

أَعُوذُ بِاللَّهِ مِنَ الشَّيْطَانِ الرَّجِيمِ بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

وَفِي الْأَرْضِ قِطْعٌ مُتَجَوِّرَاتٌ
وَجَنَّاتٌ مِّنْ أَعْنَابٍ وَزُرْعٌ وَنَخِيلٌ صِنْوَانٌ
وَعِزٌّ صِنْوَانٍ يُسْقَى بِمَاءٍ وَاحِدٍ
وَنُفُضٌ بَعْضُهَا عَلَى بَعْضٍ فِي الْأُكُلِ
إِنَّ فِي ذَلِكَ لَآيَاتٍ لِّقَوْمٍ يَعْقِلُونَ

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A Statistical survey of the prevalence of Medicinal Plants in Samtah Region

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***Research problem:**

recently several peoples depending on artificial therapy not depending on the natural therapy which in turn lead to which led to the extinction of some medicinal plant species.

Research questions and hypotheses:*

Do people still use plants as a remedy with chemical drug?

Some people still use folk remedies, especially the elderly and people who live in mountainous areas due to the difficulty of transportation. Are medicinal plants beginning to become extinct because people are not interested in folk remedies?

Yes, and for this reason some medicinal plants became extinct from the area

1. Introduction

Plant diversity plays a vital role in serving the ecosystems and in maintaining and preserving ecological balance and stability not only in KSA but also in the whole world as well. Different plant species have been used in ethnomedicine since ancient times (Akgület *et al.*, 2018 and Polat *et al.*, 2016).

Floristic composition, species diversity, and their environmental correlates have become important issues when conserving and managing plant diversity on islands in arid regions (Khedr and Lovett-Doust 2000); El-Bana *et al.* (2002) and El-Bana (2009). Plant distribution and community structure are determined by their responses to variation in environmental factors, such as water availability, topography and soil, on both island and landscape scales (Westman 1983) and Drake *et al.* (2002). The Kingdom of Saudi Arabia is a huge arid land with an area of about 2,250,000 km² covering the major part of the Arabian Peninsula, characterized by different ecosystems and diversity of plant species (Abdel Khalik *et al.*, 2013). The topography of Saudi Arabia, as well as that of Arabian Peninsula, is an ancient massif in which geologic structure developed concurrently with the Alps (Country Profile: Saudi Arabia, 2006). The climate in Saudi Arabia differs greatly between the coast and the interior. High humidity coupled

with more moderate temperatures is prevalent along the coast whereas aridity and extreme temperatures characterize the interior (Zahran, 1982)

The flora of Saudi Arabia consider the richest biodiversity areas in the Arabian Peninsula and comprises important genetic resources of crop and medicinal plants and xerophytic vegetation which make up the prominent features of the plant life in the kingdom (Zahran, 1982). In Saudi Arabia, several floristic and ecological studies have been published on Wadi vegetation e.g. Wadi Al Ammaria (El Ghenam 2006, Al Yemeni 2001), Wadi Al Jufair (Al Ataret *al.*, 2012), Wadi Al Argy (Farrag 2012), Wadi Al Noman (Abdel Khalik *et al.*, 2013), Wadi El Ghayl (Fahmy and Hassan 2005), and Wadi Talha (Al Wadie 2002).

The Jazan Province is situated in the south-western part of Saudi Arabia. It is located between 16° 20' N to 17° 40' N and 41° 55' E to 43° 20' E. The southern region of the Jazan area borders with the north-western frontier regions of Yemen while its northern and eastern sides border with Ash-Shuqaiq town and the eastern

slopes of Fayfa mountains, respectively. The region has about 260 km long coastal area on the western side, stretching from Al-Muwassam in the south to Ash Shuqaiq in the north. There are a few islands (Farasan Islands) in the Red Sea, 40 km² of the Jazan coast. It is a conglomeration of several big and small islands, ranging from 369 km² to less than 5 km² (Alfarhan 2005).

Jazan region can be broadly divided into Tihama, the Escarpments and the Farasan Islands. The first two regions were part of the oldest agricultural centers of the Arabian Peninsula and composed of wadis, mountains and plateaus. The vegetation of this region is therefore closely related to that of East Africa. Two phytogeographical regions are present within the study area, viz. the Somali-Masai regional center of endemism and Afro-Montane archipelago-like regional center of endemism (Alfarhan *et al.*, 2005).

