever in Kashmir.⁵ According to WHO report, from January 1 to 9 June 2013 almost twenty six CCHFV cases were diagnosed with mortality rate of 37.5%, however sixty nine cases were identified in 2015-16 from different regions of Pakistan.⁶ Since 2011-2013, one hundred and eighty three cases were confirmed with 50% fatality rate. Survey revealed about 62% cases were observed in area Killa Abdullah, Killa Saifullah, and Quetta with some incidences in Rawalpindi, Multan, Dera Ismail Khan, Chakwal, and Bannu. 77 cases of suspected CCHF had been reported in the country with the inclusion of 15 deaths from

January to September 2013. Out of these, 48 reported cases were confirmed by laboratory tests.²⁻⁷ From all the provinces of Pakistan including Islamabad, CCHF has been reported during the recent year. Investigations explored that the cause of CCHF in most cases was contact with animal skin and animals.⁸

Subjects and Methods

It was an observational descriptive study carried out in Rawalpindi for 3 months. The data was collected from the general public of Rawalpindi including the patients and their attendants visiting the major hospitals and public sites. The sample size for the study was calculated to be 300 using convenient sampling. The data was collected using a self structured questionnaire. Only those individuals were included in the study who were capable to respond the questionnaire.

Results

Majority (55.7%) were illiterate. Sixty three percent had information about Congo fever. Twenty-nine percent thought it any other type of fever, 20.7% thought that it is a bacterial infection and 13.3% considered that it is a viral fever. 37% individuals had just heard its name. 17.7% people had got the information about Congo fever through TV and 5.3% through print media (Table 1). There were 19.7% individuals who thought that contact with an infected patient is the main cause of Congo fever. 19% (57) thought it is through contact with infected animals, 13.3% (40) considered it air borne, while 11% (33) people thought that ticks are responsible for the transmission of CCHFV (Table 2). 36.3% (109) thought that fever is the only symptoms in the patients with congo fever, 19% (57) thought that muscular pain is also a symptom along with fever in patients, while 7.7% (23) thought that bleeding also occurred along with fever in this disease. Seventy six (25.3%) people preferred wearing a mask as a safety precaution, 7.3% (22) thought that by avoiding the contact with an infected person, they can save themselves while 67.3% (202) people didn't have any safety measures in their mind. 18.7% (56) people thought that during the days of Eid Ul Adha, congo fever spreads more widely than other days, 13.7% people thought that congo fever is common all over the year, 11% (33) people considered its occurrence only in spring season while 56.7% had no idea about it. According to 37.7% free treatment should be provided by the government for this disease, 22% had opinion that people should have more awareness about this disease.

Table 1. Mode of information about Congo fever

Source of information about Congo Fever?	No	Percent
No Idea	111	37
TV	53	17.7
Print Media	46	15.3
Radio	14	4.7
Other Sources	76	25.3

Table 2. Awareness about transmission of Congo fever

How The Disease is Transmitted?	No	Percent
Infected Animals	57	19
Ticks	33	11
Air Borne	40	13.3
Close Contact With Patient	59	19.7
Don't Know	111	37

Discussion

A large number of wild and domestic animals can be infected by Crimean-Congo Hemorrhagic fever virus. The bite of contagious ticks infect the animals with CCHF. Among animals, seroprevalence of CCHFV has been discovered to be between 13% and 36%.⁹ The workers related to farm animals, farming, abattoir and veterinary practice were more prone to be infected by CCHFV. The rural farmers of the northern Senegal and South Africa reported the seroprevalence of CCHFV to be 13.1%.

In 1976, the first case of CCHF was diagnosed in Pakistan and further 14 cases were reported during 1976 to 2010. The number of outbreaks which are previously reported in Pakistan was thirteen. The recent reported cases be regarded as fourteenth outbreak of CCHF in Pakistan and the second breakout in Rawalpindi. 43 deaths have been reported because of CCHF since January 1976. CCHF is diagnosed occasionally, but still it is well known disease among the medical staff in Pakistan and they are afraid of this disease.¹⁰

Nowadays, the reported cases of CCHF has been increased. In Karachi and Rawalpindi, many reported cases of CCHF were diagnosed from which seven deaths were recorded between January and June 2016.¹¹ Despite that, in the Fatima Jinnah General and Chest Hospital (FJCH) Quetta, 84 suspected patients of CCHF have been reported. Out of these, 22 patients were diagnosed with CCHF of which ten patients died.¹² It was disclosed from the clinical data that in

the rural areas of Balochistan and Afghanistan, where cattle herding is common, occasional CCHF cases have been reported.^{13,14} In European, Asian and African countries, Hyalomma tick species is thought as the main culprit for the transmission of CCHFV. It has been revealed from the findings that the areas of earth where land farming was common and climate was hot, there were more chances of occurring CCHF infections. More cases of CCHF are reported from the areas where land farmers come into more contact with livestock.¹⁵ It was revealed from a study that CCHFV has been interchanged randomly between different countries and reported the free movement of Asia-1-genotype between Iran and Pakistan.¹⁶

In the same way, nearly all cases of CCHF were either due to exposure with livestock or as the result of tick-bite in Turkey during 2005. In spite of the fact that it has not been possible to make serological surveys in Pakistan, many reported cases of CCHF in Karachi were due to contact with goats and sheeps brought from Baluchistan to Sindh.¹⁷

As CCHF is a disease with high mortality rate and its transmission is mostly hospital acquired, so rapid confirmatory laboratory tests are necessary to control the disease and minimize its prevalence in Pakistan.¹⁸ In Pakistan, ticks are responsible for CCHF virus transmission. Despite of awareness about CCHF and preventive measures among medical staff, hospital acquired outbreaks of CCHF still continue in Pakistan.¹⁹

In a study about the awareness of CCHF, 78% people had knowledge about this disease. About 60% people thought it just a viral disease. In a study in which the source of information about CCHF have been investigated, 35% People got information from TV, 23% patients from tutors and 50% people got information from the newspapers, articles and internet. 52% people thought it as communicable and life-threatening disease while 37% people did not have any idea about it. 23.3% people had knowledge about the role of tick in the virus transmission.²⁰ Majority (82%) considered the fever, bleeding from the body, muscular pain and headache as most important signs and symptoms of CCHF. When asked about people at high risk, 26% people thought the shepherds at a high risk from CCHF, 29% people considered the health workers at a high risk while others thought the workers in slaughter houses and milkman at a high risk from CCHF.²¹ 31% people thought that insecticides used in animal food against ticks was best preventive measure from CCHF.

Conclusion

1. CCHF is a serious disease and a meticulous multidisciplinary effort is required to manage the situation before the disease becomes more prevalent in Pakistan. Due to poor infrastructure, lack of education and limited access to health-related and livestock-related facilities, preventive measures are rare.
2. General population of rural and urban areas should have awareness about the signs and symptoms, mode of spread and seriousness of the disease. Protective and preventive measures should be provided to cattle husbandry.

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