Abstract

**Identification of Relevant Drug Interactions in Neonatal Intensive Care Units**

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**Background** Among the different types of medication errors, drug interactions may have serious consequences in Neonatal Intensive Care Units (NICU). However, they can be easily detected with appropriate tools, particularly in the context of a computerised prescribing system with pharmacological analysis.

**Purpose** The objective of this study was to calculate a theoretical criticality index, using a method inspired by the Failure Modes, Effects and Criticality Analysis (FMECA) method for each drug interaction identified in NICU in order to prioritise them to pharmacists and physicians.

**Materials and Methods** The study was a retrospective review of prescriptions in a French NICU. The study included prescriptions for preterm infants with gestational age below 35 weeks and hospitalised between January 2006 and December 2009. For each prescription, drug interactions were evaluated with the French Theraïque® medication database. The criticality index of each drug interaction was calculated by multiplying occurrence, severity and detection scores. The scales of each score had been built by a multidisciplinary group. Severity and detection scores were assessed by pharmacists and physicians. Intraclass Correlation Coefficients (ICCs) were used to compare pharmacists’ and physicians’ scores, and a synthesis was realised.

**Results** Among the 907 prescriptions with at least 2 prescribed drugs (4605 prescriptions written, with 109 different drugs), 47 different drug interactions were identified with Theraïque®. The 10 most critical drug interactions for pharmacists and physicians were detailed, and then a common medical and pharmaceutical synthesis was established. The ICC of detection was 0.75 (95% CI: 0.63–0.88), and the severity was 0.32 (95% CI: 0.08–0.56).

**Conclusions** This work highlights the importance of multidisciplinary collaboration in safe medication practise. This method can be used as a basis for future cooperation between medical teams and the pharmaceutical teams that make interventions. It is easily transferable to other medical specialties with the same objectives.

No conflict of interest.

**Identification of New Tuberculosis Cases Through Pharmacy Dispensing Records in Prof Dr Fernando Fonseca Hospital, Portugal**

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**Background** Controlling and preventing tuberculosis (TB) continues to be a major public healthcare challenge. Pharmacy and clinical records can thus contribute with important information concerning newly-diagnosed inpatients, treatment regimens and resistant strains.

**Purpose** To identify new tuberculosis (TB) cases through prescription records in a Portuguese General Hospital.

**Materials and Methods** This study took place in 2012, in Hospital Prof Dr Fernando Fonseca EPE (HFF), an 800-bed hospital. Patients were identified from Pharmacy dispensing records (Hoxis v7.1; SIVSA) and clinical information was collected from the electronic medical records (Soarian Clinicals 3.1; Siemens). This data covered: age, sex, signs and symptoms, risk factors, outcomes of chest X-ray, diagnosis, respiratory isolates, therapeutic and microbiology results.

**Results** To the end of September 2012 75 new cases of TB were identified. 38 diagnoses were made up to 24 hours after hospital admission. The most frequent symptoms were non-productive cough 65.8%, weight loss 55.3% and fever 50%. There were 26 cases of pulmonary TB and 12 of extrapulmonary TB. 23 patients tested positive to the Ziehl Neelsen stain. 2 of the patients had resistant TB. 37 patients were diagnosed up to a maximum period of 10 weeks after hospital admission. The most frequent symptoms were non-productive cough 40.5%, weight loss 40.5% and fever 37.8%. There were 16 cases of pulmonary TB, 13 extrapulmonary and 8 strictly clinical and imaging diagnoses. 3 patients tested positive to Ziehl Neelsen. 2 of the patients had resistant TB. By the time of the congress data will be updated for the year 2012.

**Conclusions** The high rate of delayed-diagnosis TB contributes to an increase risk for the healthcare workers and other patients exposed to it. The hospital OHD used this study to demonstrate the importance of early diagnosis in the Emergency Department and faster microbiology results and of putting suitable isolation measures in place.

No conflict of interest.