Indigenous Knowledge and Medicinal Significance of Seasonal Weeds of District Gujrat, Punjab, Pakistan

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Databased and Inventories

Abstract

Background: Most of the medicinal plants are available as wild or weeds in the world including Pakistan. It was reported by many researchers that Pakistan is rich with medicinal flora based upon the surveys conducted in the Northern areas but still there are some areas other than Northern parts in Pakistan that has not been studied so far. There is a need to explore the medicinal flora from neglected area where most of the people still rely on local medicinal plants to cure their diseases by means of indigenous knowledge. District Gujrat is among those area that has not been explored to study the medicinal flora.

Methods: Surveys were conducted to collect the indigenous knowledge and medicinal significance of seasonal weeds in Gujrat, Punjab, Pakistan in winter 2018 and summer 2019. Information collected through questionnaire and interviews.

Results: Weeds have much importance among local inhabitants to cure many diseases as respiratory disorders, kidney and liver disorders, muscle and skeletal disorders, ear, nose and throat problems, dermatological disorders, fever, diabetes, cancer etc. The plant parts and its percentage used by local inhabitants were leaves (58%), fruits (36%), seeds (25%), whole plant (34%), roots (32%), milky latex (1%), flowers (8%) and stem (3%). The most important families were Asteraceae, Poaceae, Fabaceae, Polygonaceae and Solanaceae. Cichorium intybus L. (Asteraceae) had 100% Fidelity Level (FL) value as liver tonic and blood purifier. Highest 0.76 Informant Consensus Factor (ICF) values were noted against stomach, gastric, intestinal and digestive problems. Achyranthes aspera L. (Amaranthaceae) showed the highest Fidelity Level (FL) values that was 93% used gastrointestinal disorders and menstrual pain.

Conclusions: It was concluded that the area of Gujrat, Punjab, Pakistan is a rich source of important medicinal weeds that needs to be utilized for useful medicinal purpose. There is need to create awareness among the farmers and local people about the efficacy of weeds.

Keywords: Gujrat, medicine, ethnobotany, weeds, survey

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Ethnobotany Research & Applications

20:12 (2020)

Background

District Gujrat, Punjab, Pakistan is located in between two rivers; the Jhelum and Chenab and Gujrat is an old region. Area of Gujrat is spread over a land of 3,192 square kilometer. Gujrat consists of 3 Tehsils (districts) (Sarai Alamgir, Kharian and Gujrat). It has extreme climatic conditions which is hot in summer and cold in winter. When summer is
at peak, the day temperature rises up to 45°C, however the hot spells are relatively shorter because of closeness to Azad Kashmir Mountains (Hussain et al., 2010).

Most of the medicinal plants are available as wild or weeds in the world including Pakistan. That are collected and used in medicinal purposes. There are some areas in Pakistan which need to explore it flora and to create awareness among the local community. Herbal medicines currently have much more importance in the Western society (Shinwari and Gilani, 2003). All over the World about 50,000 plants are used for medicinal purpose (Cunningham, 2014). Tang et al. (2012) studied 100 methanolic plant extracts which were used for antiviral activity, 12 extracts were found active from total 100 extracts. Shinwari and Khan (2000) recorded fifty species of herbs belonging from 27 families used medicinally by peoples native to Margalla Hills of National Park Islamabad. From the total 50 species only 10 species were being sold in local market. Masika et al. (2003) reported plant species which were commonly used in curatives against several diseases of farm animals; he reported over 35 plant species belonging from 31 families used for this purpose. From total 38 plant species 21 plant species belonging from 17 families were used to create gall-sickness while 13 plant species belonging to 1 family were used to treat red-water disease. Vishwanathan et al. (2010) studied 156 medicinally important plant species and from 156 medicinally important plant species 22 plant species were used to cure livestock diseases. Ahmad et al. (2009) studied 6 important plant species having medicinal importance. Achyranthes aspera L. was used as purgative, laxative, diuretic, antiviral and styptic agent.

Hussain et al. (2008) reported 40 plant species from 39 genera and 32 families having medicinal properties. Important plant species and their uses were Acacia arabica var. nilotica (L.) Benth. (Fabaceae) was used as astringent, tonic, antiseptic and purgative. Habiba et al. (2016) collected 10 medicinally important plants which have different ethnobotanical uses. Aerva javanica (Burm.f.) Juss Shult. (Amaranthaceae) was useful to cure inflammations, abdominal worms and skin infections. Bano et al. (2013) Studied 148 plant species out of these 140 plant species were used for medicinal purpose. Ishitaq et al. (2006) observed some medicinally important plants, Acacia modesta Wall. (Fabaceae) was useful to release placenta soon. Achyranthus aspera L. was useful to remove parasites from skin of animals. Matin et al. (2001) studied 77 species of herbs, 12 species of shrubs and 18 species of trees which were used for medicinal purpose. Khan et al. (2014) reported some plants having medicinal values Calotropis procera L. (Apocynaceae) were useful to cure cough, rheumatism and skin infection. Ahmad (2006) collected 75 plant species belonging from 43 families having medicinal values. From total 75 plant species 70 were dicots 2 were monos 3 species were gymnosperms.

Shah et al. (2013) collected 131 plant species belonging from 48 families, important plant species of this research were Adiantum capillus-veneris L. (Pteridaceae) useful to cure spleen stones and bronchial problems. Arshad et al. (2011) reported 48 plant species having medicinal importance. Mahmood et al. (2012) observed 25 medicinal plants belonging from 14 families. Sher et al. (2015) collected 87 plant species belonging from 58 families having medicinal importance. Mahmood et al. (2011) studied 29 ethnobotanical important plants belonging from 20 families having medicinal values. Khan et al. (2011) collected 43 plant species belonging from 40 genera and 28 families having medicinal values. Qureshi et al. (2010) reported 63 herbs belonging from 50 genera and 29 families having medicinal values. Qureshi et al. (2011) collected 48 plant species belonging from 45 genera and 32 families having medicinal values. Ahmad et al. (2009) reported 40 medicinally important plant species belonging from 18 families were recorded having medicinal importance.

In the light of above information and importance of medicinal plants, this study was designed to explore this ignored flora of district Gujrat, Punjab, Pakistan and to collect the information about weeds based upon local community knowledge. This area was selected because it consists of variety of seasonal weeds and so far, it has not been studied for its Ethnomedicinal significance.

**Materials and Methods**

**Description of study site**
The survey was conducted in three Tehsils of District Gujrat, Punjab Pakistan (Sarai Alamgir, Kharian and Gujrat) during 2018-2019. Gujrat, Punjab, Pakistan is located at Pakistan country in the Cities place category with the GPS coordinates of 32° 34' 16.1184'' N and 74° 4' 30.0180'' E (Figure 1).

