PHARMACY BULLETIN

IN THIS ISSUE:

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TOP 10 MEDICATIONS TO BRING WHEN TRAVELLING

- Mohd. Aizat bin Jamil, Pharmacist UF 52-

Have you ever feel to get away and travel somewhere, but then you remember on the last trip you went to, you were so sick that you swear you are not going to travel anywhere, anymore? Or your patients and relatives ask for your advice on travel or '*balik kampung*' medications?

Here's a **must have list of medications** for your travel essentials list of medications for minor ailments. Now you can have a wonderful, worry-free trip.

PARACETAMOL (PANADOL)

Paracetamol is **number 1** on your list for a reason. Not only that it can help with your fever, it can also relieve mild to moderate pain. It is also easily available.
Usual dose: 1g QID.

ORAL REHYDRATION SALT (ORS)

ORS works as electrolyte replacement if you are having acute diarrhoea and are dehydrated. It is usually packed into sachet and is to be mixed with 1 glass of water (250ml) for drinking when necessary.

DIPHENOXYLATE+ATROPINE (LOMOTIL)

It is an anti-diarrheal medication acting on smooth muscle of the intestinal tract, inhibiting excessive Gastrointestinal (GI) motility and propulsion. Precaution: May cause drowsiness.
Usual dose: 1 tab TDS.

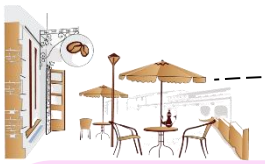
LORATADINE (CLARITYNE)

Loratadine is an anti-histamine to help relieve runny nose and itchiness. It is usually taken in the morning. Use in pregnancy woman is acceptable (Category B).
Usual dose: 10mg OD

CHLORPHENIRAMINE (PIRITON)

It is an antihistamine that can relieve runny nose and allergy. The difference from loratadine is that it may cause drowsiness. Hence, it is usually taken at night.
Usual dose: 4mg 4-6 hourly

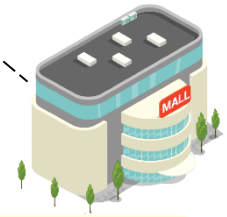
METOCLOPRAMIDE (MAXOLON)



It is an anti-emetic which can help with nausea, vomiting. It should be taken on and empty stomach or 30 minutes before meal.
Usual dose: 10 mg TDS.

PROMETHAZINE

Promethazine is an anti-emetic, antihistamines and anti-vertigo medication. It is usually given as a prophylaxis for motion sickness when travelling in a windy road.
Nausea vomitting: To be taken 12.5mg- 25mg when needed. (max 100mg/day)
Motion sickness: 25mg at night before travelling, maybe be repeated 6-8 hours



IBUPROFEN (BRUFEN/ADVIL)

It is a non-steroidal anti-inflammatory drug (NSAIDS). It is useful for mild to moderate pain and fever if Paracetamol is not an option for you. It can also be used for dysmenorrhea.
Usual dose: 400mg 4-6 hourly.

ACTIVATED CHARCOAL

Activated charcoal is to be used if you are having acute food poisoning. It acts by inhibiting the Gastrointestinal (GI) absorption of toxic substances or irritants.
Usual dose: 500mg- 1000mg given 3-4 times per day.

METHYL SALICYLATE (LMS)

Methyl salicylate is the active ingredient of your usual '*minyak panas*' for temporary relief of minor aches, pains of muscles and joints.
Usual dose: To be massage well to the affected area, 3-4 times daily

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GHOST TABLET

-Cassandra Eva Charles, Pharmacist UF 44-

ORALLY TAKEN TABLETS

Oral medication remains the most preferred, safest, acceptable and most economical method of drug delivery.

Immediate-release (IR) drugs are wholly available immediately for absorption following ingestion. To maintain therapeutic plasma levels, drugs with a short half- life need to be taken several times each day.

Taking drugs orally several times a day, however, may actually complicate medication regimens and increased risk of poor compliance.

Drug companies have developed novel methods of controlling oral solid dosage release formulations that can be taken less frequently, once or twice daily while maintaining steady therapeutic levels.

