

Abstract

Background: Marburg and Ebola viruses cause severe haemorrhagic fever with a case fatality rate reaching 90%. Usually outbreaks occur in sub-Saharan countries, but occasionally import cases to Western countries take place. Currently there is no curative treatment or vaccine available and supportive treatment is the only possible treatment option to be offered. Case fatality rates between patients managed in Western settings have been much lower than in resource-poor outbreak settings and it is presumed that the level of provided supportive care is one of the explanations of this difference. This study identifies the differences between the management of filovirus patients in the two different settings, and investigates how supportive care in resource-poor outbreak settings can be improved.

Methods: An extensive literature review has been conducted to obtain relevant information, researchers' personal clinical experience from resource-poor settings has been integrated and a semi-structured questionnaire has been sent to clinicians with clinical filovirus experience to gather their expert opinions and recommendations.

Findings: This study identified as main differences in patient management between the 2 settings the level of patient monitoring, availability of laboratory tests and the administration of blood- or blood products. Areas are identified where supportive care in resource-poor settings and filovirus interventions in general could be improved. A vaccine candidate and promising innovative treatment regimens are mentioned.

Conclusion: Based on the findings, a set of key recommendations for improvement of supportive care in resource-poor settings and filovirus interventions were developed:

- a) Improvement of patient monitoring by using automatic blood pressure machines, and following respiratory rate, pain level and fluid intake and output.
- b) Improvement of patient care by haemodynamic management, maintaining and controlling fluid and electrolyte balance and urine output, use of blood products and oxygen supplementation.
- c) Field laboratory with diagnostic possibility, basic biochemical and haematological tests and urine and stool tests should be made available in all outbreaks.
- d) Countries at risk for filovirus outbreaks should have surveillance, training, supplies of protection material and disinfection, and focus on reducing use of non-sterile items.