

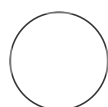


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Therapeutic applications and effects of *Lupinus angustifolius* (Blue lupin) and its components. A systematic review with meta-analysis.

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We use this protocol and it's working

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ABSTRACT

Reviews have focused on the blue lupin (*Lupinus angustifolius*) diet based on the reduction of analytical and anthropometric parameters in pathological populations or, alternatively, without population differentiation. The aim of this study was to investigate the scientific evidence on the biological properties of blue lupin (*Lupinus angustifolius*), its chemical constituents and their relevance for the treatment of health and disease in humans. The effect of the blue lupin diet was evaluated in conjunction with weight, BMI, blood glucose, LDL cholesterol and triglycerides. Boolean algorithms from various databases (PubMed, Scopus and Web of Science).

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Review Question

PICO (S) asks: "Population" participants with chronic pathologies "Intervention": "blue lupin (Lupinus angustifolius) diet; "Control" "Group that did not lupinus diet". Results: "reduction of analytical and anthropometric parameters in pathological populations", "Studies": "randomized controlled studies".

Searches

The scientific literature search was performed in electronic databases PubMed, Web of Sciences(WOS) and SCOPUS.

The search consisted of keywords related ("lupinus diet" OR "lupinus angustifolius dieting" OR "low carbohydrate diet" OR "low carbohydrate lupinus diet" OR "very low carbohydrate lupinus diet") AND ("body composition" OR "fat-free mass" OR "lean body mass" OR "LBM" OR "FFM") AND ("resistance insulin" OR "muscle" OR "muscle mass" OR "diabetes" OR "blood lipids" OR "antioxidants" OR "cancer" OR "anti-inflammatory").

Types of study

Systematic review & meta-analysis

Condition or domain being studied

Impact of the biological properties of blue lupine (Lupinus angustifolius), its chemical constituents and their relevance for the treatment of health and disease in humans.

Participants/Populations

Participants with chronic pathologies (men and women).

Intervention (s)/exposure

Application of *Lupinus angustifolius* (Blue lupin) diets based on the reduction of analytical and anthropometric parameters.

Comparator (s)/Control

Control group take and consumes lupinus diet.

Context

Advanced participants with application of lupinus diet.

Main (Outcome)

Maintenance or decreased of analytical and anthropometric parameters.

Measure of effect

Not applicable

Additional outcomes

None

Measures of effect

Not applicable

Data extraction (selection and coding)

The articles found were coded using the Endnote reference manager, and discrepancies regarding the interpretation of the extracted data were discussed by the researcher. In addition, the articles were filtered using the inclusion criteria: Studies published in Spanish and English and in the last 10 years were selected, in order to review the most current evidence; in this regard randomized trials, with a minimum duration of two weeks and analytical studies that evaluated the effects of *lupinus angustifolius* therapy and its beneficial effects on chronic diseases were included. Studies that were not related to the subject or that did not provide relevant statistical information, research conducted on animals, systematic reviews or meta-analyses or uncontrolled experimental studies and research without a control group were excluded.

The articles were selected according to their title and abstract. Articles that did not meet the inclusion criteria were discarded. In the second phase, the entire article was read and analyzed. Information was extracted from the articles on the number of participants, the type and duration

or interventions, and characteristics of the population.

Risk of bias (quality) assesment

The risk of bias assesment will be carried out following the recommendations of the Cochrane Collaboration. For each study, seven domains were scored with high, low or unclear risk of bias. These domains were: sequence generation, allocation concealment, blinding of participants and staff, blinding of outcome assesment, incomplete outcome data, selective outcome reporting, and other issues considered.

Strategy for data synthesis

From each selected article, information was extracted including the name of the first author, the date of publication, the average age of the participants, and the gender of both the experimental and control groups, in addition to the study design, the participants, the duration, the composition of the diet, and the means and standard deviations (SD) of both groups. Data related to body weight, fasting glucose, BMI, LDL cholesterol, HDL, CT, TG were selected

The results of this meta-analysis were presented with mean differences (MD) and 95% confidence interval (CI). Heterogeneity was also present, estimated by measuring its extent by the I^2 index. The authors examined the P value for this statistics and noted the presence of heterogeneity when $P < 0.05$, compromising the validity of the pooled estimates. In addition, the I^2 index considered low heterogeneity (0-40%), moderate (30-60%), considerable (50-90%) or substantial (75-100%).

Review team members and their organisational affiliations

Rafael Fernandez Castillo (University of Granada, Granada, Spain).

Type and method of review

Meta-analysis, Systematic review

Anticipated or actual start date

14 January 2023

Anticipated completion date

30 May 2023

Funding sources/sponsors

No funding

Conflicts of interest

There are not conflicts of interest

Language

English

Country

Spain

Stage of review

Review ongoing