

Frequently used Medicinal Plants in Arriaga, Chiapas, Mexico: Family Spending Analysis

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Abstract:- Historically, plants have been an important element for the development of peoples; since sedentary is given, the cultivation of plants came with him. This historicity results in knowledge of a wide variety of plant species whose main use is medicinal and thus the development of a traditional health or medicine scheme. This study shows 70 species of medicinal plants, grown mostly in backyard, of importance to the family economy and as an alternative to health care. The place of study is Arriaga, Chiapas, Mexico, located in coastal area of the Pacific Ocean.

Keywords:- Medicinal Plants, Chiapas, Family Spending.

I. INTRODUCTION

Traditional medicine is an ancient practice and although it is considered unorthodox, it has remained and has increased its knowledge over time in various cultures. Specifically when talking about phytotherapy, medicinal plants have a great contribution to the health system, considering their contribution to community health; although the side effects of some of them are also discussed, but even when their production and distribution is industrialized (Jaramillo et al, 2009; Angulo et al, 2012; Zambrano et al, 2015).

The traditional medicine system has its own method of diagnosis, treatment and resources, which are recognized, such as medicinal plants (PAHO, 2006). The relationship between this type of medicine and the culture of peoples is close, so we can talk about different traditional medicines according to the community and the geographical area in which it is practiced (Zuluaga and Correa, 2002).

The way medicinal plants work metabolically to generate healing effects is through their active substances (PAHO, 2006), in the form of useful side metabolites. Traditional doctors know about plants, their effects, dosages, processes. Zuluaga (1999) and Quintana (2009) mention that, traditional medicine also has an impact on the territorial and cultural order of ethnic groups, generating forms of relationship respectful with their natural environment.

Within this cultural and medical richness, there is a management of medicinal plants in three ways "home medicine", "medicine through traditional doctors" and "industrialized naturist medicine" (Barbosa, 2006). The first generates minimal processing costs for the home remedy based on plants. Accessing traditional physicians, generates moderate and zero costs, depending on the type of doctor and the location of the same with respect to the user, as well as the magical-religious relationship that is generated between them. Finally, industrialized naturist medicine generates a May cost, but less than allopathic medicine, as it needs to profit from the industrialization and distribution process through naturopathic pharmacies.

These medical practices remain in effect; one of the explanations is that traditional treatments are based on the disease as it is conceived in its culture and the treatment contemplates this cultural reality considering even its environmental environment (Ryesky, 1876).

Approximately 4500 species of medicinal plants have been recorded in Mexico, for ancestral, cultural and domestic use for the most part, generating a wide variety of phytotherapeutic treatments (Martínez, 1996; Barragán, 2006). This reality has generated a high growth in the industrialization of natural products which implies a career trade between allopathic medicine, industrialized naturist medicine and domestic customs-uses (Estrada, 1989; Menendez, 2000).

This document describes the results of a study conducted in Arriaga, Chiapas, Mexico, whose main objective was to identify the use and frequency of medicinal plants, as well as to analyze the family expense for access to this type of medicine.

II. METHODS

The research was conducted during the period May 2018-May 2019, in the city of Arriaga, Chiapas, Mexico, located in the coastal area of the waters of the Pacific Ocean. The research is of type, descriptive, analytical and transversal, whose information collection tool was a semi-structured questionnaire applied to a simple random sample n=100, randomness was also applied for the sex of the

interviewees. The questionnaire is based on informed consent, having as the only element of inclusion that the individual lived in Arriaga or surrounding communities and who would like to participate in the study.

III. DISSCUTION

The average age of respondents is 78 years, 74% female and 26% male. 57% originating in Arriaga, Chiapas, Mexico, the rest of several locations surrounding Arriaga. It is important to mention that 9% are native to Chahutes, a town located in the state of Oaxaca, which adjoins Chiapas.

100% of respondents use medicinal plants for health care to minor problems, and even in a complementary way to treat degenerative problems such as diabetes mellitus. Among the most frequent species, we found 12 species, however, a total of 70 different species were mentioned:

Common Name	Scientific Name
Basil/Albahaca	<i>Ocimum basilicum</i>
Estafiate	<i>Artemisia ludoviciana</i>
Epazote	<i>Dysphania ambrosioides</i>
Peppermint /Hierbabuena	<i>Mentha spicata</i>
Holy Grass/Hierba santa	<i>Piper auritum</i>
Manzanilla	<i>Matricaria recutita</i>
Moringa	<i>Moringa oleifera</i>
Oregano	<i>Origanum vulgare</i>
Redhead/ Ruda	<i>Ruta graveolens</i>
Romero	<i>Rosmarinus officinalis</i>
Lemon tea/Te limón	<i>Cymbopogon citratus</i>

Table 1

Total species mentioned by the interviewees:

1. Avocado/Aguacate - *Persea americana*
2. Wormwood/Ajenjo - *Artemisia absinthium*
3. Garlic/Ajo - *Allium sativum*
4. Basil/Albahaca - *Ocimum basilicum*
5. Artichoke/Alcachofa - *Cynara scolymus*
6. Celery/Apio - *Apium graveolens*
7. Leather tree/Árbol de Cuero - *Bursera simaruba*
8. Arnica - *Arnica montana*
9. Boldo - *Peumus boldus*
10. Bugambilia - *Bougainvillea glabra*
11. Cinnamom/Canela - *Cinnamomum zeylanicum*
12. Cane of Christ/Caña de cristo - *Arundo donax*
13. Thistle marian/Cardo mariano - *Silybum marianum*
14. Mangrove cap/Cascara de mangle – *Rhizophora mangle*
15. Purple onion/Cebolla morada - *Allium cepa*
16. Chaya - *Cnidoscolus aconitifolius*
17. Sapodilla/Chicozapote - *Manilkara zapota*
18. Cilantro - *Coriandrum sativum*
19. Clove/Clavo de olor - *Syzygium aromaticum*
20. Horsetail/Cola de caballo - *Equisetum arvense*
21. Epazote - *Dysphania ambrosioides*
22. Estafiate - *Artemisia ludoviciana*
23. Eucalyptus/Eucalipto - *Eucalyptus*
24. Orange blossom/Flor de naranja - *Citrus aurantium*

25. Flower of senpazuchil/Flor de senpazuchil - *Tagetes erecta*
26. Linden blossom/Flor de tila - *Tilia platyphyllos*
27. Ginseng - *Panax ginseng*
28. Gordolobo - *Verbascum thapsus*
29. Guanabana - *Annona muricata*
30. Guava/Guayaba - *Psidium guajava*
31. Peppermint/Hierbabuena *Mentha spicata*
32. Hierbasanta - *Piper auritum*
33. Fennel/Hinojo - *Foeniculum vulgare*
34. Seen sheet/Hoja de seen – *Cassia sp*
35. Bear leaf/Hoja de sosa - *Solanum torvum*
36. Jamaica - *Hibiscus sabdariffa*
37. Ginger/Jengibre - *Zingiber officinale*
38. Lavender/Lavanda - *Lavandula angustifolia*
39. Laurel - *Laurus nobilis*
40. Mauve/Malva - *Malva sylvestris*
41. Manzanilla - *Matricaria recutita*
42. Passion fruit/Maracuya - *Passiflora edulis*
43. Marihuana - *Cannabis sativa*
44. Mint/Menta – *Mentha piperita*
45. Moringa - *Moringa oleifera*
46. Nopal - *Opuntia ficus*
47. Oregano - *Origanum vulgare*
48. Mouse ear/Oreja de ratón - *Dichondra argentea*
49. Coconut palm/Palma de coco – *Cocos nucifera*
50. Papaya - *Carica papaya*
51. Cucumber/Pepino - *Cucumis sativus*
52. Parsley/Perejil - *Petroselinum sativum*
53. Pinion/Piñón - *Jatropha curcas*
54. Romero - *Rosmarinus officinalis*
55. Redhead/Ruda - *Ruta graveolens*
56. Sabila – *Aloe vera*
57. Salvia - *Salvia officinalis*
58. Sanalotodo - *Hypericum androsaemum*
59. Elder/Sauco – *Sambucus nigra*
60. Lemon tea/Te de limón - *Cymbopogon citratus*
61. Tepescohuite - *Mimosa tenuiflora*
62. Thyme/Tomillo - *Thymus vulgaris*
63. Three ribs/Tres costillas - *Serjania triquetra*
64. Cat's nail/Uña de gato - *Uncaria tomentosa*
65. Wild grape/Uva silvestre - *Vitis vinifera subsp. sylvestris*
66. Valeriana - *Valeriana officinalis*
67. Verbena - *Verbena officinalis*
68. Cassava/Yuca - *Manihot esculenta*
69. Carrot/Zanahoria - *Daucus carota*
70. White zapote/Zapote blanco - *Casimiroa edulis*

Compared to what Reyes et al (a, b, 2019) the use of medicinal plants in terms of number of species is considerably higher in Arriaga Chiapas (70 spp), since the authors mentions that both in Chamula (indigenous community of the Altos de Chiapas) , as in Comitán de Domínguez (average city in area border in Guatemala), the number of species mentioned varies between 16 and 23, whose use if it coincides in terms of the frequency intended for attention to airway and digestive problems.

In this study it is interesting to say that, in a notorious percentage (17%), they mention the control of more complex health problems such as Diabetes mellitus, hypercholesterolemia and hypertriglyceridemia.

As for the household expense for obtaining these medicinal plants, it varies between 10 and 120 Mexican pesos (0.51 – 6.60 dls), cost lower than obtaining allopathic pharmaceutical medicines whose cost for digestive control, for example, ranges from 2.56 to 15.34 Dollars. It is important to mention also, that several of these species (72%) are commonly grown in backyards of family homes. As an indispensable element it is mentioned that the minimum wage, in daily pesos, for Chiapas ranges from 102.68 (general) to 176.72 (border free zone) (STPS, 2019).

IV. CONCLUSIONS

This study yields important results for knowledge on the use of medicinal plants, as well as a simple analysis of costs for access to them:

- 100% of respondents use medicinal plants for health care (for treatment of minor problems, and even in a complementary way to treat degenerative problems such as diabetes mellitus).
- 17% of respondents mention the control of more complex health problems such as Diabetes mellitus, hypercholesterolemia and hypertriglyceridemia.
- The interviewees mentioned 70 different species of medicinal plants for use in Arriaga, Chiapas, Mexico. 72% of the species mentioned are cultivated in family yard.
- The cost for access to these plant species ranges from 0.51 to 6.60 DLS, while access to allopathic pharmaceutical medicines costs the cost of digestive control for example ranges from \$2.56 to \$15.34. The cost for complex treatments can be \$51. The frequency of purchase varies with respect to the opinion and prescription

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