RESULTS
4. RESULTS

The results of ethnobotanical study concerning *Achyranthes aspera* L. are described in the following manner:

I. The medico-ethnobotanical status of *A. aspera*, 'Latjeera': This aspect is discussed under the following three subheadings. A: Medico-ethnobotanical status in the welfare of the rural women, B: General Medico-ethnobotanical status of the plant, and C: Medico-ethnobotanical status of plant in veterinary disorders.

A. Medico-ethnobotanical status of the plant in the welfare of the rural women:

Present study reveals the therapeutic uses of *Achyranthus aspera* L., "latjeera" in the complaints associated with the gynaecological obstetric and post natal problems among the rural women of Aligarh, Bulandshahr, Budaun, Farrukhabad and Hathras districts of Uttrar Pradesh (Table 2).

*A. aspera* is effectively used as an abortifacient; to induce labour pain; expulsion of dead foetus; to expel the remains of placenta after abortion; excessive haemorrhage during pregnancy; excessive haemorrhage in early stage of
Table 2: Medico-ethnobotanical status of *Achyranthes aspera* L. in health care of rural women.

<table>
<thead>
<tr>
<th>Ailment</th>
<th>Plant part used</th>
<th>Form of recipe</th>
<th>Dose/duration</th>
<th>District</th>
<th>Village</th>
</tr>
</thead>
<tbody>
<tr>
<td>Abortifacient</td>
<td>root/inflorescence</td>
<td>decoction/paste</td>
<td>2ml adm.; once/</td>
<td>Alig., Buld., Farr.</td>
<td>1; 2, 6; 6</td>
</tr>
<tr>
<td>To induce labour</td>
<td>root</td>
<td>paste</td>
<td>app. ext. at vagina</td>
<td>Alig., Buld., Farr.</td>
<td>1; 6; 6</td>
</tr>
<tr>
<td>Expulsion of dead foetus</td>
<td>root</td>
<td>fresh extract</td>
<td>2-3 ml, once/ 3 days</td>
<td>Alig.</td>
<td>3</td>
</tr>
<tr>
<td>To expel the remains of planceta after abortion</td>
<td>root</td>
<td>fresh extract</td>
<td>2ml, twice / 7 days</td>
<td>Alig.</td>
<td>6</td>
</tr>
<tr>
<td>Excessive haemorrhage during pregnancy</td>
<td>leaves/inflorescence</td>
<td>decoction</td>
<td>2ml, twice/3 days</td>
<td>Alig.; Buld.; Farr.</td>
<td>3; 6; 7</td>
</tr>
<tr>
<td>Excessive haemorrhage in early stage of pregnancy</td>
<td>leaves</td>
<td>decoction</td>
<td>2ml, twice, thrice/15 days</td>
<td>Alig.</td>
<td>3</td>
</tr>
<tr>
<td>Post partial haemorrhage</td>
<td>leaves</td>
<td>decoction</td>
<td>3ml, thrice/7 days</td>
<td>Alig.; Buld.; Buda.; Farr.;</td>
<td>1, 7; 2, 4, 5; 2, 3, 4; 5</td>
</tr>
<tr>
<td>Post partial bodyache after labour</td>
<td>root</td>
<td>decoction</td>
<td>3ml, twice/3 days</td>
<td>Alig.; Buld.; Buda.;</td>
<td>1; 6; 4, 6</td>
</tr>
<tr>
<td>Post partial fever</td>
<td>leaves latjeera &amp; leaves A. indica</td>
<td>decoction</td>
<td>2ml, twice/7 days</td>
<td>Alig.; Buld.; Buda.; Farr.;</td>
<td>1, 7; 2, 4, 5; 2, 3, 4; 5</td>
</tr>
<tr>
<td>Post abortional abdominal pain</td>
<td>root</td>
<td>fresh extract</td>
<td>2-3ml, once/7 days</td>
<td>Alig.; Farr.;</td>
<td>2; 1, 2, 3, 4</td>
</tr>
<tr>
<td>Post partial loss of appetite</td>
<td>leaves; Kala namak</td>
<td>fresh extract</td>
<td>2ml+2gm, twice/7 days</td>
<td>Alig.; Buld.; Farr.;</td>
<td>1; 6; 4, 6; 5, 7</td>
</tr>
</tbody>
</table>

Alig. = Aligarh; Buld. = Bulandshahr; Buda. = Budaun; Farr. = Farrukhabad; Hath. = Hathras

Contd.……
Table 2 (contd............)