About 400,000 flowering plants are found on the earth (Govaerts 2001) About 12% of them are used in the traditional medicine Schippmann 2002, Mondalet *et al.*, 2016 and Hoekouet *et al.*, 2016 About 10,000 of those plants have already been scientifically investigated and described. In Western medicine system, higher plant-derived substances constitute around 25% of prescribed medicines and 74% of the 121 bioactive plant-derived compounds

were identified through research based on leads from traditional medicine (Rao 2004).

Rahman *et al.* carried out a preliminary survey on the medicinal plant diversity in the flora of the Kingdom of Saudi Arabia with emphasis of seven families: Amaranthaceae, Apocynaceae, Capparidaceae, Euphorbiaceae, Labiatae, Polygonaceae and Solanaceae where the total number of medical plant species described were 86 species.

Indigenous knowledge of Saudi traditional medicine ancient and still available among the tribal and local people and medicinal healers (Hakim). In KSA, more than 1200 (over 50%) of the total flowering plants (2250) are expected to be of medicinal importance.

Ethnobotany is the systematic study of the relationships between plants and people. It is not simply the study of the human "use" of plants; rather, ethnobotany locates plants within their cultural context in particular societies, and situates peoples within their ecological contents.

Ethnobotanical information on the selected plants was obtained using semistructured interviews with local people (older age), traditional medicine practitioners (Hakim), and local herbal drug sellers (Atar) who live or work in Wesaa and Haroub cities. Study participants were asked (in Arabic) about their knowledge of the three selected plants using the local name of the plant and the plant images. Specifically, other local names (if any) of each species, the

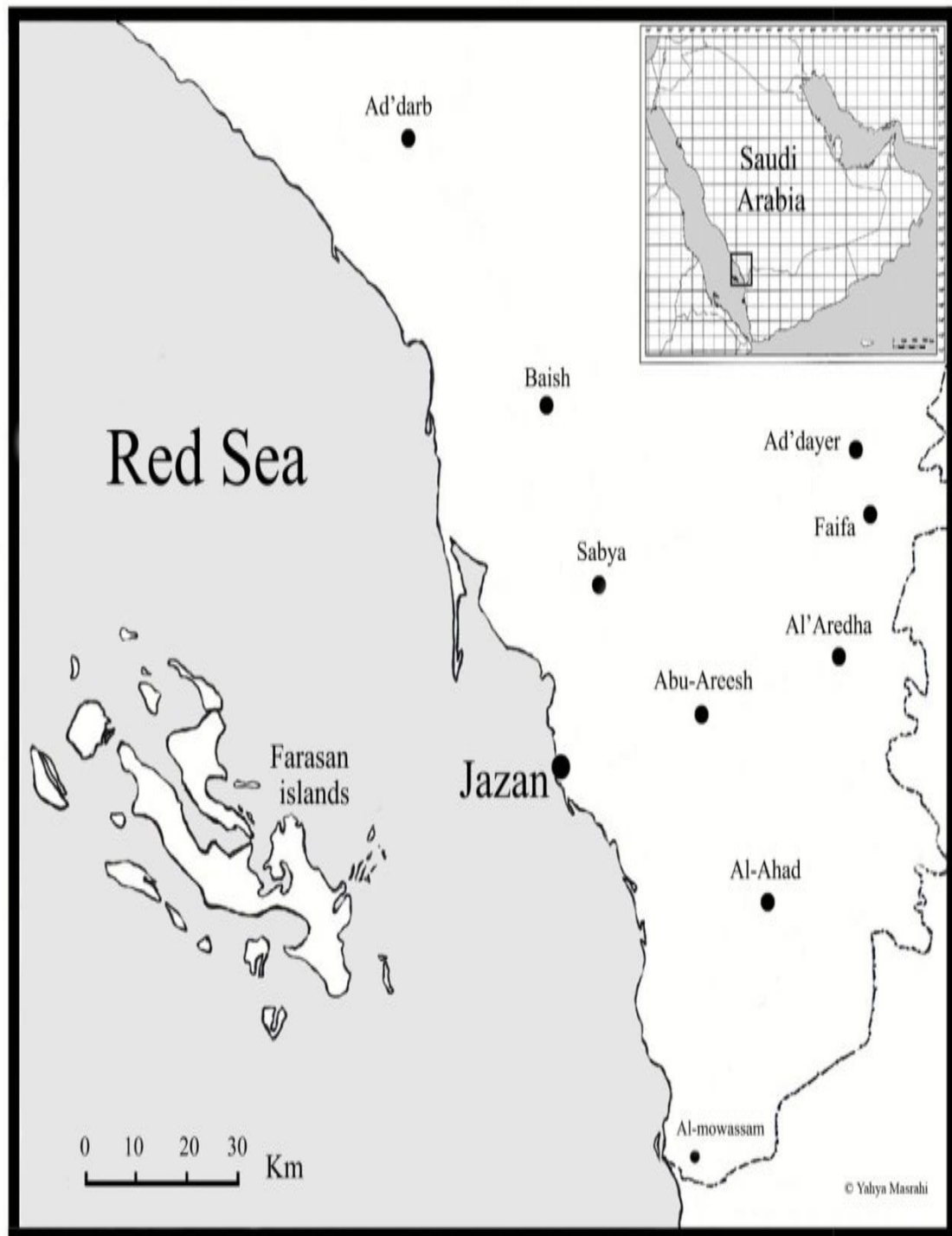
medicinal uses, the diseases commonly treated with the plant, the plant part (s) used, and the modes of preparation were recorded.

