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Breastfeeding

Evidence based guidelines for the use of medicines

Background

General practitioners may consider prescribing medicines for breastfeeding women during the postpartum period. Most medicines can be used safely during breastfeeding at the recommended dose, however there are exceptions that necessitate caution.

Objective

This article provides an evidence based review of medicines used for common situations and their compatibility with breastfeeding.

Discussion

Breastfeeding women typically use relatively few medicines, and generally these are compatible with breastfeeding. If other medicines are required, information on their safety during breastfeeding can be accessed from pharmacy departments at maternity hospitals or from online resources.

Keywords: breastfeeding; postpartum; therapeutics

In Australia, 50% of women breastfeed their babies for at least 6 months.¹ It is not uncommon for these women to seek medical care during the postpartum period for various common health problems. Women may encounter problems in the 3 months following birth (such as perineal pain, caesarean wound pain, urinary incontinence, constipation, haemorrhoids, exhaustion, coughs/colds/minor illnesses, backache and mastitis) or at a later stage while they continue to breastfeed (eg. nipple pain, perceived low milk supply, depression and contraception).^{2,3} General practitioners are often called on to consider prescribing medicines for this group of women, with BEACH data showing that between April 1998 and March 2005, GPs prescribed/advised/supplied medicines at 57% of postnatal depression visits.⁴

A Dutch study found 66% of all breastfeeding women used some medicines.⁵ In our previous work with Victorian GPs, we found that about 50% of health issues requiring medicines in breastfeeding women

were infections.⁶ Other conditions GPs reported prescribing medicines for included: depressive disorders (21%); pain (5%); contraception (4%); low milk supply (3%); and atopy (3%).

General practitioners also reported less frequent problems, such as gastritis/reflux, anaemia, epilepsy, anal fissure and breast engorgement.⁶ The Australian findings were similar to those of the earlier Dutch study.⁵

In our previous study, we found that although the GPs were supportive of breastfeeding, they lacked knowledge about the use of common medicines for breastfeeding women.^{7,8} While excellent guidelines exist for prescribing medicines in pregnancy, fewer resources have been easily available for breastfeeding women.^{6,9} General practitioners can access resources such as *Therapeutic Guidelines*, pharmacists at tertiary maternity hospitals, Academy of Breastfeeding Medicine clinical protocols (see *Resources*), and the *Australian Medicines Handbook*.¹⁰ LactMed, a free American based online database with information on drugs and lactation, is an excellent additional resource to the GP's armamentarium. It includes information on medicine levels in breast milk, levels in infant blood, potential effects in breastfeeding infants and on lactation, the American Academy of Paediatrics category indicating the level of compatibility of the drug with breastfeeding and alternate drugs to consider (see *Resources*).¹¹ A new Australian online resource, the Perinatal Psychotropic Medicine Information Service (PPMIS), provides information on psychotropic medicines in the perinatal period (see *Resources*).¹²

Evidence into medicines and breastfeeding

Evidence suggests that some health professionals do not understand that the United States Food and Drug Administration (FDA) pregnancy risk categories (Category A, B, C, D and X) do not apply to

breastfeeding women.⁸ There are no corresponding categories for breastfeeding.⁶ Evidence in this area is lacking because pharmaceutical companies do not conduct research on breastfeeding women. The FDA has revised lactation labelling regulations, and proposed drugs considered safe to be used when breastfeeding should be labelled ‘compatible with breastfeeding’.¹³ We have adopted this approach in this article when reporting breastfeeding recommendations for commonly used drugs.

Sources used for this review

We used evidence based sources to review medicines for various common situations and their compatibility with breastfeeding and prepared tables to assist GPs in the decision making process. The following tables provide evidence based information for various common health problems that GPs manage in the postpartum period:

- infections (*Table 1*)
- depressive disorders (*Table 2*)
- analgesics (*Table 3*)
- oral contraceptives (*Table 4*)
- breast milk supply (*Table 5*)
- miscellaneous conditions (*Table 6*), and
- complementary and alternative medicines (CAMs) (*Table 7*).