<table>
<thead>
<tr>
<th>Condition</th>
<th>Ingredient(s)</th>
<th>Preparation</th>
<th>Dosage</th>
<th>Place(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Prolonged menstrual flow</td>
<td>leaves; curd</td>
<td>fresh extract</td>
<td>2ml, twice/5 days</td>
<td>Alig.; Buld. 4; 4, 6</td>
</tr>
<tr>
<td>Amenorrhoea</td>
<td>leaves</td>
<td>decoction</td>
<td>3 ml, once/7 days</td>
<td>Alig.; Buld. 2; 4</td>
</tr>
<tr>
<td>Dysmenorrhoea</td>
<td>leaves</td>
<td>decoction</td>
<td>3ml, twice/3 menstrual cycles</td>
<td>Alig.; Buld. 4; 3</td>
</tr>
<tr>
<td>Menoxania</td>
<td>leaves</td>
<td>decoction</td>
<td>2ml, thrice/7 days</td>
<td>Alig.; Buld.; Buda.; Farr.; Hath. 4; 3; 6; 5, 7, 4, 6</td>
</tr>
<tr>
<td>Menoschesis</td>
<td>leaves</td>
<td>decoction</td>
<td>5ml, once/7 days</td>
<td>Alig.; Farr. 2; 3, 4</td>
</tr>
<tr>
<td>Metrorrhagia</td>
<td>leaves, <em>latjeera</em> &amp; <em>B.diffusa</em></td>
<td>decoction</td>
<td>2ml, twice/3 menstrual cycles</td>
<td>Alig.; Buld.; Farr.; Hath. 3; 6; 2, 5; 5, 7</td>
</tr>
<tr>
<td>Leucorrhoea</td>
<td>leaves, curd</td>
<td>fresh extract</td>
<td>2ml, once/7 days</td>
<td>Alig.; Farr.; Hath. 3; 3, 7, 6</td>
</tr>
<tr>
<td>Habitual abortion</td>
<td>leaves, <em>latjeera</em>; root, <em>W. somnifera</em></td>
<td>fresh extract/powder</td>
<td>1ml+2g, thrice/7 months</td>
<td>Alig. 4</td>
</tr>
<tr>
<td>Abnormal secretion of lochia</td>
<td>leaves</td>
<td>decoction</td>
<td>2ml, once/5 days</td>
<td>Alig. 4</td>
</tr>
<tr>
<td>Costodynia</td>
<td>root</td>
<td>decoction</td>
<td>2ml, twice/3 days</td>
<td>Alig. 3</td>
</tr>
<tr>
<td>Jaundice before/after pregnancy</td>
<td>root</td>
<td>fresh extract</td>
<td>2ml, twice/3 days</td>
<td>Alig.; Hath. 5; 1, 3</td>
</tr>
<tr>
<td>Infertility</td>
<td>stem/root</td>
<td>decoction</td>
<td>2ml, alternating, twice daily/41 days</td>
<td>Alig.; Buld. 3; 5, 6</td>
</tr>
</tbody>
</table>

Aligarh (Villages): 1=Chherat; 2=Gangiri; 3=Harduaganj; 4=Hasayan; 5=Jawan; 6=Narayanpur; 7=Sumera
Bulandshahr (Villages): 1=Akarabad; 2=Chandpur; 3=Dostpur; 4=Gangerua; 5=Hazratpur; 6=Khawajpur-Mirpur
Budaun (Villages): 1=Arifpur; 2=Bhagwatipur; 3=Majha; 4=Mauzampur-Nehrapur; 5=Mirapati; 6=Nekpur
Farrukhabad (Villages): 1=Azmatpur; 2=Barjha; 3=Chilkana; 4=Midnapur; 5=Niwalpur; 6=Nurpur; 7=Papihapur
Hathras (Villages): 1=Bhagwantpur-Khandhazari; 2=Chintapur; 3=Garihi Tamana; 4=Hatisha; 5=Kapura; 6=Nehroi; 7=Rangpur
pregnancy; post partal haemorrhage post partal bodyache after labour; post partal fever; post abortion abdominal pain; post partal loss of appetite (anorexia); prolonged menstrual flow; abnormal secretion of lochia amenorrhoea; pain in ribs after labour (costodynia); dysmenorrhoea; menoxania; metrorrhagia; menoschesis; leucorrhoea; habitual abortion; jaundice after labour-abortion and infertility in women.

**Plant parts used:** In the complaints associated with the rural women and in general medicobotany, the following plant parts were used.

**Root:** It is used in the form of paste; by making decoction; fresh root extract etc.

**Leaves:** Decoction of the leaves; fresh leaf extract, tablets etc.

**Inflorescence:** In the form of paste; decoction of the inflorescence in water etc. (Usually young inflorescence is preferred).

**Whole plant:** Decoction of whole plant; ash of the whole plant; paste of the whole plant, etc.

**Seeds:** Ground into fine powder, in the form of paste etc.
1. **As an abortifacient:** *A. aspera* is extensively used for this purpose in most of the villages particularly in districts Aligarh (1), Bulandshahr (2,6) and Farrukhabad (6) districts of Uttar Pradesh. Mostly the abortions are conducted by women locally known as ‘daya’ or ‘dai’ and their success rate is fairly high. Following two recipes are commonly used.

(a) Two ml of decoction obtained by boiling chopped fresh root in water, is introduced into vagina to terminate the pregnancy. The quantity of decoction should not exceed as prescribed above, else the uterus may prolapse along with the foetus.

(b) Fresh inflorescence is ground to a fine paste and applied externally over the vagina. The paste is washed off soon after the abortion is achieved otherwise prolapse of uterus may result.

2. **To Induce labour Pains :**

Practise is common in some villages of Aligarh (1),

<table>
<thead>
<tr>
<th>Aligarh (Villages)</th>
<th>1=Chherat; 2=Gangiri; 3=Harduaganj; 4=Hasayan; 5=Jawan; 6=Narayanpur; 7=Sumera</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bulandshahr (Villages)</td>
<td>1=Akrabad; 2=Chandpur; 3=Dostpur; 4=Gangerua; 5=Hazratpur; 6=Khawajpur-Mirpur</td>
</tr>
<tr>
<td>Budaun (Villages)</td>
<td>1=Arifpur; 2=Bhagwatipur; 3=Majhia; 4=Mauzampur-Nehrapur; 5=Mirapatti; 6=Nekpur</td>
</tr>
<tr>
<td>Farrukhabad (Villages)</td>
<td>1=Azmatpur; 2=Barjhala; 3=Chilkana; 4=Midnapur; 5=Niwalpur; 6=Nurpur; 7=Papihapur</td>
</tr>
<tr>
<td>Hathras (Villages)</td>
<td>1=Bhagwantpur-Khandhazari; 2=Chintapur; 3=Garihi Tamana; 4=Hatisha; 5=Kapura; 6=Nehroi; 7=Rangpur</td>
</tr>
</tbody>
</table>
Bulandshahr(6) and Farrukhabad(6) districts of uttar pradesh.