**Description of materials**
The area was visited several times during winter and summer seasons and plant specimens were collected. The plant samples were gathered dried to mount on herbarium sheets and were identified with distinctive field guiders with their local names. Pencil, notebook, paper for plant drying, polythene bags, knife seizer and camera were used to collect the information.
Field data collection
Information about vernacular name of the weed and part used to treat the specific disease were collected through questionnaires and interviews. The age of informants is from 25-80 years which include male, female and neighborhood hakims. There were 150 respondents including agriculturists, hakims and housewives. Questionnaire was prepared to gather the information. Respondents were asked about the vernacular name of the weed and part used to treat the specific disease. Then these plants were correctly identified with the help of reference materials present at herbarium, Department of Botany, University of Gujrat Pakistan and the collected plants specimens have been deposited in this existing herbarium and further is cross verified through flora of Pakistan (Nasir and Ali, 1983).

Data analysis
The parts of plants were ordered into various categories root, shoot, leaf and flower and following data analysis was conducted:

Use Value (UV)
Use Value (UV) was determine the relative importance of given species collected from the area. It was calculated by following formula:

\[ UV = \frac{\sum U}{N} \]

In this formula, \( U \) refers to the number of citations per specific plant and \( N \) represents the number of informants.

Informant Consensus Factor (ICF)
Information of related homogeneity mixture of disease category obtained from informants was calculated by this formula:

\[ ICF = \frac{N_r - N_t}{N_r - 1} \]

Where, \( N_r \) describes he number of use citations from informants for a particular plant-use category and \( N_t \) represents the number of species or taxa
utilized by all the informants for that specific plant use category. ICF had range between 0 to 1, where ICF value 1 indicated highest level of informant consent and 0 was the lowest value.

**Fidelity Level (FL)**
The fidelity level was used to search out the important advance species related to medicines.

\[
FL(\%) = \frac{N_p}{N} \times 100
\]

Where, \(N_p\) for the number of species that are present in specific category. For accurate sum consumption for particular species symbol \(N\) was used.

**Relative Frequency of Citation (RFC)**
RFC was calculated by the given formula:

\[
RFC = \frac{FC}{N}
\]

In this formula, \(FC\) was the number of informants for the use of that species and the \(N\) represents the total number of informants in the survey.

**Results**
During the ethnobotanical survey from 150 local informants were interviewed having knowledge about folk medicinal uses of weeds.

**Identification of weeds**
The collected weeds belong to different 33 families i.e. Asteraceae, Poaceae, Fabaceae, Polygonaceae, Amaranthaceae, Euphorbiaceae, Solanaceae, Brassicaceae, Gentianaceae, Lamiaceae and Verbenaceae (Table 1). The major families Asteraceae, Poaceae, Fabaceae and Polygonaceae had 11, 11, 8 and 6 plant species, respectively (Figure 2). Families Amaranthaceae, Euphorbiaceae, Solanaceae, Brassicaceae, Gentianaceae, Lamiaceae and had 3-5 plant species, while other families identified had 3, 2 and 1 plant species (Table 1).

**Medicinal parts of weeds**
Different parts of the weeds like leaves, roots, stem, milky latex, seeds etc. were used for different medicinal purposes by the local peoples. Crude drugs were prepared from the weeds in the form of infusion, extraction, paste powder, decoction etc. leaves were used about 58%, fruits 36%, seeds 25%, whole plant 23%, roots 22%, stem 8% and milky latex about 1% (Figure 3).
Table 1. Family index based upon number of species in the study area

| Family            | No. of species | Ranking |
|-------------------|----------------|---------|
| Asteraceae        | 11             | 1<sup>st</sup> |
| Poaceae           | 11             | 1<sup>st</sup> |
| Fabaceae          | 8              | 2<sup>nd</sup> |
| Polygonaceae      | 6              | 3<sup>rd</sup> |
| Amaranthaceae     | 5              | 4<sup>th</sup> |
| Euphorbiaceae     | 5              | 4<sup>th</sup> |
| Solanaceae        | 5              | 4<sup>th</sup> |
| Brassicaceae      | 3              | 5<sup>th</sup> |
| Gentianaceae      | 3              | 5<sup>th</sup> |
| Lamiaceae         | 3              | 5<sup>th</sup> |
| Verbenaceae       | 3              | 5<sup>th</sup> |
| Acanthaceae       | 2              | 6<sup>th</sup> |
| Convolvulaceae    | 2              | 6<sup>th</sup> |
| Malvaceae         | 2              | 6<sup>th</sup> |
| Moraceae          | 2              | 6<sup>th</sup> |
| Oxalidaceae       | 2              | 6<sup>th</sup> |
| Aizoaceae         | 1              | 7<sup>th</sup> |
| Apiaceae          | 1              | 7<sup>th</sup> |
| Apocynaceae       | 1              | 7<sup>th</sup> |
| Cactaceae         | 1              | 7<sup>th</sup> |
| Cannabaceae       | 1              | 7<sup>th</sup> |
| Caryophyllaceae   | 1              | 7<sup>th</sup> |
| Cyperaceae        | 1              | 7<sup>th</sup> |
| Nyctaginaceae     | 1              | 7<sup>th</sup> |
| Papaveraceae      | 1              | 7<sup>th</sup> |
| Papaveraceae      | 1              | 7<sup>th</sup> |
| Plantaginaceae    | 1              | 7<sup>th</sup> |
| Portulacaceae     | 1              | 7<sup>th</sup> |
| Primulaceae       | 1              | 7<sup>th</sup> |
| Pteridaceae       | 1              | 7<sup>th</sup> |
| Ranunculaceae     | 1              | 7<sup>th</sup> |
| Typhaceae         | 1              | 7<sup>th</sup> |
| Zygophyllaceae    | 1              | 7<sup>th</sup> |

Pharmacological and derivative analysis
The Use Value (UV) and Relative Frequency of Citation (RFC) were used to demonstrate that which weed can further used for pharmacological study and can help in drug improvement (Table 2). In the RFC of the reported weeds has been shown in Table 2. Weeds having highest RFC value were reported by maximum number of people in the study area. The Use Value Index determined the relative importance of specie in a population as described by Vendruscolo and Mentz (2006). The Fidelity Level (FL) of 22 important weeds ranged from 27-100%. *Cichorium intybus* L. (Asteraceae) had 100% FL value against liver problem and blood purifier respectively. Informant Consensus Factor (ICF) is given in Table 3 which showed ICF values based upon the uses of weeds in various disease (Figure 4). Highest ICF values were noted against stomach problems, gastric problems, intestinal problem, digestive problems that was 0.76. Fidelity Level (FL) value of most reported medicinal plants have been described in Table 4. *Achyranthes aspera* L. showed the highest FL values that was 93% that had uses in gastrointestinal disorders and menstrual pain.

