The Pharmaceutical Benefits Scheme (PBS) in 2016 reported community pharmacies had dispensed in excess of ONE million prescriptions for oral anticancer medicines. As this number is expected to increase, the role of the community pharmacist in educating patients and providing the appropriate support will be invaluable in promoting and improving patient care.

Knowledge of oral anticancer medicines, doses, frequencies, indications and supportive therapies will assist community pharmacists reducing medication errors. Through increased knowledge and awareness about oral anticancer treatments, the community pharmacist will be better equipped to engage and assist cancer patients in the management of their treatment and associated queries.

Community pharmacists are uniquely placed to provide patients with education regarding oral anticancer medicines to encourage their safe and effective use, minimise medication errors and avoid preventable adverse effects.

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Please read:

- Caution with oral chemotherapy for cancer. By the Victorian Department of Health: Information for community health professionals, 2010
- Safe use of oral cytotoxic medicines. By Carrington C. Australian Prescriber Volume 36: Number 1, Feb 2013

Access to eviQ is free at eviQ.org.au

Working together to lessen the impact of cancer
General principles

Oral formulations of anticancer medicines have been used for decades including cyclophosphamide, melphalan and tamoxifen. However, recent years have seen a rapid expansion in oral anticancer treatments. There are numerous advantages to oral anticancer therapy, as well as disadvantages.

<table>
<thead>
<tr>
<th>Advantages</th>
<th>Disadvantages</th>
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</thead>
<tbody>
<tr>
<td>Ease of administration</td>
<td>Reduced supervision</td>
</tr>
<tr>
<td>Improved quality of life</td>
<td>Patient concordance</td>
</tr>
<tr>
<td>Patient preference</td>
<td>Unpredictable pharmacology</td>
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<tr>
<td>Prolonged drug exposure</td>
<td>Inappropriate patient selection</td>
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<tr>
<td>Cost benefits</td>
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</tbody>
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Anticancer medicines can lead to toxicity with even a small increase in dose or failure of therapy if they are under-dosed. Incorrect prescribing, dispensing errors and patient misinterpretation have led to serious toxicities and fatal outcomes.

Handling and related wastes

Many anticancer medicines are classified as hazardous substances. Adherence to safe handling and administration procedures is crucial to minimise occupational exposure which can be associated with adverse health effects.

All oral anticancer tablets, capsules and liquids should be handled in a manner which avoids:

- skin contact
- the liberation of powdered drug into the air
- chemical cross-contamination with other medicines.

When oral anticancer tablets, capsules or liquids need to be handled in the pharmacy, use:

- appropriate gloves (nitrile gloves or double gloves)
- a non-touch technique when transferring from their original container
- separate counting trays and disposable counting spatulas (clean equipment immediately after use).

Crushing or cutting of tablets and opening of capsules must not be carried out in the pharmacy, because of the unacceptable risk of exposure.

Dose administration aids

Anticancer medicines, classified as hazardous substances are generally inappropriate for Dose Administration Aids (DAA), except if non-adherence is considered an issue and other solutions cannot be employed.

Consider if the medicine poses any occupational health and safety risks and requires special handling; can the dose be packed in the DAA in a way which will protect pharmacy staff and consumers?

The Pharmaceutical Society of Australia recommends that if a decision to pack a *cytotoxic medicine into a DAA has been made, a unit dose system must be used unless there is strong evidence that the potential risks of poor adherence from not packing the cytotoxic medicine in a multi-dose system outweighs the risks of exposure to cytotoxic medicines.

*also applies to medicines classified as hazardous

Drug interactions

Drug-drug interactions in cancer patients receiving anticancer treatment are common, and many can cause considerable reactions or adverse effects.

Did you know

Drug interactions are estimated to account for approximately 4% of deaths among patients with cancer.

Common examples

- Imatinib increases paracetamol levels and chronic use may result in hepatotoxicity.
- St John’s Wort interferes with the metabolism of multiple anticancer medicines including, imatinib, etoposide and vinorelbine.
- Many anticancer medicines are also associated with prolongation of the QT interval, QT interactions have the potential for life-threatening consequences.
Fact sheet

Oral anticancer medicines

Review and supply of oral anticancer medicine prescriptions

Oral anticancer medicines have a high risk of adverse effects if used for the wrong indication, at the wrong dose, for the wrong duration; or may be less effective if doses are missed. Verification is a systematic process pharmacists can use to check therapy accuracy and help to avoid medication errors.

There are seven steps in the verification process for oral anticancer medicine prescriptions.

1. Prescription
   Does the prescription adhere to standards as determined by relevant state Poisons and Therapeutic Goods Regulations?