Paste obtained by grinding fresh root with a little water is applied on abdomen and vagina to induced labour pains. The paste is washed off soon after the abortion is achieved otherwise prolapse of uterus may result.

3. Expulsion of dead foetus :

This practice is not very common in the study area however, a few highly experienced and reputed ‘dai’ venture upon it occasionally. Success rate is moderate to low It is reported from Aligarh district (3).

Fresh root is pounded to pulp, put in a piece of muslin cloth and squeezed to obtained fresh juice. Two to three ml of root extract is administered orally in the morning for three days. Use of medicine must be stopped soon after the foetus is expelled or else it may lead to prolapse of uterus.

4. To expel the remains of placenta after abortion :

This therapy is practised in some rural areas of Aligarh (6) district only. Success rate is claimed to be fairly high.

Two ml fresh root extract, obtained as described in the recipe at Sr. No. 3, is given orally twice daily for seven
days till the remains of placenta are expelled. Therapy must be stopped soon after the expulsion is complete otherwise prolapse of uterus may result.

5. **Excessive haemorrhage during pregnancy:**

A. *aspera* is used extensively for this disorder in Aligarh (3), Bulandshahr (6) and Farrukhabad(7) districts. Results are quite promising.

A decoction is prepared by boiling either inflorescence or leaves in water. Two ml decoction, thus prepared, is given twice daily for three days, it is used orally. However, if the situation demands, the treatment may be continued till complete cure is achieved.

6. **Excessive haemorrhage in early stage of pregnancy:**

This therapy is practised in Aligarh(3) district of study area. Results are quite promising and there is no report of any side effect.

Aqueous decoction of chopped-up fresh leaves is given orally 2-3 times a day in doses of 2 ml, for fifteen days doses can be altered according to the frequency and amount of blood loss. The treatment is continued till complete cure is obtained.
7. Post Partal Haemorrhage:

Therapy is prevalent in all the districts where survey was conducted (A-1,7; B-2,4,5; C-2; D-3,4; E-5). Results are quite promising.

Three ml fresh leaf decoction is administrated orally 3 times a day for 7 days. Doses can be altered according to amount and frequency of blood loss. Moreover, treatment can be continued beyond seven days if necessary, since no side effects of this therapy are reported.

8. Post-Partal Bodyache after labour:

Therapy is common in villages of Aligarh(1), Bulandshahr(6) and Budaun(4,6).

Three ml fresh root decoction is given orally twice a day for three days. If necessary, the treatment may be continued for a period longer than three days.

9. Post Partal Fever:

This claim was found to be widespread in the study area (A-1,7; B-2,4,5; C-2; D-3,4; E-5). This therapy is said to have very high success rate.

Decoction is made from 'latjeera', A.aspera L. and 'neem'
leaves, *Azadirachta indica*, A. Juss., (Family-Meliaceae), separately. Two ml decoction each of 'latjeera' and 'neem' are mixed and given orally twice a day for seven days.

10. Post abortion abdominal pain :*

Therapy is common in Aligarh(2), Hathras(1,2) and Farrukhabad (3,4) districts of Uttar Pradesh.

Fresh root is pounded to pulp, put in a piece of muslin cloth and squeezed to extract juice. Two to three ml of fresh root juice is given orally once a day for seven days. Results of this therapy are quite appreciable.

11. Post partal loss of appetite (Anorexia) :*

Therapy is prevalent in Aligarh(1), Farrukhabad(6), Hathras(4,6) and Bulandshahr(5,7) districts of Uttar Pradesh.

Pounded fresh leaves are squeezed in palms to extract their juice. Two ml leaf extract along with two gram "Kala Namak" (Sodium Chloride mixed with Sodium Sulphate) is given orally twice a day for seven days. The therapy is found to be very effective in most of the cases with promising results.
12. **Prolonged Menstrual Flow**: *

Therapy is prevalent in rural areas of Aligarh (4) and Bulandshahr (4, 6).

Fresh leaf juice is extracted as described in preceding recipe. Two ml leaf juice mixed with a little ‘curd’, is administrated orally twice a day for five days. Treatment may be prolonged, in case desirable results are not achieve in five days. The therapy is started on first day of begining of menstrual cycle and repeated for five consecutive cycles. Results of this therapy are quite promising.

13. **Amenorrhoea (stoppage of menstrual flow)**:

Therapy is prevalent in rural areas of Aligarh (2) and Bulandshahr (4).

Three ml decoction of fresh leaves is given orally once a day on empty stomach before sunrise. The treatment is given for a minimum period of seven days.

The therapy is reported to be effective in the women between 18-24 years of age. Usually the ailment is cured within seven days but it may be extended till complete cure is achieved.
14. Dysmenorrhoea (painful menses):

Therapy is prevalent in rural areas of Aligarh (4) and Bulandshahr (3) results are fairly promising.

A decoction of fresh leaves is prepared as usual. Three ml decoction is given orally twice daily during the menses. The treatment is repeated for seven consecutive cycles.

15. Menoxania (abnormal menses):

Therapy is common in all the districts of the study area and is recommended in those cases where sometimes the menses are short while other times they are prolonged (A-4; B-3; C-6; D-5,7,4; E-6).

Fresh leaf decoction is prepared as usual. Two ml decoction is given orally three times a day for seven days.

Therapy is found to be very effective in acute case. In case of chronic disease it can be prolonged.

16. Menoschesis (retention of menses):

Therapy is common in Aligarh (2) and Farrukhabad (3,4) districts.