Weeds collected had various medicinal uses that has been given in Table 2. The important uses were such as *Achyranthes aspera* L. used to cure asthma, toothache and cough, *Adiantum capillus-veneris* L. was useful as antimicrobial activity, *Amaranthus viridis* L. (Primulaceae) was used to cure malaria, urinary tract infections and snake bites, *Anagallis arvensis* L. was used as wound healing and antioxidant properties, *Anethum graveolens* L. (Apiaceae) to cure constipation, heartburn, treat diarrhea, treatment of cold, flue, asthma and urinary tract infections.

![Percentage of plant parts used for medicinal purpose by local community](image3.png)

**Figure 3.** Percentage of plant parts used for medicinal purpose by local community
Table 2. Identification of weeds with uses, method and prescription

| Species                     | Family                | Voucher no. | UV  | RFC  | Local uses                                              | Method of use                                      | Form of use             | Time of use       | Part used          |
|-----------------------------|-----------------------|-------------|-----|------|--------------------------------------------------------|---------------------------------------------------|------------------------|-------------------|--------------------|
| Achyranthes aspera L.       | Amaranthaceae         | Ama-12/19   | 0.85| 0.088| Asthma, toothache, cough                               | Its leaves and honey bee to make tablets          | Oral use               | 3 time par day   | Fresh leaves       |
| Adiantum capillus-veneiris L | Pteridaceae           | Pte-02/19   | 0.23| 0.073| Antimicrobial activity                                 | Whole plant (aerial parts) as decoction           | Oral use               | 3 time par day   | Fresh leaves       |
| Amaranthus viridis L.       | Amaranthaceae         | Ama-13/19   | 0.37| 0.051| Malaria, urinary tract infections and snake bites.    | Take Seeds and then Grind with rice and water to make tablets | Oral use               | 1 time par day   | Fresh leaves       |
| Anagallis arvensis L.       | Primulaceae           | Pri-01/18   | 0.27| 0.08  | Wound healing and antioxidant properties.             | Use its leaves to make poultice                   | External use           | 2 time par day   | Fresh as well as dry form |
| Anethum graveolens L.       | Apiaceae              | Api-17/19   | 0.58| 0.04  | Constipation, heartburn, treat diarrhea, treatment of cold, flue, asthma and urinary tract infections | Seed of this plant mix with ajwain and use for diabetic patients | Internal use           | 1 time par day   | Dry form           |
| Avena sativa L.             | Poaceae               | Poa-27/18   | 0.62| 0.07  | Curing constipation, and have wound healing properties. Have antibacterial, antimicrobial and antidiabetic properties. | Take seed water and sugar to grind them           | Oral use               | 1 time par day   | Dry form           |
| Boerhavia diffusa L.        | Nyctaginaceae         | Ncy-01/19   | 0.57| 0.048| Snakebites, kidney problems, and helpful in curing cough and flue. Useful for curing abdominal pain and abdominal tumors | Grind its roots and added honey bee               | Oral use               | 2 time par day   | Dry form           |
| Brassica rapa L.            | Brassicaceae          | Bra-13/19   | 0.46| 0.13  | Cure gynological disorders and hepatitis A,B and C.   | Take its leaf, seed and then grind it to make powder. | Internal use           | Two time per week | Dry plus fresh form |
| Calotropis procera (Aiton) Dryand. | Apocynaceae  | Apo-04/19   | 0.92| 0.17  | Cure snake bite, respiratory problems, body pain and heal wounds. | Mustard oil is mixed with leaf of akk plant and rubbed. | External use           | 3 to 4 time      | Dry form           |
| Cannabis sativa L.          | Cannabaceae           | Can-04/18   | 0.34| 0.08  | Diarrhea, constipation, snake bite.                   | Take its Seeds and leaves to make poultice        | External use           | 1 time par day   | Dry form           |
| Carthamus tinctorius L.     | Asteraceae            | Ast-32/19   | 0.42| 0.12  | Treat ulcer, jaundice, and anti-inflammatory and wound healing property, improves male fertility. | Seed oil is used as tonic                         | External use           | 2 time par day   | For lungs problem |
| Centaurium pulchellum (Sw.) Druce | Gentianaceae   | Gen-01/18   | 0.21| 0.08  | Treat injuries and have anti-viral property.         | Make a poultice                                   | External use           | 1 time par day   | Dry form           |
| Chenopodiastrum muralum (L.) S. Fuentes, Uotila & Borsch | Amaranthaceae | Ama-15/19   | 0.76| 0.086 | Cough, constipation, pulmonary obstruction, and inflammation. | Whole plant part are recommended for              | External use           | 2 time par day   | Dry and fresh form |
| Scientific Name                        | Family       | Common Name | E-PC | E-RS | Uses                                                                 | Dosage                                                                 | Form          |
|---------------------------------------|--------------|-------------|------|------|----------------------------------------------------------------------|------------------------------------------------------------------------|---------------|
| Chenopodium album L.                  | Amaranthaceae| Ama-14/19   | 0.78 | 0.156| Cures gastric, hepatic and urinary disorders, treat constipation,    | Leaves mix with water for kidney disorder                            | Internal use  |
|                                       |              |             |      |      | diarrhea and headache.                                               |                                                                        | Fresh form    |
|                                       |              |             |      |      |                                                                      |                                                                        |               |
| Chrozophora tinctoria (L.) A.Juss.    | Euphorbiaceae| Eup-14/18   | 0.31 | 0.09 | Antimicrobial, antibacterial and antioxidant properties.             | Take its roots to make syrup for child cough                         | Internal use  |
|                                       |              |             |      |      |                                                                      |                                                                        | Dry part      |
|                                       |              |             |      |      |                                                                      |                                                                        |               |
| Cichorium intybus L.                  | Asteraceae   | Ast-33/19   | 0.74 | 0.132| Cure kidney and liver problems.                                      | Use this plant leaves to make herbal tea                            | Oral use      |
|                                       |              |             |      |      |                                                                      |                                                                        | Fresh part    |
|                                       |              |             |      |      |                                                                      |                                                                        |               |
| Cirsium arvense (L.) Scop.            | Asteraceae   | Ast-34/19   | 0.38 | 0.13 | Cure indigestion and have antimicrobial activity.                    | Make decoction of roots and used for child worms                    | Oral use      |
|                                       |              |             |      |      |                                                                      |                                                                        | Dry form      |
|                                       |              |             |      |      |                                                                      |                                                                        |               |
| Convolvulus arvensis L.               | Convolvulaceae| Con-03/19   | 0.54 | 0.08 | Cure urinary tract infections and ulcers.                            | Make juice of roots to control fever                                | Internal use  |
|                                       |              |             |      |      |                                                                      |                                                                        | Dry form      |
|                                       |              |             |      |      |                                                                      |                                                                        |               |
