

PLANT SCIENCE

Ethnobotanical knowledge of native plants in Santa Rita Estado Aragua, Venezuela

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Abstract

An ethnobotanical survey was conducted in a village, Santa Rita, parish capital of Francisco Linares Alcántara Municipality, Venezuela. There is an estimated population of 79,885 people by the year 2008 (INE). The main respondents of the survey were three diabetic patients and informants belong to the "Buena Vida's" club, where all members are diabetic. The validity and reliability of the data were given by the coherence between the narrations of the informants and the interpretation of the researchers. The diseases that have largely expressed by the informants were: levels of high blood sugar, nervousness, insomnia, flu, colic, parasites, burns and shingles. They revealed that they used the modern synthetic drugs prescribed by doctors along with plants, in the form of decoctions of leaves, stems, fruits, flowers and roots, others shaped like cayenne infusion to treat insomnia and nerves, external application as aloe to treat burns. The informants also commented on how they prepared the plants, amount used and the desired effects.

Key words: Medicinal plants, Diabetes, Ethnomedicine

Introduction

If health is defined as a social process, there arises the need to incorporate the popular knowledge of each region in healing process, represented by shamans, healers, piaches or midwives and to use homemade and/or natural medicines, as well as, to apply traditional healing practices to satisfy the daily illness of the communities (Martínez, 2006). This way traditional knowledge can become a powerful source of health promoting quality of life for overcoming disease.

Nowadays, when studying some people in context of their community and observing their ethnobotanical uses that present in the traditional healing process, there is a disposition to conserve and to practice knowledge which they have inherited

from their ancestors and antiquity and which are continued using at the moment. The present day knowledge are based on them, that even though human kind has managed to obtain great advances in the modern technology, there are still some diseases which do not respond to treatments. Therefore, there must be records for native healing practices and homemade treatments, that far from losing importance before the powerful pharmaceutical emporium, they are effective today, more than ever.

In traditional medicine, ethnobotanical practices are based on some mixtures, and are such, that it is not easy to differentiate what is original or native; it is not easy to know which of them are plants, animals, clothes and meals. There are a lot of documented evidences from Egyptian, Aramaic, Ottoman, Assyrians, Ethiopian, Mayan, the Aztecs, Incas, Latin American indigenous cultures, Tibetans etc., with a huge therapeutic potential to treat diseases suffered by them and that today the merits are granted only to science (Riveiro, 1977).

At the present moment, it is important to rescue the popular traditional knowledge of healing without contrasting medical technical-scientific advances and

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using it rationally, by means of its verified effectiveness. It is necessary to indicate that even though from the present state politics and the state reforms of health novel programs that stimulate the participation of the communities have been promoted, it has not been obtained the promotion of the traditional knowledge present in the communities and that is manifested through traditional “doctors” (healer, shamán, piache) and which are multiplied by means of the family heads. For that reason, today more than ever, it is important to rescue the popular beliefs of healing that exist in the community of the Santa Rita parish of the Aragua state as far as the use of the medicinal plants and to offer common therapeutic alternatives to treat pathologies. Because most of the diseases have poor answer to treatments with conventional medicines, as well as to use the therapeutic resources that are more accessible to the community and to take advantage of the traditional knowledge and medicinal properties that they confer to it. The importance of reconstructing the popular beliefs in health, resides in knowing from daily, the types of pathologies, ways and paths of how to cure them. In order to finish this analysis, it is of high priority to recognize forms, ways and pathways of treatment in the communities; to accept, and review.

With regard to Venezuela, WHO registered 583,000 people with diabetes for year 2000, considering for year 2030 around 1,606,000 diabetic patients. According to the epidemiologists numbers of Corposalud (Corporación de Salud del estado Aragua, 2005), in the Municipality of Francisco Linares Alcántara, the incidence of diabetes every year is 614.9 per each 100,000 inhabitants, being this pathology the most occurring disease in both municipal and state levels. The objective of the present investigation was to record the ethnobotanical values of native plants in Santa Rita Estado Aragua, Venezuela.

Materials and Methods

This investigation was conducted in the small town of Santa Rita, close to the Medical School, University of Carabobo. It is the capital parish of

the Francisco Linares Alcántara Municipality, Aragua State, Venezuela, which is the place of the informants who contributed their experiences to the survey.

The three informants were diabetic patients and belong to “Buena Vida’s club”, where all their members have the same pathology. This group was chosen because the number of morbidity and mortality that they showed in the different epidemiological archives, related to diabetes (Instituto Nacional de Estadística (INE) [citado 5 Mayo, 2009], Organización Mundial de la Salud (OMS) [citado 5 Mayo 2009], Corporación de Salud del estado Aragua, 2005), occupy the first positions. They frequently meet in an urban type II assistant center that belongs to the same Parish. They allowed us to get close to their social reality as for their popular beliefs and the different ways from healing that they use to cure their diseases.

It is conducted from the logic of the daily lived, informants, about their use of plants and treatments of their pathologies in the foundation of traditional knowledge. The registry of the survey was done by means of the focused interview gathering the narrations of life of the three informants related to the healing processes. It was all, considered from the epistemology of the complex thing and applying the method of the hermeneutics through the stories of life of the informants.

Informants were induced to narrate their experiences of life as for the processes of healing and the most common diseases suffered by them. The facts were developed fluidly, because all of them were interested in telling their experiences and the knowledge learned or transferred from their ancestors. The validity and trustworthiness were given by the coherence between the narrations of the informants and the interpretation of the investigators. Pathologies that the informants usually suffered were: high levels of sugar in blood, nervousness, insomnia, influenza, colic, parasites, and burns (Table 1).

