Patient characteristics and risk of mortality in the MSF Ebola Management Centres during the West African Ebola outbreak: a multicentric study

The MSF Ebola Task Force; with acknowledgment of the thousands of field staff involved in the Ebola response

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Introduction

The Ebola virus disease (EVD) outbreak, ongoing in West Africa since March 2014, is the largest in history. A major activity of MSF has been providing patient care in Ebola Management Centres (EMCs). MSF EMCs were set up progressively in the three most affected countries: two in Guinea in March, two in Liberia in August, and four in Sierra Leone between June and December. We present a retrospective analysis of the main characteristics of patients admitted to eight of the nine MSF EMCs operational in January 2015.

Methods

Retrospective descriptive analysis was performed on a pooled line list on common variables collected. Univariate and multivariate logistic regression estimates were used to explore factors associated with the risk of dying (centre of admission, age, sex, time to admission). This retrospective analysis of existing routinely collected programme data met the MSF Ethics Review Board criteria for exemption from ethics review. All activities conducted by MSF were approved by the national authorities of Sierra Leone, Liberia, and Guinea.

Results

By January 25th, 2015, 7911 people with EVD suspicion had been admitted to an MSF EMC. 4843 (61%) were confirmed with EVD. Among confirmed cases, 2206 (46%) were aged 5-29 years, 1995 (42%) were aged 30-59 years, and 265 (6%) were <5 years. Median time to admission was 5 days (IQR 3-7). The overall case fatality rate (CFR) was 51%. CFR varied significantly between centres, but globally decreased over time, reaching 45% for patients admitted in December 2014. In multivariate analysis, risk of dying was increased in children <5 years (OR 2.8, 95%CI 2.1-3.9) and patients over 30 years (30-59 years: OR 1.6, 95%CI 1.4-1.9; ≥60 years: OR=2.8, 95%CI 2.1-3.6). Delay in admission was not associated with risk of dying. Viral load data will be presented and all results updated in the conference presentation.

Conclusions

This Ebola outbreak is unprecedented, leading to an unprecedented response from MSF. Harmonization and completeness of inpatient information, including clinical presentation of patients with EVD, consequently remain a great challenge. Little evidence is available regarding factors associated with death and recovery: further research and capitalisation of the interventions are needed to better understand this disease.