

UNIVERSITY OF QUEENSLAND

Ebola Virus Disease

MICR3001

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Word count - 550

This report focuses on Ebola virus and the principles learned from SCIE3001 are put as a comment beside the appropriate paragraphs.

Factors contributing to the spread of Ebola and Strategies to combat and prevent future outbreaks

Introduction

Ebola virus disease (EVD) is a severe haemorrhagic fever caused by viruses belonging to the genus Ebolavirus in the family Filoviridae [1]. Ebolavirions contains linear, non-segmented, single stranded RNA genome which is approximately 19 kilo base pairs long encoding for seven proteins. There are five subspecies of Ebolavirus; Zaire Ebolavirus, Sudan Ebolavirus, Tai Forest, Bundibugyo and Reston Ebolavirus [2]. The first case of Ebola appeared in 1976 in Sudan and in Democratic of Congo (simultaneously). The latter outbreak occurred in a village near a river called Ebola hence the name Ebola virus. The current outbreak is mainly in West Africa including Guinea, Liberia, Nigeria and Sierra Leone. It is associated with Zaire Ebolavirus which has up to 90% fatality rate [3]. This report will discuss why the current outbreak is hard to control and outlines strategies to prevent and/or manage future outbreaks.

Comment [U1]: This paragraph is constructed using the 3-5 point outline.

Medical Infrastructures

The medical infrastructures in West African countries have limited resources. These problems have contributed to the spread of Ebola. Some of these problems include: lack of trained healthcare workers, poor management of quarantine zones, reusing of equipment, improper sterilization, lack of personal protective equipment, lack of isolation units, difficulties in reaching rural areas, lack of surveillance, e.t.c [4]. Therefore more funding is recommended in preventing and/or managing future outbreaks. Funds mainly needs to be spend on designing drugs and/or vaccines but in the mean while training healthcare workers, more PPE, effective surveillance systems, better sterilization is recommended.

Comment [U2]: This paragraph was also constructed using 4 dot point outline.

Cultural Practices

Cultural practices such as the burial rituals, traditional medicine, are also making it hard to control the current outbreak in West Africa. During the funeral ceremonies, hand washing is a ritual involving the sharing bowl of water between the funeral goers [5]. This increases the chances of Ebola being transmitted between all the funeral goers. Another ritual which can contribute to the transmission is called "traditional injection". It is a superficial skin incision used to administer traditional medicines to a patient. This can lead to spread of Ebola virus to traditional healers and health workers [5]. Therefore, a systematic education is recommended in stopping such traditions in order to combat the current outbreak and to better manage future outbreaks. The media needs to be used as an educating platform by using television, radio, billboards, e.t.c. It is recommended for people who recovered from Ebola to teach the community. This will increase the societies' belief in modern medicine than traditional healing practices.

Comment [U3]: You can also see that each paragraph talks about one idea. For example, the paragraph regarding cultural practices does not talk about the medical infrastructures.

Environment

The spread of Ebola is also related to environmental factors such as climate, sanitation and socio-economic status. A study carried out in Gabon showed that most of the Ebola outbreak occurred in forests during rainy seasons. Low socio economic status has also been known to facilitate the spread of Ebola [5]. People living with poverty have no or limited access to different healthcare services hence they are more likely to be infected with the virus [6]. Therefore it is recommended to outline prevention strategies after rainy seasons and for the government to improve the living conditions of the people.

In conclusion, the spread of Ebola and future management can be achieved by providing quality healthcare facilities, by educating the community and improving the prevention strategies especially in rainy seasons.

Comment [U4]: The whole assignment is structured using the 3-5 point rule. It has the introduction followed by 3 points. The 3 points were then made into sub topics.

Under those subtopics, dot point outline was constructed which then became sentences.

References

1. **Gatherer D.** 2014. The 2014 Ebola virus disease outbreak in West Africa. *The Journal of general virology* 95:1619-1624.
2. **Ikegami T, Calaor AB, Miranda ME, Niikura M, Saijo M, Kurane I, Yoshikawa Y, Morikawa S.** 2001. Genome structure of Ebola virus subtype Reston: differences among Ebola subtypes. Brief report. *Archives of virology* **146**:2021-2027.
3. <http://www.who.int/csr/disease/ebola/en/>
4. **Hall RC, Hall RC, Chapman MJ.** 2008. The 1995 Kikwit Ebola outbreak: lessons hospitals and physicians can apply to future viral epidemics. *General hospital psychiatry* **30**:446-452.
5. **Hewlett BS, Amola RP.** 2003. Cultural contexts of Ebola in northern Uganda. *Emerging infectious diseases* **9**:1242-1248.
6. **Bruce J, Brysiewicz P.** 2002. Ebola fever: the African emergency. *International journal of trauma nursing* **8**:36-41.