

Documentation of Fertility Regulatory Ethnomedicinal Plants used by Tribal's of Yavatmal District, Maharashtra, India

Mukund Dhore¹, Dinesh Dabhadkar^{*2}, Varsha Zade², Manik Dhore³

¹Department of Botany, B. B. Arts, N. B. Commerce and B. P. Science College, Digras 445203, India

²Department of Zoology, Govt. Vidarbha Institute of Science and Humanities, Amravati 444604, India

³Department of Botany, Shri Shivaji science college Akot, Maharashtra, 444101, India

Abstract- Many studies have been done on the female contraception. The traditional use of plants to treat different sort of diseases, including fertility related problems is widespread throughout the world as many plant substances are known for their interferences with the female reproductive system. The present paper deals with the documentation of ethnomedicinal uses of plant and their parts, particularly the fertility regulatory plants used by *Gond*, *Kolam*, *Andh*, *Korku* and *banjara* tribes of Yavatmal range forest of Yavatmal district. The Yavatmal forest range was selected for investigation, as tribals of this area are mainly dependent upon the forest flora for their livelihood and use herbal medicines for curing the ailments and diseases. The work was done for a period of 05 year (2005- 2010) and altogether 21 plants were recorded and documented which are used by tribal people as abortifacient.

Index Terms- Antifertility activity, Ethanomedicine, Medicinal plants, Yavatmal forest

I. INTRODUCTION

Rising human population throughout India more particularly in developing and underdeveloped parts has detrimental effect on the life supporting system. Fertility regulation, comprising contraception and management of infertility forms an important component of reproductive health (Allag and Rangari, 2002). Though considerable progress has been made in the development of highly effective, acceptable and reversible methods of contraception among females, the development of new fertility regulating drugs from medicinal plants is an attractive proposition. There has been a steady accumulation of information regarding the screening of plants having antifertility efficacy (Farnsworth et al, 1975). A wide variety of synthetic contraceptive are available but most of the contraceptives today are associated with some health problems like irregular menstrual cycle, migraine, frequent bleeding and other complications etc. In such circumstances ayurvedic or ethnological drugs can be found useful. The folklore information and the ancient literature about the plants and herbs can help the antifertility program.

In Yavatmal district there are three forest divisions Yavatmal, Pusad and Pandharkawda which are rich in medicinal plants. Some tribals like *Gond*, *Kolam*, *Andh*, *Pradhan*, *Lohar* and

Banjara of the area have been using various plants and their parts as medicine to check the fertility.

Unfortunately, the ethanobotanical enumerations were not recorded or documented for this region. Therefore, the present study is small effort to gain insight in the knowledge of traditional medicine of this region.

II. MATERIALS AND METHODS

During the present work the ethnomedicinal field work was carried out in tribal hamlets, forest and different villages in Yavatmal district. Yavatmal district is located in eastern (Vidarbha) region of the Maharashtra. It is located between 19° 26' to 20° 42' North latitudes and 77° 18' to 79° 98' East longitudes. The total forest area in Yavatmal district is 2508,010 sq/km which is 18.46 % of the geographical area of the district. Ethanomedicinal information was collected from tribal villagers and many ayurvedic or ethnomedicinal drugs practitioners were interacted for the study and documentation of their traditional knowledge about plants used for inducing early stage abortion was done (Fig 3 to 9). Extensive field survey of different parts of the district was made along with the local tribal villagers and ethnomedicinal / ayurvedic drug practitioner's perusal of published literature and herbarium specimen of different herbaria of the district was done to document information following the methodology of Jain (1964 and 1981), Chadwick and Marsh (1994), Martin (1995). Specimens were identified with the help of standard floras by taxonomy experts in Department of Botany, B.P. Science College, Digras and deposited in the herbarium of the same college.

