Efficacy and safety of Banxia Houpu decoction in the treatment of gastroesophageal reflux cough: A protocol for systematic review and meta-analysis

Wang, X¹; Zhang, L²; Ma, M³.

Review question / Objective: P: All participants were diagnosed with gastroesophageal reflux cough. I: The intervention group was treated with Chinese prescription Banxia Houpu Decoction. C: The control group was treated with conventional western medicine, omeprazole and moxapride orally. O: The primary outcomes included the TCM symptom scores and treatment rate. The secondary outcomes included the incidence of adverse events.

Condition being studied: This system will evaluate the efficacy and safety of BXHPD in the treatment of GERC. Since all the data used in this systematic review and meta-analysis have been published, this review does not require ethical approval. At this stage, data retrieval has been completed and literature screening is under way.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 05 June 2021 and was last updated on 05 June 2021 (registration number INPLASY202160010).
**Condition being studied:** This system will evaluate the efficacy and safety of BXHPD in the treatment of GERC. Since all the data used in this systematic review and meta-analysis have been published, this review does not require ethical approval. At this stage, data retrieval has been completed and literature screening is under way.

## METHODS

### Search strategy:
Patients with gastroesophageal reflux cough.

### Participant or population:
Patients with gastroesophageal reflux cough.

### Intervention:
Banxia Houpu Decoction.

### Comparator:
Conventional western medicine, omeprazole and moxapride orally.

### Study designs to be included:
All the randomized controlled trials (RCTs).

### Eligibility criteria:
Randomized controlled trial of Banxia Houpu decoction intervention in patients with gastroesophageal reflux cough.

### Information sources:
We'll retrieve 8 databases, the electronic databases, including the PubMed, Embase, Cochrane Library, Web of Science, Chinese Biomedical Literature Database, China National Knowledge Infrastructure, Wanfang Database, VIP. The retrieval date was established from the database to June 4, 2021. And will searching the relevant literature by combining subject words with free words. The PubMed search strategy is shown in Table 1 and will be modified to suit other databases. We will include articles reported in the Chinese and English. We will search a reference list for identifying published journals, books, conference articles, and gray literature related to this research topic.

### Main outcome(s):
The primary outcomes included the TCM symptom scores and treatment rate. The TCM symptom scores including sputum, heartburn, belching, acid reflux and cough. The effective rate was referred to the Guiding Principles for Clinical Research of New Chinese Medicine.

### Quality assessment / Risk of bias analysis:
Two independent authors will evaluate the bias risk in each included study using Cochrane Collaboration's “Risk of bias” assessment tool. Any disagreement will be resolved via consultation with a third author. The main items to be considered are as follows: "randomization plan", "group concealment", “blinding method”, “incomplete data reporting”, “selective outcome report”, “other sources of bias”. Each item will be evaluated as “high,” “low,” or “unclear.”

### Strategy of data synthesis:
This study utilizes EndNote X8 to exclude duplicate literatures. Firstly, two independent authors will read the titles and abstracts of the selected studies to evaluate the studies suitable for further evaluation. Secondly, two independent authors will examine all relevant records as full-texts and separate studies under included or excluded studies. It is planned to resolve any disagreement through consensus by a third author. The following baseline characteristics are extracted from the included studies by the two independent authors: first author, published year, study design, study settings and country, mean age, number of participants, intervention method, and relevant outcomes.

### Subgroup analysis:
If a sufficient number of studies are included, we will carry out subgroup analyses to explore possible reasons underlying the heterogeneity based on the follows: characteristics of participants, and treatment durations.

### Sensitivity analysis:
Through the study of large weight of elimination effect, the sensitivity analysis was performed to test the stability of the results of meta-analysis.

### Country(ies) involved:
China.
Keywords: gastroesophageal reflux cough, Banxia Houpu decoction, protocol, systematic review.

Contributions of each author:
Author 1 - Xiangli Wang.
Author 2 - Liuqiao Zhang.
Author 3 - Mengjie Ma.