Controlled release, extended release, slow release, sustained release and modified release and their associated abbreviations (CR, XR, SR and MR) are some of the terms applied to medications that have been designed such that the active drug is released slowly and steadily in a predetermined manner over a predetermined period of time

WHAT IS GHOST TABLET?

Patients might be surprised after seeing what looks like **tablets** or capsules **in faeces**.

Some drugs have insoluble parts that are defecated intact and can be visible to the patient.

These types of medicines are called **“ghost tablets”** or **“ghost pills”.**

This topic is frequently discussed in internet forums or medical lay press articles due to the lack of information and education given to patients.

WHY DO YOU SEE A GHOST TABLET?

When **the shell** housing the active drug does **not disintegrate** or does **not get digested**, it is passed out in the stool intact as a ‘ghost tablet’.

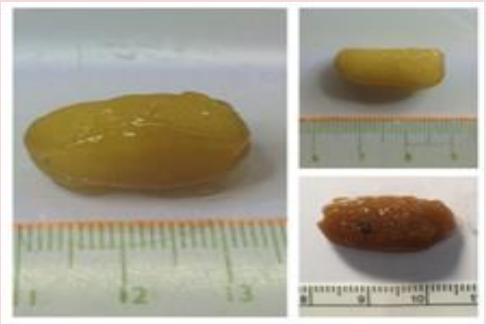

Figure 1: Macroscopic appearance of metformin XR remainders (ghost tablets) as soft amorphous masses in fecal samples mimicking parasitic elements.

DOES THIS MEAN THE PILL DIDN’T WORK?

NO!

The **ghost pill** phenomenon is a **NORMAL** and expected outcome related to drug-release mechanisms of some drugs.

It does not mean that your pill did not work. The active ingredient has been released.

It does **not affect efficacy** or indicate any absorption problem.

WHAT TYPES OF PILLS LEAVE GHOST TABLETS?

Ghost tablets can occur with certain **CR, XR, SR** and **MR** drug formulations.
These drugs are designed to either disintegrate slowly to release the medicine over a predetermined period, or remain intact

EXAMPLES OF DRUGS THAT LEAVE "GHOST TABLETS"

EXTENDED RELEASE (XR) METFORMIN

According to the product leaflet, the polymers in Diabetmin XR 500 will hydrate and swell upon contact with water or gastrointestinal fluid. Metformin is released slowly from the dosage form by a process of diffusion through the gel matrix that is essentially independent of pH. The product may be excreted as a swelled mass in the stool.

Ghost tablets appear in up to **54 %** of those taking XR metformin.

VENLAFAXINE EXTENDED-RELEASE TABLET

CARBAMAZEPINE (TEGRETOL) XR TABLET

PALIPERIDONE (INVEGA) ER TABLET

According to the product leaflet, the medication is contained within a nonabsorbable shell designed to release the drug at a controlled rate. The tablet shell, along with insoluble core components, is eliminated from the body; patients should not be concerned if they occasionally notice in their stool something that looks like a tablet.

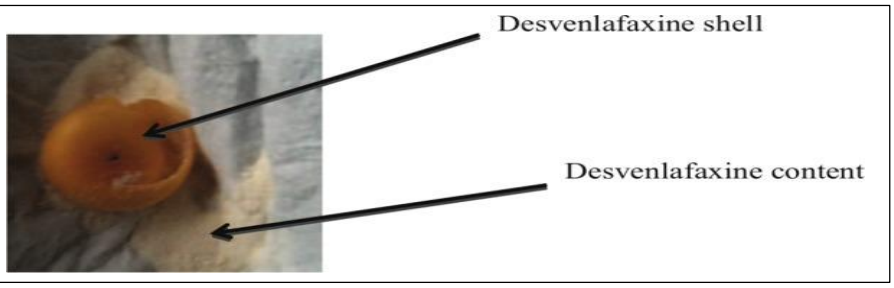

Figure 2: 'ghost pill' of Desvenlafaxine

ROLE OF HEALTHCARE PROFESSIONALS

Clinicians need to be **aware of the ghost pill phenomenon** as it may lead patients, carers and healthcare professionals alike to believe the medicine has not been absorbed.