| Croton bonplandianum Baill.           | Euphorbiaceae| Eup-17/19   | 0.25 | 0.08 | Have wound healing property and cure paralysis.                      | Take its seed, grind them to make powder                            | Oral use      |
|                                       |              |             |      |      |                                                                      |                                                                        | Fresh form    |
|                                       |              |             |      |      |                                                                      |                                                                        |               |
| Cynodon dactylon (L.) Pers.           | Poaceae      | Poa-28/18   | 0.58 | 0.10 | Anti-diabetic effect, useful as blood purifier and control nose   | Paste of this plant is useful for wounds                            | Oral use      |
|                                       |              |             |      |      | bleeds, useful to cure vomiting.                                     |                                                                        | Dry form      |
|                                       |              |             |      |      |                                                                      |                                                                        |               |
| Cyperus rotundus L.                   | Cyperaceae   | Cyp-02/18   | 0.28 | 0.07 | Anti-bacterial, antioxidant, anti-diabetic, anti-pyretic, anti-     | Take its rhizome that is consider as tonic                           | Oral use      |
|                                       |              |             |      |      | inflammatory and antimalarial properties. Cure pain, fever,  |                                                                        | 1 time par day|
|                                       |              |             |      |      | wounds, constipation, gastrointestinal and skin problems.          |                                                                        | Dry form      |
|                                       |              |             |      |      |                                                                      |                                                                        |               |
| Dactylctenium aegyptium (L.) Willd.   | Poaceae      | Poa-29/18   | 0.32 | 0.09 | Antipyretic and antimicrobial properties. Useful for curing   | Take its seeds to make decoction                                   | Oral use      |
|                                       |              |             |      |      | diarrhea and asthma.                                               |                                                                        | 1 time par day|
|                                       |              |             |      |      |                                                                      |                                                                        | Dry seed      |
| Datura metel L.                       | Solanaceae   | Sol-11/18   | 0.48 | 0.21 | Curing paralyzed portion of the body. Relieve snake bite and     | Take its leaves, drink them. Add sugar and water to make syrup      | Oral use      |
|                                       |              |             |      |      | have antidote to poison. Cure arthritis and have antimicrobial   |                                                                        | 2 time par day |
|                                       |              |             |      |      | properties.                                                        |                                                                        | Fresh form    |
| Dicranium annulatum (Forsk.) Stapf    | Poaceae      | Poa-39/19   | 0.37 | 0.19 | Antioxidant and antimicrobial and also useful for curing dysentery.| Grinded seed mix with musli safeed and use to control dysentery     | Internal use  |
|                                       |              |             |      |      |                                                                      |                                                                        | 1 time par day|
|                                       |              |             |      |      |                                                                      |                                                                        | Dry from      |
| Digitaria bicornis (Lam.) Roem. & Schult.| Poaceae   | Poa-40/19   | 0.42 | 0.15 | Useful to kill microbes.                                            | Take its leaves and then mix with grinded seeds to make poultice    | External use  |
|                                       |              |             |      |      |                                                                      |                                                                        | 1 time par day|
|                                       |              |             |      |      |                                                                      |                                                                        | Dry and fresh form |
| Common Name                              | Scientific Name                        | Family       | Plant Part Used                                    | Method of Use                           | Internal Use | 2 time per day | Fresh extract   |
|------------------------------------------|----------------------------------------|--------------|---------------------------------------------------|-----------------------------------------|--------------|----------------|----------------|
| Dysphania ambrosioides (L.) Mosyakin & Clemants | Amaranthaceae Am-16/19 | 0.34 0.09 | Cure inflammation and have antibacterial properties. | Herbal tea                               | Internal use | 2 time per day | Fresh extract   |
| Eclipta prostrata (L.) L.                | Asteraceae Ast-35/19                   | 0.38 0.16    | Useful for curing snake bite. Act as anti-bacterial and anti-oxidant. | Plant part mixed with olive oil and use for jaundice | Internal use | 1 time per day | Fresh part      |
| Eleusine indica (L.) Gaertn.             | Poaceae Poa-41/19                     | 0.75 0.2     | Prolapse uterus and treat menstruation if it takes long time. Useful for curing gynecological problems, liver disorders, febrifuge and blood dysentery. | Dry form of leaves use with milk | Internal use | 3 time per day | Fresh form      |
| Erigeron canadensis L.                   | Asteraceae Ast-36/19                  | 0.59 0.11    | Treat pimples and have antibacterial and antimicrobial property. | Whole plant is recommended as herbal tea to control gout and diuretic | Oral use     | 1 time per day | Fresh also dry form |
| Euphorbia helioscopia L.                 | Euphorbiaceae Eup-18/19               | 0.13         | Cure constipation, athlete’s foot and intestinal problems. Also useful for the treatment of cholera. | Take its leaves as herbal tea | Internal use | 3 time per day | Fresh part      |
| Euphorbia prostrae Aiton                 | Euphorbiaceae Eup-15/18               | 0.85 0.24    | Useful for curing jaundice, fever and kill intestinal worms. Act as anti-inflammatory and anti-bacterial. | Plant part that grow above the ground use to make medicine | Oral use     | 2 time per day | Fresh part      |
| Fumaria indica (Hausskn.) Pugsley        | Papaveraceae Pap-06/18                | 0.91 0.21    | Used in pains, fever, liver problems and diarrhea. Control vomiting and joint swellings. | Make decoction of leaves with water | Internal use | 2 time par day | Fresh and dry part |
| Geranium dalmaticum (Beck) Rech.f.       | Geraniaceae Gen-03/19                 | 0.53 0.18    | Cure internal wounds, swellings, inflammations, tumor and bleeding. | Herbal tea and root decoction are used to control inflammation and bleeding | Oral use     | 1 time par day | Dry also fresh form |
| Geranium rotundifolium L.                | Geraniaceae Gen-02/19                 | 0.47 0.16    | Cure constipation, joint pains and blockage of urine. | This plant is used as astringent and diuretic | Internal use | 1 time par day | Fresh form      |
| Inula hirta L.                           | Asteraceae Ast-37/19                  | 0.31 0.07    | Treat wounds, Cure respiratory disorders and have antimicrobial properties. | Take its flowers and 3 leaves of Adhatoda vasica are cooked carefully and taken with a handful of Boiled rice, which is still warm | Internal use | 7 days in the morning | Fresh form      |
| Ipomoea cairica (L.) Sweet               | Convolvulaceae Con-03/18              | 0.93 0.12    | Useful for the treatment of rheumatism and inflammation and | Young plant part is macerated and 4-5 teaspoons of juice | Oral use     | Twice a day for 7 days | Fresh            |
