Quality control of certain herbal products used for respiratory disorders

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(Pharmacognosy)

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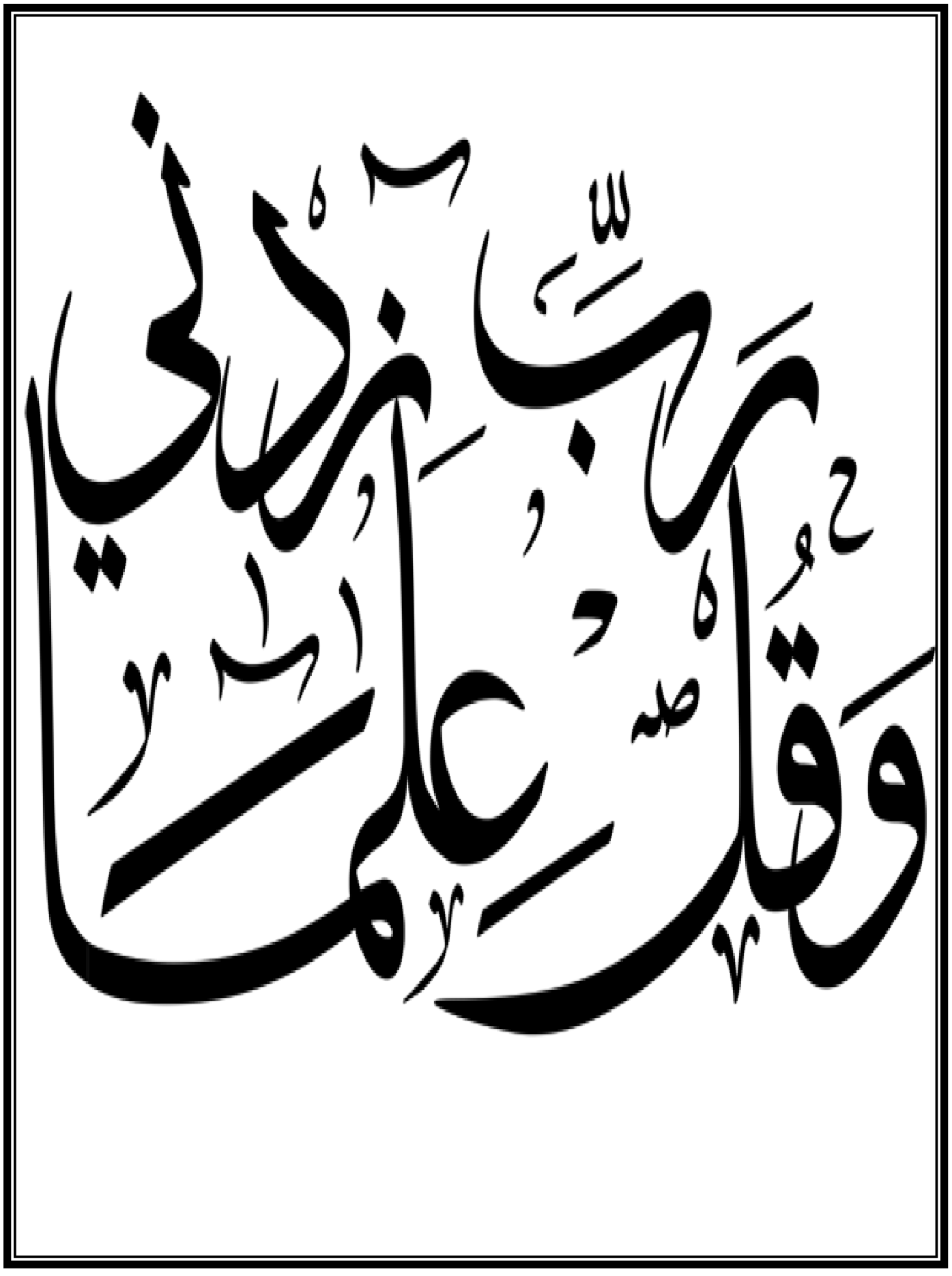
رَبِّ زِدْنِي عِلْمًا
وَقُل

