INPLASY PROTOCOL

To cite: Jiang et al. Effect of Aroma Inhalation Therapy on Fatigue Level: A systematic Review and Meta-analysis. Inplasy protocol 202170091. doi: 10.37766/inplasy2021.7.0091

Received: 28 July 2021

Published: 28 July 2021

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Support: **No support.**

Review Stage at time of this submission: **Formal screening of search results.**

Conflicts of interest:
None declared.

Effect of Aroma Inhalation Therapy on Fatigue Level: A systematic Review and Meta-analysis

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Review question / Objective: **The purpose of this study is to systematically evaluate the effectiveness of aromatherapy applied by inhalation on fatigue level.**
Condition being studied: **Fatigue is the most common problem. To cope with fatigue, complementary therapies should be used besides pharmacologic interventions. Complementary therapies included Auriculotherapy, Dry Needling, Homeopathy, Musculoskeletal Manipulations, Mind-Body Therapies, Naturopathy, etc. Aromatherapy is one of Mind-Body Therapies, previous studies have shown that aromatherapy can effectively control some symptoms such as fatigue, insomnia and anxiety, but the effectiveness has not yet been determined. Thus, this meta-analysis was to integrate published randomized controlled trials (RCTs) to evaluate the effectiveness of aromatherapy via inhalation on fatigue.**

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 28 July 2021 and was last updated on 28 July 2021 (registration number INPLASY202170091).

INTRODUCTION

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METHODS

Participant or population: Participants include healthy people, patients with allergic rhinitis, hemodialysis patients, patients with knee osteoarthritis, pregnant woman, etc.

Intervention: The experimental group only received aroma inhalation therapy.

Comparator: The control group was blank control, placebo control or routine care group.

Study designs to be included: Only Included randomized controlled trials (RCTs).

Eligibility criteria: The type of literature research is randomized controlled trials. Experimental group only received aroma inhalation therapy; control group was blank control, placebo control or routine care. Measurements and results include fatigue level evaluation scale.

Information sources: Electronic databases: PubMed, EMBASE, Cochrane Library, Web of Science, CBM, CNKI, Wanfang Database, VIP. The retrieval date was January 1, 2002 to July 28, 2021.

Main outcome(s): The main outcome indicator is fatigue level evaluation scale. Include Fatigue Severity Scale, FSS; the Brief Fatigue Inventory, BFI; Postpartum Fatigue Scale, PFS; Chalder Fatigue Scale, CFS; Numerical Rating Scale, NRS; Multidimensional Assessment of Fatigue, MAF; Visual Analog Scale for Fatigue, VAS-F; etc.

Quality assessment / Risk of bias analysis: The risk of bias and quality of included RCTs were assessed by the Cochrane risk-of-bias tool. It includes seven specific domains: random sequence generation, allocation concealment, blinding of participants and personnel, blinding of outcome assessment, incomplete outcome data, selective outcome reporting and other sources of bias.

Strategy of data synthesis: STATA statistical software 16.0 was used for meta-analysis. Standardized mean differences (SMD) and 95% confidence interval (CI) were calculated. The heterogeneity among selected studies was assessed using the I^2. $I^2<50\%$, $P>0.05$ was considered as low heterogeneity, and apply fixed model; otherwise, a random-effect model will be used when $I^2\geq50\%$, $P\leq0.05$. Egger's test and Begg's funnel plot were used to assess potential publication bias.

Subgroup analysis: If the heterogeneity is significant, we will conduct a subgroup analysis. The different characteristics, different characteristics of participants, duration of treatment and different treatment types were classified and compared to determine the source of heterogeneity.

Sensitivity analysis: Another method to determine the source of heterogeneity is sensitivity analysis, which can make the experimental results more reliable and stable.

Country(ies) involved: China.

Keywords: Aromatherapy; Inhalation; Fatigue; Meta-analysis.

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