

Title: Antibiotic prophylaxis for the prevention of surgical site infection in low and middle income countries (LMICs): A scoping review

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Background

The findings from two-point prevalence studies in two hospitals in Ghana indicated suboptimal use of antibiotics for surgical prophylaxis including long postoperative antibiotic prescribing. However, the evidence for such practice is unclear. Therefore, we conducted a scoping review of the evidence around the practice of antibiotic use for surgical prophylaxis in LMICs to inform and shape quality improvement interventions

Methods

MEDLINE, Embase, Cochrane, CINAHL and Google Scholar were searched from inception to 22 July 2019 for all study types around antibiotic use for surgical prophylaxis in LMIC published in English. Grey literature, websites and reference lists of included studies were searched. The following data were extracted; study characteristics, interventions, outcomes and recommendations. In view of heterogeneity between studies descriptive analysis was conducted.

Results

Of 185 records screened, 26 studies related to surgical site infections (SSI) and timing of antibiotic prophylaxis in LMICs were included. The incidence of SSI was significantly higher in LMICs compared with high income countries; recording of infection surveillance data was found to be poor and there is lack of local guidelines for antibiotic prophylaxis. Several studies in Africa have reported reduction in SSI with single dose preoperative antibiotic use compared with post-operative prophylaxis and a reduction in cost and nurse time after implementing a multidisciplinary intervention. Despite evidence to the contrary, many surgeons continue to use post-operative antibiotic prophylaxis.

Conclusion

There is evidence for the effectiveness of single dose preoperative antibiotic use in preventing SSI in LMICs; however, behavioural change interventions are required to change clinicians' behaviour around this area; Interventions must include local context and address strongly held beliefs. The establishment of local multidisciplinary teams will promote ownership and sustainability of change.