The knowledge of medicinal plant uses was acquired by means of trial and error and transmitted from the older to the younger people, but this knowledge and transmission are in danger because transmission between older and younger generation is not always assured (Anyinam 1995 and Vieira 2010)

1.1. Samatah area

The Jazan city is situated in the south-western part of Saudi Arabia at 16°20`N to 17°40` N and 41°55`E to 43°20`E, about 260 km long coastal area on the western side, stretching from Al-Muwassam in the south to Al Shuqaiq in the north (Al-Farhanet *al.*,2005) The use of medicinal plants in urban environments Currently, more people live in cities than in rural areas, and urban populations continue to grow by 2050, two thirds of the world's population will live in cities (United Nations. World urbanisation prospects 2014). Urbanisation brings new health challenges resulting from ease of contagion, maintenance of disease due to high population densities and stress-related ailments (Press 1978). Although biomedicine is often easily available in urban settings,

traditional medicines can still be the most convenient and affordable health care resource (Press 1978). Similar to people in rural areas, urban dwellers can hold rich medicinal plant knowledge.



**Figure 1: The Jazan area of Saudi Arabia(Cited from
Masrahi, 2005)**

Samtah is one of the governorates affiliated to the Jazan region and its distinguished geographical location where Samtah City is

located at the southwestern end of the Kingdom of Saudi Arabia and it is one of the gates of the Southern Kingdom of Saudi Arabia, where it is bounded on the south (Al-Twal Governorate) and on the east (central lock) and bordered by the Red Sea on the western side And the city of one of the (Ahadalmasarhah) from the north. The climate of Jizan is affected by the movement of tropical winds. Temperatures between 25 degrees Celsius in January and 35 degrees Celsius in June, and the temperature may be 18 degrees, and the lowest temperature is 18, and the humidity in July increases to 79% in the percentage limit The minimum humidity is 99% and the minimum is 27%.

Also, the northwest wind blows on Jizan from May to September, and the monsoons blow in June and August and are loaded with sandstorms, the problem of dust phenomenon, and the speed of monsoons in the region is about 26 km / hour as an annual average, but the period characterized by an increase in speed The wind occurs during the summer, rising to over 30 km / h during the months of May, June, August and September.

And rain falls in the region in the summer during the months of July, August and September, where 47% of the annual precipitation in the mountains of Fifa, about 52% in Abu Arish, about 76% in Sabya, about 71% in flight and about 61% in Atoud, and rainfall ranges between 100 To 450 millimeters, depending on the height of the site, and these rains are often heavy and heavy, and generate

huge and sudden floods as a result of rain falling on mountainous areas and its steep slope towards the coast, where the main valley paths in the region often go from east to west towards the Red Sea coast.

