

Risk of plant extracts in rat reproduction

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Abstract

Traditional medicines derived from plants play an important role in health care systems all over the world. However, several studies have demonstrated possible fertility disturbs mainly in male and female rats. In this mini review, risks for rat reproduction are briefly described.

Introduction

Researchers all over the world are carried out to find out the plant products that can be used to treat infertility problems in human health. Several plant extracts have long been used to treat problems in this research field and recent publications had emphasized the need for finding inexpensive and harmless agents able of controlling human fertility.

Numerous agents are known which affect female fertility, both in positive and negative senses. For example, *Achillea millefolium* aqueous extracts have been used as medicine by many cultures and have been shown to actuate in protection or attenuation of testicular damage following chemotherapies exposure [1]. However, most of them have been included in negative response. *Martynia annua* have its fruits and seeds with antifertility properties. Mali et al. [2] reported the negative effects of *M. annua* extracts on the weights of testes, ventricle vesicles, epididymides, and seminal vesicle that were significantly reduced accompanied by a reduced testicular sperm count, disturbing the rat male reproduction.

According to Gupta et al. [3] the root extract of *Barleria prionitis* was given orally to male rats (100 mg/d) for 60 days and the extract reduced the fertility of male rats by 100%. Costa et al. [4] commented about the effect of *Phthirusa pyrifolia* aqueous extract on male rat reproduction through oral administration and the results revealed a severe decrease in testosterone hormone levels by disturbs on testicular parameters. Besides, the oral administration of *Tabernaemontana divaricata* ethanolic extract to male rats produced dose related effect on reproduction. Inhibitory effect on gonadotrophin release induced and was responsible for the decline in testosterone production, leading to change in spermatogenesis [5]. Hammamia et al. [6] revealed the chronic consumption of *Hypericum humifusum* leaf extracts, for one month, impairs epididymis spermatozoa characters in association with oxidative stress in adult male Wistar rats. Follow, the similar results were found by Retana-Márquez et al. [7] where *Leucaena* extracts were capable of interfering with the reproductive physiology, increasing germ cell death, and decreasing testosterone and sperm quality in male Wistar rats.

Conclusion

In conclusion, this review aims to promote the use of plants and their extracts arising from their antifertility activities. Already, medicinal plants have a proven efficacy as antifertility agents. Plant bioactivity has been known and used for centuries, but it is only recently that we have started research to understand their compounds production, distribution, chemistry and biological effects in animals. Thus, in this way, we propose here to avoid indiscriminate use of plant extracts without previous research.

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