Luehea divaricata: Traditional therapeutic approach to the control of diabetes mellitus in an amazonian community

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ABSTRACT
Throughout history, plant resources have been used for the treatment and prevention of diseases, as well as for dietary purposes. Over time, herbal medicines have become increasingly prominent in natural treatments, evolving to the current moment, in which we have scientifically proven guarantees about their efficacy and safety in consumption, as pointed out by Rates (2001). In developing countries, about 80% of the population resorts to folk medicine or depends exclusively on it to meet their basic health needs, as indicated by Silva (2002). The objective of this study is to investigate, through a review of the scientific literature, the therapeutic potential of the species Luehea divaricata, exploring its active ingredients and evaluating its toxicity levels.

Keywords: Natural treatments, *Luehea divaricata*, Basic health needs.

1 INTRODUCTION

Throughout history, plant resources have been used for the treatment and prevention of diseases, as well as for dietary purposes. Over time, herbal medicines have become increasingly prominent in natural treatments, evolving to the current moment, in which we have scientifically proven guarantees about their efficacy and safety in consumption, as pointed out by Rates (2001). In developing countries, about 80% of the population resorts to folk medicine or depends exclusively on it to meet their basic health needs, as indicated by Silva (2002).

In Brazil, the great diversity of plant species, both for therapeutic and non-therapeutic purposes, together with the cultural variety of society, results in different forms of use of plants. Most of the medicinal

plants of the native flora are used without scientific knowledge or proven evidence of their pharmacological properties. Despite the perception that medicinal plants are less toxic than conventional medicines, this idea is wrong, as pointed out by Veiga et al. (2005). The plant species Luehea divaricata is used in this context of traditional use, often without scientific proof of its properties and potential effects.

Luehea divaricata, a species of the Malvaceae family, is a large tree that can reach up to about 30 meters in height. Naturally distributed in South America, it is found in countries such as Argentina, Paraguay, Uruguay and Bolivia (CARVALHO, 2003; TIRLONI, 2018). In Brazil, this species is found in riparian forest areas, either in waterlogged, well-drained, deep, or stony soils (DE OLIVEIRA et al., 2021). The plant is known by several vernacular names, such as Estriveira, Ivitinga, Açoita-cavalo, Saco-de-possumá, Pau-de-canga, Ibitinga, Ivantingui in some regions (CARVALHO, 2003; TANAKA et al., 2005; SILVA et al., 2021). In other areas of the country, it can be called Ibatingui, Pau-de-canga and Caiboti (LORENZI, 2002; BATISTA et al., 2016).

2 OBJECTIVE

The objective of this study is to investigate, through a review of the scientific literature, the therapeutic potential of the species Luehea divaricata, exploring its active ingredients and evaluating its toxicity levels.

3 METHODOLOGY

This study adopts a descriptive qualitative methodology, using field research and techniques such as Respondent Driven Sampling (RDS) to collect data, including interviews with 25% of the surveyed population and collection of the species for identification. After this stage, a scientific survey was conducted on the active ingredients of the species and their toxicity, using databases such as Scielo, PubMed, Google Scholar, among others.

4 DEVELOPMENT

The species Luehea divaricata has a variety of therapeutic indications, including treatment for cardiovascular and respiratory diseases (ALTAMIRANO & YAJÍA, 2020), as well as dysentery, leukorrhea, rheumatism, blennorrhoea, tumors, bronchitis, and clearance (BERNARDI-WENZEL et al., 2010). This plant has a marked antioxidant action due to the presence of phytochemical compounds such as quercetin, rosmarinic acid, vitexin and other phenolic compounds (NUNES et al., 2015).

Luehea divaricata is widely used in folk medicine, where its peels are used in decoctions or infusions, being administered orally for anti-inflammatory, diuretic, antirheumatic (BIGHETTI et al., 2004), antianemic, mouthwash, antidiarrheal, astringent, antipyretic, antitumor (BATISTA et al., 2016), for

arthritis, rheumatism, leucorrhoea and as a dewormer (ROSA et al., 2014). The leaves are used in infusion to treat dysentery, leukorrhea, rheumatism, blennorrhagia, and tumors, targeting anti-inflammatory, soothing, and antispasmodic effects (TANAKA et al., 2005; BATISTA et al., 2016). The root is considered depurative and anti-inflammatory (BERNARDI-WENZEL et al., 2010; BATISTA et al., 2016).

The use of the Açoita Cavalo plant in the community of Macapazinho plays a significant role in traditional medicine. Popularly known as "Horse Whip", it is indicated to treat diabetes, using the dried stem of the plant. The preparation involves two heaping spoonfuls of the stem bark in two liters of water, administered orally. The recommended dose is half a glass per day, taken daily before lunch. Normalization of glucose levels is expected after approximately 10 days of treatment.

Few studies address the toxicity of L. divaricata (TIRLONI, 2018). Studies such as those by Bighetti et al. (2004) and Felicio et al. (2011) suggest low genotoxic and mutagenic potential, in addition to the absence of toxicity in mice.

5 FINAL THOUGHTS

Luehea divaricata is widely used in folk medicine, where its bark, leaves, and roots are used in decoctions, infusions, and oral preparations. It has a variety of applications, including anti-inflammatory, antianemic, antidiarrheal properties, among others.

In the community of Macapazinho, known as "Açoita Cavalo", it is indicated to treat diabetes with the dried bark of the stem, administered orally, and glucose levels are expected to normalize after about 10 days of use.

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