
Kombucha: a systematic review of the clinical evidence

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CRD summary

This review assessed the efficacy or safety of the remedy Kombucha. The claimed benefits of Kombucha were not supported by the limited clinical evidence presented. The author appropriately cautioned against the therapeutic use of an unproven remedy and highlighted potential side-effects which may or may not be attributable to the remedy itself.

Authors' objectives

To determine the efficacy and safety of Kombucha.

Searching

MEDLINE, EMBASE, CINAHL, CISCOM, AMED, NAPRALERT and the Cochrane Library were searched from inception to December 2001; the search terms were provided. The reference lists of papers were checked for further studies, colleagues in the field were contacted and departmental files were searched. No language restrictions were applied.

Study selection

Study designs of evaluations included in the review

Post-marketing surveillance studies, clinical trials, case reports, spontaneous reporting schemes and pre-clinical studies were eligible for inclusion in the review.

Specific interventions included in the review

To be included a study needed to discuss the efficacy or safety of Kombucha, a remedy which is usually marketed as a fermented tea for oral consumption or topical use in a wide range of indications.

Participants included in the review

All types of participant were eligible for inclusion in the review.

Outcomes assessed in the review

Specific inclusion criteria for the outcomes were not stated, although it appears that all outcomes relating to efficacy or safety were eligible for inclusion in the review.

How were decisions on the relevance of primary studies made?

The author did not state how the papers were selected for the review, or how many reviewers performed the selection.

Assessment of study quality

The author commented that no formal assessment of the validity of the evidence was possible.

Data extraction

The author did not state how the data were extracted for the review, or how many reviewers performed the data extraction. Data were extracted on the efficacy and safety outcomes, as reported in each individual study.

Methods of synthesis

How were the studies combined?

The studies were combined in a narrative summary.

How were differences between studies investigated?

Differences between the studies were described within the report.

Results of the review

Three case series and two case reports of adverse events were included in the review. These included 28 patients in total.

No studies were found relating to the efficacy of Kombucha.

The reporting of the individual cases was poor, making it difficult to ascertain if Kombucha was the cause of the adverse events reported. The adverse events included suspected liver damage and metabolic acidosis from Kombucha drunk as a tea. One case series described cutaneous anthrax infection through topical application of the tea, although the Kombucha could have been contaminated due to storage in extremely unhygienic conditions.

Authors' conclusions

The author concluded that the claimed benefits of Kombucha were not supported by clinical evidence and, in view of the adverse events profile, its therapeutic use could not be recommended. However, he also noted that the adverse events were described in isolated reports, which cannot allow firm conclusions about causality and allow for generalisation.

CRD commentary

The inclusion criteria for this review were necessarily broad to allow for a full analysis of the efficacy and safety of this remedy. A wide range of information sources were searched, making it less likely that studies were missed. It was not possible to assess the validity of the evidence, nor was pooling possible due to a lack of efficacy data. Reports of adverse events were described and comments were made on the likely cause-effect relationship. It was unclear whether the review involved more than one reviewer in the study selection and data extraction processes, which could serve to minimise bias. Although the author appropriately cautions the use of an unproven remedy with potential side-effects, it is important to note that not all of the adverse events may be attributable to the remedy itself.

Implications of the review for practice and research

Practice: The author concluded that the therapeutic use of Kombucha could not be recommended owing to the lack of clinical efficacy and associated serious adverse events.

Research: The author did not state any implications for further research.

Bibliographic details

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This is a critical abstract of a systematic review that meets the criteria for inclusion on DARE. Each critical abstract contains a brief summary of the review methods, results and conclusions followed by a detailed critical assessment on the reliability of the review and the conclusions drawn.