2. Materials and Methods

The present work focused on the study of the ethnobotanical data and vegetation structures in the Samtah region, of Jazan of Saudi Arabia, Survey of the ethnobotanical data and vegetation structures were applied to a total of 13 sites selected randomly covered all Samatah region. The survey was carried out in different areas of Samtah and their negligible villages (Figure 1). A total of 31 plant species from used as ethnonotanical Plant (**Table 1**)

2.1. Botanical Identification

Several ethnobotanical field trips were carried out in the area of Altwal , Almowassem , Aldraeiah , Aldgareer , Almogor , Alrokobah , Algradiah , Aldahiah , Alkawalef , Alnagamiah , Alshamhaniah , Alkhobah , Sahebalbar cities during 2020 collect voucher specimens and photograph the selected plants.

The plant's species were updated using the Plant List (2013) and the available relevant scientific publications of Saudi Arabia

Flora (Chaudhary, 1999, 2001). Further confirmation was made with the assistance of All plant species existing within each sector were listed after complete identification. Voucher herbarium specimens were prepared and kept in the herbarium of the Biology Department, Faculty of Science (Male), Jazan University

3. Result





Figure:2 Pictures from the work place in the study area



Ricinus communis



Citrullus colocynthis



Calotropis procera



Aerva javanica

**Figure 3: showing some common plant used in the study
region**



Azadirachta indica



Tribulus terrestris.



Lawsonia inermis

Withania somnifera

(continued) Figure 3: showing some common plant used in the study region



Ocimum basilicum



Cissus rotundifolia



Salvadora persica



Ziziphus spina-christi

(continued) Figure 3: showing some common plant used in the study region

Table1 : List of medicinal plant collected from Samtah region

SL N O	Botanical name	Vernacu lar name	Family	Hab it	Part used	Disease cured/M edicinal use	Made of application
1	<i>Calotropis procer a (Aiton).</i>	Oshur	Apocynac eae	Shru b	Leave s	Rheumat ism	The leaves boiled and placed over the affected area.
2	<i>Aerva javanica (B urm.f.) Juss.</i>	Rewa	Amaranth aceae	Herb	Flowe r	Wound treatment	Flowers are placed directly on the wound.
3	<i>Senna alexandrin a Mill.</i>	Alsana	Caesalpini aceae	Sup shrub	Leave s	Laxative for stomach	The leaves are grinded and then eaten.
4	<i>Portulaca olerace a L.</i>	Reglah	Portulacac eae	Herb	Leave s	Laxative for stomach	They are well cooked and eaten.
5	<i>Ziziphus spina- christi (L.) Desf.</i>	Sedr	Rhamnace ae	Tree	Leave s	Chest pain	Grind the leaves and place on the area.
6	<i>Solanum incanum L.</i>	Hadag	Solanacea e	Sup shrub	Fruit	Bone fractures	The fruit is grinded and placed on the area
7	<i>Salvadora persica L.</i>	Arak	Salvadora ceae	Shru b	Stem brans hed	Tooth brush for healthy	The mouth is cleaned directly.

						gum and tooth	
8	<i>Cissus rotundifolia Vahl</i>	Gelef	Vitaceae	Lians	Leaves	Influenza	The Leaves is grinded and placed on the area
9	<i>Allium cepa L.</i>	Basal	Amaryllidaceae	Herb	Bulb	Hypertension and cholesterol	The bulb eaten as raw.
10	<i>Allium sativum L.</i>	Thoum	Amaryllidaceae	Herb	Bulb	Cold cough	The bulb eaten as raw.
11	<i>Aloe vera (L) Burm.f.</i>	Sabbar	Liliaceae	Herb	Leaves	Skin disease	The pulp obtained from leaves made into a paste smeared over the affected area of the skin.
12	<i>Cissus quadrangularis L.</i>	Sala	Vitaceae	Lians	Leaves	Stomach disorders	The Leaves is grinded and placed on the area
13	<i>Ocimum basilicum L</i>	Rayhan	Lamiaceae	Herb	Leaves	Stomach problem, cold, and fever	Wash the leave and then eat.
14	<i>Plectranthus amboinicus (Lour) Spreng</i>	Shar	Lamiaceae	Sup shrub	Leaves	Ear ache	Boil in water and used then water.
15	<i>Ricinus communis L.</i>	Khurwa	Euphorbiaceae	Shrub	Leaves	Stomach problem	The Leaves is grinded and drinking.

