Ebola hemorrhagic fever under scope, view of knowledge, attitude and practice from rural Sudan in 2015

Mohamed M.G. Mohamed [a],*, Hussam M. Shwaib [a],
Monica M. Fahim [b], Elhamy A. Ahmed [b], Mawadda K. Omer [b],
Islam A. Monier [a], Siham A. Balla [a]

[a] University of Khartoum, Faculty of Medicine, Department of Community Medicine,
P.O. Box 102, Khartoum Sudan 11111, Sudan
[b] Federal Ministry of Health, Khartoum Sudan, Sudan

Summary   Ebola hemorrhagic fever (EHF) is an emerging threat to public health. The last epidemic in West Africa had a great effect on the affected communities. Timely and effective interventions were necessary in addition to community participation to control the epidemic. The knowledge, attitude and practices of vulnerable communities remain unknown, particularly in Sudan.

The aim of this study was to explore the knowledge, attitude and practices of rural residents in Sudan regarding Ebola hemorrhagic fever.

We conducted a cross sectional, community-based large-scale study in Al Gaziera state in rural Sudan in eight localities. In total, 1500 random adult participants were selected. The participants were assessed by a predesigned pretested questionnaire regarding their knowledge, attitude and practices regarding Ebola. Their sources of information were determined, and we assessed demographic factors as predictors of knowledge.

We found poor knowledge, a fair attitude and suboptimal practices among the participants. The main sources of information were the press and media. Education was the only predictor of knowledge regarding Ebola.

A lack of knowledge and suboptimal preventive practices mandates orientation and education programs to raise public awareness. Health care providers are advised to engage more in educating the community.

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 * Corresponding author. Tel.: +249 918107123.
   E-mail address: mmjuofk@hotmail.com (M.M.G. Mohamed).

Introduction

Ebola, previously known as Ebola hemorrhagic fever (EHF), is a rare and deadly disease caused by infection with one of the Ebola virus strains. It is a serious threat to public health that was first discovered in 1976 near the Ebola River in what is now as the Democratic Republic of Congo. Since then, outbreaks have appeared sporadically in Africa [1].

Ebola is caused by infection with a virus of the family Filoviridae, genus Ebola. There are five identified Ebola virus species, four of which are known to cause disease in humans; the natural reservoir remains unknown, but accumulated evidence indicates that it is animal-born (bats are most likely implicated). Direct contact with infected body fluids via broken skin or mucus membranes is the main route of transmission [1].

The 2014 Ebola epidemic was the largest in history, affecting multiple countries in West Africa. From the beginning of the outbreak to 18 October, there were 28,539 reported confirmed, probable, and suspected cases of EHF in Guinea, Liberia, and Sierra Leone (countries affected entirely), with 11,298 reported deaths (this total includes reported deaths among probable and suspected cases, although the outcomes for many cases are unknown) [2].

Partially affected countries were Nigeria (20 diseased, 8 deaths), Mali (8 diseased, 6 deaths), and Senegal (1 diseased, 0 deaths).

This epidemic extended outside of Africa to the UK, Spain, and Italy, all with 1 reported case and 0 deaths; in addition, the US had 4 reported cases, with 1 death [2].

The WHO categorized countries in Africa according to the geographical proximity to the affected countries, relative magnitude of trade and migration links, and relative strength of their health systems. The categories include the highest priority countries, as follows: Senegal and Mali, followed by a high priority country, South Sudan [2].

The Sudanese federal ministry of health stated that a surveillance system and precautionary measures were established to guard against the entry of Ebola into Sudan; however, because of extending borders and wide geographical accessibility from 9 surrounding countries, Sudan is prone to harbor the Ebola virus unless effective preventive measures are taken.

Multiple parties are expected to take part in fighting Ebola, and in addition to the health sector role and political commitment, community members have the greatest responsibility. Appropriate knowledge and an adequate attitude could lead to effective practices in the fight against Ebola.

Multiple studies were conducted in the affected West African countries to assess and measure community preparedness against Ebola, and they all explored community knowledge, beliefs, misconceptions and motivation to survive the outbreak. The data generated constitute a platform for governments in the battle against this disease.

The EHF outbreak that occurred in Masindi, Uganda, in 2000 was described by Matthias Borchert et al. in a paper in 2011 [3]. The authors reported the outbreak description and lessons learned, including that a significant spread of Ebola from the index case to the local community was imminent unless rapid strict and timely interventions took place. In addition, they reported that in spite of favorable conditions to control the outbreak, community apprehension and misconceptions were barriers faced by authorities that constituted a genuine challenge [3].

No published study was found in the literature regarding the population knowledge and perception toward Ebola in Sudan, and the absence of such base-line data could hinder effective and efficient planning against this disease by decision makers. We conducted this large scale, community based study to provide evidence regarding the knowledge, perceptions and beliefs of the community regarding Ebola.

The aim of this study is to assess the knowledge, attitude and practices of rural residents in Sudan regarding Ebola hemorrhagic fever (EHF) and to determine any factors that might predict this knowledge.

Materials and methods

This research is a cross sectional, community based study conducted in Al Gaziera state in Sudan in May 2015. This state has the 2nd highest population density in Sudan, superseded in population only by the capital, Khartoum, and is located at the northwest border of Sudan.

Appropriate lists and maps were obtained from the Ministry of Health in Al Gaziera state and were used as a sample framework.

Eight localities were selected randomly from Al Gaziera state from all sectors of the population to maximize representation. According to the size of the sectors, three were selected in the eastern sector (Wd rawa, Wd alfadol, Tamboul), two in the southern sector (Alhoush, Wd alnaeim), and three in the northern and central sectors (Abu aosher, Al masallmiya, Tabet) by a simple random technique (after specifying the sector, the localities within were selected randomly).