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

Thesis presented

By

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Supervision Sheet

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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.

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List of abbreviation	
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
IC ₅₀	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	<i>Moringa oleifera</i> 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 <i>Moringa oleifera</i> lectin