16	<i>Tamarindus indica</i> L.	Humur	Fabaceae	Tree	Fruit	Stomach problem, cold and fever	The Fruit is grinded and eating.
17	<i>Withania somnifera</i> (L) Dunal	Obab	Solanaceae	Sup shrub	Fruit	Swelling and wound	The Fruit is grinded and placed on the area
18	<i>Citrus limon</i> (L) Osbeck	Limon	Rutaceae	Tree	Fruit Leaves	Body heat Stomach problem	The fruit juice administered orally the decoction of dried leaves administered orally for various.
19	<i>Lawsonia inermis</i> L	Henna	Lythraceae	Shrub	Leaves	Itching sensation of the skin	The Leaves is grinded and placed on the area
20	<i>Mentha longifolia</i> (L) L.	Habak	Lamiaceae	Herb	Leaves	Stomach problem, Fever, Head ache and Menstrual disorders	Mixed the leave with water or tea and drinking.
21	<i>Mentha piperita</i> L	Nana	Lamiaceae	Herb	Leaves	Giddiness	Mixed the leave with water or tea and drinking.
22	<i>Tribulus terrestris</i> L.	Katab	Zygophyllaceae	Herb	Leaves and stem	Kidney problems	It is heated with diamonds and then filtered and drunk
23	<i>Linum catharticum</i> L	Alkattan	Linaceae	Herb	Seed	Thyroid problems	Extracting flaxseed oil or

							eating seeds directly
24	<i>Citrullus colocynthis L</i>	Handhal	Cucurbitaceae	Herb	Fruit	It is used to treat bone roughness	Cut the fruits and put them in pain
25	<i>Sesamum indicum L</i>	Semsem	Pedaliaceae	Herb	Seed	Promote heart health and Control diabetes	By extracting oil or eating it directly
26	<i>Corchorus depressa L</i>	Wekah	Tiliaceae	Herb	All plant	Help to fight constipation and colon diseases	They are cooked and eaten
27	<i>Commiphora gileadensis L</i>	Bsham	Burseraceae	Sup shrub	Stem	Dental and Periodontal Treatment	Brushing
28	<i>L Trigonella foenum-graecum</i>	Hulba	Fabaceae	Herb	Seed	Regular blood sugar levels	Cook and eat it
29	<i>Azadirachta indica A.Juss</i>	Alnem	Meliaceae	Tree	Leave	Treating gastric ulcer	It is heated with water and then drunk with water

