

## **THERAPEUTIC POSSIBILITIES OF LING ZHI CLINICAL USE (REI CHI - "GANODERMA LUCIDUM").**

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Abstract:

Ganoderma Lucidum is a type of fungus from the Ganodemataceae family, widely used in China and known in Japan as Reishi, and in Korea as Yeongji (youngzhi), which has been used for more than 4,000 years as a medicinal mushroom, most used for this purpose. In this article we will highlight the possibilities of using Ling Zhi in clinical practice, compiling in the articles researched the various use options and their considerations in multidisciplinary studies, thus ratifying the importance of its use.

Keywords: Ling Zhi; Reishi; Ganoderma; Ganoderma Lucidum.

Resumo:

Ganoderma Lucidum é um tipo de fungo, da família Ganodemataceae, com vasta utilização medicinal na China e conhecido no Japão como Reishi, e na Coreia como Yeongji (youngzhi), utilizado há mais de 4.000 anos como cogumelo medicinal, sendo com certeza, um dos mais utilizados para este fim. Neste presente artigo iremos salientar as possibilidades de utilização do Ling Zhi na prática clínica, compilando nos artigos pesquisados, as diversas opções de uso e suas considerações em estudos multidisciplinares, assim ratificando a importância do seu uso.

Palavras chave: Ling Zhi; Reishi; Ganoderma; Ganoderma Lucidum.

## Introduction:

The name lingzhi represents a combination of spiritual potency and essence of immortality, and is considered as the "herb of spiritual potency," symbolizing success, well-being, divine power and longevity, extracted from the book "Herbal Medicine" (2011)

It is exploited far more for its pharmaceutical value and not so much for the nutritional although it is widely marketed as a food supplement. It is commercially available in various forms, powder, dietary supplement and teas. Each one may be from a different part of the mushroom.

The fame of its benefits is based on cultural traditions, empirical use and evidence, and science is now corroborating to conceptualize the benefits.

Some images of *G.lucidum* are linked to Taoism, and still to the old artistic culture, appearing in paintings, furniture, sculptures, among others.

*The first book devoted entirely to the description of herbs and their medicinal value was Shen Nong Ben Cao Jing, written in the Eastern Han Dynasty of China (AD 25-220). This book is also known as "Classical Medical Matter" or "Shen-Nong Herbal Classics." It describes botany, zoology, and mineral substances, and was composed in the second century under the pseudonym Shen-Nong "The sacred farmer." (Herbal Medicine, 2011)*

Ling Zhi (Ganodermataceae) has long been used in both diet and pharmacopoeia, mainly Asian, focusing on longevity and vitality. Known as trivial names such as "lingzhi", "reishi" and "youngzhi" (Huie, 2004).

It is a fungus in the shape of a mushroom, which can vary its color from white to black, with shades of yellow, gold, blue and purple. Found when fresh, tender, suberose and flattened, with a reddish-colored hat in kidney". Growing in damaged or dead trees in normally hot locations (Moreno, 2018)

Some of the interpretations of the word Lingzhi in Chinese are given as "herb of spiritual potency" and described as the "mushroom of immortality" (Arora, 1986).

Its scientific name derives from the Greek, *ganos* / *yavoç* "brighth", "brilliant", and *derma* / *δερμα*, "skin", added to the epithet Latin, *lucidum*, "brilliant." A term used of Japanese origin, "the mushroom of the 10,000 years" (*Mannentake* - 万年茸), (Liddell, 1980).

The taxonomic researches try to evaluate in a specific way the types of *G.Lucidum*, including the differences in the pharmacological properties of the types found, but the difficulty is also found in the differences obtained, referring to the type of environment found, the age of the harvest, among other variables . Some studies seek to determine whether or not there are significant differences between Chinese and Brazilian mushrooms. (Rolim, 2011)

In addition to the presumed beneficial effects, attention is drawn to the probable absence of side effects, including that cited in *She Nong's Jing PenTs'ao Jing*, "the taste is bitter, its energy neutral, has no toxicity", stimulating from the outset the propagation of this herbal remedy in the East and the great acceptance in the West. Its use is still intensively researched, such as the Federal University of São Carlos and EMBRAPA, in Brasília, and there is already scientific evidence of several properties, ranging from the elimination of toxic residues in the use of dyes in the textile area, to the fight against cancer and several other pathologies.

#### Methodology:

The research took place on various educational platforms, citing, Bioline International, Directory of Open Access Journals, Google Scholar, Online Journal search engine, PubMed, SciElo, SweetSearch, using the keywords. We discarded articles that did not have relevance to the term researched and articles that deepened too much in specific characteristics of the subject and lost the focus for the clinical use, from there we observed the relevance of the subject that reflects the objective of the present work and the quantity of articles cited in the main researches, articles that were cited more than fifty times in researches were analyzed and extracted for the discussion of the proposed theme. The works found in languages other than the Portuguese were translated with the Google Translation app and duly corrected and adapted.

