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Title: Artocarpus lakoocha Fruits: Phytochemical Investigation and Anti- Spermatogenic Potential

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Abstract: The present study was undertaken to investigate the preliminary phytochemical screening and antispermatogenic activity of different extracts of Artocarpus lakoocha Roxb fruits and the major constituent isolated from the active extract. The powdered plant material was defatted with petroleum ether and then successively extracted with chloroform, ethanol and distilled water. The prepared extracts were screened for the presence of various phytoconstituents, which showed the presence of alkaloids, steroids, carbohydrates, glycosides, saponin, protein and phenolic compounds. Petroleum ether, chloroform, ethanolic and aqueous extracts of Artocarpus lakoocha fruits were tested for their antispermatogenic potential, at the doses of 100, 200 and 300mg/kg, body weight, p.o., for 45 days. The chloroform extract of fruit (at a dose of 300 mg/kg body weight) was found to be most active among all. Therefore, it was subjected to the isolation of phytoconstituent responsible for the activity using column chromatography. The isolated compound was characterized by TLC, melting point, UV, IR, ¹H-NMR and Mass spectroscopy and was identified as β -sitosterol. Antispermatogenic activity of the isolated compound was evaluated at a dose of 5 mg/kg body weight/day, for 45 days. The treatment caused significant decrease (P<0.01) in the weight of reproductive organs such as; testis, epididymis and seminal vesicle. Moreover, the sperm count, sperm viability and serum testosterone levels were significantly lowered when compared to that of the control group.

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