



Clinicians, Consumers, Evidence

Centre for Clinical Effectiveness

Evidence Request 2008-001

Raspberry juice or raspberry cordial for the prevention of gastroenteritis

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Abstract

- Background** Clinicians at Southern Health have heard anecdotal evidence that raspberry juice can prevent traveller's diarrhoea. Gastroenteritis is a regular occurrence in hospital wards and any successful, prophylactic treatment for gastroenteritis could have significant patient care and economic advantages.
- Clinical Question** In older hospital patients or those in residential care does ingestion of raspberry juice or raspberry cordial in addition to standard care, as compared to standard care alone, reduce the incidence of viral and/or bacterial gastroenteritis?
- Methods** We included all trials published in English.
We searched The Cochrane Library, including The Cochrane Database of Systematic Reviews, DARE, CENTRAL, HTA and NHS EED in January 2008. We also searched Medline, CINAHL, EMBASE and AMED (Allied and Complementary Medicine).
Studies were assessed by one reviewer using inclusion, exclusion and appraisal criteria established a priori.
- Results** The search returned 795 articles which were reviewed by title and, when a decision could not be reached based on title alone, abstract and/or full text.
No article met the inclusion criteria for this review.
- Discussion** Though there is some in vitro evidence to suggest that raspberry juice and raspberry cordial demonstrate anti-bacterial properties this has not been examined in any comparative trials in humans.
- Conclusions** No evidence was found to suggest that the provision of raspberry juice or raspberry cordial to older hospital patients or those in residential care will reduce the incidence of gastroenteritis.

Background

Clinicians at Southern Health have heard anecdotal evidence that raspberry juice can prevent traveller's diarrhoea. Gastroenteritis is a regular occurrence in hospital wards, in particular in aged care wards and residential care as older, confused people may have difficulty adhering to infection control measures.

Gastroenteritis outbreaks can result in ward closures and increased length of stay for those affected. Patients cannot be transferred between wards or discharged until 48 hours after all symptoms have been cleared from the ward. Staff may also become infected resulting in increased costs through sick leave and the use of agency staff.

Any successful, prophylactic treatment for gastroenteritis could have significant patient care and economic advantages.

Clinical Question

In older hospital patients or those in residential care does ingestion of raspberry juice or raspberry cordial in addition to standard care, as compared to standard care alone, reduce the incidence of viral and/or bacterial gastroenteritis?

Methods

Study Selection Criteria

Patient	Inclusion: All hospital patients and all residential care patients Exclusion: -			
Intervention	Inclusion: Any comparative study where participants receive raspberry juice or raspberry cordial in addition to standard care Exclusion: -			
Comparison	Inclusion: Standard care or placebo Exclusion: -			
Outcomes	Inclusion: Incidence (new cases) of gastroenteritis Exclusion: -			
Study Type	Any comparative study	Publication Date	Any	Language English

Search Strategy

Evidence Source	Date of Search
All EBM (Ovid) *	17 th January 2008
Medline (Ovid)	17 th January 2008
CINAHL (Ovid)	17 th January 2008
EMBASE	17 th January 2008
AMED (Allied and Complementary Medicine)	17 th January 2008

*(including The Cochrane Database of Systematic Reviews, DARE, CENTRAL, NHSEED, HTA and ACP Journal Club)

Search Terms in Medline*

Patient	-
Intervention	raspberr\$ or rubus\$
Comparison	-
Outcomes	-

*Syntax adapted as appropriate for other databases

Data Collection & Analysis

Inclusion, exclusion and appraisal criteria were established a priori. Studies were reviewed by one reviewer. Attempts were made to contact two Australian researchers who have been involved in initial, laboratory based studies to enquire if they knew of any comparative trials in humans.

Results

The search returned 795 articles which were reviewed by title and, when a decision could not be reached based on title alone, abstract and/or full text.

No article met the inclusion criteria for this review.

Of the two Australian researchers who had been involved in laboratory research in this area one was not contactable and the second was unaware of any trials of raspberry juice or cordial for prevention of gastroenteritis in humans.

Discussion

Anecdotally, the leaves, roots and fruit of the red raspberry plant are said to have medicinal properties and have been used to treat a variety of ailments in both humans and animals including assisting with morning sickness and labour (leaves), sore throats and wound cleansing (roots) and to treat and prevent gastroenteritis (fruit). However, despite reported widespread use in Australia, there is very little evidence to support these claims.¹

In vitro studies of raspberry cordial (35% fruit), raspberry juice, raspberry leaf tea and raspberry leaf extract have shown that raspberry juice and raspberry cordial appear to have antibacterial properties, reducing the growth of bacterial species including *Escherichia coli*, *Staphylococcus aureus*, *Shigella sonnei*, *Clostridium perfringens* and three *Salmonella* serovars.¹ The same research group has also shown Blackcurrant cordial to inhibit bacterial growth.² Measurements of bacterial growth appear to be subjective visual measurements and there is no mention of whether those assessing the bacterial growth are blinded to whether or not the growth media contained juice or cordial.

Though these in vitro studies suggest that there may be a basis for the idea, our search found no comparative studies examining the use of raspberry juice or raspberry cordial in the prevention or treatment of gastroenteritis in humans.

Conclusions

No evidence was found to suggest that the provision of raspberry juice or raspberry cordial to older hospital patients or those in residential care will reduce the incidence of gastroenteritis.

References

1. Ryan T, Wilkinson JM and Cavanagh HMA. Antibacterial activity of raspberry cordial in vitro. *Research in Veterinary Science*, 2001; 71:155-159
2. Cavanagh HMA, Hipwell M and Wilkinson JM. Antibacterial activity of berry fruits used for culinary purposes. *Journal of Medicinal Food*, 2003; 6(1): 57-61.

Disclaimer

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