APPENDICES
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APPENDIX 1

SYNOPSIS
CHEMICAL & PHARMACOLOGICAL EVALUATION
OF SOME POTENTIAL TRADITIONALLY USED
NATURAL ANTIFERTILITY AGENTS

INTRODUCTION

India has an estimated population of more than one thousand million now. India has only 2.4% of world's land area but supporting fifteen percent of world's total population. India's population is increasing exponentially. This increase in population is a grave concern for every body. The expanding population creates problems like decrease in per capita food supply, scarcity of clothing, unemployment, lack of education, unavailability of shelter, increased pollution and increased health demand etc. So the control of population by adoption of suitable methods of contraception is a necessity in order to make the country prosperous.

Measures available for fertility regulation are not absolutely fool-proof, totally safe or easy to comply. Hormonal contraceptives are the most effective spacing methods of contraception. These hormonal contraceptives can be administered orally, by injection or as implants. But oral pills are more commonly used.

In females, the oral pill contain a combination of both oestrogen and progestogen or progestogen only. The combined pills have several drawbacks like weight gain, nausea, mood changes and skin pigmentation etc. Serious adverse effects are rare but a small proportion of women develop reversible hypertension. There is evidence, both in favour and against an increase in risk of breast cancer. There is a small increased risk of thromboembolism with third generation pills. But the contraceptive effect of progestogen-only pill is less reliable.

Centchroman (Saheli) is the first non-steroidal oestrogen antagonist developed at CDRI India. The usual side effects of hormonal contraceptives have not been noted yet.

Moreover several contraindications have been documented for oral pills during which the male counterpart is supposed to co-operate by opting for regular medication. Though there are several approaches like antiandrogen, estrogens and progestins, androgens etc, they have their own lacunaes. Gossipol is a non-steroidal compound, obtained from cotton seed has been
studied in China. About ten percent men remain oligozoospermic for long periods after discontinuation.

Considering the above facts, thorough literature survey reveals the scope for development of newer nonsteroidal molecules which can produce reversible contraception without affecting the quality of life in both male and female. The present research, therefore aims towards achieving this.

There are large numbers of indigenous plants that are used as oral contraceptives especially by tribals. Such plants are even recommended in folk medicines and ayurvedic texts from very ancient times. Already several scientific papers have been published related to fertility control but still more plants are left.

**OBJECTIVE**

1. To comprehend and consolidate the literature in regard to the antifertility agents on the basis of traditional manuscripts and ayurvedic texts.
2. To characterize the chemical constituents and evaluate their anti fertility activity.
3. To explore the possible mechanisms for the said activities.
4. To evaluate their safety.
5. To put the active ingredients into a suitable dosage form.

**STUDY DESIGN**

- Selection and identification of the plants by the experts of Drabya guna Vigyana
- Extraction and characterization of the active ingredients
- Screening of the ingredients for antifertility activity will involve the initial routine fertility tests followed by special/subsidiary tests to determine the mechanism of action of the compound. Rats will be used as the animals.
- Toxicological studies in animals
- Formulation of a suitable dosage form
ETHICAL CONSIDERATIONS

This research will be carried out as per the CPCSEA guidelines for animal research.

REFERENCES


Pratap Kumar Sahu
(Research Scholar)

Prof. D.K. Tripathi
(Guide)