

Abstract

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PREDICTORS OF CLINICAL DETERIORATION AMONG ADULT INPATIENTS IN ACUTE CARE SETTINGS IN OMAN

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Objectives:

Recognizing factors associated with clinical deterioration among hospitalized patients will aid clinicians in predicting and early identifying at risk patients and will hence prevent adverse events and improve patient outcomes. Therefore, this study aim to identify predictors of clinical deterioration among adult patients hospitalized in general wards.

Methods:

Matched case-control design was used in this study. Data of 2500 patients were retrospectively collected from two tertiary hospitals in Oman that utilize Critical Care Outreach Team (CCOT) to respond and rescue deteriorating patients hospitalized in the general wards. All adult patients hospitalized in medical or surgical wards of the two tertiary hospitals who deteriorated clinically and needed CCOT activation between February 2016 and February 2017 were included in the case group ($n_{case} = 500$). Each patient in the case group was randomly matched with four adult patients who were admitted in the same hospital and wards during the same time period but did not deteriorate or need CCOT activation ($n_{control} = 2000$) making the total sample size $N = 2500$.

Results:

Multiple regression analysis produced six predictors of clinical deterioration including: Male gender (OR = 1.48, 95% CI: 1.137 – 1.927, $p = 0.004$), diagnosed with sepsis (OR = 6.17, 95% CI: 2.66 – 14.30, $p < 0.001$), diagnosed with cancer-related complications (OR = 2.77, 95% CI: 1.123 – 6.686, $p = 0.027$), having multimorbidity (OR = 7.64, 95% CI: 4.45 – 13.06, $p < 0.001$), delayed admission (referral from secondary or primary facilities) (OR = 5.99, 95% CI: 3.411 – 10.54, $p < 0.001$), and high severity of clinical presentation as measured by MEWS (Modified Early Warning Score) during admission (OR = 2.99, 95% CI: 2.66 – 3.34, $p < 0.001$).

Conclusions:

Male gender, admitting diagnosis of sepsis and cancer-related complication, multimorbidity, delayed admission, and high modified early warning score (MEWS) on admission can serve as predictors of clinical deterioration of adult patients during hospitalization.