

Rift valley fever research paper

[Parts of the World](#), [Africa](#)



Q. 6.

In Kenya, the mortality rate of Rift Valley Fever (RFV) was reported to be 23 % between 30th November, 2006 and March 12, 2007. This percentage is a representative of the overall 684 cases reported and the 155 deaths reported. North Eastern province led with a total of 333 cases while Rift Valley had 183 cases reported. On the other hand, 141 cases were reported in Coast Province while 14 cases were reported in the Central region. The North Eastern part of Kenya had the least number of casualties reported; 13 cases. Out of the 684 cases described, only 234 cases were confirmed in the Laboratory while the rest of the cases were not confirmed (Rift Valley Fever Outbreak, 2007).

On the other hand, a sum of 264 cases of RFV was reported in Tanzania between 13 January and May 3, 2007. This incorporated 109 casualties who basically represent 41 % of the total cases reported. Similarly, in Tanzania, cases of RFV were reported in almost all the regions: Arusha had 12 cases reported, Dar es Salam had 1, Dodoma had 156, Manyara had 6, Morogoro had 50, Mwanza and Pwani regions both had 5 cases reported, and finally one case was reported in Tanga (Rift Valley Fever in Kenya, Somalia and the United Republic of Tanzania, 2007).

There are several factors contributing to similarity or difference in data collected in Kenya in relation to the prevalence of RFV. These may include time of surveillance and place where the surveillance is being carried out. In case the surveillance is carried out in regions frequently affected with RVF,

the reports will be similar. Moreover, surveillance carried out within the same period of time may also produce similarity in results (Harper, 2004).

Q. 7.

Previous studies carried out in Kenya and other Sub-Saharan countries may actually help me in obtaining the surrogate data needed to predict the prevalence rates of the disease in Kenya (Shailendra, 2008). For example, between 1977 and 1978, there were 200, 000 cases reported in Egypt although only 18, 000 incidences were confirmed. Additionally, 598 deaths were reported as a result of fever associated with bleeding; hemorrhagic fever. As a result, the mortality rates were estimated to be 0. 3% (Harper, 2004). Also, the report provided by the Center for Disease Control (CDC) in 1998 gives clear evidence of mortality rates in Kenya. A death rate of between 0. 5% and 1 % was established in an outbreak that saw a sum of 89, 000 people infected and 478 people lose their lives. The actual mortality rate in that incidence was reported to be 0. 53% which is within the normal ranges provided by CDC.

Moreover, between December 19 and February 20, 2007; 114 cases of RFV were reported in Somalia with 51 deaths (mortality ratio, 45%). Similarly, RFV incidences were reported in Mauritania a decade after the 1977 outbreak in Egypt. It was associated with the construction of the Diama Dam alongside the Senegal River. Both of these incidences are linked with seasons of heavy rainfall, followed by a rise in the population of the mosquitoes. These environmental conditions experienced in Somalia, Mauritania, Tanzania and Egypt which are linked to the higher prevalence

and mortality rates of RFV; are also experienced in Kenya since they all lie within the same equatorial location. Therefore, using these two statistical data obtained in Egypt and Somalia, it can be deduced that the mortality rates in Kenya may range from 0.3 % to 45 % (Rift Valley Fever, 2007).

These figures can hypothetically be used as surrogate data when calculating and computing mortality rates in Kenya.

Q. 8. A

The prevalence of Rift Valley Fever in the horn of Africa has seen various world organizations collaborate with the affected regional countries with an effort of predicting RFV. Kenya has collaborated with “ NASA-funded scientists, NASA Goddard Space Center and the Reed Army Institute of Research.” In this program, satellites are used to monitor various climatic conditions associated with the occurrence of RFV (Anyamba et al., 2009, p. 955). Anyamba and his friends described these factors as “ El Nino/Southern Oscillations (ENSO) phenomena” (p. 595). ENSO is marked by an abnormal and uninterrupted warming and cooling of the sea shores followed by heavy rainfalls which subsequently result to emergence of mosquitoes.

The effectiveness of this method has received applause and approval all over the world. For example, the model predicted sudden occurrences of RFV in the horn of Africa between December 2006 and May 2007. These predictions were successively proved by the analysis carried out on the activity of the virus in the identified regions. The disease outbreak of RFV first occurred in Somalia, then Kenya and finally Tanzania just as the predictions were made (Shailendra, 2008, pp. 9-12)

Q. 9

RFV is not highly prevalent in developed countries like the United States of America, Britain, France and Russia; the places I intend to work in future. From this study, it is very much evident that Rift Valley Fever is very common in Africa as compared to developed nations like USA. This is supported by the research carried out by Shailendra in 2008 on “Resurgence of Rift Valley Fever”. His study has found out that all the incidences related to RFV took place in Africa. For example, in 1997, over 200, 000 people were affected by RFV in Egypt while only 18, 000 were confirmed. Musser and his friends (2005) attribute the high prevalence of RFV in Sub-Saharan Africa to high rainfall and nomadic rearing of goats, sheep and cattle. Therefore, from this research, I have learned that climate majorly affects the occurrence and prevalence of diseases. As demonstrated by the high mortality rates of RFV in Kenya, Somalia and Egypt. For example, the 1977-78 RFV mortality rates reported in Egypt was attributed to the high rainfall received in the region (Woods et al., 1998). The knowledge I have acquired on RFV prevalence in Sub-Saharan Africa will greatly assist me in designing ways to eradicate such diseases in Poverty stricken continents like Africa.

Additionally, the knowledge I have acquired from studying RFV prevalence in sub-Saharan Africa has greatly boosted my research skills. For example, by evaluating various mortality rates related to RFV in various regions, I have learned that surrogate data is highly essential in epidemiological studies. Also, I have learned that ecological factors like temperature and rainfall greatly affect the prevalence rates of diseases. Rainfall may also influence

and favor the development of vectors which in most cases act like “transmitters” of diseases (Anyamba et al., 2007). Therefore, to effectively control the occurrence of such vector-borne diseases, it is very much essential to understand its developmental stages and vectors.

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