Herbal medicine

Introduction

Herbal medicine (phytotherapy) is the therapeutic use of plants and plant substances. Plants contain numerous chemicals which, when administered correctly, work synergistically to facilitate homeostasis. Although still not accepted by the medical professions, there is a great deal of research ongoing by pharmaceutical companies keen to harness the therapeutic properties of individual constituents so that they can be isolated and produced synthetically as drugs. Commonly used drugs which have been derived from plants include aspirin (from willow bark and meadow sweet), digoxin (from foxglove), cannabis (from opium) and quinine (from the bark of the cinchona tree), used for malaria. Plants have been used as medicines for centuries all around the world, particularly for childbirth problems.

Indications

Women frequently use herbal remedies, including herbal teas, to treat physiological disorders such as nausea and vomiting, constipation and other gastrointestinal discomforts in pregnancy. Use in pregnancy is often unrelated to previous use (Nyeko, Tumwesigye and Halage 2016), with older, better educated primigravidae being the most likely to use herbal remedies (Forster *et al.* 2006). Antenatal use is also common in developing countries, especially in rural areas with little access to conventional healthcare (Yemele *et al.* 2015). Women may also attempt to treat what they perceive as "minor" complaints with herbal medicines, including the rather worrying use of cranberry for urinary tract infection or St John's wort for clinical depression (Frawley *et al.* 2015; Izzo *et al.* 2016).

Expectant mothers' use of herbal remedies increases as they approach term, with many using herbal medicines specifically to prepare for and initiate labour (see also Chapter 7). Self-administration tends to decline during the early postnatal period, although some women take substances such as fennel or fenugreek to stimulate milk production. Traditional Chinese medicine is of particular concern in the UK because it can be difficult to elicit precisely what remedies have been prescribed; a survey of 54 Chinese medicine shops in London (Teng, Shaw and Barnes 2015) indicated potentially misleading information and unsubstantiated advertising claims that could lead to inappropriate consumer choices. Of more concern is the sometimes injudicious use of herbal teas to calm babies, especially, but not

exclusively, in developing countries (Abdulrazzaq, Al Kendi and Nagelkerke 2009; Savino *et al.* 2005; Sim *et al.* 2013).

Contraindications and precautions

The most important factor which conventional healthcare professionals need to take into account is that *all* herbal remedies, including herbal teas and essential oils, act pharmacologically, their metabolism being the same as for other medication, whether prescribed or recreational. The risk of adverse effects is probably greater than with any other complementary or alternative therapy (Langhammer and Nilsen 2014). Women perceive herbal remedies as being safer than drugs and do not consider any potential risk to fetal development when taking natural remedies, although ironically their approach to prescribed medication is more cautious (Petersen *et al.* 2015).

One of the major problems of inappropriate use is the potential for overdose, side effects and interactions with other herbs or with prescribed or recreational drugs. As with drug medication, it is imperative that herbal remedies are taken for the correct purpose, in the correct dosage and frequency. Many side effects occur because of the public's widespread misconception that plant remedies are safe because they are natural.

Concern has been expressed by numerous authorities about the use of herbal medicines in the preconceptional period and during pregnancy, childbirth and lactation (Boltman-Binkowski 2016; Budzynska *et al.* 2013; Johnson *et al.* 2009; Sim *et al.* 2013; Teoh *et al.* 2013). In pregnancy, the main issues centre on the impact of harmful chemicals on the mother and fetus and on the progress of pregnancy. Some plants are genuinely known to cause side effects, but others will only cause problems if taken to excess, and the difficulty in differentiating these two aspects further confuses the picture. The evidence for safety in pregnancy can be scarce simply because the individual herb has not been studied, or because there is no evidence of risks such as miscarriage or fetal anomalies in relation to the remedy. However, this does not mean that phytomedicine is safe in pregnancy – an absence of evidence of risk is not the same as proof of safety (Tiran 2012).

Research undertaken to elicit therapeutic effects in order that active constituents can be isolated and extracted for the development of drug manufacture can also be applied. For example, if a study finds that a herb has a hypertensive effect, it is obvious that caution should be taken in pregnancy even if there is no evidence of direct reproductive toxicity. In addition, there is a need to apply knowledge of the mechanism of action

of the relevant herb to the physiology of pregnancy; for example, juniper berry may decrease blood sugar (Orhan *et al.* 2011), cause urinary tract irritation and even epileptiform fits if taken in excess and may significantly interfere with drug metabolism (Tam *et al.* 2014).

