

ETHNOMEDICINAL USES OF *ACHYRANTHES ASPERA* L. (AMARANTHACEAE) IN MANAGEMENT OF GYNAECOLOGICAL DISORDERS IN WESTERN UTTAR PRADESH (INDIA)

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ABSTRACT

This communication records the ethno-medicinal uses of *Achyranthes aspera* in management of gynecological disorders in rural areas of Aligarh, Badaun, Bulandshahar, Farrukhabad and Hatharas districts of Western Uttar Pradesh, India. The claims were gathered by interviewing traditional healers, especially women, of the study area. Attempt was made to verify the efficacy of claims with actual beneficiaries, though it was not possible in all cases due to social customs. A total of twenty-three claims are recorded and twelve of them appear to be hitherto unknown.

KEY WORDS

Ethnomedicine, gynaecology, *Achyranthes*, western Uttar Pradesh, traditional knowledge.

INTRODUCTION

The ethnic and rural people of India have preserved a large bulk of traditional knowledge of medicinal uses of plants growing around them. This knowledge is handed down to generations through word of mouth and is extensively used for the treatment of common diseases and conditions. Rural women of India commonly experience gynecological problems due to unhygienic living conditions, malnutrition and hard physical work, often even during pregnancy. In every village some women, locally known as 'Daiya', specialize in phytotherapy of these diseases and conditions using commonly available plants. However, the number of these lady-healers is fast decreasing as younger generation is showing little interest in learning this valuable science of healing. Therefore, proper documentation of this traditional knowledge is immediately called for.

Present communication, dealing with medicobotanical uses of *A. aspera* in treatment of gynaecological disorders, is part of an extensive study conducted in five districts of western Uttar Pradesh viz., Aligarh, Badaun, Bulandshahar, Farrukhabad and Hatharas (Khan, 2002; Khan and Alam, 2003; Khan and Khan, 2003; Khan and Khan, 2004). The study area was selected due to dearth of ethnobotanical information on these districts as evident from literature (Jain, 1991).

STUDY AREA

Uttar Pradesh is a northern state of India and the districts of Aligarh ($27^{\circ} 34' - 28^{\circ} 11'$ N latitude and $77^{\circ} 29' - 78^{\circ} 38'$ E longitude), Bulandshahar ($28^{\circ} 4' - 28^{\circ} 0'$ N latitude and $77^{\circ} 0' 18'' - 78^{\circ} 0' 28''$ E longitude), Budaun ($27^{\circ} 40' - 28^{\circ} 29'$ N latitude and $78^{\circ} 16' - 79^{\circ} 37'$ E longitudes), Farrukhabad ($26^{\circ} 45' 45'' - 27^{\circ} 42' 45''$ N latitude and $79^{\circ} 10' 45'' - 80^{\circ} 6'$ E longitude) and Hathras ($27^{\circ} 35'$ N latitude and $78^{\circ} 3'$ E longitude) are situated in western part of the state. Rural population in the districts of Aligarh, Budaun, Bulandshahar, Farrukhabad and Hathras is 25.59 %, 19.86%, 33.49%, 27.08% and 36.81% respectively.

MATERIALS AND METHODS

As stated earlier, traditional knowledge of phytotherapy of gynecological disorders is largely confined to women healers, locally known as "Daiya". A pilot survey of the study area was conducted and a list of well-known daiyas was prepared. Thereafter, these informants were visited at least once a month for two years and interviewed to gather

medicobotanical folklores. A good number of claims were verified with actual beneficiaries. But it was not possible in all cases due to social and cultural restrictions prevalent in the study area. Informants were also requested to provide fresh specimen (s) of the plant (s) they used. In the enumeration section, that follows, each entry consists of --- name of disease/condition, recipe and mode of administration. Numbers in bracket at the end of each entry indicate the district (s) from which a particular claim was collected [1= Aligarh, 2=Budaun, 3= Bulandshahar, 4= Farrukhabad and 5= Hathras]. As cautioned by the informants of claims 1,2,3 and 4, the therapy must be stopped after the desired results are obtained otherwise uterine prolapse may occur.