| Plant Name                  | Family     | Code | Percentage | Antimicrobial Properties                                                                 | Obtained from | Therapy Method | Internal Use | External Use | Form    |
|-----------------------------|------------|------|------------|-----------------------------------------------------------------------------------------|----------------|----------------|--------------|--------------|---------|
| Justicia adhatoda L.        | Acanthaceae| Aca-09/19 | 0.94       | Cure respiratory problems, cough, bronchitis, asthma, jaundice, diabetes, leprosy, tuberculosis problems and frequent thirst. | Liquid abstract of the plant is used in many medicinal formulations as an expectorant | Internal use   | Twice a day  | Fresh form |
| Lactuca serriola L.         | Asteraceae  | Ast-38/19 | 0.49       | Lettuce is used for asthma, cough, sleeping problems and joint pain.                    | Take whole plant and sue to make poultice that apply on the wounds | External use   | 1 time par day | Dry form   |
| Lantana camara L.           | Verbenaceae | Ver-04/18 | 0.35       | Useful as anti-pyretic, anti-microbial and anti-mutagenic.                              | Take Lantana camera leaves and sue to make decoction | Internal use   | 1 time par day | Fresh form |
| Lathyrus aphaca L.          | Fabaceae    | Fab-23/18 | 0.12       | Useful to cure snake bite.                                                             | Take 2 spoon of seed and mix with water | Internal use   | 1 time par day | Dry form   |
| Lepidium didymium L.        | Brassicaceae| Bra-14/19 | 0.98       | Useful for the treatment of headache, constipation, skin diseases and diabetes, useful for the treatment of gastrointestinal ulcers and heartburns, have anti-inflammatory activity. | Poultice of the leaves was used to applied on the treatment of croup | External use   | 2 time par day | Dry form   |
| Leucas aspera (Willd.) Link | Lamiaceae   | Lam-16/18 | 0.87       | Useful to cure headache, have antimicrobial activity, relieve chronic headache, cure dental pain, treat snake bite and insect stings, treat asthma and bone fractures. | Its leaves are recommended for scorpion bites | External use   | 1 time par day | Fresh form |
| Malva parviflora L.         | Malvaceae   | Mal-18/19 | 0.16       | Have antimicrobial, antibacterial and anti-inflammatory properties.                    | Leave are boiled in 3-4 cup water to make 1 cup. The mixture is then filtered. 2-4 teaspoons of the solution mixed with cow milk | Oral use       | Daily in the evening | Fresh form |
| Malvastrum coromandelianum (L.) Garcke | Malvaceae | Mal-19/19 | 0.65       | Cure blisters, wounds, injuries and relieve pain. Have antimicrobial and irritant activity. | Seed oil is used to control body pain | External use   | 1 time par day | Dry form   |
| Medicago polymorpha L.      | Fabaceae    | Fab-23/18 | 0.97       | Have anti-fungal, antibacterial, antimicrobial and anti-inflammatory properties. Cure kidney, intestinal and bladder infections. | Seed can be parched, ground into a powder and mixed with water to make a mush | Internal use   | 2 time par day | Dry form   |
| **Medicago sativa L.** | Fabaceae | Fab-33/19 | 0.86 | 0.18 | Enhance metabolism and increase milk production in livestock. | Take ginseng, oat, alfalfa to make syrup | Internal use | Adult take twice a day | Fresh part |
|------------------------|----------|-----------|------|------|---------------------------------------------------------------|------------------------------------------|-------------|----------------------|----------|
| **Melilotus indicus (L.) All.** | Fabaceae | Fab-24/18 | 0.54 | 0.24 | Cure swellings, diarrhea and bowel complaints. Useful for the treatment of intestinal problems. | Seed is used to make gruel and cure bowl problems | Internal use | 1 time par day | Dry form |
| **Morus alba L.** | Moraceae | Mor-03/18 | 0.24 | 0.06 | Useful for treatment of hepatitis. | Root and leaves of *Morus alba* are used to treat dizziness | Oral use | 1 time par day | Dry form |
| **Morus nigra L.** | Moraceae | Mor-04/18 | 0.47 | 0.12 | Used for sore throat | Washing the mouth and then swallowing a molasses made from black mulberry seems to reduce mouth sores during cancer treatment. | Oral use | 2 time par day | Fresh form |
| **Nasturtium officinale R.Br.** | Brassicaceae | Bra-15/19 | 0.65 | 0.09 | Useful to cure asthma, bronchitis, cough and fever. | 1 teaspoon juice of *Zingiber officinale* is mixed with 2 teaspoons juice of *Nasturtium officinale* | Internal use | Thrice a day | Dry form |
| **Ocimum basilicum L.** | Lamiaceae | Lam-20/19 | 0.95 | 0.23 | Have antimicrobial, antibacterial and wound healing properties. Cure urinary tract infections, fever, cough, pneumonia, asthma and skin problems. | 1 teaspoon juice of *Ocimum* leaves and 1 teaspoon honey. It is taken twice daily for 3 days | Oral use | Twice a day | Fresh form |
| **Opuntia robusta J.C.Wendl.** | Cactaceae | Cac-19/19 | 0.97 | 0.21 | Useful for the treatment of diabetes, cardiac and renal diseases. Useful for maintaining health and mental strength. | Paste of leaves or dry power of leaves | Oral use | 1 time par day | Fresh part |
| **Oxalis corniculata L.** | Oxalidaceae | Oxa-04/18 | 0.94 | 0.23 | Useful for curing skin diseases, migraine, redness of eye and scurvy, have wound healing and anti-microbial activity. Useful to cure gastric troubles. | Dry leaves to make powder | Oral use | 2 time par day | Fresh plus dry form |
| **Oxalis latifolia Kunth** | Oxalidaceae | Oxa-03/18 | 0.65 | 0.15 | Cure jaundice, hepatitis A, B, C, skin diseases stomach problems and bleeding wounds. | Leaves are used to make decoction for the treatment of fever | Oral use | 3 time par day | Fresh leaves |
| **Parthenium hysterophorus L.** | Asteraceae | Ast-39/19 | 0.81 | 0.20 | Have anti-bacterial activity, useful to kill pathogenic bacteria. Useful as tonic and febrifuge. Cure malaria and allergies. | Make herbal tea to cure pyrexia | Oral use | 2 time par day | Fresh part |
| Name                                      | Family       | Code  | IC50  | Main Uses                                                                 | Preparation/Procedure                                                                 |
|-------------------------------------------|--------------|-------|-------|---------------------------------------------------------------------------|---------------------------------------------------------------------------------------|
| Persicaria longiseta (Bruijn) Kitagawa    | Polygonacea  | Pol-05/18 | 0.13  | 0.08 Cure diabetes, cold and cough.                                      | 1 handful leaves of <i>this plant</i>, 1 nutmeg<br>**Internal use**: Twice a day<br>**Fresh leaves** |
| Persicaria odorata (Lour.) Sojak           | Polygonacea  | Pol-06/18 | 0.67  | 0.19 Have antibacterial, anti-inflammatory, antidiarrheal and antihemorrhage properties. | Its leaves are grinding to make poultice<br>**External use**: Twice a day<br>**Fresh leaves** |
| Phalaris minor Retz.                      | Poaceae      | Poa-42/19 | 0.89  | 0.21 Cure cough, cold, asthma and dysentery, have antimicrobial, antioxidant and phytotoxic properties. | It is use as fodder for animals but its leaves are also used to control respiratory problem<br>**Internal use**: One time par day for a week<br>**Fresh form** |
| Phyla nodiflora (L.) Greene               | Verbenacea e | Ver-07/19 | 0.7   | 0.13 Cure skin diseases, after birth diseases in women’s, swollen cervical glands and gastric problems. | Recommend for external body pain<br>**External use**: 1 time par day<br>**Dry form** |
| Physalis minima L.                        | Solanaceae   | Sol-12/18 | 0.61  | 0.13 Act as antioxidant, cure diseases and tooth diseases, usefull for the treatment of hypertension, diabetes and malaria. Act as anti-inflammatory, anti-tumor and anti-viral. Cure pain below naval and stimulate urine production. | Take its root and then grind them and then add honey bee and make decoction<br>**Internal use**: Twice a day<br>**Dry form** |
| Poa annua L.                              | Poaceae      | Poa-30/18 | 0.13  | 0.07 Mainly useful as cattle fodder to improve digestion.                 | This plant is use as fodder for animal<br>**Internal use**: 2 time a day<br>**Fresh** |
| Portulaca oleracea L.                     | Portulacacea e | Por-03/19 | 0.96  | 0.21 Useful for the treatment of wounds, fever, ulcer, muscle spasm, skin problems and abnormal uterine bleeding. Have antimicrobial and antioxidant properties. | Plants part are used to make poultice<br>**External use**: 1 time par day<br>**Dry also fresh part** |
| Ranunculus sceleratus L.                  | Ranunculaceae | Ran-06/18 | 0.99  | 0.22 Have antimicrobial and anti-inflammatory activity. Have wound healing property. Promote blood circulation by removing blood stasis. Cure cough, cold and malaria. Treat heart, liver and gall bladder diseases. Cure snake bite. | Its whole plant is recommended for anti-inflammatory and sedative purpose<br>**Internal use**: 1 time par day at night<br>**Fresh** |