Sources included *Therapeutic Guidelines* and other guides to medicines and breastfeeding. *Therapeutic Guidelines* have been independently prepared by expert writing groups experienced in therapeutics, pharmacology and use of antibiotics and psychotropic drugs without input from pharmaceutical companies.^{14,15} The *Pregnancy and Breastfeeding: Medicines Guide* is prepared by the pharmacy department at the Royal Women’s Hospital (Victoria) as a guide for health professionals to select appropriate treatment for women during pregnancy and when breastfeeding (see *Resources*).¹⁶ The pharmacists have reviewed the scientific literature to make recommendations for the use of medicines during lactation. However, the limitation of these resources is that they need to be updated every few years.

Principles

Many medicines enter breast milk, but usually the amount received by the infant is less than 10% of the maternal dose.¹⁷ It is useful to remember that in pregnancy, the fetus receives 5–10 fold higher levels of medicines than the breastfed infant

Table 1. Common postpartum infections and recommended agents

Infection		Antibiotic guideline ¹⁴	Breastfeeding recommendation ^{16,17}
Mastitis	Systemic symptoms, early treatment with antibiotics Severe cellulitis, antibiotics should be given intravenously	<ul style="list-style-type: none"> • Di/flucloxacillin • Cephalexin • Cephalothin • Cephazolin 	Compatible Compatible Compatible Compatible
	Patients with immediate penicillin hypersensitivity	<ul style="list-style-type: none"> • Clindamycin • Lincomycin • Vancomycin 	Compatible Compatible Compatible
	Methicillin resistant <i>Staphylococcus aureus</i> isolated ²⁰	Vancomycin or cotrimoxazole	Compatible
Endometritis	Mild to moderate infection	• Amoxicillin and clavulante + azithromycin	Compatible (single dose of azithromycin considered safe)
	Severe infection	Refer to maternity provider	
Tonsillitis	Preferred option	Phenoxy-methylpenicillin	Compatible
	In poorly compliant patients or those intolerant of oral therapy	Benzathine penicillin	Compatible
	Patients hypersensitive to penicillin	Roxithromycin	Compatible
Urinary tract infection (UTI)	Acute uncomplicated lower UTI in nonpregnant women	<ul style="list-style-type: none"> • Trimethoprim • Nitrofurantoin • Cephalexin • Amoxicillin + clavulanate 	Compatible Compatible Compatible Compatible
	If proven resistance to all the above drugs	Norfloxacin	Risk of untoward effects to breastfed infant possible; minimal non-threatening adverse effects
Nipple/breast thrush	Topical treatments (apply to nipple after breastfeeding)	<ul style="list-style-type: none"> • Miconazole oral gel • Gentian violet 0.5% paint 	Compatible Risk of untoward effects to breastfed infant possible; minimal nonthreatening adverse effects
	Oral	Fluconazole Nystatin	Compatible Compatible

Table 2. Commonly used antidepressants and anxiolytics in the postpartum period

Medicine	Breastfeeding recommendation ^{16,17}
Preferred antidepressant	
Paroxetine	Compatible
Sertraline	Compatible
Other antidepressant	
Escitalopram	Compatible
Fluoxetine	Compatible
Preferred anxiolytic	
Oxazepam	Risk of untoward effects to breastfed infant possible; minimal nonthreatening adverse effects
Temazepam	Risk of untoward effects to breastfed infant possible; minimal nonthreatening adverse effects
Other anxiolytics such as diazepam, clonazepam, buspirone and alprazolam	Not the first preference due to long acting action. May accumulate in the infant during chronic use Risk of untoward effects to breastfed infant possible; minimal nonthreatening adverse effects
Complementary medicine	
St John's wort (<i>Hypericum perforatum</i>)	Limited information. Reported side effects in breastfed infants include colic, drowsiness and lethargy