Sometimes there is sudden stoppage of menses although it was normal in the early periods (menstral
cycles). This therapy is found to be most effective in these circumstances. Fresh leaf decoction is prepared as usual. Five ml decoction is given at bedtime for seven days. The results are very promising and mostly the disorder is cured within seven days of therapy if necessary therapy can be prolonged.

17. Metrorrhagia (irregular acyclic menses):

Therapy is practised in villages of Aligarh (3), Hathras(6), Farrukhabad(2,5) and Buladshahr (5,7).

Decoction from leaves of *A.aspera* and whole plant 'Punarnava', *Boerhaavia diffusa* L. (Family-Nyctaginaceae), are mixed and given orally twice a day in the dose of two ml for three consecutive menstrual cycles. The results of this therapy are quite promising, if complete cure is not achieved in due time, therapy can be prolonged.

18. Leucorrhoea :

Therapy is most common in Aligarh(3), Hathras(6) and Farrukhabad(3,7) districts.

Two ml fresh leaf extract, mixed with a little 'curd' is recommended once a day before sunrise orally, the therapy last for seven days.
If complete cure is not achieved in seven days therapy may be prolonged for 14, 21 or 42 days.

19. Habitual abortion :*

The therapy is restricted to rural areas of Aligarh(4) and is reported to be most effective in curing this disorder.

Fresh leaves juice of ‘latjeera’ is obtained as described earlier. Shade dried roots of ‘Asgandh’, Withania somnifera (L.) Dunal (Family-Solanaceae) are pounded to powder. One ml leaf extract and two g root powder are given orally thrice a day from second month of pregnancy.

20. Abnormal secretion of Lochia :

This therapy is occasionally used in Aligarh(4) district of Uttar Pradesh. Two ml fresh leaf decoction is given orally once a day for five days.

The results are quite promising but this therapy is not so prevalent.

21. Costodynia (pain in ribs) :

The therapy is practised in Aligarh(3) district only .It is found to be most effective in this type of complaint.

Two ml fresh root decoction is recommended twice daily
for oral use. Therapy last for three days. Therapy has given almost cent per cent results.

22. Jaundice after labour-abortion:

It has been observed that some women due to unhygienic condition suffer from this disorder. It is prevalent in rural areas of Aligarh(5) and Hathras (1,3) districts.

The results of this therapy are good when it starts at early diagnosis. Two ml fresh root decoction is recommended twice daily for oral use, therapy last for three days. Success rate of this therapy is good if starts early.

23. Infertility in Women:*

The therapy is not so common but is practised with confidence in some rural areas of Aligarh(3) and Bulandshahr(5,6) districts of Uttar Pradesh.

Two ml decoction of both the stem and root are prescribed alternately after half an hour twice daily for 41 days. The therapy is effective but patience is necessary and regular use of such recipe is needed till the menses starts and became regular.
B. General medico-ethnobotanical status of the plant:

Some common medico-ethnobotanical findings of *Achyranthes aspera* L., *Latjeera* are discussed below.

'Latjeera' is applicable in following ailments associated with human beings, namely: Asthma; bone fracture; dry cough; cough with expectoration; diarrhoea; dog bite; elephantiasis; fever; gingivitis and ostomatitis; haemorrhoids; heart complaints; jaundice; otalgia; paralysis; pain in thigh; to improve eyesight; rat poisoning; skin diseases; scorpion and bee's sting; sleeplessness; typhoid; ulcer of mouth (chronic type); wounds (chronic type) and leprosy (Table 3).

1. Asthma:

Therapy is prevalent in rural areas of Aligarh(1); Farrukhabad(2,3) and Bulandshahr(1,3) districts of Uttar Pradesh.

Aerial parts of the plant (whole plant excluding root) are dried under shade, then burnt to ash. The ash thus obtained is mixed with water in ratio of 1:6. The mixture is boiled for an hour. Two ml of mixture is prescribed twice daily till the patient recovers. It is used orally.

The disease is not so easy to cure but the acute cases are
<table>
<thead>
<tr>
<th>Ailment</th>
<th>Plant part used</th>
<th>Form of recipe</th>
<th>Dose/duration</th>
<th>District</th>
<th>Village</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asthma</td>
<td>aerial parts</td>
<td>ash boiled mixture</td>
<td>2ml, twice</td>
<td>Alig.; Buld.; Farr.</td>
<td>1; 2, 3, 1, 3</td>
</tr>
<tr>
<td>Bone fracture</td>
<td>root, latjeera; fruits, P. nigrum</td>
<td>paste</td>
<td>10g, once/10 days</td>
<td>Alig.; Buld.; Buda.; Farr.; Hath.</td>
<td>5; 3; 3, 5; 1, 4; 3</td>
</tr>
<tr>
<td>Cough dry</td>
<td>root, latjeera; leaf, P. betle</td>
<td>powder with leaf</td>
<td>½g, once/7 days</td>
<td>Alig.</td>
<td>1</td>
</tr>
<tr>
<td>Cough with expectoration</td>
<td>root, latjeera; honey</td>
<td>powder with honey</td>
<td>½g, twice/21days</td>
<td>Buld.</td>
<td>1, 3, 6</td>
</tr>
<tr>
<td>Diarrhoea</td>
<td>leaves</td>
<td>juice</td>
<td>5-10ml, every three hours/3 days</td>
<td>Hath.</td>
<td>3, 7</td>
</tr>
<tr>
<td>Dog bite</td>
<td>seeds, latjeera; seeds C. aurantifolia &amp; honey</td>
<td>powder</td>
<td>2+1g+10 ml, once/</td>
<td>Alig.; Buld.; Buda.; Farr.; Hath.</td>
<td>2; 2; 3; 4, 6; 1</td>
</tr>
<tr>
<td>Elephantiasis</td>
<td>aerial parts of latjeera; tuber of C.longa</td>
<td>paste</td>
<td>2g, once</td>
<td>Alig.</td>
<td>6</td>
</tr>
<tr>
<td>Fever</td>
<td>leaves of latjeera &amp; A. indica &amp; honey</td>
<td>raw leaves, decoction</td>
<td>4-5 leaves; 10ml dec., thrice/3days</td>
<td>Alig.; Buld.; Buda.; Farr.</td>
<td>1, 3, 6; 2; 4</td>
</tr>
<tr>
<td>Gingivitis &amp; Ostitis</td>
<td>Stem as tooth brush</td>
<td>direct use for brushing</td>
<td>---</td>
<td>Alig.</td>
<td>3</td>
</tr>
</tbody>
</table>