| Ricinus communis L.                       | Euphorbiaceae | Eup-19/19 | 0.94  | 0.19 Useful for curing rheumatic pain, joint pain, constipation, headache, inflammation, nervous disorders and paralysis. Have antioxidant and antimicrobial properties. | Take its root, grind them and add milk in it<br>**Oral use**: 2 time par day<br>**Dry form** |
| Plant Name                          | Family       | Code  | Rating | Description                                                                                                                                   | Part Used          | Use          | Frequency   | Form   |
|------------------------------------|--------------|-------|--------|----------------------------------------------------------------------------------------------------------------------------------------------|--------------------|--------------|-------------|--------|
| *Ruellia simplex* C.Wright         | Acanthaceae  | Aca-10/19 | 0.57   | Have antimicrobial activity and useful for the treatment of hypertension.                                                                         | Plant part is use to make syrup that is helpful for cough problem | Internal use | 3 time par day | Fresh  |
| *Rumex crispus L.*                 | Polygonacea  | Pol-09/19 | 0.53   | Antimicrobial, antioxidant and anti-inflammatory activity. Useful for curing edema.                                                              | Roots were used as remedy against intestinal problem            | Internal use | 1 time par day | Dry form|
| *Rumex dentatus L.*                | Polygonacea  | Pol-10/19 | 0.86   | Antioxidant, anti-inflammatory and antimicrobial activity. Act as appetizer, cure constipation, diarrhea, jaundice, skin, and liver and gall bladder disorders. | Take its leaves grind them and make its juice that use of body pain | External use | 2 time par day | Dry form|
| *Rumex hypogaeus* T.M.Schust. & Reveal | Polygonacea  | Pol-11/19 | 0.38   | Useful as antioxidant and cure skin disorders.                                                                                                  | Its leaves are applied externally on swelling site of body      | External use | Twice a day   | Fresh form|
| *Rumex obtusifolius* L.            | Polygonacea  | Pol-07/18 | 0.48   | Have antimicrobial, antibacterial, antiviral and antiulcerogenic properties.                                                                     | Leaves are often applied external as rustic remedy in the treatment of burn | External use | Day time      | Fresh also dry form|
| *Saccharum munja* Roxb.            | Poaceae      | Poa-31/18 | 0.16   | Medicinal herb used in birth control.                                                                                                          | Plant parts are used in number of Ayurvedic formulations which are used in the treatment of dysuria | External use | Morning time  | Fresh part|
| *Senna occidentalis* (L.) Link      | Fabaceae     | Fab-34/19 | 0.46   | Control blood pressure and cholesterol level, cure short breathless and fever.                                                                  | The seeds are dried, roasted then ground into a powder and used as a coffee substitute | Internal use | 2 time par day | Dry form|
| *Setaria pumila* (Poir.) Roem. & Schult. | Poaceae   | Poa-43/19 | 0.15   | Useful for curing skin diseases.                                                                                                               | It can be eaten as a sweet or savoury food in all the ways that rice is used, or ground into a powder and made into porridge, cakes, puddings | Oral use    | 1 time par day | Fresh form|
| *Setaria viridis* (L.) P. Beauv.    | Poaceae      | Poa-44/19 | 0.16   | Act as diuretic, emollient and tonic.                                                                                                          | It is used in the same ways as rice or millet, either boiled, roasted or ground into a flour | Oral use    | 2 time par day | Dry form|
| **Solanum nigrum L.** | Solanaceae | Sol-13/18 | 0.64 | 0.18 | Prevent respiratory, hepatic and stomach problems. Cure eye problems, fever, piles and diabetes. Useful for the treatment of jaundice. Have antimicrobial, antioxidant, anticancer and anti-inflammatory activities. | 5g leaves of *Solanum* mixed with 12 fruits of *Piper nigrum*, 24 g sugar candy are mixed and boiled in ½ liter water. It is done in a clay pot. When it form 1 cup it is then cooled and filtered. | Oral use | Twice a day | Dry form |
| **Solanum virginianum L.** | Solanaceae | Sol-17/19 | 0.58 | 0.13 | Cure degenerative and heart diseases. | 5g leaves and 12 fruits of *Piper nigrum*, leaves of *Cinnamomum*, 2 fruits of *Piper longum*, 5-6 g bark of *Cinnamomum zeylanicum*, 5-6 g rock salt and 24 g sugar candy are mixed and boiled in 1 liter water. | Oral use | Twice a day | Dry form |
| **Sonchus asper (L.) Hill** | Asteraceae | Ast-40/19 | 0.28 | 0.12 | Antimicrobial activity, paste is useful to cure wounds and boils. Antidote for insect bites. | seeds are soaked in 1 cup water for one night | External use | 1 time par day | Fresh form |
| **Sonchus oleraceus (L.) L** | Asteraceae | Ast-41/19 | 0.48 | 0.14 | Anti-inflammatory, antipyretic, antibacterial, anti-fungal and antioxidant properties. Relieve body pain. | Infusion has been used to bring on a tardy menstruation and to treat diarrhoea | Oral use | 1 time par day | Fresh form |
| **Stellaria media (L.) Vill.** | Caryophyllaceae | Car-07/18 | 0.36 | 0.9 | Cure broken bones and swellings. Useful for the treatment of epilepsy and convulsions. | Its leaves applied on skin surface | External use | 3 time par day | Fresh form |
| **Teucrium lamifolium d’Urv.** | Lamiaceae | Lam-17/18 | 0.41 | 0.13 | Antioxidant, anti-depression, anti-inflammatory and anticoagulant properties. | Its herbal tea is recommended for common cold | Internal use | Twice a day | Fresh |
| **Trianthema portulacastrum L.** | Aizoaceae | Aiz-03/19 | 0.58 | 0.19 | Useful for the treatment of constipation, asthma, dropsy, fever and cough. Effective for the treatment of liver, kidney and eye disorders. | extracts of the plant have demonstrated significant pharmacological activities, such as antioxidant, diuretic | Oral use | 3 time par day | Fresh form |
| **Tribulus terrestris L.** | Zygophyllaceae | Zyg-02/18 | 0.63 | 0.19 | Cure sexual disorders. Useful for the treatment of kidney stones and urinary tract infections. | Use its extract by mouth might reduce symptoms of angina | Internal use | One time | Fresh |
| Plant Name                          | Family       | Code | E | O  | Use                                                                 | Form            | Frequency          | Shape   |
|------------------------------------|--------------|------|---|----|----------------------------------------------------------------------|-----------------|--------------------|---------|
| Trifolium resupinatum L.           | Fabaceae     | Fab-26/18 | 0.48 | 0.14 | Cure diabetes and skin diseases.                                   | Leaves and young stems - cooked and eaten as a vegetable | Oral use | One time per week | Fresh   |
| Typha angustifolia L.              | Typhaceae    | Typ-01/18  | 0.13 | 0.08 | Useful for wound healing, have antimicrobial and anti-inflammatory properties. | Internally it is used for the treatment of Kidney stones | Oral use | Twice a day | Fresh   |
| Verbena officinalis L.             | Verbenaceae  | Ver-05/18 | 0.51 | 0.2  | Useful for curing malaria, rheumatic arthritis, epilepsy and convulsions also have antioxidant property. | Parts that grow above ground are used to make medicine. Verbena is used for sore throats and respiratory tract diseases such as asthma | Internal use | One time per day | Dry form |
| Veronica persica Poir.             | Plantaginaceae | Pla-04/19 | 0.53 | 0.11 | Have anti-inflammatory, anti-genotoxic, anti-oxidant and anti-fungal properties. Cure hemorrhoids, rheumatism, kidney and stomach problems. | plants are traditionally used in medicine for wound healing | External use | One time | Dry part |
| Vicia sativa L.                    | Fabaceae     | Fab-35/19 | 0.32 | 0.16 | Useful as emollient and have anti-inflammatory and antioxidant properties. | Poultice is recommended for skin infection | External use | One time per day | Dry part |
| Withania somnifera (L.) Dunal      | Solanaceae   | Sol-18/19 | 0.49 | 0.17 | Cure neurological disorders.                                       | Roots of plant is directly used as herbal tea or dry powder | Internal use | 1 time per day | Dry form |
| Xanthium strumarium L.             | Asteraceae   | Ast-42/19 | 0.51 | 0.13 | It has anti-inflammatory, t and antibacterial properties, useful for skin treatment | Apply leaf paste | External use | Twice a day | Fresh form |
Table 3. Informant Consensus Factor (ICF) by disease category reported in study area