Medical practitioners rightly take a cautious approach to the use of herbal remedies in pregnancy, although this is mainly through lack of any in-depth knowledge. The general public takes the opposite approach, believing that herbal remedies must be safe (or safer than drugs) because they are natural. Conflicting information and evidence on individual herbal remedies abounds, even in relation to those which are very popular such as ginger, echinacea, chamomile and St John's wort (Cuzzolin *et al.* 2010). Although the proportion of harmful chemicals tends to be less than in commercially prepared herbal remedies, excessive consumption of herbal teas can also lead to complications such as hepatotoxicity, as reported in a (non-pregnant) case related to rooibos (red bush) tea (Reddy *et al.* 2016), or airborne allergic reactions to chamomile tea (Anzai, Vázquez Herrera and Tosti 2015; Benito *et al.* 2014).

It is safest to advise women that herbal medicines should be avoided completely in pregnancy unless they have been prescribed by a qualified practitioner. This commonsense approach extends to the preconception period as many herbal remedies may interfere with fertility or early embryonic organogenesis. This applies across most cultures and in almost every country in the world. Women should avoid any plant remedies which are not essential during the first three months of the pregnancy, since many are known, even anecdotally, to trigger miscarriage; this rule is even more essential if there is a history of difficulty in conceiving or recurrent miscarriages. Certain remedies are, however, very commonly used in later pregnancy, not least those which are thought to prepare the woman's body for labour.

Numerous plant remedies have strong anticoagulant effects and should be avoided by anyone, pregnant or otherwise, with haemorrhagic or coagulation disorders, or who is taking warfarin, aspirin or other drugs or herbs with anticoagulant effects (McEwen 2015). There are numerous published papers expressing concern about the effects of herbs on blood clotting, sufficient to prompt some anaesthetists to advise discontinuation of all herbal remedies at least two weeks prior to elective surgery (Leite, Martins and Castilho 2016). This practice should extend to women due to have an elective Caesarean section, to reduce the risk of haemorrhage during or after surgery.

From a maternity professional's point of view it is paramount that women are asked about their use of herbal remedies before and during pregnancy, in preparation for the birth and when breastfeeding. Some herbal medicines can be used effectively to treat specific conditions during the childbearing year, but it is far more common for maternity professionals to be faced with untoward adverse effects of inappropriate use, often without their knowledge.

There are several hundred herbal remedies used by qualified medical herbalists. Table 2.7 highlights some of the common herbs considered unsafe, in therapeutic doses, to use during the childbearing period as they may cause birth defects and are systemically toxic or utero-tonic (NB this list is not exhaustive). The key points are that herbal medicines act pharmacologically and can interact with prescribed medications, with each individual remedy having its own indications, contraindications and precautions in the same way as pharmaceuticals. Women should be advised to be extremely cautious in using herbal remedies, including excessive consumption of herbal teas or individual culinary herbs, during the preconception, antenatal, labour and postnatal periods.

Table 2.7 Herbal medicines considered unsafe to use before and during pregnancy, labour and breastfeeding

Plant	Reason	Reference
Aloe vera (oral)	May cause birth defects, miscarriage and have strong purgative effect on bowel May cross to breast milk	Ulbricht *et al.* 2007
Basil	May cause miscarriage, preterm labour May affect blood glucose; avoid with diabetic medication Small amounts suitable for culinary use	Mohammed *et al.* 2016
Black cohosh	May cause miscarriage, preterm labour Avoid in hepatic conditions, or with antidepressants or sedatives Possibly acceptable in labour (see Chapter 8)	Blitz, Smith-Levitin and Rochelson 2016
Blue cohosh	May cause miscarriage, preterm labour; developmental abnormalities in fetus Major vascular problems in neonate NOT to be used for natural induction of labour Avoid completely in pregnancy and labour (see Chapter 8)	Dugoua *et al.* 2008