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LIST OF CONTENT

LIST OF FIGURES

LIST OF TABLES

LIST OF ABBREVIATIONS

- µg: microgram
- µl: microliter
- 2, 4-D: Dichlorophenoxyaceticacid
- 2,4,5-T: 2,4,5- trichloro phenoxy acetic
- a NIST: a National Institute of Standards and Technology
- AOAC: Association of Official Agricultural Chemists
- APC: Agricultural Pesticide Committee
- BHC: Benzene Hexachloride
- CC: Column Chromatography
- cfu/gm: colony forming units per gram
- DDD: Dichlorodiphenyldichloroethane.
- DDE : Dichlorodiphenyldichloroethylene
- DDT: dichlorodiphenyltrichloroethane
- ECD: Electron Capture Detector
- EP: European Pharmacopoeia
- EPA: Environmental Protection Agency
- FA: Farmacopea Argentina
- FAO: Food and Agriculture
- FID: Aflame Ionization Detector
- GACP: Good Agricultural and Collection Practices
- GC/MS: Gas Chromatography/Mass Spectrometry
- GMP:Good Manufacturing Practics
- GPC:Gel permeation chromatography
- GRIN: The Germplasm Resources Information Network
- HDL:High-density Lipoprotein Cholesterol
- HP: Hewlett Packard
- HPLC : High Performance Liquid Chromatography
- HSCAS :Hydrated Sodium Calcium Aluminosilicate

- LDL: Low Density Lipoprotein Cholesterol
- LOQ: Limit Of Quantitation
- MALDI-TOF: matrix-assisted laser desorption/ionization- time-of-flight mass spectrometer.
- MPL: Maximum Permissible Limits
- NPIC :national pesticide information center
- p, p' TDE;1,1-Dichloro-2,2-bis (parachlorophenyl)ethane
- POPs : Persistent organic pollutants
- PSD : power spectral density
- RI : retention index
- ROS:Reactive Oxygen Species
- TFA: triflouroacetic acid:
- The U.S. FDA : United States Food and Drug administration
- TMP: Total Magnification Power
- USDA: United States Department of Agriculture.
- USP: United States pharmacopeia.
- UV: Ultraviolet
- WHA: World Health Assembly
- WHO: World Health Organization
- λmax: Wave length of maximum absorbance

INTRODUCTION

Medicinal plants constitute a source of raw materials for both traditional systems of medicine (e.g. Ayurvedic, Chinese, Unani, Homeopathy, and Siddha) and modern medicine. Nowadays, plant materials are employed throughout the industrialized and developing world as home remedies, over-the-counter drugs, and ingredients for the pharmaceutical industry. As such, they represent a substantial proportion of the global drug market. Most rural populations, especially in the developing world, depend on medicinal herbs as their main source of primary health care. Although most medicinal herbs are not, in their natural state, fit for administration, preparations suitable for administration are made according to pharmacopeia directions. The therapeutic potential of herbal drugs depends on its form: whether parts of a plant, or simple extracts, or isolated active constituents. Herbal remedies consist of portions of plants or unpurified plant extracts containing several constituents, which often work together synergistically.

The herbal drug preparation in its entirety is regarded as the active substance and the constituents are either of known therapeutic activity or are chemically defined substances or group of substances generally accepted to contribute substantially to the therapeutic activity of the drug. Phytochemical screening involves botanical identification, extraction with suitable solvents, purification, and characterization of the active constituents of pharmaceutical importance. Qualitative chemical examination employing different analytical techniques is conducted to detect and isolate the active constituent(s). In general, all medicines, whether they are synthetic or of plant origin, should fulfill the basic requirements of being efficacious and safe. Ultimate proof of these can only be achieved by some form of clinical research. A defined and constant composition of the drug is therefore one of the most important prerequisites for any kind of clinical experiment.

Quality control for the efficacy and safety of herbal products is essential. The quality control of phytopharmaceuticals may be defined as the status of a drug, which is determined either by identity, purity, content, and other chemical, physical or biological properties, or by the manufacturing process. Compared with synthetic drugs, the criteria and the approach for herbal drugs are much more complex.