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Risk Factors for Infection Caused by Extended-Spectrum Beta-Lactamase-Producing *Klebsiella pneumoniae* and *Escherichia coli* in Hospitalized Patients at Haji Adam Malik Hospital, Medan

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Abstract : It is important to recognize risk factors for infection caused by ESBL-producing *K.pneumoniae* and *E.coli* to describe effective strategy dealing with this infection. The aim of this research to identify risk factors associated with ESBL-producing *K.pneumoniae* and *E.coli* infection. A case control study was performed. Patient with ESBL-producing *K. pneumoniae* and *E. coli* (cases group) were compares to those with non-ESBL-producing *K. pneumoniae* and *E. coli* (control group). Risk factors analyzed included length of hospital stay before culture, prior hospital stay, type of hospital admission ward, recent surgery, invasive procedure and previous therapy with third generation cephalosporin. Sixty patients with ESBL-producing *K. pneumoniae* and *E. coli* infection (cases group) were compares to sixty patients with non-ESBL-producing *K. pneumoniae* and *E. coli* (control group). By bivariate analysis risk factors length of hospital stay before culture, recent surgery, invasive procedure, and previous therapy with third generation cephalosporin to be associated with ESBL producing *K.pneumoniae* and *E.coli*. In multivariate logistic regression analysis, length of hospital stay before culture, recent surgery and previous therapy with third generation cephalosporin were remain significantly associated with ESBL producing *K pneumoniae* and *E.coli*.

Key words : *K. pneumoniae*, *E. coli*, ESBL, risk factors.

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