

Antifertility effect of Benzene extract of flowers of *Hibiscus rosa sinensis* L. on reproductive system in male albino rats

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Abstract

The effect of *Hibiscus rosa sinensis* L. flower extract on reproduction was studied in male albino rats. The study was divided into two groups of six animals each. The first group (I) received distilled water and served as control. The Second group (II) of animals was administered the Benzene extract of flowers daily at a dose of 200mg/kg body wt/day for 30 days. A significant reduction in testicular sperm count and sperm motility was observed. The result showed that *Hibiscus rosa sinensis* (L.) flower extract has effect on male reproductive system in albino rats.

Key words: *Hibiscus rosa sinensis*, sperm count, sperm motility.

Rapid growth in population has been adversely affecting the social, economical and technological development of human race. Therefore, it has to be taken on a priority basis to control population. Today, many synthetic contraceptives are available in the market but each one has either a limited success or side effects.

Hibiscus rosa sinensis L. is commonly known as Chinese Hibiscus. It is a native of China and is a potent medicinal plant. *Hibiscus rosa sinensis* flower decoctions are used in India as aphrodisiacs, for menor-rhagia, uterine haemorrhage and for fertility control in female. The present study was undertaken to test the antifertility activity on male albino rats. A number of research articles have been

consulted for the preparation of this manuscript¹⁻¹⁴.

Collection and preparation of extract :

The flowers of *Hibiscus rosa sinensis* were collected from Botanical Garden of D.S. College, Aligarh. The benzene extract of flowers was prepared by extracting the freshly collected dried and powdered flowers by Soxhalation.

Animals :

Adult male albino rats, weighing 150-180 gm body weight were selected for the study and were housed under standard laboratory conditions. They were fed with standard rodent pellet and water *ad libitum*.

The animals were grouped into two groups of 6 animals each.

Group 1st - Control Animals

Group IInd - The rats were treated with Benzene extract of flowers of *Hibiscus rosa sinensis* L. at a dose of 200mg/kg body

Estimation of sperm motility and count :

The spermatozoa were obtained by making small cut in cauda epididymis and vas deferens and were placed in 1ml physiological saline. For sperm motility, one drop of evenly mixed sample was placed on a microscopic slide and covered with a cover slip. The slide was observed under high power and motility was

evaluated. The percent motility was determined by counting both motile and nonmotile spermatozoa per unit area¹⁴. The sperm count was determined under Neubaur haemocytometer and expressed as million/ml of suspension.

Weight response:

The orally treated *Hibiscus rosa sinensis* flower extract caused decrease in the body weight and weight of testes significantly, as compared to the control animals. There was significant decrease in the weight of epididymes as compared to control animals. (Table-1).

Sperm count :

There was a decrease in sperm count and motility in treated rats a.

Table-1 Effect of benzene extract of flowers of *Hibiscus rosa sinensis* (L.) on body weight, organ weights, sperm count and sperm motility in male albino rats

Groups	Organs weight			Sperm	
	Body weight (gm)	Testes weight (gm)	Epididymes weight (gm)	Total Count Million/ml	Motility %
Control Group	168.20 SE ± 7.4	0.7986 ±0.0131	1.680 ±0.191	54.17 ±3.4	88.84 ±6.3
Treated Group 200mg/kg Body weight	158.60 SE ± 8.9	0.5842 ±0.0193	1.986 ±0.019	9.26 ±1.2	8.62 ±4.3

The results show that benzene extract of flowers of *Hibiscus rosa sinensis* was very effective in producing the reversible sterility. For the male contraception it is not necessary to stop the spermatogenesis, but it

is also possible to eliminate the fertilizing ability of spermatozoa by causing changes in morphology or in the function of sperm. The treated group of animals indicated that there is decrease in sperm count suggesting the

alteration in sperm production in testes. Decrease in sperm motility suggests the alteration of sperm maturation in the epididymis. This result is also supported by Reddy, *et al.*,¹³ who reported the antispermatogenic effects of various extracts of *Hibiscus rosa sinensis*.

In conclusion, the result of present study suggested that benzene extract of flowers of *Hibiscus rosa sinensis* causes marked alterations in the male reproductive organs. These flowers may be used as botanical contraceptive with further clinical trials.

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