ENDEMIC CORRIDORS: A USEFUL TOOL FOR THE APPROACH OF CLOSTRIDIUM DIFFICILE. A 5-YEAR EPIDEMIOLOGIC SURVEILLANCE PROGRAM IN A TEACHING HOSPITAL OF A MIDDLE-INCOME COUNTRY.

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BACKGROUND

Clostridium difficile infection (CDI) is a healthcare-associated infection causing morbidity, mortality, and increase in the economic burden of health. Accurate and accessible methods to predict the epidemiologic trends of CDI are scarce. The systematic collection of data contributes to the development of an endemic corridor, which estimates the expected cases in a period of time, facilitating the identification of outbreaks.

In Guatemala, no obligatory report is required and no national surveillance programs for CDI exist. Therefore, understanding local epidemiologic trends of CDI is important in order to make future predictions.

METHODS

All consecutive primary CDI episodes (Jan 2012-Dec 2017) identified from daily active surveillance in the surgery department were included for the elaboration of the corridor. CDI was defined as diarrhoea and a positive stool PCR test for C. difficile toxin A and/or B. An endemic corridor was developed to identify and describe trends.

The geometric mean and a 95% confidence interval were used to calculate upper and lower limits of weekly incidence. Demographics, clinical characteristics, antimicrobial treatment and outcome of CDI were analyzed.

RESULTS

A total of 208 CDI episodes were identified and included in the study (9 healthcare workers). The incidence of CDI cases increased from 12.85/1000 discharges (2016) to 18.53/1000 discharges (2017). CDI incidence was higher among male (54.8%) adults (18-64 years; 72.23%). NAP1 strain was identified in 38% of all cases, with a constant NAP1 incidence increase from 2012 to 2017. NAP1 strain was identified in 38% of all cases, with a constant NAP1 incidence increase from 2012 to 2017. deaths occurred during the studied time period. All cases were treated according to hospital guidelines. No CDI recurrences or deaths occurred during the studied time period.

The highest incidence of CDI was observed between epidemiologic weeks 47, 8 and 42. Eleven outbreaks were identified in the studied time period, the first and major outbreak occurred in 2013: 2015 had the most outbreaks with 4. Both 2016 and 2017 had 3 outbreaks each.

CONCLUSION

Due to the active and systematic surveillance of CDI, an endemic corridor was created. This will be a useful tool to develop interventions according to the epidemiologic trends of local CDI. Prompt identification of cases and strict adherence to patient isolation and treatment guidelines resulted in null mortality rates despite the alarming increase in NAP1 strains.