

## Chapter 10

# Efficacy of Herbal Medicine in Treating Metabolic and Endocrine Disorders

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### ABSTRACT

*Metabolic syndrome is an interrelated cluster of pathogens such as obesity, impaired glucose tolerance, cancer, and insulin resistance leading to endocrinal disorders. In the 21st century, progression of the disease is rapid increases due to change in the lifestyle of humans having a chance to develop metabolic change, and in some cases, mutations occur, which drastically affects the endocrine functionality and subsequently causes syndrome X. In modern medicine, different medications are available but only to maintain the condition lifetime. For the complete cure, WHO focused on the traditional knowledge in 2004, using the herbal medicine to cure all metabolic ailments. According to ancient medical treatment, metabolic syndromes are completely curable. They divided the disease progression stages and formulated the different dosage forms. All the data obtained from the ancient herbal medicine treatment are not evidence-based. So, the researchers all around the world focused on the evidence-based proofs to confirm whether herbal medicine shows efficacy in curing the metabolic syndrome or not.*

### INTRODUCTION

Since ancient times, human and other animal societies have always depended on plants and their products as a portion of food for survival and curing ailments. Around 3300BC Indigenous groups of people developed knowledge about ethnomedicinal plant-based products through their skills to solve various problems and pandemic situations by practical experiences (Petrovska, 2012). At 3000BC Ayurveda showed up as a treatment for curing ailments and prevent diseases. Later Egyptian medicine, Chinese medicine, and Tibetan traditional treatments used plants as a source of medicines.

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Experience-based practices typically are intended to prevent or cure specific diseases or symptoms in a comprehensive fashion, the ancient people have no scientific knowledge of diseases and treatments. The treatments were conducted based on the opportunities had around them. At some point increase the demand for scientific knowledge with the advancements of technology to believe that actually, the herbal medicine is beneficial (Schulz, et, al,2001).

In the 19<sup>th</sup>-century increase demand for allopathic medicine (modern medicine) because relying on the evidence of effectiveness when considering other medical treatments, with the advancement in industrial techniques both Europe and North America during the early 19th century the production of this medicines increased (Petrovska, 2012).

Allopathic medicinal system approach focuses on the specific region in the human body and exerts pharmacological properties to cure the particular ailments unlike, other techniques ancient technology failed to focus on the preventive measures of treatment. Even though the allopathic medicines are created based on the practical knowledge, almost 40% of the new drugs approved in North America from 1983 to 1994, were derived from herbal plants, and approximately 70% of the new chemical moieties reported between 1981 - 2006 (Newman and Cragg, 2007).

The increase in interest originated in the late quarter of the 20<sup>th</sup> century, researchers found out that synthetic agents come from technical advancements also have potential side effects alongside benefits. In the case of ayurvedic and other herbal medicine treatment, no side effects were reported, led the researchers towards herbal medicines in the treatment of many diseases (Sen, S., et.al, 2011) (Gurib-Fakim, A.2006). It is important to recognize the plant constituents which are still used today becoming the basis for many synthetic drugs. Due to these findings, researches focus has been shifted to herbal medicine in the treatment of many diseases.

The world health organization has attentive on the traditional knowledge associated with herbal medicine from the early 20<sup>th</sup> century about 80% of the world population had experience with plant-based medicine for curing primary health. Issues were raised at the same time on the effects of the allopathic medicine increase the possibilities for the developing new bioactive compounds to offer better safety and efficacy (Fokunang, C. N, 2011). The global market for herbal medicine and medicinal plants is estimated to be worth US\$800 billion annually. Traditional medicines are continuously increasing due to features like safety and efficacy against diseases (Sheng-Ji, P.2001) (Odugbemi, T. (Ed.). (2008). In today's world, important to recognize a majority of clinical research on in 21<sup>st</sup> century is based on the herbal entities in addition to a tool of alternative medicine focusing on the efficacy and safety to standardize biomass and manufacturing processes. A recent survey shows the majority of clinical research on herbal medicines in the 21st century involves modernization and globalization, focusing on efficacy and safety (Jachak and Saklani, 2007).

Researchers concentrated on to create an evidence base for herbal medicine to know the exact statistics involved under curing the elements. Herbal drug development requires unique approaches like reverse pharmacology to create the new drug moieties. Reverse pharmacology selects the herbs already used in the traditional medicinal treatment and evaluated during exploratory clinical studies. Experimental studies can be carried to conclude analytical explanations for clinical activity (Vaidya, A. D., & Deva-sagayam, T. P. 2007). Now a day's Herbal medicine therapeutics follows the systematic approach, has more promising in the treatment of multi-target disease. For various chronic diseases including diabetes and cardiovascular conditions, endocrine disorders where long-term treatment is needed, the actual problems arise herbal medicine co-administration with modern medicines may pose a higher risk of adverse effects and hence sufficient evidence data of the safety is necessary, Such approaches as Safety

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