3.1. Analysis of the results

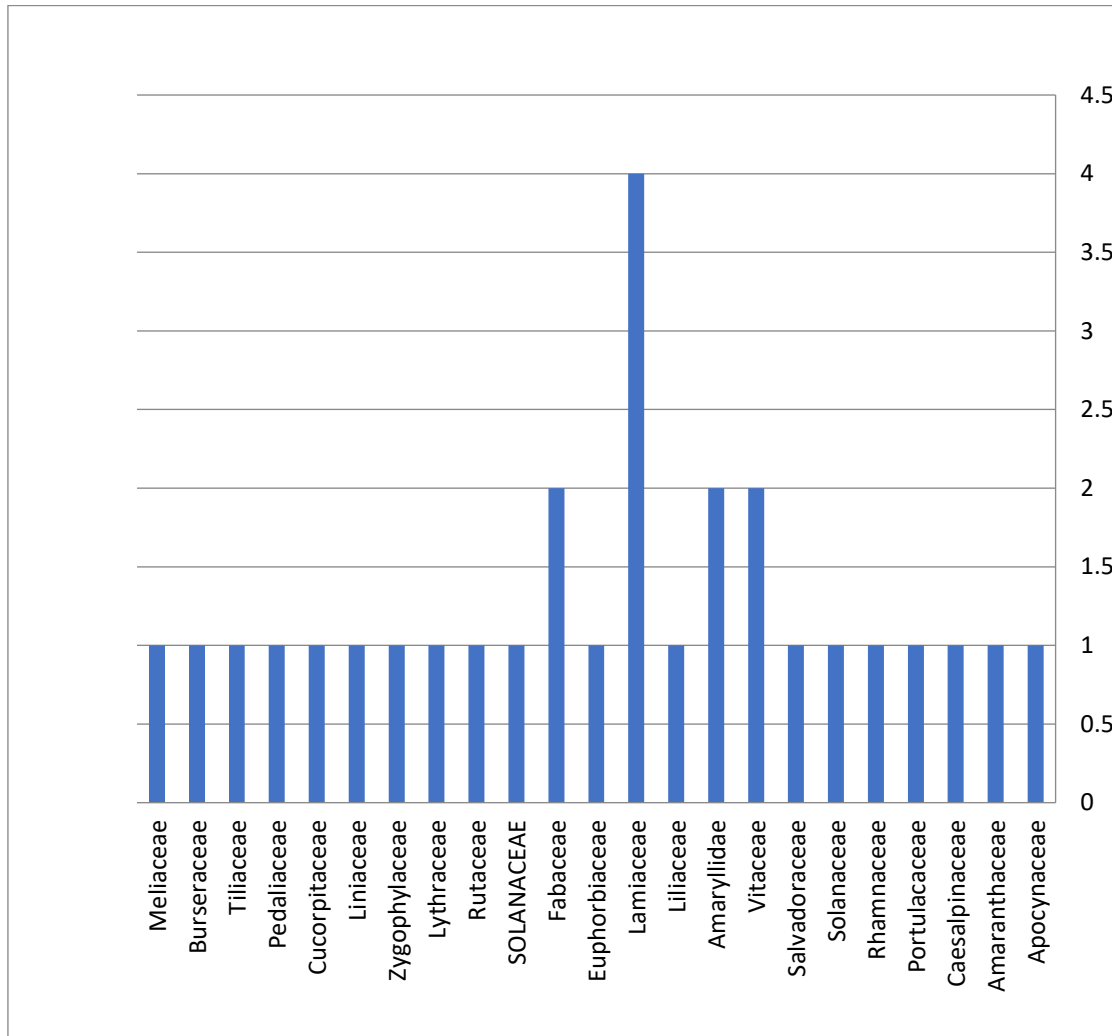


Figure: 4 Species percentages in the recorded families

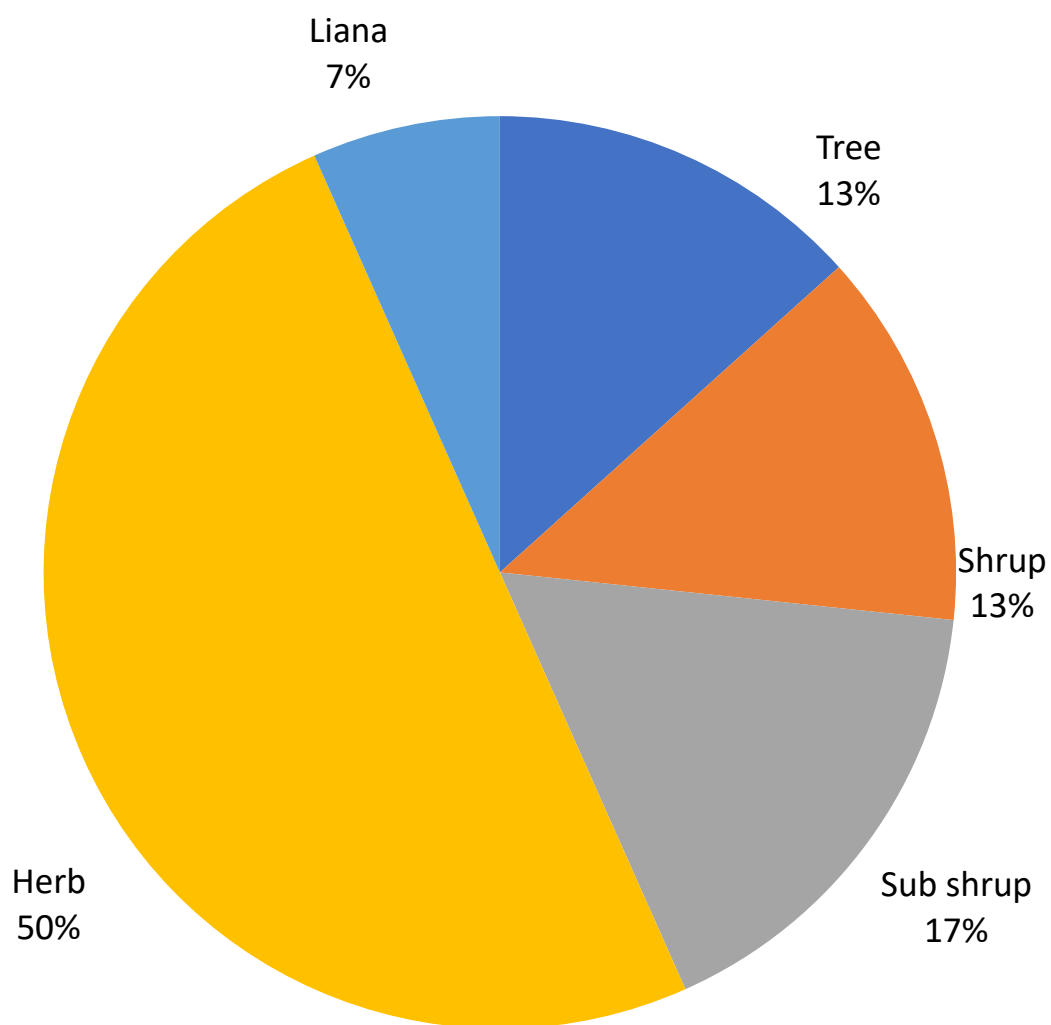


Figure 5: showing plant habits in Samtah region

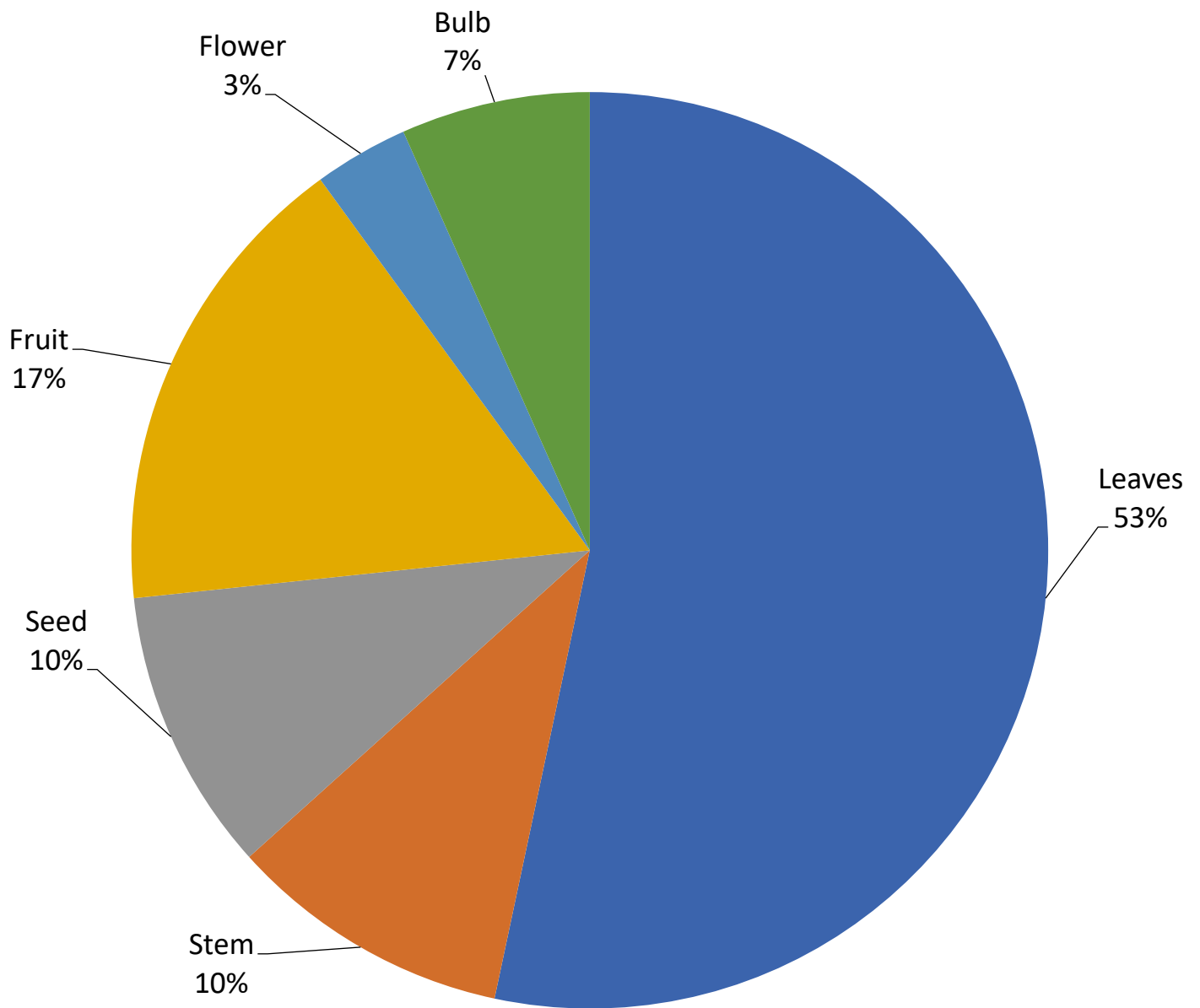


Figure 6: Showing parts used in the therapy Samtah region

4. Discussion

Edible, traded and Muslim medicinal plants Urbanisation is often considered an aspect of modernization that leads to the erosion of medicinal plant knowledge (Verma AK, *et al* 2007), but urban contexts may have vibrant medicinal plant use traditions (Wayland C, Walker LS 2014), (Verma AK, *et al* 2007). In the Middle East, urban male herbalists are acclaimed for their specialist medicinal plant knowledge (Azaizeh H *et al* 2003).

In this study, several ethnobotanical field trips were carried out in the area of Altwal , Almowassem , Aldraeiah , Aldgareer , Almogor , Alrokobah , Algradiah , Aldahiah , Alkawalef , Alnagamiah , Alshamhaniah , Alkhobah , Sahebalbar cities during 2020 collect voucher specimens and photograph the selected plants. Although only 20 Atar and Samtah Hakims participated in this study, This points to the underdocumentation of knowledge of medicinal plants in Saudi Arabia.

About third (30%) of the medicinal plants used by the Samtah people interviewed are food plants. Salient food plants cited in this study include onion, lemon, olive oil and Gelef (Table 1). The use of food plants as medicines by urban populations is widespread and may be due to the easy access to these plants.

