DISCUSSION
5. DISCUSSION

CLAIMS OBTAINED FROM EACH DISTRICT

Medico-ethnobotanical field studies were conducted in five districts of Uttar Pradesh, namely Aligarh, Bulandshahr, Budaun, Farrukhabad and Hathras. From each of the district under survey, six to seven villages were considered for the study and were thoroughly explored to tap the crude knowledge inherited in the local inhabitants regarding phytotherapy with *A. aspera* L.

The total number of claims from each district under study area are given below. (Table 5).

**ALIGARH**: Total number of villages studied were seven (7), total number of claims obtained were fifty two (52) and the maximum number of claims obtained from the village “Harduaganj” were fourteen (14).

**BULANDSHAHR**: Total number of village studied were six (6), total number of claims obtained are forty eight (48) and the maximum number of claims obtained from the village “Chandapur” were thirteen (13).

**BUDAUN**: Total number of villages studied were six (6), total number of claims obtained are twenty one (21) and the
Table 5: Quantitative assessment of the medico-ethnobotanical claims using Achyranthes aspera L. in different villages of the study area.

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<td>Papihapur</td>
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<td>Rangpur</td>
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maximum number of claims obtained from the village "Bhagwatipur" were five (5).

**FARRUKHABAD:** Total number of villages studied were seven (7), total number of claims obtained were thirty nine (39) and the maximum number of claims obtained from the village "Nurpur" were ten (10).

**HATHRAS:** Total number of villages studied were seven (7), total number of claims obtained were thirty nine (29) and the maximum number of claims obtained from the village "Garihi-Tamana" were seven (7).

The total number of folk claims associated with the gynaecology obstetrics and post partal complaints of rural women were twenty three (23). Total number of the folk claims related to the general medico-ethnobotany including claims associated with the veterinary disease were twenty eight (28) (four claims were related to veterinary diseases (4), twenty four claims were of general medico-ethnobotany (24), while claims associated with the magico-botany were eight (8).

**DISEASES COVERED**

(i) *A. aspera* is used in the gynaecological obstetric and
post natal complaints of rural women. These were found to be effective 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 labour; post partal haemorrhage after normal pregnancy; post partal bodyache after labour; post partal fever; post abortion abdominal pain; post partal loss of appetite (anorexia); prolonged menstrual flow retention of lochia after pregnancy; amenorrhoea; pain in the ribs after labour (costodynia); dysmenorrhoea; menoxania; metrorrhagia; menoschesis; leucorrhoea; habitual abortion; jaundice after labour abortion and infertility in women.

(ii) As a veterinary medicine the plant is effective in inducing labour; to expel placental remains ("gely"); indigestion in cattle and in snake bite.

(iii) The plant is used in the following general ailments: Asthma; bone fracture; dry cough; cough with expectoration; diarrhoea; dog bite; elephantiasis; fever; gingivitis and ostomatitis; haemorrhoids; heart disease; Jaundice; leprosy; otalgia; paralysis; pain in thigh; to improve eyesight; rat poisoning; skin disease; scorpion and bee's sting; sleeplessness (insomnia); typhoid; ulcer of mouth and wounds.
(3) **PLANT PARTS USED**

Root, leaves, inflorescence, whole plant and seeds are used in the recipes prepared; these parts are processed in the form of paste, powder, decoction, fresh extract tablets, ash etc., mostly the recipe are used orally while in some case external application is also preferred in other cases both oral and external use of the recipe is recommended.

Disease wise different plant parts are used in following form as described below:

**Root**: Abortifacient (decoction); to induce labour pains (paste); expulsion of dead foetus (fresh extract); to expel the placental remains after abortion (fresh extract) post partal bodyache (decoction); post abortion abdominal pain (fresh extract); costodynia (decoction); jaundice before/after pregnancy (fresh extract); bone fracture (paste); dry cough (powder); cough with expectoration (powder); paralysis (paste); typhoid (powder); ulcer of the mouth (decoction); wounds (paste).

**Leaf**: Excessive haemorrhage in early stage of pregnancy (decoction); post partal haemorrhage (decoction); post partal fever (decoction); post partal loss of appetite or anorexia
(fresh extract); prolonged menstrual flow (fresh extract); amenorrhoea (decoction); dysmenorrhoea (decoction); leucorrhoea (fresh extract); costodynia (decoction); jaundice before/after pregnancy (fresh extract); bone fracture (paste); dry cough (powder); cough with expectoration (powder); paralysis (paste); typhoid (powder); ulcer of the mouth (decoction); wounds (paste); excessive haemorrhage in early stage of pregnancy (decoction); post partal haemorrhage (decoction); post partal fever (decoction) post partal loss of appetite, anorexia (fresh extract); prolonged menstrual flow (fresh extract); amenorrhoea (decoction); dysmenorrhoea (decoction); leucorrhoea (fresh extract); menoxania (decoction); menoschesis or retention of menses; metrorrhagia or irregular acyclic menses; habitual abortion ((fresh extract); abnormal secretion of lochia (decoction); inducing labour in cattle (paste & decoction); to expel placental remains in cattle “jely” (decoction); diarrhoea (fresh extract); fever (fresh extract); haemorrhoids (chewed raw); otalgia (fresh extract); pain in thigh (fresh extract); to improve eye sight (fresh extract); skin diseases (fresh extract); scorpion and bee’s sting (ash and fresh extract).

