



Scope and Pharmacological Limitations of Medicinal Plants in The Treatment of Diseases

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ABSTRACT

This review presents literature referred to infectious and degenerative chronic diseases treated with medicinal plants. The study is based on scientific pharmaceutical literature and experimental reports. The types of diseases studied are some within the classification of chronic degenerative and infectious; literature review shows that herbs are more effective in infectious diseases, mainly diarrhea, cholera, dysentery, salmonella, typhoid fever, vaginal and skin infections and venereal diseases; while it is generating a lot of research for degenerative chronic diseases such as diabetes and cancer, and within nutritional, obesity.

KEYWORDS : Medicinal plants; Plant extracts; Traditional medicine.

This article presents information on successful pharmacological treatment of infectious and chronic degenerative diseases with medicinal plants. The disease is a biological state, where environmental and internal factors threaten the stability (Peña, 2003), group of symptoms that expose the human body to an inadequate state (Feinstein, 2001).

Chronic degenerative diseases (Córdova-Villalobos et al., 2008) are "non-communicable, a heterogeneous group of conditions that contribute to mortality by a small number of outcomes (diabetes, cancer and cardiovascular diseases)"

Zhang et al. (2012) investigated Saskatoon berry [*Amelanchier alnifolia* (Nutt.) Nutt. ex. M. Roem (*Rosaceae*)], found it lowers glucose levels. Andrade-Cetto (2010) found that *Cecropia obtusifolia* and *Cecropia peltata* decrease glucose levels. June et al. (2013) investigated *Laportea bulbifera* (Sieb. et. Zucc.) and found significant inhibition of insulinitis. Shirwaikar (2006) reported that the consumption of *Garuga pinnata* Roxb. (*Burseraceae*) caused decrease of glucose. Alarcon-Aguilar et al. (2010) found that *Psacalium peltatum* prevents insulin resistance. Domingues et al. (2011) regarding *Uncaria tomentosa* (UT), found it effective in preventing the immune damage induced by diabetes. Hong et al. (2012) found that *Panax ginseng* decreases hyperglycemia. Vasconcelos et al. (2011) find that *Caesalpinia ferrea Martius* (*Leguminosae*) decreases glucose.

Few studies show therapeutic effectiveness for certain types of cancer. Ngeh et al. (2012) report that *Vernonia guineensis* is anti-prostate cancer. Shih-Chung et al. (2008) found that *Ganoderma tsugae* is anti-colorectal cancer. Plastina et al. (2012) report that *Ziziphus* is anti-breast cancer. Yu-Ling et al. (2012) reported effective anticancer properties in *Echinacea purpurea*. Nicola (2011) reports that *Sutherlandia tomentosa* and *Sutherlandia frutescens* are pharmacologically anticancer. Primchani Moongkarndi et al. (2004) show that *Garcinia mangostana* has anti-cancer effects, potent antioxidation and apoptosis induction.

Suresh (2006) reports that *Azadirachta indica* eliminates prostate cancer cells. Assaf et al. (2013) report that *Viscum cruciatum* showed high anticancer and antimicrobial potential. Bandana et al. (2012) report that *tomentosa* Roem & Schult *Wrightia* (*Apocynaceae*) is a potent anti-breast cancer.

Regarding infectious diseases, there is a greater amount of scientific literature and medicinal plants are more effective. Velazquez (2005), reports of *Geranium mexicanum* effectiveness against diarrhea and the effectiveness of *Chiranthodendron pentadactylon*, *Ocimum basilicum* and *Hippocratea excelsa* extracts against cholera. Alanis et al. (2005) finds that *Caesalpinia pulcherrima*, *Chiranthodendron pentadactylon*, *Cocos nucifera*, *Geranium mexicanum*, *Hippocratea excelsa*, and *Punica granatum* possess strong anti-diarrhea and dysentery activity.

Brzozowski (2012) reports that *Diodia sarmentosa* (*Rubiaceae*), *Cassia nigricans* (*Celastraceae*), *Ficus exasperata* (*Moraceae*) and *Synclisia scabrida* (*Menispermaceae*) have therapeutic effects for ulcer and decrease heartburn. Anjana et al. (2009) report that *Terminalia bellerica* has an effect against *Vibrio cholerae*. Evans (2002) obtained that *eucalyptus* *Cassia* showed inhibition of salmonella and typhoid.

Fernandes (2013) finds that *Passiflora foetida* has anti-inflammatory activity. Moron (1999) reports that *Psidium guajava* L. decreases diarrhea. Barranco (2004) found that *Heterotheca inuloides*, *Gnaphalium oxyphyllum*, *Passiflora incarnata*, *Rosmarinus officinalis* and *Ruta graveolens* works against *Escherichia coli*, *Salmonella typhimurium*, *Shigella flexneri*, *Staphylococcus aureus* and that they are more potent combined. Vera (2003) reports that *Phlebodium aureum* and *Arthromeris wallichiana* work against vaginal infections. Tecanhuey (2005) found that *Ipomoea murucoides* has therapeutic effect on skin diseases. Salazar (2007) found that *Ternstroemia pringlei* has antibacterial activity.

Regarding tuberculosis, Bunalema Lydia (2010) reports that *Solanum incanum*, *Cryptolepis sanguinolenta* and *Erythrina abyssinica* have potential for new drugs against tuberculosis. Bueno-Sánchez (2009) found that *A. alata* and *S. glutinosa* are against tuberculosis. Kambizi (2001) reports that *Cassia abbreviata*, *Acacia nilotica* and african *Zanha* showed significant inhibition of venereal diseases.

Conclusion

The reviewed literature shows that treatment of infectious diseases with medicinal plants has greater presence in the scientific literature and therefore, greater evidence of effectiveness while degenerative chronic diseases research is being generated, in which has also been found effective. Each medicinal plant recommendation should be ac-

curate and based on etiology and pathogenesis, based on pharmacological evidence.

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