III. STUDY AREA



Table1. Facts and figures about Yavatmal district

Area	13584 sq. km.
Area under Forests	2508.010 sq/km
Latitude	19.26' to 20.42' N
Longitude	77.18' to 79.98' E
Population (2001)	2,460,482
Males	12,67,117
Females	11,93,365
Population density	204 /km ²
Sex Ratio	947female per 1000 male
Literacy Rate	74.06%
No. of Sub-Division	05
No. of Tehsil	16
No. of Villages	2117
Average rainfall	335.5 mm.
Temperature	Max.: 37.9° C; Min.: 20.0° C

The present investigation has been carried out in the Yavatmal district scattered over 05 sub- division and 16 Tehsil. For a proper and orderly study, the study sites were selected considering the population and density of flora. The local informants selected are:

1. Village farmers
2. Old persons
3. Hakims, vaidhayas, gunias and ojhas
4. People working on field
5. Ayurvedic doctors
6. Experts in the field of herbal medicine

IV. RESULTS

The Yavatmal, Pusad and Pandharkawda range forest of Yavatmal district has been widely acknowledged for its herbal treasure trove. The medicinal plants are used as cheap and safe remedies for various ailments by tribals and aborigines. It is very essential to have a proper documentation of medicinal plants and to know their potential for the improvement of the health and hygiene through an eco friendly system. Thus importance should be given to the potentiality of ethnomedicinal studies as these can provide a very effective strategy for the discovery of useful medicinally active identity. A detailed and systemic study is required for identification, cataloguing and documentation of plants, which may provide a meaningful way for the promotion of traditional knowledge of herbal medicinal plants. The present study revealed that the tribal aborigines of Yavatmal forest range have adequate ethanobotanical knowledge which has been transmitted from one generation to another. This study may focus researcher's attention for phytochemical and pharmacological investigation of the above documented fertility regulating plants to know their efficacy on modern scientific lines for the validity of ethnobotanical claims and thus would be of great scientific contribution to the society. This information of medicinal plants



Fig1: Map showing the different regions of Yavatmal district and encircled area showing the forest region included under study.

with botanical name, local name, family, parts used, medicinal use and formulation is given in Table- 2.

V. DISCUSSION

In every ethnic group there exists a traditional health care system, which is culturally patterned. In rural communities health care seems to be the first and foremost line of defense. The WHO has already recognized the contribution of traditional health care in tribal communities. Murty and Venkaiah (2010) listed 33 plant species belonging to 29 genera and 26 families are used as abortifacient by the tribal people of Andhra Pradesh. Kanthale and

Birader (2010) recorded and documented 23 plants used by the tribal people (*Gond, Kolam and Andh*) of Mahur range forest of Nanded district, Maharashtra as formulation for 37 different ethnomedicinal preparations. Bhogaonkar and Kadam (2006) documented 29 prescriptions using 39 plants species by *Banjara* tribe of Umardhed region of Maharashtra. Screening of some medicinal plants used by tribal of Melghat forest region as antifertility agents are recorded and documented by Chondekar *et al*, (2009). In the present work 21 plants were recorded as anti-implantation, early and late abortifacient used by the tribals (*Gond, Kolam, Andh, Korku and Banjara*) of range forest of Yavatmal district.

Table 2: Systematic enumeration of plants used as ethnomedicine by tribals of Yavatmal district