**Stem**: Gingivitis and ostomatitis (fresh, raw).
Whole plant: Snake bite in cattle (decoction); heart diseases (decoction); jaundice (decoction); insomnia (powder leprosy (decoction).

Inflorescence: Abortifacient (paste); excessive haemorrhage during pregnancy (decoction) indigestion in cattle (paste).

Seeds: Dog bite (powder); rat poisoning (powder).

MORE THAN ONE PLANT PARTS/RECIPE

Excessive haemorrhage during pregnancy (decoction) inflorescence/leaves; infertility (decoction) both root and stem; inducing labour in cattle (paste and decoction) leaves; asthma (ash) inflorescence, leaves and stem; elephantiasis (powder) leaves and inflorescence; scorpion and sting bees sting (ash and fresh extract) leaves.

SOLITARY USE

The plant *A.aspera* is used individually in the following complaints related to gynaecology, obstetrics and post partum in the rural women: As an abortifacient; to induce labour pains; expulsion of dead foetus; to expel the remains of placenta after abortion; excessive haemorrhage during pregnancy; excessive haemorrhage in early stage of pregnancy; post partial haemorrhage after normal pregnancy.
post-partal bodyache; post abortion abdominal pain; prolonged menstrual flow; amenorrhoea; menoxania; menoschesis; leucorrhoea; abnormal secretion of lochia; costodynia (pain in ribs); Jaundice and in infertility.

In veterinary treatment *A. aspera* is used individually in following ailments: Inducing labour in cattle; to expel placental remain in cattle "gely" and in snake bite respectively.

In common ailments its individual use is in the following ailments: Asthma; diarrhoea; otalgia; pain in thigh; skin diseases; scorpion and bees sting; gingivitis and ostomatitis and in leprosy. Over all *A. aspera* is used alone in twenty eight (28) claims reported.

**USED WITH SECONDARY INGREDIENTS**

While in following ailments it is used along with secondary ingredients: Post partial fever; post partial loss of appetite (anorexia) metrorrhagia; indigestion in cattle; bone fracture; dry cough; cough with expectoration; dog bite; elephantiasis; fever; haemorrhoids (piles); heart disease; jaundice; paralysis; rat poisoning; insomnia; ulcer of mouth and chronic wounds respectively.
Claims substantiated by beneficiaries

The number of persons supporting claims reported in the results are: As an abortifacient twenty five women (25) supported its effectiveness; to induce labour pains forty one (41) women were in support of this claim; expulsion of dead foetus 3 women were in support of this claims; to expel the remains of placenta after abortion 11 women were in support; excessive haemorrhage during pregnancy 17 women were in support; excessive haemorrhage in early stage of pregnancy 11 women in support; post partial haemorrhage 9 women in support; post partial loss of appetite (anorexia) 32 women were in support; prolonged menstrual flow 37 women were in support; amenorrhoea 23 women in support; dysmenorrhoea 41 women were in support; menoxania 20 women were in support; menoschesis 13 women were in support; leucorrhoea 51 women were in support; habitual abortion 39 women in support; secretion of lochia 3 women were in support; costodynia 39 women in support; jaundice 15 women were in support; infertility 2 women were in support; inducing labour in cattle 7 men in support; to expel placental remains 3 men were in support; snake bite in cattle 2 men were in support asthma 23 men were in support; bone fracture 73 persons were in support; dry
cough 7 persons were in support; cough with expectoration 4 persons were in support; diarrhoea 21 persons were in support; dog bite 5 persons were in support; elephantiasis 1 person was in support; person fever 29 persons were in support; haemorrhoid 29 persons were in support; heart disease 2 persons were in support; jaundice 21 persons were in support; otalgia 3 persons were in support; paralysis 22 persons were in support; to improve eye sight 9 persons were in support; rate poisoning 1 person was in support; dog bite 5 persons were in support; skin disease 33 persons were in support; scorpion and sting of bees 29 persons were in support; typhoid 3 persons were in support; gingivitis and stomatitis 28 persons were in support; ulcer mouth 2 persons were in support; wounds 25 persons were in support; leprosy 1 person was in support.

**NEW CLAIMS**

Medico-ethnobotanical study reveals some of the claims were found to be newer and if known, they are very rare. These claims are associated with the following ailments: Expulsion of dead foetus; to expel the remains of placenta after abortion; excessive haemorrhage during pregnancy; excessive haemorrhage in early stage of pregnancy; post
abortion abdominal pain; post partal loss of appetite; prolonged menstrual flow; dymenorrhoea; leucorrhoea; habitual abortion; infertility; to expel placental remains in cattle 'gely'; diarrhoea; elephantiasis; heart diseases; jaundice; pain in thigh; insomnia; typhoid; gingivitis and ostomatitis and in ulcer of mouth.