**Table 3:** Medico-ethnobotanical status of *Achyrantas aspera* L. in health care of rural population.
<table>
<thead>
<tr>
<th>Condition</th>
<th>Treatment Details</th>
<th>Quantity/Duration</th>
<th>Source(s)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Haemorrhoids</td>
<td>leaves of <em>latjeera</em> &amp; <em>A. indica</em>; tuber of <em>C.longa</em>; raw leaves, powder</td>
<td>4-5 leaves; 4g pow., once/ 21 days</td>
<td>Alig.; Buld.; Farr.; 6; 2; 1; 4</td>
<td></td>
</tr>
<tr>
<td>Heart complaints</td>
<td>whole plant <em>latjeera</em> &amp; <em>B.diffusa</em>; bark, <em>T.arjuna</em>; decoction</td>
<td>2ml, twice/</td>
<td>Alig.</td>
<td>6</td>
</tr>
<tr>
<td>Jaundice</td>
<td>whole plant <em>latjeera</em> &amp; leaves <em>A. indica</em>; decoction, powder</td>
<td>5 ml + 2g, twice/</td>
<td>Alig., Buld.; Buda.; Farr. 5; 3, 5; 2; 7</td>
<td></td>
</tr>
<tr>
<td>Leprosy</td>
<td>whole plant <em>latjeera</em>; decoction, powder</td>
<td>5ml, thrice, pow. app. externally</td>
<td>Alig., Hath.; Farr. 3; 3, 7; 1, 4, 6</td>
<td></td>
</tr>
<tr>
<td>Otaigia</td>
<td>leaves; fresh extract</td>
<td>dipped in cotton ball, once/</td>
<td>Farr.</td>
<td>3</td>
</tr>
<tr>
<td>Paralysis</td>
<td>root, <em>latjeera</em>; shoot, <em>B.diffusa</em> &amp; root <em>W.Somnifera</em>; paste</td>
<td>app.ext., once/</td>
<td>Alig.; Buda. 5; 1</td>
<td></td>
</tr>
<tr>
<td>Pain in thigh</td>
<td>leaves; fresh extract</td>
<td>2ml, twice/ 3 days</td>
<td>Alig.; Buld. 3; 5</td>
<td></td>
</tr>
<tr>
<td>To improve eyesight</td>
<td>leaves &amp; alum; tablets stirred in water &amp; washing eyes &amp; as an eye lotion</td>
<td></td>
<td>Farr. 5</td>
<td></td>
</tr>
<tr>
<td>Rat poison</td>
<td>seeds &amp; honey; powder</td>
<td>2g pow.+5ml once/honey</td>
<td>Alig.; Farr. 2; 3</td>
<td></td>
</tr>
</tbody>
</table>

Contd..............
<table>
<thead>
<tr>
<th>Condition</th>
<th>Treatment</th>
<th>Dosage</th>
<th>Location(s)</th>
<th>Dose(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Skin diseases</td>
<td>leaves</td>
<td>fresh extract</td>
<td>2ml oral, twice &amp; app. externally</td>
<td>Alig.; Buld.; Buda.</td>
</tr>
<tr>
<td>Scorpion &amp; Bee’s Sting</td>
<td>leaves</td>
<td>washed &amp; dried ash residue</td>
<td>2ml, twice; residue app. externally</td>
<td>Alig.; Buld.; Buda.; Farr.</td>
</tr>
<tr>
<td>Sleeplessness</td>
<td>whole plant of latjeera;</td>
<td>Powder</td>
<td>4g pow.+5ml, once /21 days</td>
<td>Farr.</td>
</tr>
<tr>
<td></td>
<td>W. somnifera &amp; B. diffusa, honey</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Typhoid</td>
<td>root; honey</td>
<td>powder</td>
<td>1g pow. +2ml honey, thrice/</td>
<td>Alig.; Buld.</td>
</tr>
<tr>
<td>Ulcer of mouth</td>
<td>root, latjeera;</td>
<td>decoction</td>
<td>2ml, thrice; deco+ alum once gargle/ 45 days</td>
<td>Alig.</td>
</tr>
<tr>
<td></td>
<td>B. diffusa;</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>C. procera &amp; honey</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wounds</td>
<td>root, latjeera &amp; juice S. officinarum</td>
<td>paste</td>
<td>applied externally</td>
<td>Farr.</td>
</tr>
</tbody>
</table>

Alig. = Aligarh; Buld. = Bulandshahr; Buda. = Budaun; Farr. = Farrukhabad; Hath. = Hathras

