Medicinal plants used in metropolitan zone in Saltillo, Coahuila, Mexico

Diana Uresti Duran[1], Eduardo Alberto Lara Reimers[2], Diana Marlene Gomez Ugues[2]
[1]National Inst. for Agriculture, Forest and Livestock, Agriculture, Mexico
[2]Autonomous Agrarian University Antonio Narro, Forest Dept. , Mexico
contact: durestid21@gmail.com

INTRODUCTION

There are at least 35,000 species of medicinal plants in the world and it is estimated that at least 80% of the world's population depends on them for health. (Garcia et al. 2012).

Medicinal plants are considered to be all those plants that contain active principles in any of their organs or tissues whe n administered in sufficient doses and for a determined period of time (Pérez, 2008), their natural components produce curative effects to treat different human illnesses, whether biological, mental or spiritual (SEMARNAT, 2021).

In Mexico, more than four thousand species of plants with medicinal attributes are registered, according to data from the National Biology Commission, about 15% of the total flora of the country (Sembrando vida 2020), thus occupying the second place worldwide in the number of registered medicinal plants (García et al. 2012).

The present work aims to indicate the uses of the most common medicinal plants in the metropolitan area of Saltillo, Coahuila, and the most frequent affections among those who make use of traditional medicine in the region, to re-educate about this knowledge and to avoid its total loss.

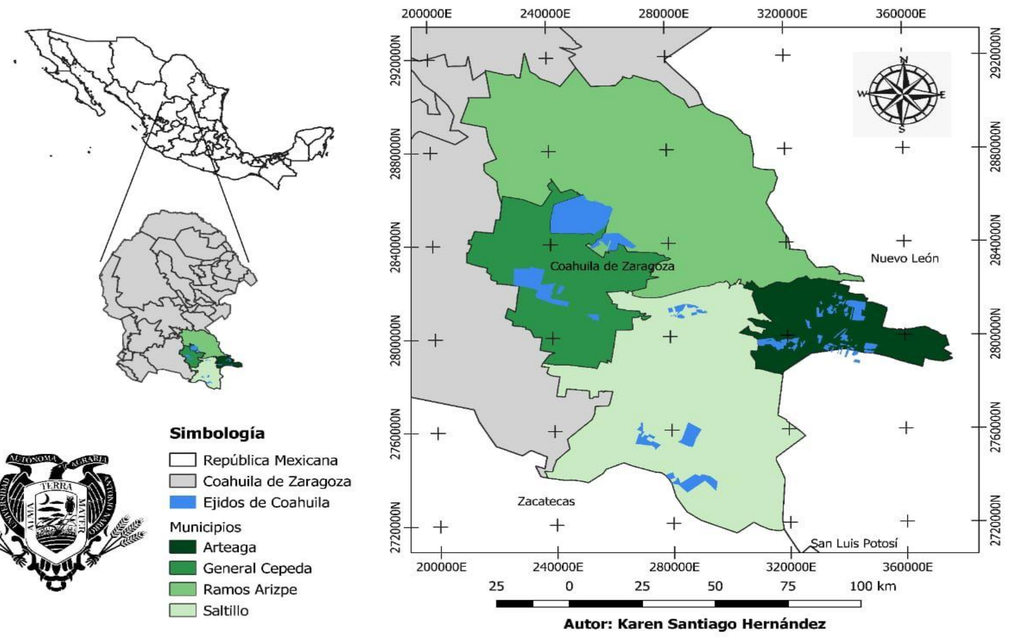

Figure 1. Study area

MATERIALS AND METHODS

The study was conducted in the Southeast Metropolitan Area of Coahuila, Saltillo, Arteaga and Ramos Arizpe, with a total area of 14,071.46 km2; the population of the three municipalities totals 1,31,779 inhabitants, of which 515,469 are men and 516,310 are women, according to the 2020 Population and Housing Census conducted by INEGI.

The study was conducted in October 2021 to May 2022. Data were obtained from 113 informants, with the help of a semi-structured questionnaire divided into two parts: 1) Socioeconomic and demographic information: age, sex, education level, occupation, etc. and 2) Ethnobotanical information: data about the uses of medicinal plants in the region.

The report of uses obtained was divided into 12 main categories based on the International Statistical Classification of Diseases and Health Problems (ICD) of the World Health Organization (WHO 2015), one more including all those uses related to beliefs and rituals of the region (Lara et al. 2019). Data were analyzed from ethnobotanical indices.

RESULTS AND DISCUSSION

The medicinal species with the highest IVU were: Matricaria chamomilla (IVU=0.65) and Litsea parvifolia (IVU=0.35). The most representative families Asteraceae (10 species, 125 use reports, IVF=0.74), Lamiaceae (12 species, 119 RU, IVF=0.53) and Lauraceae (4 species, 64 RU) (Figure 2.). Of all plant parts leaves are the most used with 47.37% of the total records followed by flowers with 17.19% (Figure 3). The most common ways of preparing traditional remedies were infusion (88.6%) and poultice (3.68%). The disease category with the highest index was those related to the respiratory system (FCI=0.84) (Table 1).