2. Protocol
   Many oral anticancer medicines are given as part of a treatment protocol. A well written prescription should contain the name of the specific protocol being used. This may be an eviQ Treatment Protocol or a local protocol.

3. Patient
   Patient specific details, including height and weight, are often required for a comprehensive and accurate verification of an oral anticancer medicine prescription.

Anticancer therapy is highly toxic and often has a narrow therapeutic index, it is therefore imperative that the dose is individualised to the patient.

4. Administration
   Does the patient understand how to take the medicine? Information on drug administration can be found within the eviQ Treatment Protocol, including:
   • whether the treatment is continuous or intermittently dosed (if intermittent, it details the number of days per cycle and how long between cycles)
   • timing of doses and requirements for dosing in relation to food
   • any supportive therapies which may be indicated (e.g. antiemetics).

It is the pharmacist’s role to ensure all administration instructions are clear and unambiguous, and the patient knows when to commence the medicine.

5. Calculations
   Calculations should always be checked even if done by the prescriber.

Calculations which may be required to verify the doses of oral anticancer medicines include:
   • body surface area (BSA) or weight (kg) based calculations using the treatment protocol
   • rounding of doses to tablet/capsule size
   • dose adjustments.

6. Test results
   It can be difficult to access a patient’s test results in the community pharmacy setting; however the patient may be able to share their results with you. If concerned discuss with the prescriber.

7. Sign off
   By verifying a prescription and signing-off the pharmacist acknowledges that a complete and comprehensive process has been undertaken to ensure that the medicine given to the patient is as safe as possible for them.

Additional aspects of the sign-off include dispensing the prescription, supplying the medicine and counselling the patient or carer.

Please read:

• Oral Anti-Cancer Therapy Prescriptions Module by VicTAG
• COSA guidelines for the Safe Prescribing, Dispensing and Administration of systemic cancer therapy 2017
Review and supply of oral anticancer medicine prescriptions

Dispensing and supply

- The labelling of oral anticancer medicines should clearly state the dose and the number of tablets to be taken.
- The intended period of therapy including start and stop dates for short term or intermittent treatment should be clearly stated on the dispensed label of an anticancer medicine.
- If the medicine is to be taken on days 1 to 4 inclusively then the label must specify the actual calendar dates.
- The label of weekly dosing for medicines such as methotrexate and vinorelbine should include the term ‘once a week’ and specify the day of the week the dose should be taken. An additional label should also be added: This dose of ‘drug x’ is taken WEEKLY or *ancillary label number 20.
- If the prescriber has not included these details on a prescription, firstly speak with the patient. They are often familiar with the day of the week that they take their medicine or the start and stop dates. You may also need to contact the prescriber.
- ‘As directed’ should never be used to label oral anticancer medicines regardless of the doctor’s instructions or of the patient’s knowledge of the dosing regimen. Contact the prescriber to provide clear instructions for labelling any oral anticancer medicines.

Doses should be rounded to the nearest tablet size. If not, the prescriber should be contacted to confirm a measureable dose. Oral anticancer tablets and capsules should not be broken, split or crushed as this can increase the risk of exposure and alter the bioavailability of the medicine.

If the patient is required to take TWO different strengths of tablets to make up the dose then the dose instructions must include the number of tablets to take of each strength and the total dose.

Steps must be taken to highlight the different strengths of the same drug to aid patient understanding.

Boxes must never be taped together with a label on only ONE box. Where more than ONE container of the same medicine is given then the following label (or similar) must be used.

Childproof lids are required if any oral anticancer medicine is repackaged from its original container into a bottle.

Example

**Vinorelbine 20 mg capsules**
Take FIVE capsules as a SINGLE dose (dose =100mg) ONCE a week on MONDAYs.

**Capecitabine 500 mg Tablet**
Take FOUR tablets (=2000 mg) TWICE a day for 14 days. Take at the same time as 150mg tablets to give a total dose of 2150 mg. Supply 112 tablets.

**Capecitabine 150 mg Tablet**
Take ONE tablet (=150 mg) TWICE a day for 14 days. Take at the same time as 500mg tablets to give a total dose of 2150 mg. Supply 28 tablets.
Education for community pharmacists

Cancer Medicines – the role that community pharmacists play in supporting their customers.

Learning activities addressing issues encountered in the community pharmacy setting:

- General principles in cancer treatment
- Oral anticancer medicines prescriptions and protocols
- Handling oral anticancer medicines and related wastes
- Adverse effects and supportive therapies
- Drug interactions
- Patient education

Community pharmacists are uniquely placed to provide patients with education regarding oral anticancer medicine to encourage their safe and effective use, minimise medication errors and avoid preventable adverse effects.

For more information
Email: eviqed@eviq.org.au
Web: www.education.eviq.org.au

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