Preclinical Evidence of Pharmacological Effect from Medicinal Hemp

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Abstract : INTRODUCTION: Hemp (Cannabis sativa subsp. sativa), commonly used for industrial purposes, differs from marijuana by containing lower levels of delta-9-tetrahydronannabidiol- the principal psychoactive constituent in cannabis. Due to its non-psychoactive nature, there has been growing interest in hemp's therapeutic potential, which has been investigated through pre-clinical and clinical study modalities. OBJECTIVE: To provide an overview of the current landscape of hemp research, through recent scientific findings specific to the pharmacological effects of the medicinal hemp plant and its derived compounds. METHODS: This review was conducted through a systematic search strategy according to the preferred reporting items for systematic review and meta-analysis-ScR (PRISMA-ScR) checklist on electronic databases including MEDLINE, OVID (OVFT, APC Journal Club, EBM Reviews), Cochrane Library Central and Clinicaltrials.gov. RESULTS: From 65 primary articles reviewed, there were 47 pre-clinical studies related to medicinal hemp. Interestingly, the hemp derivatives showed several potential activities such as anti-oxidative, anti-hypertensive, anti-inflammatory, anti-diabetic, anti-neuroinflammatory, anti-arthritic, anti-acne, and anti-microbial activities. Renal protective effects and estrogenic properties were also exhibited in vitro. CONCLUSION: Medicinal hemp possesses various pharmacological effects tested in vitro and in vivo. Information provided in this review could be used as tool to strengthen the study design of future clinical trial research.

Keywords : Preclinical, Herbal Medicine, Hemp, Cannabis

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