Pharmacists should **inform patients** about this harmless side effect to avoid unnecessary anxiety and worry.

Make sure patients are aware that remnants of the medicine can appear in their stools and **provide reassurance that the active medicine will be released.** However, if a patient reports a lack of medicine efficacy, further investigations may be required.

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METHADONE:

RISK OF HYPOGLYCEMIA

-Hong Tshun Kuan, Pharmacist UF 44-

OVERVIEW

Opioids, used medically for pain relief have both **analgesic** and **central nervous system depressant** effects. The potential of opioids to cause euphoria can lead to its misuse and therefore results in **opioid use disorder (OUD)**. This is associated with severe morbidity, increased risk of blood-borne virus transmission (HIV, hepatitis B and C) and even death (1).

Methadone is a common treatment option for OUD. It is a **long-acting opioid agonist which binds to and occupies mu-opioid receptors** therefore reducing opioid craving and withdrawal symptoms for 24 hours or longer. Developing high opioid tolerance prevents the euphoric effect of subsequent illicit opioid use, therefore patients treated with methadone do not typically exhibit severe problematic behaviours associated with misuse of heroin or other opioids including fentanyl (1).

By definition, **hypoglycemia** fulfils either one of the following **three** conditions (2):

⇒ low plasma glucose level **(<3.9 mmol/L)**

⇒ presence of **autonomic symptoms** (trembling, palpitations, sweating, anxiety, hunger, nausea, tingling) or **neuroglycopenic symptoms** (difficulty concentrating, confusion, weakness/stroke like symptoms, drowsiness, vision changes, difficulty speaking, headache, seizures/coma)

⇒ **reversed by CHO intake**

BACKGROUND OF SAFETY ISSUE

In **November 2022,** National Pharmaceutical Regulatory Agency (NPRA) published a safety alert about the possible connection between methadone use and the risk of hypoglycemia.

The update was based on a methadone safety review by Health Canada, who worked with manufacturers to revise the Canadian Methadone product safety information to include risk of hypoglycemia (4). However, no patterns were identified with regards to risk factors, medical conditions, methadone formulation, duration of use or dose range that contribute to hypoglycaemic episodes following methadone use (4). Additionally, there are cases **where hypoglycemic events were reported in methadone overdose or rapid dose escalation** (5).

Findings from a published case report found that **splitting current methadone dose instead of reducing the dose or changing medication have improved hypoglycaemic episodes in patient with chronic pain syndrome and underlying renal comorbidities** (6). Moreover, Health Canada also found that **most cases of** hypoglycaemia is resolved after **discontinuation or dose reduction** of methadone (4).

The exact mechanism of underlying methadone-induced hypoglycemia remains unclear but there are few plausible explanations.

There is evidence for a **direct action of morphine on opioid receptors** on isolated rat pancreatic islets that stimulates glucose-induced insulin release (7). There is also evidence that intrathecal morphine in mice can cause a reduction in liver glycogen stores and hypoglycemia(8).

Two other animal studies also postulated methadone has known **serotonergic action** and serotonin can lower glucose levels in mice by increasing insulin levels (9, 10).

ADVERSE DRUG REACTION REPORT

To date, there are no local reports of hypoglycemia received so far (3). However, there have been **110** cases of hypoglycemia reported following the use of methadone globally, to date (11).

ADVICE FOR HEALTHCARE PROFESSIONALS

⇒ Be alert on the **risk of hypoglycemia** in patients on methadone therapy.

⇒ Conduct **regular monitoring of patient's blood glucose** during methadone dose escalation.

⇒ Counsel patients on **early warning signs and symptoms of hypoglycemia** after administration of methadone and ways to manage hypoglycemia

⇒ If hypoglycemia persists, consider **modifying the regimen** (splitting dose or reducing the dose of methadone) or change to an alternative medication.

⇒ **Report** all suspected adverse events associated with methadone-containing products to the NPRA.

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