Clary sage	Strong uterine stimulant, may cause preterm labour, hypertonic uterine action in labour, postpartum haemorrhage Avoid with oxytocics, antidepressants, alcohol (see Chapter 8)	Anecdotal evidence – personal experience and communications with midwives (see Tiran 2016a)
Comfrey	May cause miscarriage, preterm labour Hepatotoxic	Stickel and Seitz 2000
Dong quai (angelica)	May cause miscarriage, preterm labour, diarrhoea, sensitivity to sunlight Avoid with bleeding, coagulation disorders, anticoagulants	Chuang *et al.* 2006
Fennel	May cause miscarriage, preterm labour, dermal irritation May inhibit strong antibiotics	Trabace *et al.* 2015
Fenugreek	Large amounts may cause miscarriage, preterm labour Consumption immediately prior to delivery may cause baby to have unusual body odour similar to that with maple syrup urine disease Avoid with anti-diabetic medication, bleeding, coagulation disorders, anticoagulants	Ouzir, El Bairi and Amzazi 2016
Feverfew	May cause miscarriage, preterm labour May cause nausea, diarrhoea, constipation, headache, abdominal pain, bloating Avoid with bleeding, coagulation disorders, anticoagulants	Yao, Ritchie and Brown-Woodman 2006
Ginger	Use in small amounts for no longer than three weeks Anticoagulant effects – avoid with bleeding, coagulation disorders, anticoagulants	McEwen 2015 See Chapter 4
Ginseng, Asian	May cause fetal abnormalities Avoid with bleeding, coagulation disorder, anticoagulants, anti-diabetic medication, immunosuppressants, alcohol, caffeine	Seely *et al.* 2008
Juniper berry	Toxic to kidneys, may cause difficulties with conception, miscarriage Avoid with anticoagulants, renal complications	Butani *et al.* 2003
Motherwort	May cause miscarriage, preterm labour Avoid with antihistamines, drugs with sedative action	Ernst 2002
Mugwort	May cause miscarriage, preterm labour; may contain lead traces NB mugwort sticks for moxibustion are safe as not used orally; see Chapter 6	Aziz *et al.* 2016

Plant	Reason	Reference
Nutmeg	May cause miscarriage, preterm labour, thrombosis, hallucinations, changes in consciousness Avoid with pethidine or similar-acting drugs	Ernst 2002
Parsley	May cause miscarriage, preterm labour, birth defects Avoid with anticoagulants, aspirin, anti-diuretics Culinary use acceptable in small amounts	Ciganda and Laborde 2003
Passiflora (Also known as passion flower)	May cause miscarriage, preterm labour Avoid with sedatives	Boeira *et al.* 2010
Pennyroyal	Toxic to liver, kidneys May cause dizziness, bloody vomiting, delirium, fits, raised blood pressure, blood clotting disorders May cause miscarriage or preterm labour	Jalili *et al.* 2013
Sage	May cause miscarriage, preterm labour, postpartum haemorrhage May affect milk supply postnatally Avoid with anticonvulsants, anti-diabetic medication	Ernst 2002
Senna	Long-term frequent use may cause laxative dependence, liver toxicity Purgative effects may cause miscarriage, preterm labour, abdominal pain, cramps, nausea, diarrhoea Avoid with other laxatives, anticoagulants	Vanderperren *et al.* 2005
Squaw vine (also known as partridge-berry)	May cause miscarriage, preterm labour; use only under supervision of medical herbalist	Chevalier 2016
St John's wort	Mechanism of action similar to antidepressants and may cause same side effects Not a replacement for antidepressants	Moretti *et al.* 2009
Thuja (also known as arbor vitae)	May cause miscarriage, preterm labour Can cause epileptiform fits; avoid with anticonvulsants, antibiotics, antidepressants	Naser *et al.* 2005

Evidence base

There is a phenomenal amount of good quality research evidence to support the benefits and risks of herbal medicine. Many studies have been undertaken by pharmaceutical companies wanting to isolate active ingredients in order to develop and patent drugs. Whilst this gives us some relevant information about the mechanism of action of specific herbal remedies, it is the

isolation of active constituents and the production of a synthetic form to be patented which is likely to lead to the appearance of side effects in patients taking the drugs. However, there is no clear evidence as to the safety of specific herbal medicines in pregnancy since it is impossible to conduct appropriately designed research studies on pregnant humans. Much of that available focuses on the risks to embryonic/fetal development and is usually performed on animals or in the laboratory. Other evidence is anecdotal and arises from reports of adverse effects, often from poisoning through inadvertent misuse.

