

Anti-inflammatory effect of *Linum usitatissimum* (Flaxseed/linseed) fixed oil on inflammatory bowel disease in mice

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Abstract

Currently, there are several therapeutic options for inflammatory bowel disease (IBD). However, they may have possible adverse effects or even relatively significant efficacy. The fixed oil of flaxseed (*Linum usitatissimum*) is known for its high content of omega 3 fatty acids and proteins acting as stimulators of the immune system. Thus, the main objective of this study was to study the anti-inflammatory activity of the fixed oil of flaxseed on a mouse model and its effect on the gut microbiota.

The anti-inflammatory effect of the fixed oil was tested with doses of 50 and 100 mg/kg on acetic acid-induced colitis on an animal model (albino mice) for 48 hours. In parallel, a bacteriological analysis of the faecal flora of each lot (healthy, sick and treated by fixed oil) was carried out by the enumeration of *Escherichia coli* on selective medium.

Statistical tests revealed that the administration of *Linum usitatissimum* fixed oil significantly ($P < 0.05$) decreased the P / L (weight/ Length of the colon) ratio with a 15.1% reduction, as well as, a decrease in hemorrhagic erosions scattered throughout the colon compared to colitic lot and an improvement in colon length. In addition, a decrease in the number of *E. coli* in fecal matter was also observed. All these results suggest an anti-inflammatory effect of the fixed oil. Thereby, flaxseed fixed oil has an anti-inflammatory effect and can therefore be considered as a potential therapeutic strategy in the treatment of inflammatory bowel disease (IBD).

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Speaker Publications:

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Biography:

Betitra Yanat has is a teacher-resarcher in microbiology and has completed her PhD in 2017 at Bejaia University regarding antimicrobial resistance. Now, she is interested about gut microbiota and the relationship with inflammatory bowel