Table 1. Diseases that suffer most the “Buena Vida’s” club informants.

Diseases	Traditional remedies
High level of blood sugar	Drugs (metformin, Glucophage, glyburide-diaformina)+ Plants (leaves, stems, flowers and roots)
nervousness/insomnia	Bitter melon, Cow’s hoof, <i>Eucalyptus</i> , bellyache bush, soursop.
Flu	Chinese hibiscus
Parasites	Lemongrass
	Goosefoot, goat-weed
	Must not be used in Full Moon because the parasites get excited themselves
Burns	<i>Aloe vera</i> , Onion slice
colics, upset stomach	Plants

Another aspect that was approached was related to the healing treatments. Obtained data revealed that the informants suffered a very high value of sugar in blood, used to take medicines prescribed by physicians to them accompanied with some plants, in the form of boiled extracts of leaves, stems, fruits, flowers and roots; others in infusion as in the case of the chinese hibiscus (*Hibiscus rosasinensis* L.), to treat insomnia and nervousness; other plants are externally used like crystals of *Aloe vera* to treat burns. Regarding the form of preparation, amount, and produced effects, it was presented as follows:

Treatment for blood sugar (diabetes)

Cook 2 to 3 handfuls of tender leaves of bitter melon (*Momordica charantia*), Cow's hoof (*Bauhinia purpurea*) or Eucalyptus (*Eucalyptus globulus*), separately. In the case of the bitter melon, fruits and flowers can also be cooked. It is recommended to take one cup three times a day, the informants referred that they felt better after treatment and posterior examinations values of sugar in the blood have lowered. Onion is also good to treat this disease; therefore it can be eaten in all its forms.

Treatment for nervousness and insomnia

They use chinese hibiscus (*Hibiscus rosasinensis* L.) infusion. One or two flowers of chinese hibiscus were selected. One cup of boiling water is added, kept for 5 minutes and drink. They assume a tranquilizer effect for this drink.

Treatment for flu

Cook 2 or 3 chopped leaves of lemongrass in boiling water for 5 to 10 minutes, sieved to separate the debris because they can produce injuries at the throat level. Drink 1 cup twice a day until the influenza is cured.

Treatment for parasites

The informants used the goosefoot (*Chenopodium ambrosioides* L.) plant, of which 2 to 3 shoot cooked with a cup of water, it does not have to be liquefied nor to use too many leaves, caution must be taken because when used very concentrated can produce death in the children. Take one cup daily to the illness during 3 days, stop and repeat a week later for three days. Only if the child shows persistence of parasites, it is possible to repeat within a month.

Treatment for Burns

It is recommended to remove 2 to 3 crystals from the *Aloe vera* leave and place it directly on the burned skin.

Treatment for colic or upset stomach in children

Collect 2 to 3 shoots of orange and boil in a cup of water and it is administrated to the child in small quantities. At the same time, heat is transmitted to the child at the navel level by hand imposition.

Treatment for shingles (Herpes zoster)

The treatment that is used is with blackshade (*Solanum nigrum*) dressings.

Shared Knowledge

When the natural medicine is visualized at the community level, it is expected that the settlers know other ways of treatments of some pathologies that do not respond to conventional treatments and those plants that can cultivate themselves in the yards of their houses making them more accessible. The knowledge transmitted by the tradition in oral form and the medicine practiced throughout many years plays an important role in Ethnomedicine. There is a shared vision by the family, where each one gives solution to own health problems by using house or the "garden" pharmacy which never stops serving (Correa, 1995).

When plants are used to treat a certain disease, a set of dimensions are handled where the economic, cultural, daily, the traditional thing, the inherited knowledge, the social and familiar consequences of the perceived facts are combined. The ritual practices that accompany the process by healing are assumed accepting that the important thing is the interpretation between the allopathic medicine (scientific knowledge) and the ethno-plants (popular traditional knowledge) because it allows the use of both in complementary form. The treatments are conditional to the influence of the tradition and the transmitted knowledge of generation to generation (Portillo, 1993).

The therapeutic treatment is clarified by their social-cultural frame, techniques, and procedures that compose their preventive and curing practices. From this one optics, the healing processes are effective when accompanied with different traditional plants from the Venezuelan population in these events of healing (Portillo, 1993). Therefore it is necessary that the professionals in the health sector must be aware about the knowledge on different therapeutic alternatives to which the communities resort to cure their diseases. Each human group has a perception of the plants that is in agreement with other aspects that confirm its culture such as language, history and traditions, as well as therapeutic properties attributed to them by the original inhabitants of that community. And when obtaining an approach between the popular

knowledge and the scientific knowledge, there must exist a complementarity and not a clash among them, since we have grown in a culture with reducing and linear thought, whereas at the present time, there is a global world where the problems are more linked one another every day (Morin, 2008).

Conclusions

Ethnobotanical and ethno-pharmacological research is very crucial in the development of drugs from natural sources. An ethnobotanical survey was carried out in the village, Santa Rita, parish capital of Francisco Linares Alcántara Municipality, Venezuela. The information obtained on identification, preparation, clinical use, gathering, and preservation of medicinal plants dramatically facilitates the search for new drugs, and the time needed for drug development programs. Since many plant species are indicated as potential resource for treating various diseases such as diabetes, nervousness, insomnia, flu, colic, parasites, burns, and shingles, this should encourage further research in these fields. Such fieldwork surveys document the traditional medical use of plants before the dyeing out of such informative resources. The preservation of the know-how and plant species is a fundamental step toward developing efficient remedies for various diseases.

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