Homeopathy

Introduction

Homeopathy is a gentle system of healing developed in the 18th century by Dr Samuel Hahnemann who became disillusioned with the medical practices of the day, for example blood-letting, purging or using toxic substances, which often caused severe side effects. Hahnemann discovered that, rather than treating people with opposites (such as treating constipation with laxatives), the principle of "treating like with like" was gentler and more effective. He challenged the popular belief that quinine from cinchona bark cured malaria due to its diuretic properties: after self-administering quinine he discovered that it *produced* malaria-like symptoms, which led him to the theory that "like cures like". He later experimented with ever-smaller doses and realised that an infinitesimal dose worked even more effectively, especially when it was shaken vigorously – a process called succussion. Essentially, he discovered that when the person's individual symptom picture is matched to a remedy (this is termed a proving), that same remedy, in extremely diluted form, will actually treat the same symptoms. Examples include a remedy derived from coffee (coffea) that may treat insomnia, or one from arsenic (arsenicum) that may ease profuse vomiting. The remedy resonates with the body's vital force (internal harmonising capacity) to raise its energetic vibration, facilitating healing. This concept of the vital force is similar in principle to that of qi, as harnessed in traditional Chinese medicine.

Sceptics argue that because homeopathic remedies are so dilute, their action is purely a placebo effect. However, homeopathy does not work pharmacologically (i.e. chemically) but through a process of quantum physics in which the vibratory (dynamic) structure of a substance can be altered by violent shaking (succussion). For most physiological conditions

in pregnancy and postnatally, a single tablet, taken three to four times daily for no more than four days, should be sufficient to resolve or lessen the symptoms. Taking an inappropriate remedy for longer than this can cause a "reverse proving", in which symptoms intended to be treated by the remedy develop in addition to existing symptoms. For labour, a more acute phase, one tablet of 200C may be effective or, for more prolonged symptoms, one 30C tablet every one to two hours. It is the *frequency* of administration which affects the dose, *not* the number of tablets taken at each administration. If the correct remedy has been selected, the mother may initially feel worse (an anticipated healing aggravation) but her condition should then improve within a few days.

Indications

The essential method of diagnosis employed in homeopathy aims to determine ways to treat the whole person. Every aspect of the individual's symptom picture is vital to choosing the most appropriate remedy. Different women with the same condition – for example, nausea and vomiting in pregnancy – may be prescribed different remedies because their overall symptom picture may differ. Conversely, the same remedy may be used to treat several different conditions because the underlying characteristics of the remedy match the symptom pictures. Women who are familiar with the principles of homeopathic remedy selection will often choose to self-administer remedies for the various physiological conditions of pregnancy and the postnatal period, including nausea, constipation, oedema and lactation issues. In labour, homeopathy can be useful for pain relief and to stimulate contractions, to help women overcome anxiety, fear and the various emotional changes occurring as labour progresses; it can also be effective for critical problems such as retained placenta. However, given the acute nature and possible dangers of a mismanaged third stage of labour, this would need to be prescribed by an experienced homeopath and should not be attempted by novices, particularly when midwives have access to other, proven, pharmacological and surgical treatments. Whilst the use of homeopathic remedies can be helpful, labour is a dynamic, constantly changing event and it can take some skill to identify the most appropriate remedy for each woman.

Contraindications and precautions

Homeopathic medicines are chemically very fragile, and although they will not interact with drugs, some medicines, such as antacids and certain strong antibiotics, can inactivate the remedies. Remedies must be stored carefully to avoid being inactivated by other chemicals or the environment, including exposure to bright light, radiation such as microwaves, televisions and mobile telephone energies, mint and other strong flavours and aromas (including aromatherapy essential oils), coffee, eucalyptus and embrocations for muscle pain such as Deep Heat™.

A healing reaction is a very common effect of treatment when the correct remedy has been selected. This is not the same as an adverse (side) effect of a pharmacological therapy such as herbal medicine or aromatherapy. In homeopathic medicine, the presentation of symptoms following administration of a remedy is more commonly known as a homeopathic *aggravation* and needs to be distinguished from adverse effects arising from inappropriate administration, such as taking the wrong remedy, or taking the right remedy too frequently or for too long. For example, a reverse proving can occur if a woman takes arnica tablets excessively frequently after delivery, causing her to develop severe systemic bruising.

