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# Effects of different treprostinil administration modes on patients with pulmonary hypertension

Wang, Q; Meng, C; Song, ZJ; Li, J; Sun, B; Wang, SF; Miao GB; Liu, P.

**Corresponding author:**
Qing Wang

qingw066@163.com

**Author Affiliation:**
Ordos Central Hospital.

## ADMINISTRATIVE INFORMATION

**Support -** None.

**Review Stage at time of this submission -** Data analysis.

**Conflicts of interest -** None declared.

**INPLASY registration number:** INPLASY202470084

**Amendments -** This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 22 July 2024 and was last updated on 22 July 2024.

## INTRODUCTION

**Review question / Objective** There is some evidence to suggest that treprostinil has a beneficial effect on pulmonary hypertension. The objective of this meta-analysis was to examine the clinical impact of varying dosing regimens of treprostinil on patients with pulmonary hypertension.The evidence indicates that treprostinil has a preventive effect on pulmonary hypertension. This meta-analysis was conducted to investigate the effect of treprostinil in patients with pulmonary hypertension.

**Condition being studied** The outcomes of interest were changes in 6-minute walking distance from baseline, changes in mean pulmonary artery pressure from baseline, adverse events, and mortality.

## METHODS

**Search strategy** A comprehensive electronic search of articles published in the field was conducted by three researchers before 10 July 2024. A comprehensive manual search of the PubMed, Embase and Cochrane databases was conducted in order to select relevant randomised controlled trials.

**Participant or population** Patients with pulmonary hypertension (mPAP≥25mmHg); Patients who are using treprostinil.

**Intervention** Treprostinil.

**Comparator** Placebo or other.

**Study designs to be included** The search strategy was RCTs.

**Eligibility criteria** (1) patients with pulmonary hypertension (mPAP≥25mmHg); (2) patients who are using treprostinil. (3) Outcome measures: The outcomes of interest were changes in 6-minute walking distance from baseline, changes in mean pulmonary artery pressure from baseline, adverse events, and mortality.

**Information sources** A comprehensive manual search of the PubMed, Embase and Cochrane databases was conducted in order to select relevant randomised controlled trials. Should the necessity arise to obtain pertinent research data, the authors will be duly contacted.

**Main outcome(s)** Changes in 6-minute walking distance from baseline, changes in mean pulmonary artery pressure from baseline, adverse events, and mortality.

**Quality assessment / Risk of bias analysis** We evaluated the methodological quality of the individual studies using the Cochrane risk of bias tool for RCTs.

**Strategy of data synthesis** The estimates are expressed as odds ratio (OR) or mean difference (MD) with a 95% confidence interval (CI).

**Subgroup analysis** In terms of 6-minute walking distance and evaluation of adverse events, we used subgroup analysis to compare the results of different dosing modalities.

**Sensitivity analysis** We conducted sensitivity analyses to investigate the in fluence of a single study on the overall pooled estimate of each predefined outcome.

**Country(ies) involved** China.

**Keywords** Treprostinil; Pulmonary hypertension; Adverse events; Mortality.

**Contributions of each author**
Author 1 - Qing Wang.
Author 2 - Chang Meng.
Author 3 - Zejun Song.
Author 4 - Jie Li.
Author 5 - Biao Sun.
Author 6 - Shufang Wang.
Author 7 - Guobin Miao.
Author 8 - Peng Liu.