

the necessary evidence for supporting either view, but in the meantime, TAHA—together with other SUDI prevention organisations such as Whakawhetu Maori SIDS Prevention Service—is tasked with supporting the sector's efforts in reducing the number of babies that die this winter and beyond.

We will strongly encourage parents to put baby on their back in their own sleeping space, e.g. cot or bassinet, but will do so knowing that the reality is they may not have access to a cot, let alone warm bedding, or heating in their room. As always, the broader socioeconomic determinants of health will add further complexities to health promotion in this area.

TAHA is based at the School of Population Health, The University of Auckland. If you would like to know more about our work, please visit our website: www.taha.org.nz.

References

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Ginger

Zingiber officinale Roscoe, Zingiberaceae

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PREPARATIONS: The powdered or cut rhizome is widely used as a spice to flavour food, tea and drinks. Medicinal dosage forms include powders, capsules, tablets, and hydroethanolic liquid extracts used by herbal practitioners. Ginger is also an ingredient in topical preparations such as creams and ointments.

ACTIVE CONSTITUENTS: These vary substantially depending on the origin and type of ginger preparation or extract. Most known pharmacological properties are attributed to pungent homologous phenols known as gingerols in fresh ginger, which dehydrate to become shogaols in dry ginger. The volatile oil is also important.

MAIN USES: Ginger has been grown in tropical Asia since ancient times, and revered as a medicine throughout India, China and subsequently Europe, for more than 2000 years. While best known for its use in foods and beverages, a large number of diverse health claims have been associated with its traditional use (a digestive aid) and modern-day applications include for nausea and vomiting, as an anti-inflammatory for arthritic conditions and as a circulatory stimulant. Ginger is also popular as a cold or flu remedy. It is a minor constituent of numerous widely used Indian and Chinese traditional herbal medicines.

EVIDENCE FOR EFFICACY: A meta-analysis of five randomised trials concluded that a

Summary Message

Evidence to date supports effectiveness of ginger to prevent and reduce postoperative nausea and vomiting, and in some women with morning sickness. Despite anti-inflammatory activities *in vitro*, clinical evidence of efficacy in inflammatory joint conditions is lacking. Animal and in vitro studies suggest possible protective effects against obesity, diabetes, atherosclerosis and cancer.

Safety and any predisposition to drug interactions are dose-related. Ginger appears safe when taken at doses of up to 4 or 6 g daily. Above this dosage adverse interactions may occur with antithrombotic drugs, metronidazole and possibly cyclosporine, although human studies are lacking.

Different ginger products vary considerably in their pharmaceutical quality, and the implications of this for dosage, efficacy and safety should be considered.

fixed dose of at least 1 g of ginger is more effective than placebo for prevention and reduction of postoperative nausea and vomiting.¹ A recent Cochrane Review found that ginger products may be helpful to women with nausea and vomiting in early pregnancy, but evidence of effectiveness was limited and not consistent.²

Herbal medicines are a popular health care choice, but few have been tested to contemporary standards. **POTION OR POISON?** summarises the evidence for the potential benefits and possible harms of well-known herbal medicines.

Anti-inflammatory effects are shown by many ginger constituents, through modulation of numerous inflammatory pathways, but human clinical trials showing efficacy in arthritic patients are lacking. Animal studies suggest possible protective effects against the development of obesity, diabetes, atherosclerosis, and other chronic pro-inflammatory diseases. The potential of ginger as a cancer protective agent is of growing interest. Other recent research relates to possible applications of ginger in ulcerative colitis, liver disease, hypercholesterolaemia, as a radioprotective and as an antimicrobial.

Topical ginger preparations are applied for anti-inflammatory and rubefacient purposes although few human studies have been published to date.

ADVERSE EFFECTS: A systematic review of clinical trials concluded that ginger seems to have few adverse effects when taken in daily doses of up to 6 g.³ Heartburn can occasionally occur at higher doses.⁴

Several human clinical trials involving a total of around 1300 women supports ginger's safety to both mother and embryo when taken in doses up to 2 g daily for nausea and vomiting during pregnancy.² However, a small study found a higher rate of embryonic loss in ginger-treated pregnant rats.⁵

DRUG INTERACTIONS: Interactions between ginger and antithrombotic drugs including warfarin and aspirin have been suggested, based upon *in vitro* inhibitory effects on thromboxane synthesis. However current evidence suggests that such interactions are probably confined to dosages in excess of at least 4 g per day.⁶⁻⁸

Animal studies reporting increased bioavailability of oral metronidazole and reduced bioavailability of oral cyclosporine, both involved doses of ginger substantially higher than those normally consumed by humans. Animal studies suggest that ginger extract may provide some protection against statin-associated liver function abnormalities in hypercholesterolaemic patients and against gastric irritation by non-steroidal anti-inflammatory drugs. However, doses used were large and human studies are lacking.

Key References

Fully referenced version available from the author on request
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