IJARSCT
International Journal of Advanced Research in Science, Communication and Technology
International Open-Access, Double-Blind, Peer-Reviewed, Refereed, Multidisciplinary Online Journal
ISSN: 2581-9429
Volume 6, Issue 3, January 2026
Impact Factor: 7.67

Musli Pak Supplementation Improves Male Reproductive Health in Adult Parkes Strain Mice

Raj Kumar Yadav[1], Vind Kumar Tiwari[1], Arti Rajpoot[2], Raghav Kumar Mishra[2], Shashibhal M. Pandey[1*]

[1]Department of Zoology, Smt. Chandibai Himathmal Mansukhani College (Autonomous), Ulhasnagar, Thane, India.
[2]Department of Zoology, Institute of Science, Banaras Hindu University, Varanasi, India

Abstract: *Aim: To study the effect of Musli Pak supplementation on male reproductive physiology in Adult Parkes strain mice*

Study design: Twenty-four adult Parkes strain male mice of twelve to fourteen weeks age were placed in 4 different groups (6 mice /group). Standard optimum conditions were maintained; mice were treated with the respective dose (50 mg/kg BW,100 mg/kg BW, and 200 mg/kg BW) of Musli Pak along with control group for 35 days.

Place and Duration of Study: Ethical clearance was approved by the IAEC, Department of Zoology, Banaras Hindu University with a validity of two years.

Methodology: Following autopsy, reproductive organ indices, sperm quality, testicular daily sperm production (TDSP), steroidogenic enzyme activities(3β-HSD,17β-HSD), serum hormones, epididymal sialic acid, seminal vesicle fructose, and histoarchitecture of testis, seminal vesicle and epididymis of adult Parkes strain mice were evaluated.

Results: In Musli Pak treated mice testis weight increased at all doses however relative testis and epididymis weight increased in mice treated with doses 100 & 200 mg/kg, body weight. Seminal vesicle weight was significantly higher in all treated groups. Musli Pak treatment appeared to enhance sperm count, motility, viability, TDSP and protected against abnormal morphology. Serum testosterone, estradiol,3β-HSD and 17β-HSD expression were elevated in mice particularly at 100 & 200 mg/kg dose of Musli Pak. PCNA expression was found highest at 50 and 200 mg/kg. Histology of testis, epididymis and seminal vesicle showed normal architecture with germinal epithelium thickening and sperm-rich lumina without degenerative changes. Biochemical analysis showed increased sialic acid and fructose concentration indicated improved epididymal and seminal vesicle function.

Conclusion: Musli Pak supplementation enhances spermatogenesis, steroidogenesis, and sperm maturation in a dose-dependent manner, with 200 mg/kg showing maximal benefits and 50 mg/kg triggering strong proliferative activity. The findings support its traditional fertility-boosting use of Musli Pak without histological or biochemical toxicity..

Keywords: Musli Pak, steroidogenic enzymes, testosterone, estradiol, daily sperm production, sperm quality, fructose, sialic acid

DOI: 10.48175/IJARSCT-30901