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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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Keywords: effect of the blue lupin diet, blue lupin diet, effects of lupinus angustifolius, lupinus angustifolius, diet, blue lupin, scientific evidence on the biological property, triglyceride, biological property, ldl cholesterol, bmi, anthropometric parameters in pathological population

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).

Troubleshooting

Therapeutic application and effects of Lupinus Angustifolius (Blue lupin) and its components. A systematic reviews with Mata-analysis

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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) ans 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 a women).

Intervention (s)/exposure
Aplicattion ofLupinus 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.

Meassure 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 interprepatinon 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 lupines 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 statical 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 discarted. In the second phase, the entire article was read and analyzed. Information was extracted from the articles on the numbre of participants, the type and duration or interventions, and characterictics 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 or this meta-analysis were presented with mean differences (MD) and 95% confidence intervan (CI). Heterogneity was also present, estimated by measuring its extent by the I^2index. The authors examined the P value for this stastics and noted the presence of heterogeneity when $P<0.05$, compromising the validity of the pooled estimates. In addition, the I^2index considered low heterogeneity (0-40%), moderate (30-60%), considerable (50-90%) o 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