Table 3. Commonly used analgesics in the postpartum period

Analgesic	Breastfeeding recommendation ^{16,17}
Paracetamol	Analgesic of choice in breastfeeding mothers. May be used at the recommended dose
Ibuprofen	Compatible
Other nonsteroidal anti-inflammatory drugs (ie. diclofenac)	Compatible
Oxycodone	Risk of untoward effects to breastfed infant is possible; minimal nonthreatening adverse effects
Codeine*	Compatible. May be used at recommended doses <240 mg/day. Use with caution in rapid metabolisers
Tramadol	Compatible
* Monitor infant for sedation, apnoea and poor feeding	

Table 4. Contraception methods in the postpartum period*

First choice	<ul style="list-style-type: none"> • Lactational amenorrhoea method (LAM) • 'Natural' family planning • Barriers • Intrauterine device (IUD)
Second choice	Progesterone only methods
Third choice	Oestrogen containing contraceptives
* Adapted from Academy of Breastfeeding Medicine clinical protocol #13 ²² Note: Other factors are important in contraception choice and are not reflected in this table	

receives.¹⁸ When considering prescribing for a breastfeeding woman it is critical to evaluate the infant dose and assess the risk, proceeding when benefits outweigh the risks. General practitioners need to be cautious when prescribing to mothers with premature or low birth weight infants, particularly when multiple medicines are required.

Key points to remember

- Most drugs are quite safe in breastfeeding. However, avoid using medicines and CAMs that are not necessary
- Medicines that are safe to use in infants are generally safe to use in breastfeeding women
- Choose medicines for which there is evidence based data rather than those recently introduced
- When possible, choose drugs with short half-lives, high protein binding, low oral bioavailability and high molecular weight
- The age and weight of the infant needs to be considered
- When possible use topical or local treatments such as eye drops or inhalers
- Medicines used in the first 3–4 days postpartum generally produce subclinical levels in the infant due to the limited volume of milk¹⁷
- Discontinuing breastfeeding for hours/days may be required, particularly with radioactive compounds¹⁷
- Medicines to avoid include antineoplastic agents, ergotamine, methotrexate and radiopharmaceuticals.¹⁹

Postpartum antibiotics

When using the antibiotics outlined in *Table 1*, monitor the infant for changes to gastrointestinal flora (such as diarrhoea, vomiting, thrush) and allergic reaction.¹⁶ When mastitis is slow to resolve, the clinician should consider the possibility of methicillin resistant *Staphylococcus aureus* and order breast milk culture.²⁰

Antidepressants and anxiolytics

The choice of antidepressant should be based on the clinical status of the patient and should take into account previous experience with antidepressants (*Table 2*). Selective serotonin reuptake inhibitors (SSRIs) are generally the preferred choice for breastfeeding women.

Medicines with long half-lives, such as fluoxetine, are less favoured. The majority of antidepressants are excreted in only small amounts into breast milk therefore the amount ingested by the infant is likely to be clinically insignificant. However, there may be an increased risk for adverse effects for newborn and preterm infants because of their immature metabolism and excretion process.¹⁶ Where

there is risk of adverse effects, the medicine should only be given if the potential benefit justifies the potential risk to the infant.¹⁷ The preferred anxiolytic drugs are those with short half-lives. Dependence is greater at higher doses and longer duration of treatment.

The *Australian Medicines Handbook* recommends using antidepressants and anxiolytics with caution and considering each

case individually. Avoid long term use, large doses or frequent dosing and observe for sedation and poor feeding in infants.¹⁰

Analgesics

Table 3 presents commonly used analgesics. Of the nonsteroidal anti-inflammatory drugs (NSAIDs), ibuprofen is preferred because it has poor transfer into milk.²¹ Long half-life NSAIDs such as naproxen can accumulate in the infant with prolonged use.²¹

Contraceptives

Table 4 presents advice from the Academy of Breastfeeding Medicine on choosing contraceptives in order to minimise the physiologic impact on breastfeeding.²² Clinically, other factors are also important and are not reflected in this table.