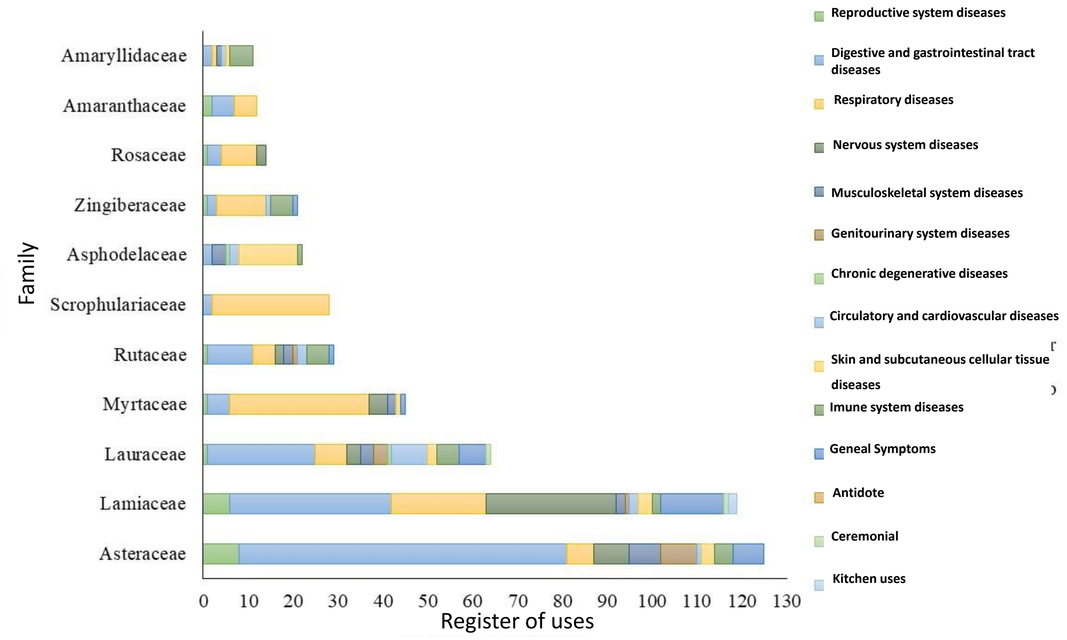

Figure 2. Register of use by disease category of the most frequently mentioned families

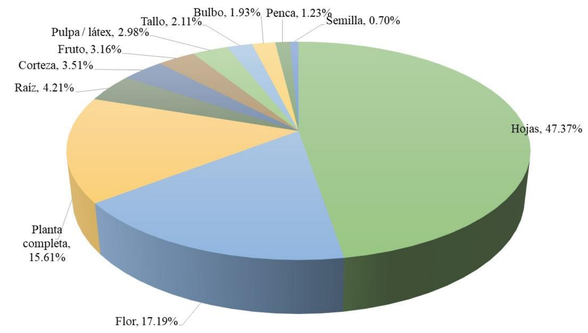

Figure 3. Used parts of plants for the elaboration of medicinal remedies

Table 1. Epidemiological table of major diseases

Description	Mentioned uses	FCI	Plants	Uses	%
Respiratory diseases	Flu, cold, cough, sinusitis, sinusitis, sore throat and infection, phlegm, respiratory tract, nasal decongestion, bronchitis.	0.84	23	137	24.04
Digestive and gastrointestinal tract diseases	Abdominal pain, stomach pain, stomach cleansing, inflammation of stomach and intestines, stomach cramps, indigestion, colitis, constipation, belly pain, vomiting, gastritis, gas, gastrointestinal discomfort, bad breath, metabolism, appetite.	0.78	40	178	31.23
Nervous system diseases	Anxiety, stress, relaxant, tranquilizer, sleep/insomnia, sedative.	0.75	15	57	10.00
General symptoms	Headache, migraine, fever, earache, toothache, nausea, tired eyes, dizziness, swollen gums, swollen gums.	0.65	12	32	5.61
Skin and subcutaneous cellular tissue diseases	Antiseptic, anti-inflammation of wounds, antiseptic, skin wounds, burns, wound healing, healing of pus from wounds, skin rashes, cosmetic uses, acne, athlete's foot, hair loss, skin regeneration, skin blemishes.	0.61	12	29	5.09
Immune system diseases	Fortalecer defensas, alergias, artritis reumatoide	0.48	16	30	5.26
Musculoskeletal system diseases	Muscle pain and inflammation, joint pain, bone strengthening, contusions, rheumatism, rheumatism.	0.48	13	24	4.21
Genitourinary system diseases	Kidney treatment, urinary tract infections, fluid retention, kidney stones, diuretic, diuretic.	0.50	14	27	4.74
Reproductive system diseases	Menstrual cramps, pelvic inflammation, lactation, fallopian tube obstruction.	0.43	13	22	3.86

CONCLUSION

Eighty-two species were registered for the treatment of different diseases. Diseases related to the respiratory system were the most mentioned, being these the main diseases presented in the region. As it is an industrial zone, there is still a need for greater dissemination of the medicinal properties of the flora, as well as the promotion of its use as an alternative for medical care.

REFERENCES

García AG, Ramírez Hernández JE, Robles Arellano BC, Hernández GZ, Salcedo RJ, García AL (2012). Conocimiento y uso de las plantas medicinales en la zona metropolitana de Guadalajara. Desacatos. Revista de Ciencias Sociales, (39),29-44.

Lara Reimers, E. A., Lara Reimers, D. J., Chaloupkova, P., Zepeda del Valle, J. M., Milella, L., & Russo, D. (2019). An ethnobotanical survey of medicinal plants used in Papantla, Veracruz, Mexico. Plants, 8(8), 246.

SEMARNAT. (2021). Plantas medicinales de México. Gobierno de México: https://www.gob.mx/semarnat/articulos/plantas-medicinales-de-mexico?idiom=es. Fecha de consulta 02 de febrero de 2022.

World Health Organization. (2015). International statistical classification of diseases and related health problems, 10th revision, Fifth edition, 2016. World Health Organization.