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REVIEWER'S REPORT

Manuscript No.: IJAR-50513 Date: 05-03-2025

Title: Analgesic & Antipyretic activity profile on Gymnostachyum febrifugum Benth. A folk herb used in fever"

Recommendation:
Accept as it is……**YES……**
Accept after minor revision……
Accept after major revision ……
Do not accept (*Reasons below*) ……

Rating	Excel.	Good	Fair	Poor
Originality	√			
Techn. Quality		√		
Clarity		√		
Significance			√	

Reviewer's Name: Tahir Ahmad

Reviewer's Decision about Paper: **Recommended for Publication.**

Comments (*Use additional pages, if required*)
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Reviewer's Comment / Report

Abstract

The abstract provides a concise and well-structured summary of the study, effectively outlining the **purpose, methodology, and key findings**. The introduction within the abstract establishes the traditional use of *Gymnostachyum febrifugum* Benth. and the rationale for its experimental validation. The **inclusion of specific experimental models (Brewer's yeast-induced pyrexia and Eddy's hot plate)**, along with details on test groups and drug administration, enhances the clarity of the methodology. The results are presented succinctly, emphasizing the **significant antipyretic effects** of both test doses and the **greater analgesic effect of the single dose**. The abstract successfully provides a **comprehensive snapshot of the study's objectives, methods, and outcomes**.

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Introduction

The introduction effectively sets the stage by highlighting India's rich biodiversity and its potential for discovering new medicinal compounds. The discussion on traditional medicine and folklore healing practices provides strong contextual support for the study. The detailed description of *Gymnostachyum febrifugum* Benth., including its geographical distribution, local names, and traditional medicinal applications, adds depth to the introduction. The inclusion of previous scientific findings on the plant's roots further justifies the need for studying the unexamined aerial parts (stem and leaves). The introduction is well-written, offering a logical progression from traditional knowledge to scientific validation.

Materials & Methods

Plant Material

The collection and authentication of *Gymnostachyum febrifugum* Benth. from its natural habitat in Udupi is clearly stated. The mention of authentication by a recognized research center ensures scientific credibility. The description of extract preparation is precise and informative.

Animal Selection

The selection of healthy Wistar albino rats, along with details on weight range, housing conditions, and acclimatization period, reflects a well-planned experimental setup. The mention of IAEC approval ensures ethical compliance, which is a crucial aspect of biomedical research.

Dose Preparation & Administration

The methodology for dose calculation, based on extrapolation from human dosage using Paget and Barnes' formula, is well-articulated. The differentiation between single dose (TED×1) and double dose (TED×2) is clearly defined, providing transparency in drug administration. The inclusion of standard drugs (paracetamol for antipyretic and diclofenac for analgesic activity) strengthens the experimental validity. The detailed preparation of standard drug solutions further demonstrates methodological rigor.

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Procedure

Antipyretic Activity – Brewer's Yeast-Induced Pyrexia Model

The description of **randomization, grouping, and fasting conditions** ensures that the experimental design minimizes external variability. The method of **fever induction using Brewer's yeast suspension**, along with rectal temperature measurements at **specific time intervals (before and after drug administration)**, demonstrates a **well-controlled experimental approach**. The inclusion of **control, standard, and test groups**, with clear distinctions between the doses, strengthens the study's reliability.

Grouping of Experimental Animals in Antipyretic Activity

The tabular representation of **animal groupings and drug administration** is clear and systematically presented, making it easy to interpret.

Overall Evaluation

The study is well-structured, demonstrating **scientific rigor in its methodology, ethical considerations, and experimental design**. The logical progression from **traditional knowledge to experimental validation** is well-articulated, making the research both **relevant and impactful**. The detailed documentation of **dose calculation, drug administration, and experimental models** enhances the study's reproducibility. The use of **standard drugs as controls, along with ethical compliance and precise data recording**, strengthens the credibility of the findings.

The paper successfully highlights the **potential of *Gymnostachyum febrifugum* Benth. as a natural antipyretic and analgesic agent**, reinforcing the significance of folklore medicine in modern pharmacological research.