UAEU جامعة الإمارات العربية المتحدة United Arab Emirates University

The College of Graduate Studies and the College of Food and Agriculture Cordially Invite You to a

Master Thesis Defense

Entitled

EVALUATION OF PHYTOCHEMICAL COMPOSITION AND ANTI-CANCER POTENTIAL IN ROOT EXTRACTS OF Moringa peregrina (Forssk.) Fiori

by

Salama Khamis Sultan Saeed Al Kaabi

Faculty Advisor

Dr. Abdul Jaleel Cheruth, Department of Integrative Agriculture

College of Food and Agriculture

Date & Venue

12:00 PM

Sunday, 17 November 2019

Room 035, F3 Building

Abstract

Natural products provide many bioactive lead molecules for the discovery of new medicines. Naturally, derived phytochemicals have exhibited tremendous biological activities including anticancer activity. More than 60% of antitumor medicines are closely associated with natural products. In the present study, hexane, chloroform, acetone and methanol extracts from roots of *Moringa peregrina* were screened for phytochemical analysis and anticancer activity. Phytochemical analysis was performed by Gas Chromatography and Mass spectrometry (GC-MS). The anticancer potential of the extracts was done on the human breast cancer cell line (MCF-7) and cell viability was measured using WST-1 Cell Proliferation Assay Kit. The cell line was treated with different concentrations (10, 20, 40, 80, 160 and 320 µg/ml) of plant extracts and the results were compared with the standard drug Doxorubicin. The results of GC-MS analysis of different extracts revealed the presence various compounds. The anticancer studies revealed that the chloroform extract of *M. peregrina* have good activity against the human breast cancer cell line with the IC_{50} value of 127.38 µg/ml. The IC_{50} values of hexane, acetone and methanol extracts were 315.0, 284.8 and 353.10 µg/ml respectively. Whereas the IC_{50} value of the standard drug, Doxorubicin was 25.88 µg/ml. Based on these results, further study is warranted for the isolation of anticancer molecule from chloroform extract of *M. peregrina* root tubers.

Keywords: Natural products, *Moringa peregrina*, phytochemical analysis, GC-MS, anticancer activity, human breast cancer.