Progestogen only contraceptives are safe and the preferred hormonal contraceptive as they do not inhibit lactation. However, they should not be initiated before 6 weeks postpartum.²¹

Table 5. Breast milk supply

Medicine	Breastfeeding recommendation ¹⁶
Increase breast milk supply	
Domperidone	Compatible; preferred
Metoclopramide	Compatible
Fenugreek (<i>Trigonella foenumgraecum</i>)	Use with caution at recommended doses. Used traditionally to stimulate lactation
Milk thistle/St Mary's thistle (<i>Silybum marianum</i>)	Traditionally used to stimulate breast milk production, there is little evidence to support its safety or efficacy
Decrease breast milk supply	
Sage (<i>Salvia officinalis</i>)	Should not be used as an essential oil; leaves in small amounts are safe ²⁸

Table 6. Miscellaneous conditions

Condition	Medicine	Breastfeeding recommendation ¹⁷
Hay fever	Beclomethasone	Compatible
Asthma	• Beta 2 adrenergic agonists (salbutamol, metaproterenol and terbutaline)	Compatible
	• Corticosteroids (budesonide)	Compatible
	• Anticholinergic drugs (inhaled ipratropium bromide)	Compatible
	• Theophylline	Risk of untoward effects to breastfed infant possible; minimal nonthreatening adverse effects
Allergies	• H1 antagonists • Corticosteroids • Sedating and less sedating antihistamines	Limited research on sedating antihistamines – major concern is sedation of mother. Less sedating antihistamines considered safe to use during breastfeeding ¹⁰
Congestion	Pseudoephedrine*	Not recommended as it has the potential to suppress milk production. ¹⁶ Risk of untoward effects to breastfed infant possible; minimal nonthreatening adverse effects
Migraine	Sumatriptan	Risk of untoward effects to breastfed infant possible; minimal nonthreatening adverse effects
Need for anticoagulation	Warfarin	Compatible
Hypercholesterolaemia	Atorvastatin	Risk of untoward effects to breastfed infant possible; minimal nonthreatening adverse effects
Diabetes	Metformin	Compatible
Diagnostic agents	• Radioactive compounds • Intravenous iodinated contrasts • Gadolinium contrast agents	Women may be required to wait for up to five half-lives before breastfeeding; after five half-lives 98% of drug is eliminated. ¹⁷ There is limited information about iodinated and gadolinium contrasts during breastfeeding – both are poorly excreted into breast milk ¹⁶

* Monitor infant (especially younger infant) for any potential adverse effects such as restlessness, irritability or sleep disturbance

After 6 months postpartum the combined oral contraceptive is unlikely to effect milk supply and oestrogen transfer to the child is minimal.²³

Galactogogues

Medicines should not be used as a first approach to increase low breast milk supply. Breastfeeding women taking metoclopramide may experience symptoms such as depression and drowsiness, therefore domperidone is the preferred galactogogue (Table 5) as it does not cross the blood-brain barrier and has minimal adverse effects.²⁴

Miscellaneous conditions

Table 6 includes other common conditions and frequently prescribed medicines and their

compatibility with breastfeeding. The use of topical agents, inhalers and eye drops are generally considered safe and compatible with breastfeeding. Over-the-counter medicines (ie. cough medicines) are generally regarded compatible with breastfeeding, but care should be taken with pseudoephedrine which may reduce milk supply.¹⁶ To reduce side effects it is recommended to avoid combination products, extra strength products or long acting products.²⁵

Complementary and alternative medicines

About 40% of Australians use some type of CAM daily.²⁶ Use of CAMs in lactating women is also common. Complementary and alternative

medicines are often perceived as natural and therefore safer than pharmaceutical medicines. Traditionally, some herbal preparations have been used to treat viral infections and depression and to increase breast milk production.²⁷ However, there is little published data to support the effectiveness or safety of most CAMs to mother and child.²⁷ Table 7 presents CAMs listed by common name (and botanical name) and general comments on their use during breastfeeding.

