

# The Effectiveness of Lifestyle Medicine in Alleviating Anxiety Symptoms: A Meta-Analysis of Randomised Controlled Trials

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## INTRODUCTION

- Modernisation changes in ways of communication, information flow, and mechanisation drastically improved our working efficiency, and sped up our pace of living.
- However, people also face higher working demands, contributing to stress and anxiety levels.
- People started to compensate their lifestyles for more time to meet demands, including changes in eating habits, increase sedentary behaviours, and reduce sleeping time. Maintaining unhealthy lifestyles contribute to a higher level of anxiety.
- Despite increasing trends of reported anxiety symptoms, service utilisation remains low due to existing stigma and perceived need to seek help.
- Increasing attention has focused on lifestyle intervention as a non-intrusive way of reducing anxiety symptoms due to free of bias and cost-effectiveness.



## RESEARCH GAP

- Existing RCTs showed the effectiveness of lifestyle intervention on improving mental health conditions among individuals with physical or mental health conditions.
- Currently, there is no meta-analysis done on investigating the effectiveness of lifestyle intervention on reducing anxiety symptoms.

## STUDY OBJECTIVE

This meta-analysis aimed to investigate the effectiveness of lifestyle intervention in alleviating anxiety symptoms by conducting a systematic review of existing randomised controlled trials (RCTs).



## METHOD

### Data selection

- A search was performed in six electronic databases up to October 2019, and have identified 2,552 citations.
- Fifteen RCTs remained after screening out irrelevant citations and ones that do not meet inclusion criteria.
- Included RCTs compared lifestyle interventions with care-as-usual (CAU)/ waitlist control (WC)/ no intervention (NI), or attention control (AC).

### Data Extraction

- Participants' and studies' characteristics were extracted from eligible studies.
- Mean scores and standard deviation (SD) of anxiety outcome measures at post-intervention time point of both intervention and control group were also extracted for data analysis.

### Data analysis

- Data from eligible studies were included in a random effects model to measure the treatment effect.
- Hedges' g was used to measure the treatment effect size.
- Publication bias was measured using Egger's regression test and a funnel plot.
- Cochrane Risk of Bias tool (RoB2) was used to assess the quality of eligible studies.



## RESULTS

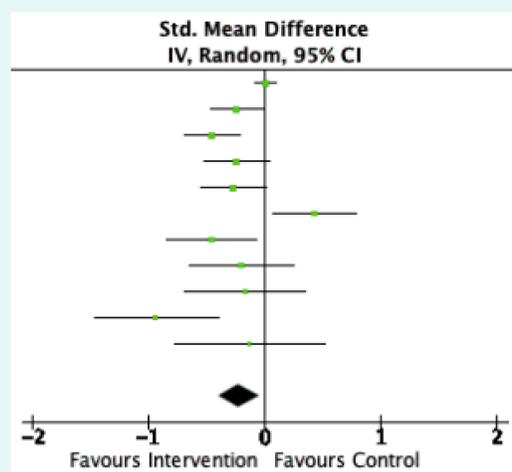


Figure 1. Lifestyle Intervention versus CAU/ WC/ NI in Reducing Anxiety Symptoms at Post-intervention Assessment

- Lifestyle intervention showed a significant difference in reducing anxiety symptoms compared to that of CAU/ WC/ NI control group, with a small effect size ( $g = 0.221$ , 95%CI: -0.396, -0.045).
- An insignificant difference was shown when compared with AC.
- Egger's regression test and the funnel plot showed the absence of publication bias.



## DISCUSSION

- A significant difference between lifestyle intervention and CAU/ WC/ NI groups is consistent with other meta-analyses that incorporate single lifestyle intervention in reducing anxiety.
- The insignificant result could be due to the placebo effect from the AC group.
- The anxiety level of participants at baseline is at a relatively low level, so improvements could be mild, resulting in smaller effect size.
- Treatment attrition rates are similar to existing results that measure attrition rates in conventional treatment.



## LIMITATIONS

- Limited generalisability towards individuals with diagnosed anxiety disorders as there is only a small number of trials that included said populations.
- A high level of heterogeneity suggested possible subgroups within included trials.
- Potential outcome reporting bias could be due to the inability to perform the blinding process.



## FUTURE DIRECTIONS

- To target populations with clinically diagnosed anxiety disorders
- Determine possible factors that affect treatment effects
- Consider ways to minimise reporting bias arise from self-report data



## CONCLUSION

Lifestyle intervention appears to be effective in reducing anxiety symptoms, yet results should be interpreted with caution given existing limitations of the current analysis. Further investigations are needed to confirm the impact of lifestyle intervention as a treatment for individuals with clinically diagnosed anxiety disorders.