| Disease Category                                                                 | No. of Use Reports (Nur) | No. of Species Used (Nt) | Nur-Nt | ICF  |
|----------------------------------------------------------------------------------|---------------------------|--------------------------|--------|------|
| Respiratory diseases, Gastric problems, Hepatitis                                | 24                        | 10                       | 14     | 23   | 0.60 |
| Cardiovascular disorders and Urogenital problems                                 | 30                        | 14                       | 16     | 29   | 0.55 |
| Kidney and liver disorders                                                       | 31                        | 13                       | 18     | 30   | 0.60 |
| Antiviral, Antifungal, Anticoagulant                                             | 34                        | 12                       | 22     | 33   | 0.66 |
| Loose motion, Constipation                                                       | 45                        | 20                       | 25     | 44   | 0.56 |
| Fever, Cold, Cough, Asthma, Flue                                                 | 67                        | 37                       | 30     | 66   | 0.45 |
| Jaundice, Malaria, Bronchitis, Vomiting, Intestinal problems, Arthritis          | 27                        | 15                       | 12     | 26   | 0.46 |
| Headache, Hypertension                                                           | 17                        | 7                        | 10     | 16   | 0.62 |
| Afterbirth problems, Gallbladder problems, Boils, Gynecological disorders        | 19                        | 8                        | 11     | 18   | 0.61 |
| Malaria, Cancer, Paralysis, Tumor, Allergies                                     | 22                        | 12                       | 10     | 21   | 0.47 |
| Prolapse uterus, Male infertility, Sexual disorders                              | 19                        | 6                        | 12     | 18   | 0.66 |
| Piles, Snake bite, Dropsy, Cholera, Toothache, Rheumatism                        | 26                        | 13                       | 13     | 25   | 0.52 |
| Wound healing, Ulcer, Skin diseases, Tonic                                       | 65                        | 38                       | 27     | 64   | 0.42 |
| Stomach problems, Gastric problems, Intestinal problem, Digestive problems       | 35                        | 9                        | 26     | 34   | 0.76 |
| Insect bite, Body pain, Epilepsy, Convulsion, Infections                         | 19                        | 6                        | 13     | 18   | 0.72 |
| Nervous disorders, Swellings, Pneumonia, Eye problems                            | 15                        | 9                        | 6      | 14   | 0.42 |
| Bone pain, Joint swellings, Jaundice                                             | 26                        | 19                       | 7      | 25   | 0.2  |
| Diabetes                                                                         | 27                        | 13                       | 14     | 26   | 0.53 |
| Antimicrobial, Antibacterial                                                      | 87                        | 52                       | 35     | 86   | 0.40 |
| Antioxidant, Anti-inflammatory                                                    | 83                        | 50                       | 33     | 82   | 0.41 |

