DETECTION OF LOOK-ALIKE INTRAVENOUS DRUGS - FORMULARY CONSIDERATION.

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BACKGROUND

→ Look-alike packaging (LAP) designates similarity in labelling and packaging between two drugs.
→ LAPs increase the risk of confusion while drug dispensing by technicians and pharmacists and drug administration by nurses, consequently leading to medication errors.
→ Identifying couples of drugs at risk is important in terms of hospital drug formulary considerations.
→ No method exists to prospectively identify pairs of drugs and characteristics increasing confusion.

MATERIALS AND METHODS

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→ We selected 64 vials & 105 ampoules with a significant turnover in our pharmacy, allowing evaluation of risk for 2016 pairs of vials & 5460 pairs of ampoules (figure 1).
→ All pairs were systematically observed by six HCPs independently:
  ✔ 2 nurses
  ✔ 2 technicians
  ✔ 2 pharmacists
→ Our focus was the primary packaging (which is in direct contact with the drug), as drugs are stocked and dispensed as such in our pharmacy and units.
→ For each pair, HCPs were asked whether they perceived the pair as at risk of confusion or not.
  We thereafter classified the pairs as:
  ✔ at "risk of confusion" (PairRC) - pairs identified as at risk by at least 4 HCPs
  ✔ at "high risk of confusion" (PairHRC) - pairs identified as at risk by all HCPs
→ Inter-rater reliability was calculated (Cohen kappa test).

RESULTS

 disproportionately

→ Vials: 2 PairHRC and 4 PairRC → 27.2% of vials implicated. (figure 2 & 3)
  Ampoules: 45 PairHRC and 46 PairRC → 54% of ampoules implicated. (figure 2 & 3)
→ No marked difference in number of pairs at risk amongst different professions, even though different pairs identified by the 2 nurses.
→ Risk factors increasing the risk of confusion: engravement and same manufacturer.
→ Inter-rater reliability varied from modest to good according to profession:
  ✔ Technicians (vials: kappa=0.65 ; ampoules: kappa=0.50)
  ✔ Pharmacists (vials: kappa=0.46 ; ampoules: kappa=0.44)
  ✔ Nurses (vials: kappa=0.22 ; ampoules: kappa=0.29)

CONCLUSION - TAKE HOME MESSAGE

☀ Methods to identify risk of confusion prospectively should be implemented to propose preventive measures in order to reduce medication errors.
☀ Strategies for improvement may include over labelling and stockage in different places, educational strategies…