Aligarh (Villages) : 1=Chherat; 2=Gangiri; 3=Harduaganj; 4=Hasayan; 5=Jawan; 6=Narayanpur; 7=Sumera  
Bulandshahr (Villages) : 1=Akrabad; 2=Chandpur; 3=Dostpur; 4=Gangerua; 5=Hazratpur; 6=Khawajpur-Mirpur  
Budaun (Villages) : 1=Arifpur; 2=Bhagwatiapur; 3=Majhia; 4=Mauzampur-Nehrapur; 5=Mirapatti; 6=Nekpur  
Farrukhabad (Villages) : 1=Azmatpur; 2=Barjhal; 3=Chilkana; 4=Midnapur; 5=Niwalpur; 6=Nurpur; 7=Paphapur  
Hathras (Villages) : 1=Bhagwantpur-Khandhazari; 2=Chintapur; 3=Garihi Tamana; 4=Hatisha; 5=Kapura; 6=Nehroi; 7=Rangpur
cured completely with short term therapy while long term therapy is needed in case of chronic patients. The results are very promising in acute cases while in chronic cases result vary with the severity.

2. **Bone fracture**:

   The therapy common in all the districts where survey was conducted (A-5; B-3; C-3.5; d-1.4; E-3).

   Fresh roots of 'latjeera' along with seeds of 'kalimirch' 'black pepper', *Piper nigrum* L. (Family-Piperaceae), are ground by adding a little water to obtain its paste.

   Ten g paste thus prepared is recommended once daily, early in the morning, before meal for 10 days to facilitate the ossification. It is used orally. The result of this therapy are very promising and usually all the patients have been cured with this recipe. It was noted that almost every person familiar with the plant informed that it is commonly used in bone fracture.

3. **Cough (dry)**:

   This therapy is not so common. Only a few informants were in its favour from some rural areas of Aligarh (1).

   Half g root powder of 'latjeera' dried under shade along with 'pan', *piper betel* L., (Family-Piperaceae) is recommended
once daily before retiring for seven days. Usually patients are cured within seven days but if necessary therapy could be prolonged.

4. **Cough with expectoration**:

Therapy in common in rural areas of Bulandshahr (1,3,6).

Half g root powder of ‘latjeera’ along with honey is recommended twice daily for 21 days. The results of this therapy are quite promising.

5. **Diarrhoea**:

Therapy is not so common, only a few informants were in its favour from Hathras (3,7) district of Uttar Pradesh.

Fresh leaves are pounded to pulp, put in a muslin cloth and squeezed to obtain fresh juice. Five to 10 ml juice from the leaves is given after every three hours for two days to cure the ailment. Results of this therapy are almost absolute.

6. **Dog bite**:

Therapy is quite common and is prevalent in almost all the districts of the study area. (A-2; B-2; C-3; D-4,6; E-1).

Two g powder obtained from dry seeds of ‘latjeera’ along with one g powder of dry seeds of ‘neebu’/lemon, *Citrus*
aurantifolia; (Chr.) Sw. (Family - Rutaceae) are recommended with ten ml honey, once after dog bite. It is used orally. Results of this therapy are quite promising.

7. **Elephantiasis :**

Therapy is not so common in the study area since disease is not so prevalent in the region; only a single informant interviewed was in its favour from Aligarh(6).

Two g powder obtained from dry aerial parts of 'latjeera' (leaves and inflorescence) along with haldi/turmeric powder, *Curcuma longa* L. (Family -Zingiberacea) are mixed together with a little water to obtaine their paste.

The paste thus prepared is orally given once daily, while the paste of the same recipe is applied twice daily at the affected body part till the ailment is cured completely. The therapy is very effective and have good results.

8. **Fever :**

Therapy is common in almost all the Districts of the study area (A-1; B-3,6; C-2; D-4).

Four to five fresh leaves of 'latjeera' are chewed and washed down with 10 ml decoction of neem leaves,
*Azadirachta indica* A. Juss. (Family-Meliaceae) along with 3 ml of honey, thrice daily for 3 days. It is used orally.

Results are quite promising; therapy can be extended if the patient does not recover within three days of treatment.

9. **Gingivitis and ostomatitis:**

   It is common in some of the rural areas of Aligarh(3).

   Stem is used directly for brushing teeth. It is effective in curing gingivitis (inflamed gums) and ostomatitis (soreness of mouth). It is mostly used when neem tree is not available.

10. **Haemorrhoids (piles):**

    Therapy is common in the rural areas of Aligarh(6); Bulandshahr(2); Farrukhabad(1) and Hathras(4) districts of Uttar Pradesh.

    Four to five fresh leaves of ‘latjeera’ are chewed along with four g powder obtained from dry leaves of ‘neem’, *Azadirachta indica* A. Juss. (Family- Meliaceae) and haldi/turmeric powder, *Curcuma longa* L. (Family- Zingiberaceae).

    Recipe is given orally once daily for twenty one days and the paste of the same recipe is applied twice daily at the anus. results are quite promising in acute and chronic cases.
11. **Heart diseases (high blood pressure & palpitation of heart):**

Therapy is not so common; only a single informant interviewed was in its favor from Aligarh (6).

Two ml decoction obtained from mixture of each of the following plants: whole plant of ‘latjeera’; whole plant of ‘punarnava’, *Boerhaavia diffusa* L. (Family-Nyctaginaceae); bark of ‘arjuna’, *Terminalia arjuna* (Rox. ex. Dc.) Wt. Arn. (Family Combretaceae) is given twice daily till the patient recovers completely. It is used orally. According to the informant the therapy is quite effective. The dosage can be altered according to the severity.

12. **Jaundice :**

Therapy is prevalent is almost all the districts where the study was conducted (A-5; B-3,5; C-2; D-7).

