Hospitals adherence to the sterile preparation compounding standards in Riyadh, Saudi Arabia

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Background: Sterile preparation compounding is an integral part of pharmacy practice. Good practice and compliance with national and international standards for preparing compounded sterile preparations are important to promote safe medication practices.

Objective: The study intended to evaluate the adherence to some selected ISMP and other organizations’ guidelines for safe preparation of sterile compounds among the several hospitals from five different healthcare sectors in the city of Riyadh, Saudi Arabia.

Methods: A descriptive cross-sectional analysis was conducted among 10 hospitals. A combination of selected items from the ISMP guidelines and other standards related to the preparation of sterile products were used as a standard tool for the assessment. A total of 12 IV rooms in 10 hospitals were observed. The data was analyzed with SPSS version 20.

Results: Twelve sterile preparation areas were observed from a total of 10 hospitals. The majority of observed sterile compounding areas were from Ministry of Health and teaching hospitals (n=3, 25% each). The majority of the participating hospitals (n=11, 91.7%) were accredited from one or more accreditation body. The capacity of each participating hospital was ranging from 100 to more than 900 beds. The “Fully Met” highest adherence rates to the guidelines were for drug storage, staff management, policies and procedures for compounding sterile preparations and product labeling sections (79.17%, 72.23%, 71.66% and 70%, respectively). Whereas, the lowest adherence rates “Not Met” to the guidelines were for record keeping and drug conservation (41.7% and 33.33%, respectively). More than 50% of the observed areas did not fully meet quality control/final verification of manually prepared product standard.

Conclusion: Sterile preparation compounding is an important patient safety challenge in the Saudi healthcare system. The level of hospital compliance with the safety standards varies between different standards and requirements. Significant areas for further improvement were identified and highlighted. A nationwide study is recommended to assess the safety of sterile preparation compounding throughout the Kingdom of Saudi Arabia.

Synthesis and biological studies of new anti-inflammatory agents based NSAID core structures

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Historically, no doubt, the ancient Egyptians, since 2000 BC, were the first to use salicylate rich plants, or what is so called later as Aspirin, to reduce fevers. This natural aspirin extract was used till late 18th century and was first synthesized in 1853. This led to discovery of many other non-steroidal anti-inflammatory drugs (NSAIDs) based acetic or acidic functional group such as Ibuprofen, Indomethacin, Naproxin, etc. On long term administration, NSAIDs showed serious adverse reaction mainly as gastro-intestinal (GI) incidences. In this study, we try to overcome such undesired side effects by modifying the chemical structures of such drugs.