Parents familiar with homeopathy often use remedies to treat their children, believing that it is gentler than pharmaceutical drugs. However, in the USA, over 400 reports of adverse reactions of infants given homeopathic teething granules or gels have been received by the Federal Drug Administration (FDA) since 2011 (Abbassi 2017). The reports included infants suffering convulsions, dyspnoea, drowsiness, coma and gastrointestinal complaints, and ten deaths. The FDA has advised parents not to use the products, several companies have voluntarily withdrawn stock from sale and one company issued a recall on a homeopathic teething product found to contain inconsistent amounts of belladonna; analysis by FDA laboratories found excessive levels of belladonna in another product. The FDA investigation continues at the time of going to press but this is likely to be another setback for the acceptance of homeopathy. However, as with any therapy, there is a correct method of administration and a correct dose to which people should adhere. It is probable that many of these children either suffered severe reverse provings or that some had underlying medical conditions which would make the use of the specific remedies inappropriate at that time. Unfortunately, as with herbal remedy adverse effects, problems with homeopathy most likely occur with inappropriate use

due to lack of knowledge and understanding. Box 2.1 outlines the criteria for effective and appropriate use of homeopathic remedies.

BOX 2.1

Criteria for effective use of homeopathic remedies

- Avoid food, drink, toothpaste or cigarettes in the mouth for 15 minutes before or after taking the remedy.
- Avoid substances which antidote remedies: aromatherapy essential oils, coffee, strongly spiced foods, peppermint, mint-flavoured toothpaste or chewing gum, eucalyptus, decongestants, Olbas™ oil, mobile telephones, metal spoons, X-rays, microwaves.
- Avoid with drugs which block homeopathic action: analgesics, antacids, antibiotics, aspirin, steroids, laxatives, decongestants, cough lozenges.
- Remedies should not be taken prophylactically – await the occurrence of the condition.

NB It is particularly important prior to an elective Caesarean to avoid taking remedies such as arnica in advance of surgery as prolonged administration will cause a reverse proving.

Evidence base

Despite the current attempts to discredit homeopathy, a systematic review of the use of homeopathy by people in 11 countries (UK, USA, Germany, Australia, Canada, Switzerland, Norway, Japan, Israel, South Korea and Singapore) showed that up to 4 per cent regularly use homeopathic medicines, either bought over the counter for self-administration or by consulting qualified practitioners (Relton *et al.* 2017). However, the evidence for the effectiveness and safety of homeopathy is, as with several other therapies, relatively scant, inconclusive and fraught with the risk of criticism about methodology. Unfortunately, as this book went to press, the NHS, in an apparent cost-saving exercise, has produced new guidelines stating that homeopathic remedies, together with some herbal and nutritional supplements, will no longer be available on NHS prescription (Davis and Campbell 2017).

The greatest difficulty for those researching homeopathy is that every single subject with a particular condition may present with a different symptom picture, each requiring a different remedy. It is therefore extremely difficult to conduct randomised controlled trials in which a group of subjects with the same condition (in conventional terms) receives the same test remedy. Criticism is levied at the use of substances which apparently contain little, if any, active molecular ingredients – the dilution and succussion of the original substance means that the final product contains none of the original chemicals. Studies appearing to demonstrate the efficacy of homeopathy are often dismissed as placebo effects or spontaneous healing. A few studies attempt to compare a homeopathic remedy with a conventional drug but, again, the need for individualisation of the prescription often produces results which appear at best inconclusive and, more often, negative (Zafar *et al.* 2016). Conversely, criticism has been levelled at scientists who conduct systematic reviews without adequate understanding of homeopathic concepts, which leads them to conclude that very few studies meet the inclusion criteria for meta-analysis (Vithoulkas 2017).

An additional complication when searching for papers is that the remedies often have the same name as substances studied in herbal medicine. It is essential to differentiate between trials on homeopathic and on herbal preparations, which have a different mechanism of action; for example, *Hypericum perforatum* (St John's wort) is both a herbal and a homeopathic remedy. However, unfortunately, there are also occasions when even the researchers (usually conventional medical or nursing practitioners) fail to appreciate the difference between homeopathic and herbal medicine (Boltman-Binkowski 2016). However, this modality is one in which veterinary medicine studies can be useful as of course there is no placebo effect, in terms of expectation of effectiveness, in animals.

One of the most common homeopathic remedies studied is *Arnica Montana*, a remedy for the treatment of shock and trauma. Many women use homeopathic arnica cream or tablets immediately after the birth to ease the pain of perineal lacerations or episiotomy. Most arnica research is inconclusive, perhaps because there are other remedies which may be more effective, depending on the cause of the trauma. Arnica research is further complicated by the practice in some countries, such as Germany, of using combination remedies, whereas in the UK it is more common to administer single remedies and await a reaction (Paris *et al.* 2008). See Chapter 9 for more discussion on arnica for perineal healing.