

DIRECT COST ASSOCIATED WITH ADVERSE DRUG REACTIONS AMONG HOSPITALISED CHRONIC KIDNEY PATIENTS IN A PUBLIC HEALTHCARE FACILITY IN MALAYSIA: A RETROSPECTIVE 3-YEAR STUDY

ABSTRACT

Adverse reactions which are clinically diverse increases the overall cost of care, as it often results in additional days of hospitalisation, clinical investigations and treatment drugs. Thus, the main objective of this study is to evaluate direct medical costs among chronic kidney disease (CKD) patients who experienced adverse drug reactions (ADRs) during hospitalisation and identification of associated drug classes and clinical symptoms. Individual direct medical costs from the perspective of Ministry of Health (MOH), Malaysia among stages 3–5 CKD patients who experienced ADRs during hospitalisation were evaluated from 2014 till 2016. A higher number of days of hospitalisation (11.5 [4.25–39.25] days), ward and laboratory costs (RM48.50 [0–195.75]) plus drug costs (RM2.05 [0–91.30]) were observed among patients who did not survive ADRs. The highest number of hospitalisations, monitoring and laboratory costs were attributed to anti-arrhythmic drug class (11.0 [4.00–] days; RM326.00 [0–]) and haematological reactions (11.0 [1.00–19.00] days; RM116.80 [\pm 112.38]). Furthermore, the highest treatment drug cost was attributed to anti-platelet (RM104.60 [0–]) and psychiatric reactions (RM17.50 [\pm 24.13]). Top five major treatment drug classes contributed to ADRs were anti-infectives ($n = 63$ [39.4%]), anti-hypertensive ($n = 23$ [14.4%]), analgesic ($n = 12$ [7.5%]), statin ($n = 10$ [6.3%]) and anti-diabetic ($n = 8$ [5.0%]). Antibacterial constitutes the majority of the anti-infectives reactions. Vancomycin ($n = 7$ [13.7%]) tops the most ADRs contributing antibacterial. ADRs experienced during hospitalisation caused prolongation of hospitalisation and its associated investigational and treatment charges. The true value of the cost estimate could be much higher than the calculated value as the indirect costs were not included in the final estimates of this study and as a result of the Malaysian government's waiver policy.

Keywords: Adverse drug reactions, Chronic kidney disease, Direct medical costs, Healthcare facility, Malaysia