

# Abstract

**Background:** Globally, sepsis is a significant health concern, responsible for a substantial number of deaths, with a particularly heavy burden in low and middle-income countries (LMICs). The recommended best practice for sepsis care is utilization of the Sepsis Care Bundle (SCB), consisting of five key components to be executed within one hour of diagnosis. Therefore, this study determined the proportion of missed opportunities and factors associated with the utilization of the SCB in the management of sepsis at MRRH.

**Methods:** Sequential explanatory mixed methods was used to conduct this study. A descriptive cross-sectional study design reviewed 384 files of sepsis patient and interviewed 109 HCWs across selected departments, and used systematic sampling and census sampling respectively. A case study qualitative research was conducted and participants selected using purposive sampling. Quantitative data was analyzed using STATA v17.0. Descriptive statistics and modified poisson was used to determine proportion of missed opportunities and the factors associated with the outcome respectively. Braun and Clarke inductive thematic analysis was used to analyze qualitative data.

**Results:** All the sepsis patients (100%) received antibiotics, 98.4% (n=378) missed lactate measurement. 67.4% (n=259) of patients missed culture and sensitivity. Only 90.9% (n=349) received crystalloids. A high proportion of patients 91.7% (n=352) missed receiving vasopressors. The median (IQR) age of HCWs was 31 (28, 35). Slightly more than half (58.7%) of the participants were males, about a third (32.1%) had a diploma and a similar proportion had a bachelor's degree. Majority of the participants were Nurses (71.6%) of which 30.3% worked in ICU and 24.8% worked in the surgical ward. At bivariate analysis, staffing level, cadre, availability of patients beds and continuous professional development (CPD) on SCB (adjusted P value SCB (adjusted P value <0.3) were included in the multivariate regression analysis and no variable was found statistically significant at that level. Inductive thematic analysis yielded significant findings on HCWs perception of the SCB.

**Conclusion and Recommendation:** Antibiotics were received in all patients, indicating a high level of utilization of this crucial component of the SCB. However, there are notable opportunities for improvement in other SCB elements, with a significant proportion of patients missing lactate measurement and vasopressor utilization. To close this gap, we recommend an ongoing CPD for HCWs is highly recommended to enhance awareness of the importance of lactate measurement and vasopressor utilization in sepsis management. Furthermore, we recommend the replication of a similar study in another hospital.