



Protocol

# A Protocol for the Overview of Systematic Reviews of Aromatherapy for Management of Health

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## ABSTRACT

**Background:** Aromatherapy has been reported to have a positive effect on various health conditions. While these studies show positive results, many of them have limited evidence. The aim of this study was to develop a protocol to evaluate all systematic reviews (SRs) that have evaluated the efficacy of aromatherapy (for any health condition) as a therapeutic treatment (protocol registration number INPLASY202280089).

**Methods:** We will include aromatherapy through different therapeutic application methods such as inhalation, massage, and bathing. Seven international databases (including PubMed, AMED, EMBASE, the Cochrane Library), and three Korean medical databases (Korean Studies Information, Research Information Service System, KoreaMed), will be searched. The SR process, including study selection, data extraction, and assessment, will be performed by two independent reviewers. Methodological assessment will be performed using AMSTAR-2.

**Discussion:** The benefits of aromatherapy for health management are evaluated to provide useful information to patients and therapists and inform decisions on further studies on this topic.

**Keywords:** aromatherapy, essential oils, inhalation, systematic review

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## Introduction

Aromatherapy is a therapy that uses essential oils from herbs, flowers, and other plants to improve physical, emotional, and mental well-being through inhalation or topical and oral application [1,2]. Aromatherapy has been reported to have positive effects on infections, insomnia, pain, women's health, and various health conditions [1-6]. One review suggests that aromatherapy can be effective in inducing relaxation, improving pain, and emotional state [7]. Many systematic reviews (SRs) and meta-analyses (MAs) are published in the field of medicine and health [8], and this is no different in evaluating the efficacy of aromatherapy [4]. Evidence of the positive effects of aromatherapy, currently reviewed, has shown beneficial effects on pain [9], dementia [10], cardiovascular disorders [11], and symptoms of cancers [12-14]. While these studies report positive results, many of them have limited evidence. SRs of SRs can improve access to evidence scattered across multiple studies. This protocol aimed to include the effectiveness reported by all SRs that employed aromatherapy studies as a treatment modality for health problems.

## Materials and Methods

### 1. Study registration

This protocol was registered on the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) with registration number INPLASY202280089 (<https://inplasy.com/inplasy-2022-8-0089>).

### 2. Inclusion criteria

#### 2.1. Types of studies

The SRs or MAs must specifically address the therapeutic efficacy of aromatherapy treatment of any type through different application methods such as inhalation, massage, and bathing and must include evidence from at least two randomized controlled clinical trials. Non-SRs will be excluded, such as other overviews and narrative reviews. The SR or MA must specifically address the efficacy of any type of aromatherapy and include evidence from at least two controlled clinical trials.

## 2.2. Types of participants

All populations regardless of age, sex, and health conditions will be included.

## 2.3. Types of interventions and controls

The eligible intervention will be aromatherapy with any type of essential oil to treat participants with massage, bathing, or inhalation in therapeutic purpose. The included control groups will be placebo or no treatment or active controls and drug therapy. Other forms of control will be excluded.

## 2.4. Type of outcome measures

Outcome measures include SR-reported data on at least one outcome related to target health conditions. Quality of life and adverse events will be included as additional outcomes.

## 3. Electronic searches

Seven international databases (including PubMed, AMED, EMBASE, the Cochrane Library), and three Korean medical databases (Korean Studies Information, Research Information Service System, KoreaMed), will be searched for relevant MAs and SRs from inception to October 2022. The search terms will be aromatherapy OR essential oil OR aroma inhalation OR lavender OR rose AND systematic review OR meta-analysis.

## 4. Study selection and data extraction

Two reviewers will independently review study titles and abstracts, select studies, and record their decisions based on predefined criteria. Disagreements in study selection will be resolved through discussion. Documentation and the summary of study selection will be based on a flowchart that conforms to the Preferred Reporting Items for Systematic Reviews and Meta-Analysis [15]. Data on population, intervention, comparison, and outcomes, the number of randomized controlled trials included, summary effect estimates for primary outcomes, overall risk of bias, publication bias, and conclusions (cited from the original paper) will be retrieved from the included studies.

## 5. Methodological quality

The quality of reporting for each included SR will be critically appraised using the AMSTAR-2 tool [16]. AMSTAR-2 is a 16-item assessment tool to check the quality of a systematic review and establish whether the most important elements are reported.

## 6. Strategy of data synthesis

Evidence maps are new synthesis tools that involve searching systematically and characterizing existing research on a topic of interest for the identification of knowledge gaps and future research needs [17]. Evidence mapping should be presented in tables describing the characteristics of the included SRs, as well as a graphical representation of the mapping based on bubble plots according to previous publications [18,19]. Each bubble in the graph should represent an included SR. The SR will be grouped into clinical participants which will be created by a reviewer and discussed by the review team. Subgroup analysis by health condition and essential oil type will be performed. Sensitivity analysis will be performed according to the quality of the SR.

## 7. Ethics

It was not necessary to obtain patient consent and ethical approval for a protocol.

## Discussion

This protocol for SRs will provide guidance to collate the current reviewed evidence of aromatherapy in health management which will be based on the qualitative and quantitative syntheses of the included SRs.

### Author Contributions

Conceptualization, formal analysis, writing-original draft: KJK. Conceptualization, formal analysis, methodology, validation, supervision, writing-original draft: MSL.

### Conflicts of Interest

Myeong Soo Lee is an Associate Editor of Perspectives on Integrative Medicine but this had no influence in the decision to publish this article.

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### Ethical Statement

This research did not involve any human or animal experiments.

## Data Availability

All relevant data are included in this manuscript.

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