



International Journal of Current Trends in Pharmaceutical Research

Journal Home Page: www.pharmaresearchlibrary.com/ijctpr



REVIEW ARTICLE

Flax Seed and Their Pharmacological Activities

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ABSTRACT

Flax seeds are very important annual herb having numerous pharmacological value. Flax seed is also known as common flax (or) Linseed, Species: *Linum usitatissimum* and its native are believed to be Egypt also is cultivated in Asia, Europe, South America and it is widely used for its medicinal values. Flax seed having various pharmacological actions such as Anti – cancer, Cardio protective, Anti-Pyretic, Anti – inflammatory, Anti–Diarrheal, Anti–ulcer, Anti –Diabetic, Anti–Cancerogenic & Analgesic Activity.

Keywords: Flax seed, Pharmacological actions, *Linum usitatissimum*.

ARTICLE INFO

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MS-ID: IJCTPR3961



PAPER QR-CODE

Article History: Received 19 Jan 2019, Accepted 27 February 2019, Available Online 15 May 2019

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Citation: Sangari. R, et al. Flax Seed and Their Pharmacological Activities. *Int. J. Currnt. Tren. Pharm, Res., Res.*, 2019, 7(3): 114-115.

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1. Introduction

Flax seed is annual herb, Family: (Linaceae) Latin name of flax seed (*Linum usitatissimum* L.) means “very useful”. They are of 2 varieties. Brown & Yellow (or) Golden. The shell of flax seed yielding good quality fiber and the seed provides oil rich in omega-3, digestible protein & lignans. The flax seed have various pharmacological actions have been reported.

2. Activities of Flax seeds

Cardio protective Activity: Anand Zanwar et al have evaluated the cardioprotective activity of flax lignan concentrate extracted from seeds of *Linum usitatissimum* in isoprenaline induced cardiotoxicity while the cardiotoxic effect of isoprenaline was less in flax lignin concentrate pretreated animals.[1]

Anti –Pyretic Activity: Gaurav Kaithwas et al possessed that in typhoid para typhoid A/ B vaccine induced pyrexia, The flax seed oil showed antipyretic activity comparable to aspirin. The oil contains 57.38% linolenic acid. This flax seed showed good Anti-Pyretic activity against pyrexia.[2]

Anti- Inflammatory Activity:

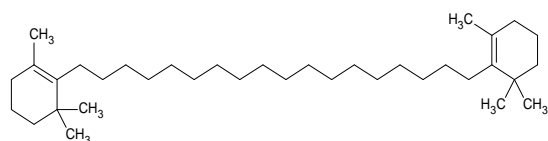
Surender singh et al evaluated the anti-inflammatory activity of plant lipids containing alpha linolenic acid.[3]

Anti-Diarrhoeal Activity:

Amber Hanif Palla et al have assessed the anti-diarrheal activity .Flax seed extract reduced the diarrheal score in mice by 39 %,63.90%, 68.34% & bactericidal activity at the tested concentrations of 12.5 mg/ml This showed the bactericidal activity against vancomycin-resistant enterococcus faecalis(100%), E.coli k1 (88.88%) , Methicillin-resistant staphylococcus aureus (98.76 %) , Bacillus Cereus (92.64 %).[4]

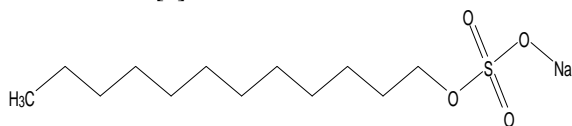
Anti- Ulcer Activity:

Sonali Joshi et al have evaluated the anti- ulcer potential of crude extract of lignans from flax seed crude extract of lignin showed anti- ulcer effect & is compared against beta carotene in NSAID – induced gastric ulcers in Wistar rat model.[5]



Anti-Diabetic Activity:

Christophe Hano et al have shown the flax seed containing dietary lignans (SDS) involving the inhibition of pancreatic alpha amylase also delaying the development of type 2 diabetes mellitus.[6]



Anti-Cancerogenic Activity:

Conrad Theil et al , have studied anti-cancer activity by applying the high concentration of flax seed root extract on MCF -7 & BT 20 mamma carcino cells in-vitro caused cell lethality & suspension of cell vitality & proliferation.[7]

Anti- Inflammatory Effect:

Gaurav Kaithwas et al, have studied that the Linum usitatissimum fixed oil significantly reduced the peritoneal vascular permeability indicating the suppression of the vascular response in the process of acute inflammation. [8]

Analgesic Activity: Gaurav Kaithwas et al, have studied the analgesic activity in tail immersion model ,the oil raised the pain threshold to a lesser extent then morphine but showed excellent peripherally acting, analgesic activity comparable to aspirin [9].

3. Conclusion

Flax seed having various pharmacological actions such as Anti–cancer, Cardio protective, Anti-Pyretic, Anti–inflammatory, Anti –Diarrheal, Anti –ulcer, Anti –Diabetic, Anti –Cancerogenic & Analgesic Activity.

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