Five ml decoction obtained from whole plant of ‘latjeera’ along with two g ‘neem’ leaves *Azadiracta indica* A. Juss. (Family-Meliaceae) is recommended twice daily for orally use till the patient recover. The results are very promising; usually the children have very quick recovery.
13. **Leprosy (acute and chronic):**

Therapy is common in villages of Aligarh(3), Hathras(3,7) and Farrukhabad(1,4,6) districts of Uttar Pradesh.

Five ml decoction of whole plant of 'latjeera' is recommended thrice daily for oral use. The powder of root is applied over the open sores frequently. Therapy is effective in acute cases.

14. **Otalgia (toothache):**

Therapy is not so common but some of the herbalist in rural areas of Farrukhabad(3) do practise it.

Fresh leaves are squeezed under palms to obtain fresh extract, cotton ball is dipped in it and is placed under the affected tooth. Therapy is effective for temporary relief.

15. **Paralysis (hemiplegia, facial, etc.):**

Therapy is common in some of the districts where survey was conducted (A-5; C-1).

Fifteen g of paste obtained from: 5 g root of 'latjeera'; 5g shoot of 'punarnava', *Boerhaavia diffusa* L. (Family-Nyctaginaceae); 5 g root of 'asgand’ *Withania somnifera* (L.) Dunal (Family - Solanaceae) with a little water. This paste is
applied at the affected part of the body with “pure ghee”/refined butter, once daily till the patient recover. In case of acute facial paralysis such a single dose is sufficient.

Almost every informant was familiar with its application in paralysis from the study area. It has been noted that in case of acute facial paralysis, it is applied as the paste; within two hours the face recovers its normal shape and as soon as it happens, the paste is removed at once otherwise the face may turn in the opposite direction in which the paste is applied. While in chronic case of hemiplegia and other types of paralysis, therapy may be prolonged till the patient get complete recovery.

16 Pain in thigh :*

Therapy is common in the rural areas of Aligarh(3) and Bulandshahar (5).

Two ml fresh leaf extract obtained from pounded leaves is recommended twice daily for three days to facilitate the patient. It is used orally. Therapy is quite effective and almost every time, prescribed it produces positive results.

17. To improve eyesight :

Therapy is common in some rural areas of Farrukhabad(5) district of Uttar Pradesh.
Fresh leaf extract obtained as described earlier is mixed along with alum powder to obtain pea size tablets, dried under shade and then stirred in water. This water is used to wash eyes and as an eye lotion twice daily.

18. Rat poisoning:

Therapy is not so common only a few informants interviewed were in its favour from Aligarh(2) and Farrukhabad(3) districts.

Two g powder of 'latjeera' seeds dried under shade along with 5 ml of honey is prescribed once after rat bite. Only a single dose is recommended as an antidote for rat poisoning. The results of this therapy are very promising.

19. Skin diseases (boils, carbuncles & pruritus):

Therapy is common in the following districts where the study was conducted (A-3; B-3; C-2).

Two ml fresh leaf extract obtained as described earlier is prescribe twice daily for oral use; same recipe is applied to the affected parts of the body. Therapy should be continued till the patient is completely cured.

Depending upon the severity of the disease, dosage, may be exceeded (especially in case of carbuncles and boils).
20. Scorpion and bee’s sting:

Therapy is common in almost all the districts under survey (A-6; B-2; C-4; D-6).

Two hundred g fresh leaves dried under shade and then burnt to ash; one part of the ash is added to four parts of water; this mixture is thoroughly mixed. It is placed in an earthen pot for whole night. The deposition at the bottom is separated and is boiled in an iron utensil till white matter is formed.

Two ml of the fresh leaf extract obtained as described earlier is recommended twice daily for oral use; while the ash prepared is applied at the sight of the sting. Results of this therapy are very promising.

21. Sleeplessness (insomnia): *

Therapy is not so common only a single informant interviewed was in its favour from Aligarh(6).

Four g fine powder of all three constituents; whole plant of ‘latjeera’; root of asgandh, *Withania somnifera* (L.) Dunal (Family-Solanaceae) whole plant ‘punarnava’, *Boerhaavia diffusa* L. (Family-Nyctaginaceae) along with 5 ml honey is prescribed once before retiring for 21 days. Therapy is found to be most effective in acute cases.
22. Typhoid :

Therapy is common in some of the rural areas in Aligarh(5) and Bulandshahr(2,6) districts of Uttar Pradesh.

One g dried root powder of 'latjeera' along with 2 ml of honey is prescribed thrice daily for oral use till the patient is completely recovered. Frequency and quantity of the dosage can be altered according to the severity of the ailment. The results are quite appreciable.

23. Ulcer of mouth (chronic type) :

Therapy is not so common only single informant from Aligarh(1) was interviewed.

Two ml decoction of all three constituents obtained from: 'latjeera' root; 'punarnava' root, Boerhaavia diffusa L. (Family-Nyctaginaceae); 'madar' root, Calotropis procera L. (Family-Asclepiadaceae) is prescribed thrice daily. Ten g alum powder is added to 50 ml of decoction, this mixture is used for gargle thrice daily. Therapy is recommended for 45 days.

The results are quite promising, dosage can be altered according to the severity of the patient.
24. Wounds (chronic type):

Therapy is common in Farrukhabad(4,5,6) district of Uttar Pradesh.

Fresh root of 'latjeera' is pounded with a little water to obtain its paste, it is mixed with the 'sheera' of 'ganna'/sugar cane, *Saccharum officinarum* L. (Family - Poaceae); the paste so made is applied at the open wound; therapy is recommended till the wound heals completely. It is quite effective, especially in case of chronic types of wound; its results are very promising.

C. Medico-ethnobotanical status of the plant in veterinary disorders:

'Latjeera' is not only useful in human diseases, disorders and conditions but is also used equally successfully in veterinary medicine. Some such applications of *A.aspera*, during the course of this study, are enumerated below (Table 4).

