

Inappropriate Prescribing Defined by START and STOPP Criteria and Its Association with Adverse Drug Events among Older Hospitalized Patients

Authors : Mohd Taufiq bin Azmy, Yahaya Hassan, Shubashini Gnanasan, Loganathan Fahrni

Abstract : Inappropriate prescribing in older patients has been associated with resource utilization and adverse drug events (ADE) such as hospitalization, morbidity and mortality. Globally, there is a lack of published data on ADE induced by inappropriate prescribing. Our study is specific to an older population and is aimed at identifying risk factors for ADE and to develop a model that will link ADE to inappropriate prescribing. The design of the study was prospective whereby computerized medical records of 302 hospitalized elderly aged 65 years and above in 3 public hospitals in Malaysia (Hospital Serdang, Hospital Selayang and Hospital Sungai Buloh) were studied over a 7 month period from September 2013 until March 2014. Potentially inappropriate medications and potential prescribing omissions were determined using the published and validated START-STOPP criteria. Patients who had at least one inappropriate medication were included in Phase II of the study where ADE were identified by local expert consensus panel based on the published and validated Naranjo ADR probability scale. The panel also assessed whether ADE were causal or contributory to current hospitalization. The association between inappropriate prescribing and ADE (hospitalization, mortality and adverse drug reactions) was determined by identifying whether or not the former was causal or contributory to the latter. Rate of ADE avoidability was also determined. Our findings revealed that the prevalence of potential inappropriate prescribing was 58.6%. A total of ADEs were detected in 31 of 105 patients (29.5%) when STOPP criteria were used to identify potentially inappropriate medication; All of the 31 ADE (100%) were considered causal or contributory to admission. Of the 31 ADEs, 28 (90.3%) were considered avoidable or potentially avoidable. After adjusting for age, sex, comorbidity, dementia, baseline activities of daily living function, and number of medications, the likelihood of a serious avoidable ADE increased significantly when a potentially inappropriate medication was prescribed (odds ratio, 11.18; 95% confidence interval [CI], 5.014 - 24.93; $p < .001$). The medications identified by STOPP criteria, are significantly associated with avoidable ADE in older people that cause or contribute to urgent hospitalization but contributed less towards morbidity and mortality. Findings of the study underscore the importance of preventing inappropriate prescribing.

Keywords : adverse drug events, appropriate prescribing, health services research

Conference Title : ICPPS 2014 : International Conference on Pharmacy and Pharmacological Sciences

Conference Location : Osaka, Japan

Conference Dates : October 12-13, 2014