Achyranthes aspera L. (Family Amaranthaceae) is a common plant of the study area abundantly found in wastelands. It is known as “Prickly chaff flower” in English and “*Chirchita*”, “*Onga*”, “*Latjeera*” or “*Apamarga*” in local language and dialects. The plant is highly esteemed by traditional healers and used in treatment of asthma, bleeding, in facilitating delivery, boils, bronchitis, cold, cough, colic, debility, dropsy, dog bite, dysentery, ear complications, headache, leucoderma, pneumonia, renal complications, scorpion bite, snake bite and skin diseases etc. (Jain, 1991). Traditional healers claim that addition of *A. aspera* would enhance the efficacy of any drug of plant origin.

ENUMERATION:

1. To induce abortion

- (I) A thin paste is obtained by grinding the inflorescence in a mortar and pastel with sufficient quantity of water and applied to external genitalia (1,3,4).
- (II) Two ml decoction obtained by boiling fresh root in water is introduced in vagina to terminate the pregnancy (1,2,3,4, 5). The quantity of decoction must not exceed the quantity as prescribed above.

2. To induce labor pains

A thin paste is obtained by grinding fresh roots with sufficient quantity of water in a mortar and pastel. The paste is applied to external genitalia (1, 3, 4).

3. To expel dead fetus *

Thoroughly washed fresh roots are pounded, put in a clean piece of cheesecloth and squeezed to obtain fresh root extract. Two to three ml extract is given orally twice a day for three days.

4. To expel the remains of placenta after abortion *

Fresh root extract, obtained in the manner described above, is administered orally for seven days or till the placenta is expelled.

5. Excessive hemorrhage during pregnancy*

Two to three ml aqueous decoction of chopped fresh leaves is given orally twice a day. The treatment is continued till complete cure is obtained.

6. Excessive hemorrhage during early pregnancy*

Two to three ml of aqueous decoction of fresh leaves or inflorescence is administered orally twice a day for fifteen days or till complete cure is obtained (3).

7. Post-partal hemorrhage

Three ml aqueous decoction of fresh leaves is given orally twice a day for seven days. Dose can be altered according to the frequency and amount of blood loss. The treatment can be continued beyond seven days since no side effects of this therapy are reported (1,2,3,4,5).

8. Pos- partal body aches

Three ml aqueous decoction of fresh roots is given orally twice da day for seven days or till complete recovery is achieved (1,2,3,4,5).

9. Post- partal fever

A mixture of three ml each of leaf decoctions of *A.aspera* and *neem* (*Azadirachta indica* A. Juss. Family Meliaceae) is given orally twice a day for seven days. The treatment may be continued if necessary.

10. Post-abortion abdominal pain*

Three ml fresh root extract is administered orally once a day for seven days or till complete cure is achieved.

11. Post-partial loss of appetite (Anorexia)*

Three ml fresh leaf extract, with a pinch of powdered *kala namak* (sodium chloride mixed with sodium sulphate) added, is given orally twice a day for seven days or till desired effect is obtained.

12. Prolonged menstrual flow*

Three ml leaf extract mixed with a little curd is administered orally twice a day for seven days. The therapy is started on first day of beginning of menstrual cycle and repeated for five consecutive cycles (1,2,3,4,5).

13. Amenorrhoea

Three ml leaf decoction is given orally once on empty stomach before sunrise for fifteen days. The therapy is reported to be more effective in women aged between 18-28 years (1,2,3,5).

14. Dysmenorrhoea*

Three ml fresh leaf extract is given orally twice a day for seven days. The therapy is started on first day of beginning of menstrual cycle and repeated for five to seven consecutive cycles (1,2,5).

15. Menoxenia (abnormal menses)

- (I) Three ml fresh leaf decoction is administered orally thrice a day for seven days. The therapy is started on first day of beginning of menstrual cycle and repeated for five consecutive cycles. This therapy is prescribed when the duration of menstrual cycles is irregular (1,2,3,4,5).
- (II) A mixture of three ml each of fresh leaf decoctions of *A. aspera* and '*Punarnava*' (*Boerhavia diffusa* L. (Family- Nyctaginaceae) is given orally during three consecutive menstrual cycles (1,2,3,4,5).

16. Leucorrhoea*

Three ml fresh leaf extract mixed with a little curd is given orally before sunrise for twenty-one days (1,2,3,4,5).

17. Habitual abortion*

A mixture of two ml fresh leaf extract of *A. aspera* and two g powder of shade dried roots of '*Ashwagandha*' (*Withania somnifera* (L.) Dunal (Family-Solanaceae) is given orally twice a day from the beginning of third month of pregnancy (1).

18. Abnormal secretion of lochia*

Two ml fresh leaf decoction is administered orally once a day for seven days (1).