Figure 4. Informant Consensus Factor (ICF) by disease category
According to respondents, these weeds are also recommended in many other diseases include respiratory diseases, gastric problems, hepatitis, cardiovascular disorders and urogenital problem, kidney and liver disorders, diarrhea, constipation, fever, cold, cough, asthma, flu, bronchitis, vomiting, intestinal problems, arthritis, headache, hypertension, afterbirth problems, gallbladder problems, boils, gynecological disorders, malaria, cancer, paralysis, tumor, allergies, prolapse uterus, male infertility, sexual disorders, piles, snake bite, dropsy, cholera, toothache, rheumatism, stomach problems, gastric problems, intestinal problem, digestive problems, insect bite, body pain, epilepsy, convulsion, infections, nervous disorders, swellings, pneumonia, eye problems, bone pain, joint swellings, jaundice and diabetes.

### Discussion

During these surveys, it was noted that there are many plants considered as weeds by growers but according to local community there are useful medicinal plants. They claimed the efficacy of these weeds to cure many diseases using folk knowledge. Similarly, one part of the district Gujrat (Jalapur Jattan) was studied by Hussain et al. (2010). They reported that this area is a rich area with variety of flora that were used in many diseases based upon local community knowledge. Findings of the present study are in accordance with many researchers. Local community rely on these weeds based upon folk knowledge. It was reported by many researchers that the flora identified in the study area has medicinal importance in many other parts of the world. Saurabh et al. (2011) described that Achyranthes aspera L. is useful to cure asthma, piles, dropsy, snake bite, rheumatism and skin diseases. Amaranthus viridis L. (Amaranthaceae) was useful for the treatment of malaria, useful for prolapse of uterus, cure urinary tract infections, useful to cure snake bite (Butt et al., 2015). Anagallis arvensis L. (Primulaceae) is useful for wound healing and antioxidant properties. According to previous studies it was useful for veterinary uses (Viegi et al., 2003). Anethum graveolens L. (Apiaceae) is useful for wound healing, used as appetizer, remedy used for heart burns, useful for the treatment of cough, cold, flu, asthma, urinary tract infections and headache (Kumar, 2014).

During this study, it was noted that Avena sativa L. (Poaceae) is considered for having antioxidant and wound healing properties which in accordance in earlier findings by Akkol et al. (2011). Brassica rapa L. (Brassicaceae) is useful for the treatment of hepatitis A, B and C (Danielli et al., 2001). Boerhavia diffusa L. (Nyctaginaceae) is used in kidney problems and helpful in cough and flu. Calotropis procera (Aiton) Dryand. has anti-diarrhoeal and anti-
inflammatory activity (Kumar and Basu, 1994). Cannabis sativa L. (Cannabaceae) is useful for having diuretic, anti-inflammatory antipyretic and pain killing properties (Lozano, 2001). Senna occidentalis (L.) Link (Fabaceae) used to control blood pressure and cholesterol level. Its herbal tea was good to lower high blood pressure. Al-Daihan et al. (2013) also conducted study to observe most common medicinal plants by local people were Cannabis sativa L. (UV=0.98), Fagonia indica Burm.f. (Zygophyllaceae) with UV of 0.87 and Plantago ovata Forssk. (Plantaginaceae) with use value (UV=0.98) which showed their widespread utilization in indigenous herbal medication. The high FL value showed the use of a particular weed by the local people to treat a specific disease (Padmavathi et al., 2005).

Many researchers reported the use of wild plants species in different regions of the world and Pakistan. Most of the information is related to these find that have been explored during the surveys in Gujrat, Pakistan. Petrovic et al. (2005) reported that Cichorium intybus L. was used to cure kidney and liver problems and have antibacterial properties. Datura metel L. (Solanaceae) cure arthritis and have antimicrobial properties and useful for herbicidal purpose and veterinary purpose (Khan et al., 2014). Euphorbia helioscopia L. (Euphorbiaceae) used to cure constipation, athlete’s foot and intestinal problems. Euphorbia prostrata Aiton (Euphorbiaceae) was useful for the treatment of wounds (Nagori and Solanki, 2011).

It was noted that paste of Fumaria parviflora var. indica (Hausskn.) Parsa (Papaveraceae) was useful for curing joint swellings. Previously plant was used for its antifungal properties (Mishra et al., 2011). All these studies showed the importance of plants among local community. These wild plants should be utilized rather than to eradicate as waste. It can be sold to herbal industries and local Hakims to prepare many medicines that can also be a source of income for people (Hussein et al., 2008). It was confirmed from these studies that the weeds identified from district Gujrat has much importance in traditional medicine. It should be utilized in Pharmaceutical or herbal industries to manufacture the medicine on commercial scale that can be a good addition in health sector.

Conclusions
It was concluded that the area of Gujrat, Punjab, Pakistan is rich source of important wild medicinal plants that are considered as weeds by farmers but on the other hand, these are also used to cure many diseases. It has been neglected by the researcher to document and collect the information about this region. There is need to create awareness among the people to collect these weeds as source of raw materials to prepare medicines.

Declarations
List of abbreviations: Not applicable.

Ethical approval and consent to participate: This study was approved by the Departmental Research and Review Committee (DRRC) and Ethics Committee of Advanced Studies and Research Board (ASRB), University of Gujrat, Pakistan with reference no. UOG/ASRB/3/1586.

Consent for publication: Not applicable

Conflict of interests: The authors declare that they have no conflict of interests.

Funding: This research work did not receive any grant from funding agencies in the public, commercial, or not-for-profit sectors.

Authors’ contributions: AR, KH designing of the study and proposed the study area; KN, NA and II participated in the collection of field data and identification of plant samples. SSA, AN, ZB identified the weeds reference herbarium and flora. SJ and UA analysed the data and wrote the initial draft of the manuscript. All the authors participated in writing and giving feedback on the manuscript and approved the final version of the manuscript.

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