Effect of Non-Pharmacologic intervention on Quality of Life in Lung Cancer Patients undergoing Pulmonary Surgery: A Systematic Review and Meta-Analysis

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Purpose

This study aimed to evaluate the literature regarding the health-related quality of life (HRQOL) following non-pharmacological interventions compared with control condition in lung cancer patients undergoing pulmonary surgery.

Methods

We conducted a systematic review and meta-analysis, and reported following the PRISMA reporting guideline.

A literature search was performed through PubMed, CINAHL, Cochrane Library and Korean databases (RISS, KISS, KCI and ScienceON) in November 2022.

The main search strategy combined terms for lung cancer patients aged 18 years or older who underwent pulmonary resection and non-pharmacological interventions.

Two reviewers independently selected relevant studies, evaluated the methodological quality, and extracted data.

Experimental studies were included and the main outcomes were HRQOL.

Meta-analysis was conducted using the statistical software, Review manager 5.4 of the Cochrane Collaboration, and random-effects models were used for calculating the effect size.

Results

A total of 455 studies were searched, and 11 randomized controlled trials (RCTs) met the inclusion criteria, and finally 8 studies were suitable for meta-analysis.

There were various non-pharmacological interventions: 6 studies on exercise (55%), 3 studies using psychological programs (27%), 2 studies using other therapies (18%)

Non-pharmacological interventions were effective in improving the HRQOL: standardized mean difference 0.71, 95% CI (0.35 to 1.07)

There was heterogeneity among studies (p < 0.001, I² = 81%) and no publication bias.

Conclusion

Non-pharmacological interventions such as appropriate exercise therapy for lung cancer patients diagnosed with pulmonary resection are very effective in improving the quality of life and should be recommended. In practice, Policymakers and healthcare expert associations should make efforts to improve the quality of life of cancer patients.