#### Discussion:

According to the State Pharmacopoeia of the People's Republic of China (2000), *G. lucidum* acts to replenish Qi, relieve the mind, and relieve cough and asthma, and is recommended for dizziness, insomnia, palpitation, and shortness of breath.

The main uses of Ling Zhi, scientifically proven, have been tested in animals, usually rats, and show quite significant beneficial results, such as the reduction and control of *E. coli* bacteria (Agostinho et al. 2008). bacteria reacted to extract administration orally, and were able to induce guinea pigs at normal rates.

Another great leap in drug intervention was against lung cancer, when the patient's resistance ends up inhibiting the medication, *Ganoderma* insertion, together with the medication, stimulated an improvement in the health of the patient, increasing the drug action. It is known that for the time being, that nine species of the fungus *Ganoderma*, are useful in the treatment of lung cancer. (Sadava, 2009).

Also in type 2 diabetes, the pharmacological effects of *G. lucidum* were significant in a laboratory experiment, obese and diabetic rats, during four weeks they received the extract diluted in water, and in the first week they already had a decrease in their glycemic indexes. (Seto et al., 2008).

Among its most studied chemical components are the triterpenoids, which develop biological activities that make them potentially useful for the prevention and treatment of diseases such as hypertension, diabetes, cancer, hepatitis, arthritis, hypercholesterolemia, bronchitis, asthma, gastritis, HIV-1. (El-Mekawy, 1998)

In her work, *Herbal Medicine biomolecular end clinical aspects*, in its chapter 9 specific about the fungus, without translation in Portuguese for now, a vast research shows the innumerable possibilities of the use of *G. Lucidum*, and they point out varied results in the fields of anticancer drugs, regulators of blood glucose, antioxidant effects and their most diverse reactions, anti-bacterial and antiviral action, as a protector of liver and gastric lesions (several authors).

One of the aspects also related to the historical origins of Lingzhi, including the Japanese term "the mushroom of the 10,000 years", is the research that demonstrated the cerebral cell revitalization of rats submitted to the product.

*"... It is shown to be effective in improving the function of mitochondria in the brains of aged rats, possible therapeutic application suggesting their inhibitory concentration against aging. "(Ajith et al, 2008).*

Although it did not act directly with the patient, a research that called attention was the action of the fungus in an action of reduction of the toxicity in residues of dyes used in the textile branch, because these residues released in the preparation and in the washes, end up contaminating the environment and causing problems. The use of the fungus was also effective in this field, neutralizing the toxicity of the residues. (Barreto, 2011)

Cultivation and application of Lingzhi.

*(Excerpt extracted from the booklet of the Advanced Studies of Chinese Medicine- ABRACIF- Raspa 2017)*

It is the dry fruiting of *G. Lucidium* or *Ganoderma Sinenses*. Although about 120 species of *Ganoderma* have already been found, only these two are classified as Lingzhi. This fungus is rare in nature, but most are currently grown on farms. Collected throughout the year, the impurities are separated (rotten wood, sand, soil and the lower substrate strip is removed) and are dried in the shade or cooked at 40-50 ° C (Raspa, 2017).

Tones Qi, soothes the mind, relieves coughing and dyspnea.

Moist for oral administration alone or combined with Dang Gui, Bai Shao and SuanZao Ren: Applied in cases of agitation, insomnia, palpitations for fear.

Combined with Shan Zhu Yu, Ren Shen and Di Huang: for Consumption Syndrome.

Pure or with Dang Shen, Wu Wei Zi, Gan Jiang and Ban Xia: Cough with profuse expectoration, body and cold limbs.

Dosage: from 6 to 12 gr. The decoction is made for oral administration.

From 1.5 to 3 gr. Powder is ingested.

It is classified as Tranquilizantes that nourish the Heart.

## Conclusion:

In all scientific studies and empirical practices, the value of Lingzhi is recognized. Our modern science only ratifies the results and justifies them in their analysis of pharmacological properties. This small study, viewed the universe of subjects and study material that are still to be explored. There are many scientific articles applied to animals, as some have reported, it is important that these studies extend to humans, although widespread use in recorded history already gives us a guarantee of all the benefits this fungus provides. The dose issue is the great barrier of the scientific milieu, but it is also known that practice for hundreds of years has already pointed out many factors that can be taken into account. By combining the tested and approved knowledge with the relevant results in the cultures that use the fungus, we can take advantage of the medicinal properties even more.

No research article, added or not to this study, showed a detrimental result to health, in some the result was significant and in others not so much, however, the great majority only brought to the show the benefits of Lingzhi, Reishi or Ganoderma Lucidium

Much still to be explored and certainly to be discovered, promotes the need for more research.

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