1. Inducing labour in cattle:

This therapy is most common in some of the rural areas of Aligarh(7) and Bulandshahr(2,5) districts of Uttar Pradesh. Results are quite promising.
Table 4: Medico-ethnobotanical status of *Achyrantes aspera* L. in health care of farm animals.

<table>
<thead>
<tr>
<th>Ailment</th>
<th>Plant part used</th>
<th>Form of recipe</th>
<th>Dose/duration</th>
<th>District</th>
<th>Village</th>
</tr>
</thead>
<tbody>
<tr>
<td>Inducing labour in cattle</td>
<td>leaves</td>
<td>paste/decoction</td>
<td>applied ext., 100 ml, once (oral)</td>
<td>Alig.; Buld.</td>
<td>7; 2, 5</td>
</tr>
<tr>
<td>To expel placental remains in cattle</td>
<td>leaves</td>
<td>decoction</td>
<td>200 ml, twice/2 days</td>
<td>Alig.; Farr.</td>
<td>6; 5</td>
</tr>
<tr>
<td>Indigestion</td>
<td>Inflorescence,</td>
<td>paste</td>
<td>100 g, twice/5 days</td>
<td>Alig.; Buld.; Buda.; Farr.; Hath.</td>
<td>6; 2; 2; 1; 6; 3</td>
</tr>
<tr>
<td></td>
<td><em>latjeera</em>; seeds, <em>P. nigrum</em></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Snake bite</td>
<td>whole plant</td>
<td>decoction</td>
<td>200 ml, 5-6 times</td>
<td>Alig.; Farr.</td>
<td>5; 4, 6</td>
</tr>
</tbody>
</table>

Alig. = Aligarh; Buld. = Bulandshahr; Buda. = Budaun; Farr. = Farrukhabad; Hath. = Hathras

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Hathras (Villages): 1=Bhagwantpur-Khandhazari; 2=Chintapur; 3=Garihi Tamana; 4=Hathish; 5=Kapura; 6=Nehroi; 7=Rangpur
Fresh leaves are grounded adding a little water to obtain its paste while, decoction of leaves is made in water. Paste is applied to the womb at the time of labour alongwith; 100 ml decoction of leaves given once orally to facilitate the labour.

2. To expel placental remains in cattle ("gely") :*

Therapy is common in Aligarh (6) and Farrukhabad(5). Some times, after the delivery the uterus fails to expel placental remains (locally known as "gely"). For this stage, therapy is found to be most effective.

Two Hundred ml decoction of fresh leaves is given twice daily for two days orally to animal, till the placental remains are expelled. Such types of cases are quite rare and hence therapy is not so prevalent.

3 Indigestion in cattle :

Due to over eating infection or in summer complaints associated with the stomach takes place. Therapy is common in the study area (A-6; B-2; C-2; D-1,6; E-3).

Inflorescence of ‘latjeera’ and seeds of *Piper nigrum* L., ‘kalimirch’ (Family-Piperaceae) ground with a little water to obtain a fine paste. Hundred g paste is given twice daily for treating the associated complaints for five days.
The results of this therapy are quite promising and is practised with confidence in different rural areas of the study area.

4 Snake bite:

This therapy is mostly prevalent in some rural areas of Aligarh (5) and Farrukhabad(4,6) districts of Uttar Pradesh.

Two hundred ml decoction of whole plant is given orally which act as an antidote against snake venom.

Therapy is quite effective when it is not delayed. It can be repeated 5 to 6 times a day to get complete recovery.

II. The Magico-ethnobotanical belief associated with Achyranthes aspera. L. ‘Latjeera’.

The folklore claims in which a plant is believed to have some good or evil effect, used as an indicator of future event or in disease or a condition is claimed to be cured by mere contact with or touch of a plant, fall in this category.

Magico-botanical beliefs not only make an interesting, sometimes even amusing reading, but are also a pointer of the degree to which superstitions prevail in a society. These claims are difficult to explain on the basis of pharmacology of plant chemicals. At best, these practices can have a
patient by the well known psychological phenomenon of autosuggestions.

1. **To impart labour:**

   According to herbal healers of Aligarh district, if whole plant along with complete root comes out from the ground while uprooting 'latjeera' plant, then the offspring is believed to be long-lived. If the root is broken at the centre, the offspring will die in the middle age. If the complete root breaks down in the ground, the offspring will die soon after birth.

2. **To impart labour:**

   a) At the time of delivery to facilitate easy labour, root of 'latjeera' is tied up at the forearm of the lady, it is untied when the delivery is over, else it may lead to prolapse of uterus.

   b) Inflorescence of the plant is tied with the hairs to facilitate easy labour and it is untied as the delivery is over, else it may lead to prolapse of uterus.

   c) Inflorescence when touched at the vagina imparts labour.

3. **Habitual abortion:**

   Whole root dugout properly is tied at the waist of the lady
after she conceive till the normal delivery occurs.

4. **During fever:**

The root of the plant is tied on arm in fever.

5. **To exorcize the evil spirits:**

To get rid of evil spirit, the garland made out with the plant roots tied in a string is used. The informant believed that all types of evil spirits are released with this operation.

6. **Snake bite:**

Fresh plants stem is broken into two equal halves each half is inserted in both the ears of the victim.

7. **In Jaundice:**

The patient suffering with this ailment is recommended to wear garland made with the plant stem/root. It is believed as the garland dries up the patient starts recovering.

8. **Disruption of peace in a household:**

Clandestine placing of fresh root of *A. aspera* in a house at night leads to infighting among the family members.

* New Reports