

Medication Incident Safety Sharing Program (MISS P)

All hospital Pharmacists are encouraged to submit Medication Incident Cases and Medication Safety Solutions to the SHPHK for sharing. This is not simply an MI reporting program like those being successfully run by the public hospital network or individual private hospitals. We are not focusing on the number or frequency of the MIs. Our aim is to collect educational cases and/or solutions so that members of the SHPHK could benefit by learning from other colleagues' unfortunate mistakes and/or innovative ideas. All submitted materials will be handled in strict confidence. The identity of the institution or the personnel involved will not be revealed. Please support us by sending your cases to Mr Michael Ling, Medication Safety Co-ordinator of SHPHK, at mhmling@yahoo.com.

(The following case has been slightly modified from the actual occurrence and the name of the hospital has been withheld from publication.)

The cases

Case 1

A nurse rang up and asked if the pharmacy dispensed item of drug name 'Sodium Fusidate' is the same as the prescribed 'Fusidic Acid 750mg tds PO'. It was found that sodium fusidate tablets instead of fusidic acid syrup were dispensed. Upon questioning, the staff said that he did check the dose of 'Fusidic acid' from BNF. Given an utterly busy working day, he found the corresponding page number of 'fusidic acid' from the index, and then he browsed through the column titled 'fusidic acid' quickly. Based on the enlarged word 'SODIUM FUSIDATE' and the dose '750mg every 8 hours' at the bottom of the column, he associated that fusidic acid and sodium fusidate mean the same thing. Thus, he dispensed the sodium fusidate tablets while the physician neither specified a liquid preparation nor indicated the patient was on Ryle's tube feeding. He did not know the two drugs are not EXACTLY the same!

Case 2

A doctor prescribed 'Dilantin 250mg nocte PO'. Pharmacy dispensed Dilantin suspension (25mg/ml) 10ml nocte. Later on the ward enquired that the patient has been taking five 30mg capsules and one 100mg tablet in the history and asked if there is any difference with the dispensed Dilantin suspension. It was found that the pharmacy staff thought it was not advisable to take such a number of Dilantin capsules and on the other hand, the supply of Dilantin suspension seems reasonable. She was not aware of any dose difference between Dilantin oral solid and liquid preparations.



The cause

Knowledge gap and assumption are the obvious causes of these mistakes. In both cases, the pharmacy staff did not know that the oral solid and liquid preparations are not interchangeable. In case 1, BNF has actually stated that 'Fusidic acid is incompletely absorbed and doses recommended for suspension are proportionally higher than those for sodium fusidate tablets'. Unfortunately, the staff overlooked this note in that busy working day. In case 2, phenytoin suspension 90mg is approximately therapeutically equivalent to phenytoin sodium 100mg as stated in BNF. Although this difference in dose expression may not necessitate a dose adjustment in reality, the staff should appreciate that a difference does exist and auto-conversion between the two preparations should be avoided.

Implemented Safety Solutions

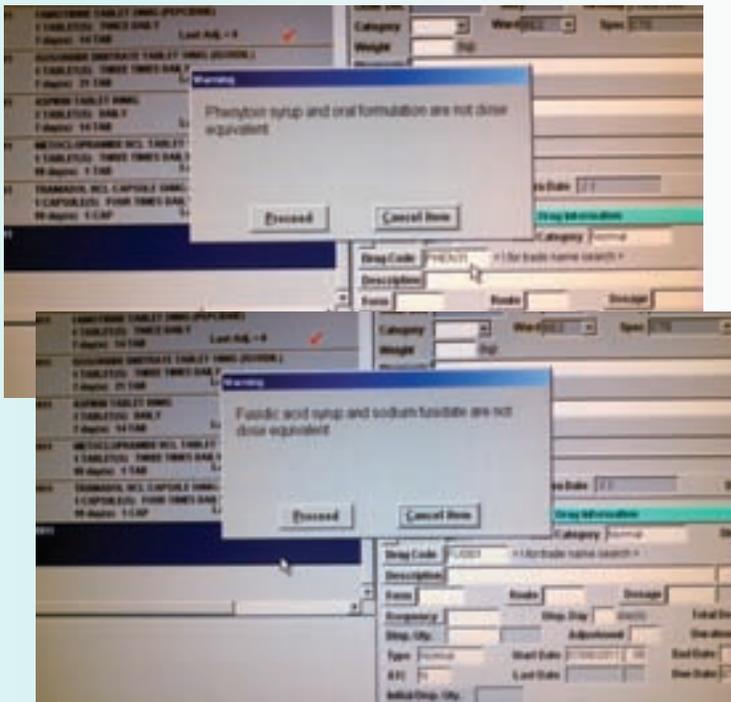
1. Address the knowledge gap.

All dispensing staff are briefed about the medication incidents and educated about the difference between the captioned oral solid and liquid preparations. In addition, a table comparing the two Fucidin medications is also placed in a prominent area for reference. They are reminded that in general the dosage conversion between oral solid preparation and liquid preparation is not necessarily on a mg-to-mg basis, and they should seek advice from seniors if in doubt.

Product Information of Fucidin Acid preparations

Item Code	FUSI02	FUSI01
Generic Name	Fusidic acid syrup 250mg/5ml	Sodium fusidate 250mg tab
Image		
Actions	Antibiotic Active against gram-positive bacteria, particularly staphylococci	
Usual Dosage	750mg TDS	500mg TDS
ADME	Bioavailability: 70%	Bioavailability: 91%
Properties	Incomplete oral absorption of fusidic acid benzoylester → higher dose than tablet	

1. Fucidin (Syrup) (Lan, Davao), 2017.
2. Fucidin and Dapsone Tablets, Monograph 18 (Journal of 2010).
3. British National Formulary 67 edition.



2. Utilize IT system to enhance detection.

All liquid preparations available in the local drug formulary are reviewed to see if there is any bioavailability difference with the oral solid preparations which may require special conversion. Any potential problems, which may lead to restrictions of its use in patients with enteral tube feeding (e.g. thick consistency in nature, interaction with enteral feeds), are also screened. Alerts of such selected medications are manually added in the in-patient data entry system.

What can be done FURTHER.....

Proactive systematic assessment for potential safety problems.

A checklist containing all basic concerns about a liquid preparation should be completed when a liquid preparation is added in the local drug formulary.

Proposed Checklist for Oral Liquid Preparations by MISS P.

- ❏ Storage condition (Temperature, Light)
- ❏ Shelf life after opening/ reconstitution
- ❏ Bioavailability and dosage difference with ❏ oral solid preparations (if available)
- ❏ Any special instruction on switching among different formulations
- ❏ Any potential problems if use in patients with enteral feeding tubes.

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