

INPLASY PROTOCOL

To cite: Albaker. Fenugreek and its effects on muscle performance: A Systematic review. Inplasy protocol 202320089. doi: 10.37766/inplasy2023.2.0089

Received: 21 February 2023

Published: 21 February 2023

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Support: None.

Review Stage at time of this submission: Completed but not published.

Conflicts of interest:
None declared.

Fenugreek and its effects on muscle performance: A Systematic review

Albaker, WI¹.

Review question / Objective: This review aims to provide a scientific and comprehensive analysis of the literature on the effects of fenugreek extracts on muscle performance.

Eligibility criteria: The systematic review included publications that met the following inclusion criteria: 1) a randomized controlled trial (RCT) with a cross-over or parallel design; 2) assessed the effects of fenugreek on sports, muscle performance, and post-exercise recovery; and 3) reported values at baseline and at the end of follow-up in each group, or the net change data. The exclusion criteria were 1) in vitro, in situ, animal, pregnant women's, and children's studies; 2) trials that studied the effect of fenugreek extracts in combination with other herbs; 3) articles that were not peer-reviewed, with no available abstracts, or not written in English. After the preliminary eligibility screening evaluation, only the most complete studies were identified.

INPLASY registration number: This protocol was registered with the International Platform of Registered Systematic Review and Meta-Analysis Protocols (INPLASY) on 21 February 2023 and was last updated on 21 February 2023 (registration number INPLASY202320089).

INTRODUCTION

Review question / Objective: This review aims to provide a scientific and comprehensive analysis of the literature on

the effects of fenugreek extracts on muscle performance.

Rationale: Many researchers have been identifying nutritional supplements that enhance muscle performance and facilitate

optimal post-exercise recovery. Therefore, this review aims to provide an update on the recent findings of fenugreek's muscular, metabolic, and exercise-enhancing effects.

Condition being studied: Muscle performance.

METHODS

Search strategy: This study searched Google Scholar and MEDLINE/PubMed for articles from May 1981 to the present (May 2021) to capture recent scientific studies about fenugreek and its effect on muscles, exercise, or sport. The keywords used to identify the studies included: (((Fenugreek) OR (Trigonella foenum)) AND (((Sport) OR (Exercise)) OR (Muscle)) OR (Physical activity))) AND (("1981/05/30"[Date - Publication]: "3000"[Date - Publication])). Further manual screening through Scopus and ISI websites yielded no additional articles. The search was limited to papers written in English. The references retrieved were imported into Mendeley.

Participant or population: Human subjects.

Intervention: Fenugreek.

Comparator: None.

Study designs to be included: For this review, an extensive online search was conducted according to the guidelines of the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) statement.

Eligibility criteria: The systematic review included publications that met the following inclusion criteria: 1) a randomized controlled trial (RCT) with a cross-over or parallel design; 2) assessed the effects of fenugreek on sports, muscle performance, and post-exercise recovery; and 3) reported values at baseline and at the end of follow-up in each group, or the net change data. The exclusion criteria were 1) in vitro, in situ, animal, pregnant women's, and children's studies; 2) trials that studied the effect of fenugreek extracts in

combination with other herbs; 3) articles that were not peer-reviewed, with no available abstracts, or not written in English. After the preliminary eligibility screening evaluation, only the most complete studies were identified.

Information sources: This study searched Google Scholar and MEDLINE/PubMed for articles from May 1981 to the present (May 2021) to capture recent scientific studies about fenugreek and its effect on muscles, exercise, or sport. The keywords used to identify the studies included: (((Fenugreek) OR (Trigonella foenum)) AND (((Sport) OR (Exercise)) OR (Muscle)) OR (Physical activity))) AND (("1981/05/30"[Date - Publication]: "3000"[Date - Publication])). Further manual screening through Scopus and ISI websites yielded no additional articles. The search was limited to papers written in English. The references retrieved were imported into Mendeley.

Main outcome(s): Muscle performance, post-exercise recovery.

Additional outcome(s): None.

Data management: A standardized form was used to obtain the following data from each study: 1) general characteristics "first author, publication date, country," 2) study characteristics "mean age, sample size, sex, study design, daily dose, type of fenugreek/control, duration of the study, conclusion, and limitation" and 3) quality score. As such, the author collected and reviewed the data and recorded in the tabular form.

Quality assessment / Risk of bias analysis: The six-point scale criteria by Hayden et al. [22] was applied to assess the quality of the included studies: (1) study participation (the sample is large enough and represents the population of interest); (2) control for confounding factors; (3) determination of the factor of interest (clear definition and description of the factor of interest are provided); 4) study attrition (full explanation of the sample drop out); 5) appropriateness of statistical analysis; and 6) outcome measurement (full explanation of the

method used for outcome measurement in such a way that reduces measurement bias). A single-point score was given for each criterion; "the score of 0–3 points indicated low-quality studies, while scores above 3–6 were considered high-quality studies".

Strategy of data synthesis: A standardized form was used to obtain the following data from each study: 1) general characteristics "first author, publication date, country," 2) study characteristics "mean age, sample size, sex, study design, daily dose, type of fenugreek/control, duration of the study, conclusion, and limitation" and 3) quality score. As such, the author collected and reviewed the data and recorded in the tabular form.

Subgroup analysis: None.

Sensitivity analysis: None.

Language restriction: English only.

Country(ies) involved: Saudi Arabia.

Other relevant information: None.

Keywords: Muscle; Recovery; Exercise; Athletes; Fenugreek.

Contributions of each author:

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