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Health Economic Evaluation of yoga as a therapeutic intervention – protocol for a systematic review

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ADMINISTRATIVE INFORMATION

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Review Stage at time of this submission - Preliminary searches.

Conflicts of interest - None declared.

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Amendments - This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 07 August 2024 and was last updated on 07 August 2024.

INTRODUCTION

Review question / Objective How cost effective is yoga as a therapeutic intervention?

Condition being studied Originally from India, yoga is today considered a non-pharmacological therapy in complementary medicine. Over time, different styles of yoga have developed in North America and Europe, most of which are associated with postures, breathing techniques, and meditation (1). Today yoga has become increasingly popular and is often practiced to promote physiological and emotional well-being (2). In the 2012 National Health Interview Survey, 31 million American adults reported having practiced yoga. Of those, 78.4% practiced yoga for general well-being or disease prevention (3). In recent years, studies have investigated the effectiveness of yoga for various health problems. Studies have reported that yoga has a positive, statistically significant effect on physiological conditions such as pain (4) or diabetes mellitus 2 (5), as well as psychological conditions such as depression (6) and anxiety (7).

For patients, in addition to evidence of yoga's effectiveness, the cost dimension is currently an important factor in the decision to practice yoga but also for health policy decision makers.

In representative surveys, yoga use is commonly associated with a higher income (3). Until now, yoga has not been part of general health care, but rather a fee-for-service intervention (8). It is therefore particularly important for people from lower socioeconomic backgrounds to consider whether they want to invest in yoga practice and the health benefits it can bring.

Decision-makers want to ensure high-quality healthcare with effective and safe therapies that are accessible to all, regardless of socioeconomic status. For this, they use the results of clinical trials to inform themselves about the efficacy and safety of a therapy (in the best-case, compared to the current standard of care) and to decide whether the therapy should be included in the general healthcare catalogue. With rising healthcare costs and limited resources, decision makers are forced

to consider costs as well as effectiveness and safety when allocating limited resources (9). Therefore, in addition to clinical trials, health economic studies are used to inform decision making.
There is some evidence that complementary therapies improve clinical outcomes without increasing costs, even when offered as an adjunct (8). To provide an overview of health economic studies and their results, the current evidence on health economic evaluations of yoga is systematically reviewed for the first time. In addition, the quality of the included studies is assessed with regard to the methodological quality of the health economic evaluation, and recommendations for the future conduct of health economic evaluations are derived.

METHODS

Search strategy A systematic literature search of electronic databases for relevant articles on health economic evaluations of yoga will be conducted. Therefore, the search terms in the various databases will include the terms around the keywords 'yoga' and 'cost' for each database. There are no year restrictions.

Participant or population This systematic review has no population restrictions.

Intervention All forms of yoga are eligible (i.e. Hatha yoga, Iyengar yoga, Ashtanga yoga, yoga therapy) or any other form of yoga. Studies are not eligible if yoga is not the main intervention, but only part of a multimodal intervention.

Comparator The systematic review will include studies with all types of comparison groups.

Study designs to be included Randomized control trials (RCT) with trial-based economic evaluation designs (i.e., including cost-effectiveness, cost-utility, cost-benefit or cost-minimization analyses) published in peer-reviewed journals will be considered.

Eligibility criteria
- All perspectives of economic evaluations are included
- Studies reporting only costs, efficacy and effectiveness are excluded
- Systematic reviews and meta-analyses are excluded
- Also non-research studies such as reports, book chapters, conference proceedings are excluded.

Information sources The electronic clinical databases Medline, EMBASE, Cochrane Library, CINAHL, ProQuest and the electronic economic databases NHS EED and HTA will be searched for articles published.
The search will be conducted in August 2024. There won't be any publication date or language restrictions. Duplicates will be identified after the search is merged.

Main outcome(s) Costs in any currency related to outcomes of yoga.

Additional outcome(s) Cost-Effectiveness Ratios (ICER); Cost-utility ratios (ICUR); Net Monetary Benefit; Cost-Benefit Ratios; Adverse events.

Data management Data screening: For managing literature and reporting decision-making Mendeley is used. After the literature search and duplicate removal, the titles and abstracts of the identified articles are first screened. In addition, the reference list of the identified articles is screened to find additional potentially relevant articles. In the second phase, the full text of the potentially relevant articles is screened. Screening is performed independently by two authors. Disagreements are discussed with a third author until consensus is reached.
Data extraction: Two authors independently extract the data from the included studies into a developed extraction scheme in an excel sheet. Disagreements are discussed with a third author until consensus is reached.

Quality assessment / Risk of bias analysis The Consolidated Health Economic Evaluation Reporting Standards 2022 (CHEERS 22) will be used to assess the methodological quality of the included studies.
Methodological quality is assessed independently by two authors. Disagreements are discussed with a third author until consensus is reached.

Strategy of data synthesis Cost data is organized into patient and provider costs. In addition, costs will be converted to Euro/USD and calculated for the currency year.
Quantitative analysis will be performed by calculating the median values for the intervention and control group(s).

Subgroup analysis If possible, subgroup analyses will be conducted for different diagnoses, high- and low-income countries, age of participants, and whether individual or group sessions were conducted.

Sensitivity analysis If applicable, sensitivity analyses will be carried out.

Country(ies) involved Deutschland.

Other relevant information No language restrictions on searches. If we find studies published in languages other than English, Korean and Chinese, we will have them translated by a professional service.

Keywords Yoga; cost; health economic evaluation; cost-effectiveness; complementary medicine; systematic review.

Dissemination plans The study will be published in a peer-reviewed journal.

Contributions of each author

Author 1 - Alina Schleinzer - Author 1 is conceiving the review, designing the review, coordinating the review, drafted the protocol, data collection, data management, analysis of data, interpretation data, quality assessment, drafting of the manuscript, preparation of the final manuscript.
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