

# “Study of Antifertility Effect of *Tephrosia Purpurea* plant”

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## ABSTRACT

*Despite using presently available contraceptives, the world's population increasing day by day and reached 7 billion and yearly it is increasing by 75 million. The unchecked human population is a major contributor to environmental pollution and resources degradation worldwide. It is estimated that about fifty percent of all conceptions/pregnancies are unplanned or undesired. Furthermore, in developing countries contraceptives are used by restricted peoples to control their fertility due to many economic and cultural difficulties. Therefore, there is a excessive need to develop a novel method to control human fertility for better option and also to access existing contraceptives. Since research and family planning organizations have been focused upon female approaches of contraception because women bear a disproportionate portion of the health and economic consequences of childbearing and rearing. In this way women have many contraceptive choices, ranging from daily oral medications to intrauterine devices implanted for long period to sterilization. However, there are only two selections of male contraception available these natural or behavioural includes condoms and vasectomy, with only the former being reliably reversible. A majority of men feel that the responsibility of contraception falls too much on women and wish to use male-based methods, approximate 97% of women also believe male hormonal contraception is a “good idea”. Plants have been used for millennia for medicinal purposes, including in prevention of pregnancy and as abortifacient agents. Indeed, the first female oral contraceptive was derived from the roots of the Mexican wild yam. Hence, the present study is designed to study the antifertility effect of *Tephrosia purpurea* plant.*

**Keywords:** Antifertility, Contraceptives, *Tephrosia purpura*

## 1. INTRODUCTION

Despite using currently available contraceptives, the world's population increasing day by day and reached 7 billion and yearly it is increasing continuously by 75 million. The unchecked human population is a significant contributor to environmental pollution and resources degradation worldwide. It is estimated that about fifty percent of all conceptions/pregnancies are unplanned or undesired (Henshaw, 1998). Moreover, in developing countries contraceptives are used by

restricted peoples to control their fertility due to many economic and cultural problems (Jones *et al*, 2002). Therefore, there is a great need to develop a new method to control human fertility for better option and also to access existing contraceptives. Although, there is a wide range of contraceptive choices are available for Women to control their fertility. Since research and family planning organizations have traditionally focused upon female methods of contraception because women bear a disproportionate portion of the health and economic consequences of childbearing and rearing. Therefore, women have many contraceptive choices, ranging from daily oral medications to intrauterine devices implanted for long period to sterilization. However, there are only two choices of male contraception available these natural or behavioural includes condoms and vasectomy, with only the former being reliably reversible. A majority of men feel that the responsibility of contraception falls too much on women (Martin *et al*, 2000) and wish to use male-based methods (Heinemann *et al*, 2005), approximate 97% of women also believe male hormonal contraception is a “good idea” (Glasier *et al*, 2000). Current contraceptive options available to men are includes withdrawal (coitus interruptus), condoms and vasectomy. While the withdrawal method is considered unreliable due to failure rate, use of condom has been increased due to recognition of a need for protection against HIV and sexually transmitted infections although, have draw backs or adverse side effects (Nieschlag *et al*, 2006). In contrast, vasectomy is considered a safe and simple method, but the drawback is that it is not reliably reversible and there is still a 1% chance of unwanted pregnancy (Nieschlag *et al*, 2011). In recent years, a growing number of new methods have emerged, such as reversible inhibition of sperm under guidance (RISUG), or “Vasalgel”, as an alternative to vasectomy, most of which are still under development.

## 2. ROLE OF PLANTS

Plants have been used for millennia for medicinal purposes, including in prevention of pregnancy and as abortifacient agents. Indeed, the first female oral contraceptive was derived from the roots of the Mexican wild yam (Ferro and Garside, 2011). A recent review has examined the effects of different plant extracts on steroidogenesis and spermatogenesis (Ogbuewu *et al*, 2011). The most widely researched plants to demonstrate non hormonal antifertility effects are neem (*Azadirachta indica*) and gossypol, an extract of cottonseed oil. Recently studies on Wistar rats provide an evidence that *A. nilotica* severely affects male fertility, however, not yet clear whether its antifertility effects are reversible (Lampiao, 2013). The ethanolic extracts of *Feronia elephantum* Leaf and Bark were found having antifertility effects on male albino rats (Muthulakshmi *et al*, 2013). The ethanolic extract of *Maytenus emarginata* was found having reversible contraceptive efficacy in male albino rats (Chaudhary *et al*, 2010). The methanolic extract of *Piper betle* was found having antifertility activity in female albino rats (Ranjan *et al*, 2013). Several compounds of plants have been explored to the quality control, safety, and mechanisms of actions well studied. It

is in believe that plants could be provides orally effective, cheap, safe and reversible contraceptives for male.

Hence, the present study is designed to evaluate the effects of ethanolic extract of fruit and root of *Tephrosia purpurea* on spermatogenesis in male rats to develop a new safe, orally effective and reversible fertility regulating agent for men.

### 3. CONCLUSIONS

Since research and family planning organizations have been focused upon female methods of contraceptions. In this way efforts are being made to develop contraceptives especially due to uneven portion of the health from the plant that have the capacity to produce many of the agents that are extremely significant to humans such as abortifacient agents. In the Indian scenario, study of antifertility of *Tephrosia purpurea* plant will be advantageous.

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