Cairo University

Faculty of Veterinary Medicine

Department of Pharmacology

Potential Pharmacological and Phytochemical Properties of Different Fractions of *Moringa Oleifera* Methanol Extract

Thesis presented

By

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(**B.V.Sc. Al-Baath University, 2010**)

For

The Degree of M.V.Sc

(Veterinary Pharmacology)

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2017

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ABSTRACT:

The present work was carried out to detect the phytochemical properties of *Moringa oleifera* leaves methanol extract MOLME and its fractions by using preliminary phytochemical and GC-Mass analysis and detect the pharmacological properties as antidiarrheal, antibacterial, antioxidant and hepatoprotective .The MOLME was subjected to fractionation by using five types of solvents with different polarization; n-hexane, dichloromethane, ethyl acetate, n-butanol and water. The phytochemical results showed that MOLME contains many chemical compounds with different concentration and different effects all thus compound were distributed after fractionation and concentrated in different fractions. Pharmacology studies showed significant antidiarrheal effect in MOLME this effect was concentrated in tow fractions n-hexane and dichloromethane. The result also showed that confined antibacterial effect for MOLME concentrated in n-butanol fraction with moderate effect in aqueous fraction. MOLME showed moderate antioxidant activity *in vitro* against DPPH and high activity for n-butanol and ethyl acetate fraction. *In vivo* MOLME and n-hexane, dichloromethane and aqueous showed significant effect in several parameters protein profile, liver function and antioxidant biomarker.

Key words: *Moringa oleifera*; Phytochemical; Antidiarrheal; Antibacterial; Antioxidant; Hepatoprotective.

ACKNOWLEDGEMENT

I am greatly indebted to gracious **ALLAH**, to helping me to carry out this scientific work.

It is a great pleasure to express my deepest thanks and gratitude to **Prof. Dr. Attia Hassan Atta,** professor of Pharmacology, Faculty of Veterinary Medicine, Cairo University for suggesting the topic of this thesis and his kind supervision.

My thanks and sincere appreciation to **Prof. Dr. Mostafa Abbas Shalaby,** professor of Pharmacology, Faculty of Veterinary Medicine, Cairo University for his encouragement, creative and comprehensive advice until this work came to existence.

I wish to especially express my gratitude to **Prof. Dr. Soad Mohamed Nasr,** professor of Clinical Pathology, National Research Centre for her close supervision throughout the study, valuable guidance, and kindly offering her experience and time to me for completion of this thesis.

My sincere appreciation to **Prof. Dr. Hassan Mohamed Desouky** professor of Pathology, Department of Animal Reproduction, NRC for help in histopathological study.

My deepest thanks to all stuff members of Department of Pharmacology and technicians, Faculty of Veterinary Medicine, Cairo University and members of Parasitology and Animal Diseases Department in NRC **Dr. Amany Mohamed Mohamed**, **Dr. Doaa sedky Mohamed** and **Dr.Somia Ayesh Nassae** for their continuous support.

Iam greatly indicated to the **Egyptian society of *Moringa***, NRC for supplying *Moringa* plant and for great help in biochemical analysis.

Dedication: to the **Spirit of My Mother**, My Family with special to My Father, Wife, Brothers and Sisters for their continuous encouragement.

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Abbreviation	**Meaning**
ALP	Alkaline phosphatase
ALT	Alanine aminotransferase
ATCC	American type culture collection
ANOVA	Analysis of variation
AST	Aspartate aminotransferase
BGL	Blood glucose level
CAT	Catalase
CCL_4	Carbon tetra chloride
CFU	Colony forming unit
DIC	Diclofenac
DPPH	2, 2-diphenyl-2-picryl hydrazyl
FBG	Fasting blood glucose
FRAP	Ferric Reducing Antioxidant Power
EBV-EA	Epstein- Barr virus-early antigen
EDP	Stradiol dipropionate
ELISA	Enzyme-linked immunosorbent assay
GC-Masss	Gas chromatography mass spectrometry
GSH	Glutathione reduced
GST	Glutathione –S- transferase
HPLC	High performance liquid chromatograph
IC50	Median Inhibitory concentration
LD_{50}	Median lethal dose
LPO	Lipid peroxidase
MBC	Minimum Bacterial Concentration (MBC)
MCH	Mean corpuscular hemoglobin
MCHC	Mean corpuscular hemoglobin concentration
MCV	Mean corpuscular volume
MHA	Mueller Hinton Agar
MIC	Minimum inhibitory concentration

mMol	Mille Mol
MOLME	*Moringa oleifera* leaves methanol extract
MPV	Mean platelet volume
NCCLS	National committee of clinical laboratory standard
NHCR	Non hem agglutinating components
NMR	Nuclear magnetic resonance
OGTT	Oral glucose tolerance test
PLT	Platelet count
RBCs	Red blood cells
RDWA	Red blood cell distribution width absolute
SD	Standard deviation
SE	Standard error
SOD	Superoxide dismutase
SPSS	Statistical package of social sciences
TBARS	Thiobarbituric acid reactive substances
TC	Total cholesterol
TG	Triglycerides
UPLC	Ultra Performance Liquid Chromatography
WBCs	White blood cells
WSMoL	Water-soluble *Moringa oleifera* lectin