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Assessment of Toxicological Profile and Reproductive Toxicity of Herbal Aphrodisiacs in Wistar Rats

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Objective & Aim: The present study aimed to evaluate the toxicological and reproductive safety profile of selected herbal aphrodisiac formulations in Wistar rats. The primary objective was to assess the potential acute, sub-chronic, and reproductive toxicities of these formulations through behavioral, biochemical, and histopathological parameters. Additionally, the study sought to determine their effects on reproductive organ integrity, sperm quality, hormonal balance, and possible dose-related adverse effects to establish their overall safety margin for therapeutic use.

Methods: Adult male and female Wistar rats were administered different doses of the herbal aphrodisiac formulations orally for 28 days. Acute and sub-chronic toxicity studies were performed following OECD guidelines. Parameters assessed included body weight, food and water intake, hematological and biochemical indices (ALT, AST, ALP, creatinine, urea, lipid profile), and histopathology of major organs (liver, kidney, heart, testes, and ovaries). Reproductive toxicity was evaluated by monitoring estrous cycle, mating performance, fertility index, sperm motility, and serum sex hormone levels (testosterone, estrogen, LH, FSH).

Results: No mortality or significant behavioral abnormalities were observed in the treated groups. At therapeutic doses, the herbal aphrodisiacs did not produce significant alterations in hematological or biochemical parameters compared to controls ($p > 0.05$). However, higher doses exhibited mild hepatic and renal changes with moderate alterations in reproductive hormone levels. Histopathological examinations confirmed dose-dependent effects, indicating relative safety at lower concentrations.

Conclusion: The findings suggest that the tested herbal aphrodisiac formulations are generally safe at therapeutic doses but may exhibit mild toxic and reproductive effects at higher doses. Comprehensive toxicological profiling supports their cautious use and highlights the importance of dose regulation in clinical applications.

Keywords: Herbal aphrodisiacs, toxicological evaluation, reproductive toxicity, Wistar rats, hormonal profile, histopathology, safety assessment

Biography1: Ms. Kotamahanthi Sujatha is pursuing her M.Pharmacy in the Department of Pharmacology at Sri Venkateswara College of Pharmacy. Her research focuses on toxicology and pharmacological evaluation of herbal medicines. She has studied the Assessment of Toxicological Profile and Reproductive Toxicity of Herbal Aphrodisiacs in Wistar Rats highlighting her interest in ensuring the safety and efficacy of traditional herbal formulations.

Biography2 :**Ms. N. Rajeswari**, M.Pharm (Pharmacology), is an Assistant Professor at Sri Venkateswara College of Pharmacy with over 6 years of academic and research experience. Her interests include experimental pharmacology, toxicology and herbal drug research, with a focus on integrating traditional medicine with modern therapeutics

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