19. Costodynia (pain in ribs)

Two ml fresh root decoction is administered orally twice a day for seven days (1).

20. Post delivery/abortion jaundice

Two ml fresh root decoction is administered orally twice a day for seven days. Therapy should be started in early stages of jaundice to obtain better results.

21. Infertility in women*

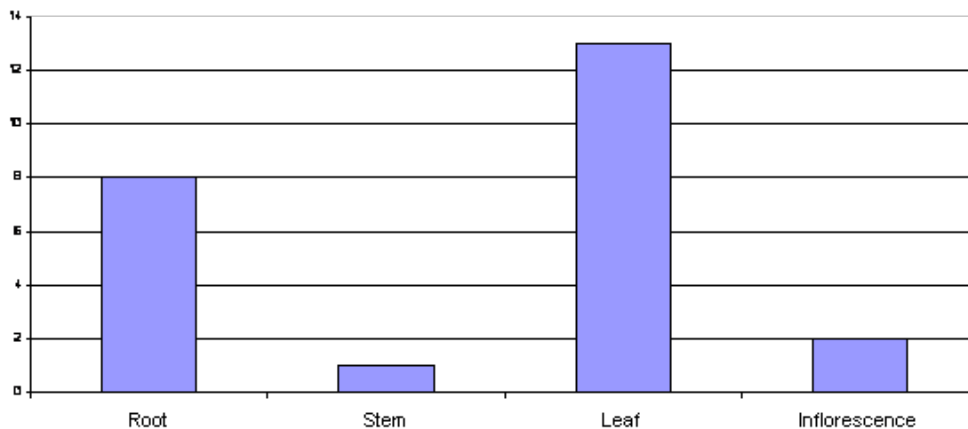
Two ml decoction of root and stem is administered orally thrice a day for three months. Younger women respond better to this therapy (1,2).

DISCUSSION

This communication records a total of twenty-three claims (including three alternative claims in 1, 2 and 15) related to use of *Achyranthes aspera* L. in phytotherapy of gynaecological disorders in five districts of western Uttar Pradesh (India). A comparison with available literature on ethnobotany of Indian plants (Ambast, 1986; Asolkar et al., 1992, Chopra et al., 1969; Dymock et al., 1891, Nath et al., 1997 and Watt, 1889-1892) revealed that twelve claims, those marked with an asterisk, were little known or new. This is a significant contribution to medicobotany of this taxon.

An ethno-phyto-morpho-pharmacological analysis (Khan & Khan, 2004) of the claims presented here revealed that thirteen claims made use of plant leaves, eight claims utilized roots, two claims used inflorescence and only one claim reported the use of stem (Fig.1). It is important to note that the extract and decoction of the same organ were used to treat different diseases or conditions. An extract is prepared by straining well-pounded fresh plant material, while a decoction is prepared by brewing the plant material. Prance (1994) is of the view that the process of brewing may cause chemical changes thus making the decoction entirely different from an extract.

Figure-1: Relative use of various plant parts of *A. aspera* in phytotherapy of gynaecological disorders.



Eighteen claims prescribe the use of *A. aspera* without addition of an additive. In remaining five claims additives of biological (*Azadirachta indica*, *Boerhavia diffusa*, *Withania somnifera* and curd) or non-biological origin were used.

Pharmacological studies on chemical constituents and crude extracts of plants and known folklores support some medicobotanical claims recorded in this communication. Asolkar (1992), Pakrashi et al. (1975) and Pakrashi and Bhattacharya (1977) have reported abortifacient chromatographic fractions and abortifacient principles of *A. aspera*. Use of *neem* and *A. aspera* in treatment of post partal fever may be explained on the basis of antipyretic properties of these two plant species (Asolkar, 1992; Jain, 1991). *Neem*, being a potent antiseptic, may also take care of possible infections. Moreover, recent studies suggest that chemical constituents present in *A. aspera* may act as anti-inflammatory agent (Gokhale et al., 2002; Vetrichelvan & Jegadeesan, 2003). As regards the use of *A. aspera* in treatment of menstrual disorders, there is no earlier reliable claim of use of *A. aspera* in treatment of this disorder, but *B. diffusa* is a known medicine for this condition. As stated earlier, addition of *A. aspera* is believed to enhance the efficacy of a drug. Probably, *A. aspera* is added to *B. diffusa* to enhance efficacy of the latter.

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