

Review Article

Medicinal Plants and their Application in Public Health

Nélida Soria*

Director of Research, Faculty of Applied Sciences, National University of Pilar, Paraguay.

***Corresponding author:** Nélida Soria, Director of Research, Faculty of Applied Sciences, National University of Pilar, Paraguay, Tel: +595 21205438; Email: nsoria2000@yahoo.com

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Introduction

The World Health Organization (WHO) considers Natural and Traditional Medicine, which includes treatment with medicinal plants, as the most natural, safe and effective medicine, in addition to being accessible, it is affordable and accepted by the population. (WHO) therefore, supports Member States in promoting the use of Traditional Medicines in Primary Health Care (PHC), based on ensuring the safety and quality of medicines, as well as educating professionals and consumers to use medicinal plants properly because they could be effective as first-line treatment and prevention for conditions such as colds, diarrhea, stomach pains, mild fevers [1].

In the last years, numerous studies have been carried out to know the species used in Primary Health Care (PHC) and the results show that the use of the plants depends on the groups studied and the habitat where they developed. In a broad perspective, herbal medicine can and should be considered as the knowledge and interaction between cultural resources. This would translate to the interaction between local practices and knowledge, natural resources and the preservation of biodiversity; users and their interaction with nature and health care team professionals. In the Latin American context, experiences applied from an intercultural perspective have generally been characterized for being connected health treatments from the rest of the problems of the population and communities. These do not connect with the social and economic structure and therefore ancestral medicine grows further away from the health system [2]. Although Medicinal Plants are used by more than 90% of the population in developing countries, their incorporation into PHC is still relegated due to barriers in health systems, services and personnel, and it is uncommon to integrate in the same service the traditional and allopathic medicines. Thus, many practitioners of allopathic Medicine, even in countries with a strong history of medicinal plant use, such as Paraguay, express great reservations and often serious disbelief about the benefits of Traditional Medicine [3].

Preventive and curative treatments are the most popular form of traditional medicine and they have prevailed over time through oral transmission [4]. Therefore, one of the current challenges is its incorporation into PHC, for which constant training is needed not only of consumers and the population in general, but also of health professionals, in order to finally fulfill one of the fundamental strategies of PHC, which is its integration with the community in a process of interculturality.

Efficacy and Safety

The effectiveness and safety of medicinal plants is based on three fundamental pillars that can guarantee their innocuousness: 1) the taxonomic identity of the species to be used, 2) the habitat from which it comes, its origin, 3) the dose, because people have a false idea that their excess consumption does not produce toxic effects since they are “innocuous”.

Quality Control

Medicinal plants should be marketed by their scientific names ensuring that they are the same species, in order to obtain similar therapeutic responses in the symptoms of diseases. In Paraguay, commercialization is carried out by common name and there may be confusions or adulterations and this constitutes an important problem that can affect the effectiveness of medicinal products and diminish credibility in relation to use in primary health care [5].

Although the most frequently used medicinal organ is the leaf, when using the bark, root or rhizome, determining the identity of the species becomes complicated and the substitution of one species for another is frequent since there are no regulations related to the commercialization of fresh plant organs. Therefore, it is necessary to start working with micrographic patterns to ensure the identity of the species that are used.

Origin of medicinal species

The problems that affect the conservation of biodiversity

contribute to the disappearance of species considered medicinal, which in many cases are replaced by others with similar characteristics. In Paraguay, for example, the number of plants used for medicinal purposes is increasing [6,7]. Point out that in Asunción and in the metropolitan area, 266 species are sold for medicinal purposes, which are used to combat, prevent or cure 57 conditions [8]. Cite 500 medicinal species used for preventive and therapeutic purposes. These lists include the introduced, acclimated and native species, not to mention the origin that is if their origin is crops or if they are extracted from their natural habitat.

We must mention that in Paraguay medicinal plants used as refreshments are generally consumed fresh. They are crushed and macerated in cold water and they are drunk in the “terere” which is the typical drink of the country, where the ambient temperature is high most of the year.

Conservation of Medicinal Species

Usually, in Paraguay, plants which will be commercialized are collected from their habitat. The attributed uses have been empirical, traditionally relating the form of the vegetal organ with the organ of the human body in which it would exert its action. This scheme has varied, and today the use is related not only to morphology, but also to flavors or odors, for example, when plants have bitter tastes, they are used to combat the increase of blood glucose starting with the assumption that the bitter is opposed to the sweet.

According to [9], 67% of the plants mentioned as medicinal originate from their natural habitat, while only 33% is cultivated, so the conservation of these plants is an aspect that must be addressed, since extensive and uncontrolled extraction may jeopardize species sustainability over time. It is therefore necessary to know the degree of threat to the survival of the species, and cultivation programs, especially native ones, should be initiated prior to their use in PHC.

With regard to species activity, it is important to remember that the use of plants may have interactions with allopathic medicines. There are studies that show that the simultaneous consumption of medicine and medicinal plants, organs, parts or products of plant drug scan cause interactions, which further motivates the need to recognize that plants should be treated as a drug. Thus, it is important to know what are the attitudes of users and health personnel regarding the consumption of medicinal plants as medicine [10].

In Paraguay, the habit of consuming medicinal plants is deeply rooted. 99% of the population that goes to the Family Health Unit recognizes that they use medicinal plants for medicinal or preventive purposes, although in general they do not inform the health personnel of its use because they consider that consumption is innocuous. It is important to take into account that this medicine is the only form of traditional medicine widely accepted by the population.

One of the current trends in medicine has been to incorporate Traditional Medicine into professional practice, not as an alternative method motivated by monetary causes, but as a scientific discipline that must be permanently studied,

Perfected and developed, for its ethical and scientific advantages. It constitutes a means of recovering the cultural heritage of the people, which is in danger of disappearing before the advance of “modern medicine” [11].

Conclusion

Medicinal plants can be used in Primary Health Care as a more accessible, affordable, safe and effective medicine if the conditions for it to happen are respected. As mentioned before, the efficacy and safety in medicinal plants depends on: 1) the taxonomic identity 2) the habitat from which it comes 3) the dose used.

The factors mentioned should be developed jointly and from an intercultural approach in an interconnection that allows analyzing and giving solutions to the problems of populations and communities, linking the social and economic structure and ancestral medicine to the official health system.

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