Sr .No	Botanical Name	Family	Common /Local name	Plant Parts used	Activities
1	<i>Alangium salvifolium</i> (L.f.) Wang.	Alangiaceae	Ankol	Stem bark	Antifertility activity
2	<i>Abrus precatorius</i> L.	Fabaceae	Gunji	Seeds	Induce abortion
3	<i>Aristolochia indica</i> L.	Aristolochiaceae	Isher mul	Roots	Induce abortion
4	<i>Azadirachta indica</i> A.Juss	Meliaceae	Neem, Margasa	Seed	Abortive activity
5	<i>Adhatoda vasica</i> L.	Acanthaceae	Adulsa	Leaves	Induce abortion
6	<i>Annona squamosa</i> L.	Annonaceae	Sitaphal	Seeds	Abortive
7	<i>Aloe barbadensis</i> Mill.	Liliaceae	Korphad	Leaves	Abortifacient
8	<i>Calotropis gigantean</i> L.	Asclepiadaceae	Rueae	Leaves, flowers	Early abortifacient activity
9	<i>Caesalpinia pulcherrima</i> L. Swartz	Caesalpinaceae	Krishna chura	Dried leaves	Highly effective abortifacient
10	<i>Carica papaya</i> L.	Caricaceae	Papai	Seeds	Abortifacient
11	<i>Citrus limonum</i> L.	Ruteaceae	Neembu, Lemon	Seeds	Early abortifacient activity
12	<i>Cicer arietinum</i> L.	Papilionaceae	Chana	Leaves	Abortifacient
13	<i>Dolichandrone falcata</i> Senu. Cooke	Bignoniaceae	Medsingi	Leaves	Abortive
14	<i>Gloriosa superba</i> L.	Liliaceae	Malabar-glory lily	Fresh roots	Induce abortion
15	<i>Hibiscus rosa-sinensis</i> L.	Malvaceae	Jaswand	Roots	Post coital antifertility
16	<i>Mallotus Phillipinensis</i> (Lam) Muell.	Chenopodiaceae	Kumkum	Leaves	Abortive
17	<i>Mamordica charantia</i> L.	Cucurbitaceae	Karela	Fruits	Early and mid term abortion

18	<i>Moringa oleifera</i> L.	Moringaceae	Shevga, Mungana	Stem Bark	Abortifacient and Post coital antifertility
19	<i>Plumbago zeylanica</i> L.	Plumbaginaceae	Chitra, Chiture	Fresh roots	Induce abortion
20	<i>Terminalia arjuna</i> (Roxb. ex DC.) W. & A.	Combretaceae	Arjun, Kahu	Stem bark	Abortifacient
21	<i>Thespesia populnea</i> (L.) Soland ex Corr.	Malvaceae	Bhendi	Seeds	Anti-implantation activity



Fig 2: Tribal collecting medicinal plants



Fig 3: Ethanomedicinal information was collected from tribal villagers



Fig 4: Tribal Children residing in study area



Fig 5: Specimens were identified by taxonomy expert Dr. M.M Dhore



Fig 6: Ayurvedic practitioners in the study area



Fig 7: Medicinal plants vendor



Fig 8: Banjara woman



Fig 9: Vaidya in study area

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AUTHORS

FIRST AUTHOR- MUKUND DHORE (ASSOCIATE PROFESSOR) DEPARTMENT OF BOTANY, B.B. ARTS, N.B. COMMERCE AND B. P. SCIENCE COLLEGE, DIGRAS 445203, INDIA. E mail- dhore_mm@yahoo.co.in

SECOND AUTHOR – DINESH DABHADKAR (INSPIRE FELLOW (DST) JRF, GOVT. OF INDIA) DEPARTMENT OF ZOOLOGY, GOVT. VIDARBHA INSTITUTE OF SCIENCE AND HUMANITIES, AMRAVATI 444604, INDIA. E-mail- dineshdabhadkar@yahoo.com

THIRD AUTHOR – VARSHA ZADE (ASSOCIATE PROFESSOR) DEPARTMENT OF ZOOLOGY, GOVT. VIDARBHA INSTITUTE OF SCIENCE AND HUMANITIES, AMRAVATI 444604, INDIA E-mail- zvarsha27@gmail.com

FORTH AUTHOR- MANIK DHORE (ASSOCIATE PROFESSOR) DEPARTMENT OF BOTANY, SHRI SHIVAJI SCIENCE COLLEGE

AKOT, MAHARASHTRA, 444101, INDIA E-mail-
dhoremanik739@gmail.com

OF ZOOLOGY, GOVT. VIDARBHA INSTITUTE OF SCIENCE AND
HUMANITIES, AMRAVATI 444604, INDIA. E-mail-
dineshdabhadkar@yahoo.com Mobile No. 09850764332

CORRESPONDING AUTHOR*- DINESH DABHADKAR*
(INSPIRE FELLOW (DST) JRF, GOVT. OF INDIA) DEPARTMENT