The following commonly used CAMs are not recommended for use by breastfeeding women due to lack of evidence¹⁶:

- Devil's claw (*Harpagophytum procumbens*)
- Dong quai (*Angelica sinensis*)
- Feverfew (*Tanacetum parthenium*)
- Ginkgo (*Ginkgo biloba*)
- Goldenseal (*Hydrastis canadensis*)
- Hawthorn (*Crataegus oxycantha*)
- Horse chestnut (*Aesculus hippocastanum*)
- Marigold (*Calendula officinalis*).

Conclusion

While most medicines are safe for use by breastfeeding women, the decision to prescribe medicine is not always straightforward. General practitioners need to manage the risks by balancing the need to treat the mother for a medical condition and concurrently support breastfeeding of the infant.

If the GP has decided to prescribe a medicine to a breastfeeding mother, the next step is to provide adequate information to the woman and her family. We expect that if GPs explain the amount of drug transferred to the breastfed infant and any potential side effects to that infant, maternal compliance with prescribed medicines will be enhanced.

Summary of important points

- Most medicines are safe for use by breastfeeding women. If a medicine is safe to use in infants, it will generally be safe to use in breastfeeding women.
- Only a small number of drugs are contraindicated during breastfeeding.
- Evaluate the risks and benefits of each medicine for the mother and the infant.
- Choose drugs with short half-lives, high protein binding, low oral bioavailability or high molecular weight.

Table 7. Commonly used CAMs and breastfeeding recommendations

Complementary medicine	Breastfeeding recommendation ¹⁶
Aloe (<i>Aloe vera</i>)	Use with caution. Topical use is unlikely to increase the risk of adverse effects in breastfed infants. Reports of diarrhoea in infants whose mothers were taking aloe vera extract orally suggesting anthroquinone components cross into the breast milk
Black cohosh (<i>Cimicifuga racemosa</i>)	Not recommended. May have selective oestrogen receptor modulator activity (could lower breast milk production)
Cascara sagrada (<i>Rhamnus purshiana</i>)	Not recommended. May cause diarrhoea in breastfed infants
Chaste tree (<i>Vitex agnus</i>)	Compatible ²⁹
Chamomile, German (<i>Matricaria recutita</i>)	Compatible
Cranberry (<i>Vaccinium macrocarpon</i>)	Compatible
Echinacea (<i>Echinacea angustifolia</i> , <i>Echinacea purpurea</i>)	Use with caution. Limited information, consider risks and benefits of treatment
Evening primrose oil (<i>Oenothera biennis</i>)	Use with caution. Limited information, consider risks and benefits of treatment. Active constituents are normally present in breast milk
Fennel (<i>Foeniculum vulgare</i>)	Not recommended. May have oestrogenic activity (could lower breast milk production)
Ginseng oriental (<i>Panax ginseng</i>) or North American ginseng (<i>Panax quinquefolium</i>)	Compatible
Glucosamine	Compatible
Liquorice (<i>Glycyrrhiza glabra</i>)	Consumption in large or medicinal amounts by breastfeeding mothers is not recommended due to lack of information
Lysine	Compatible
Raspberry leaf (<i>Rubus idaeus</i>)	Generally regarded as safe to use in moderate amounts while breastfeeding

Resources

- Academy of Breastfeeding Medicine: www.bfmed.org
- LactMed: <http://toxnet.nlm.nih.gov/cgi-bin/sis/htmlgen?LACT>
- Perinatal Psychotropic Medicine Information Service (PPMIS): www.ppmis.org.au
- The Royal Women's Hospital Pharmacy Department. Pregnancy and breastfeeding: medicines guide: www.rch.org.au/chas/pubs/index.cfm?doc_id=1003.

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