MEDICO-ETHNOBOTANICAL AWARENESS

Level of ethnobotanical awareness in a district (LEAd) was calculated with the following formula (Fig. 4).

\[
\text{LEAd} = \frac{\text{Number of claims obtained from a given district}}{\text{Total number of claims obtained from all districts}} \times 100
\]

LEAd (Aligarh) = \( \frac{52}{59} \times 100 = 88.13 \)

LEAd (Bulandshahr) = \( \frac{48}{59} \times 100 = 81.35 \)

LEAd (Budaun) = \( \frac{21}{59} \times 100 = 35.55 \)

LEAd (Farrukhabad) = \( \frac{39}{59} \times 100 = 66.10 \)

LEAd (Hathras) = \( \frac{29}{59} \times 100 = 44.15 \)

While level of medico-ethnobotanical awareness in a village of a district (LEAv) was calculated with the following formula (Fig. 5-9).
Relative Medico-ethnobotanical Awareness in the Districts Studied

Fig. 4. Relative awareness of medico-ethnobotanical uses of *Achyranthes aspera* L. in different districts of Uttar Pradesh surveyed
Relative Medico-ethnobotanical Awareness in the villages surveyed of District Aligarh

Fig. 5. Relative awareness of medico-ethnobotanical uses of *Achyranthes aspera* L. in different villages of Aligarh district surveyed
Relative Medico-ethnobotanical Awareness in the villages surveyed of District Bulandshahr

Fig. 6. Relative awareness of medico-ethnobotanical uses of *Achyranthes aspera* L. in different villages of Bulandshahr district surveyed.
Relative Medico-ethnobotanical Awareness in the villages surveyed of District Budaun

Fig. 7. Relative awareness of medico-ethnobotanical uses of Achyranthes aspera L. in different villages of Budaun district surveyed.
Relative Medico-ethnobotanical Awareness in the villages surveyed of District Farrukhabad

Fig. 8. Relative awareness of medico-ethnobotanical uses of Achyranthes aspera L. in different villages of Farrukhabad district surveyed.
Relative Medico-ethnobotanical Awareness in the villages surveyed of District Hathras

![Graph showing relative awareness of medico-ethnobotanical uses of Achyranthes aspera L. in different villages of Hathras district surveyed.]

Fig. 9. Relative awareness of medico-ethnobotanical uses of Achyranthes aspera L. in different villages of Hathras district surveyed.
Number of claims obtained from a given village in a district

\[
\text{LEAv} = \frac{\text{Number of claims obtained from a given village in a district}}{\text{Total number of claims obtained from all villages in a district}} \times 100
\]

LEAd (Aligarh) : Chherat 11/52x100=21.15; Gangiri 5/52 x 100=9.62; Harduaganj 14/52x100=29.92; Hasayan 5/52x100=9.62; Jawan 7/52x100=13.46; Narayanpur 8/52x100=15.38; Sumera 2/52x100=3.85.

Bulandshahr (Villages) : Akrabad 2/48x100=4.16; Chandpur 13/48x100=27.08; Dostpur 9/48x100=18.75; Gangerua 5/48x100=10.41; Hazratpur 8/48x100=16.66; Khawajpur-Mirpur 11/48x100=22.91.

Budaun (Villages) : Arifpiir 2/21x100=9.52; Bhagwatipur 5/21x100=23.81; Majhia 3/21x100=14.29; Mauzampur-Nehrapur 5/21x100=23.81; Mirapatti 4/21x100=19.50; Nekpur 2/21x100=9.52

Farrukhabad (Villages) : Azmatpur 4/39x100=10.26; Barjhalas 2/39x100=5.13; Chilkana 5/39x100=12.82; Midnapur 9/39x100=23.08; Niwalpur 6/39x100=15.38; Nurpur 10/39x100=25.64; Papihapur 3/39x100=7.69

Hathras (Villages) : Bhagwantpur-Khandhazari 6/29x100=20.69; Chintapur 1/29x100=3.45; Garihi Tamana 7/29x100=24.14; Hatisha 5/29x100=17.24; Kapura 4/29x100=13.79; Nehroi 2/29x100=6.9; Rangpur 4/29x100=13.79
ETHNOBOTANICAL AWAKENING

It has been observed that ethnobotanical awareness in the rural areas of Aligarh district was higher as comparison to the other districts in which medico-ethnobotanical study was conducted. Some of the claims associated with *A. aspera* are those which are being practised in the rural areas of the Aligarh district only, for instance: Expulsion of dead foetus, to expel the remains of placenta after abortion, metrorrhagia (irregular acyclic menses), habitual abortion, abnormal secretion of lochia, inducing labour in cattle. Only a single informant was interviewed for the claim of the plant associated with the therapy of elephantiasis; a single informant was interviewed for complaints associated with heart and for ulcer of mouth a single informant was interviewed from the rural areas of the Aligarh District.