Medicinal foods are also an important feature of the Mediterranean medical tradition, observed specifically in the Greek Hippocratic texts that influenced Dioscorides' *Materia Medica* (Touwaide A 2015), which in turn influenced Arabic medicinal texts (Touwaide A 2015). Specific health beliefs associated with foods have also been observed in Saudi Arabia (Ghazanfar SA.1994).

More than half using plants that are commonly used by the Kadazandusun communities living in the vicinities of the Crocker Range have been identified and their uses recorded. Some of the plants commonly used include *Blumea balsamifera* for fever, *Cassia alata* for skin diseases, *Centella asiatica* for stomachache, *Gendarusa vulgaris* for general malaise, *Nicotiana tabacum* as insect repellent, *Psidium guajava* for diarrhoea, *Phyllanthus niruri* for malaria, *Tinospora crispa* for hypertension and *Zingiber officinale* for rheumatism. The Kadazandusun communities have evolved a system of categorising their traditional medicines obtained from nature according to the complexity through which the various concoctions are prepared before use. Thus *rusapribau* are concoctions used for less critical ailments and are typically prepared from a single ingredient of the plant parts. *Rusapribau* for instance are used for treatment of influenza, coughs, diarrhea, minor cuts and wounds or skin diseases.

Rusaptaralomon the other hand are medicines made from more complex ingredients and meant for use in the treatment of more life-threatening diseases that normally remain undiagnosed even by the village shamans. Although traditional medicines are still in common use by the local communities here in the vicinities of the Crocker Range, accurate knowledge of the plants and their medicinal properties are held by only a few individuals in each community.

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Abstract

Today many medicinal plants face extinction or severe genetic loss, yet detailed information on these plants is lacking with just a fraction of this information being recorded in a systematic manner with more emphasis placed on the potential for discovering new wonder drugs. The ultimate aim of this study is assessing the list of medicinal plants in the study area. This may be useful in developing strategies for sustainable use of one of the threatened natural resources in Saudi Arabia. About 29 species were recorded, belonging to 23 families and 28 genera. The most dominate families were, Lamiaceae, followed by Fabaceae, Vitaceae, Amaryladeae. Also 15 species were recorded as herbs followed by 4 species as trees and 4 species as shrubs and 4 species as sup shrubs and only 2 speccies as liana. Also 14 species have been registered in which the leaves are used as a treatment and followed by 5 species are used the fruits and 3 species are used the stem and 3 species are used the seed and 2 species are used Bulb and only one species used all plant This means that this region has a large number of medicinal plants which needs to be discovered and surveyed.

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