



كلية الصيدلة
College of Pharmacy
QATAR UNIVERSITY جامعة قطر
عضو في الصحة HEALTH



THESIS PRESENTATION: Master of Science in Pharmacy

Ms. Shimaa Ahmed Aboelbaha

Thesis Title: The Exploration of the Application of Pharmacogenetics in the Management of Depression

Supervisor: Dr. Monica Zolezzi

Co-Supervisor: Dr. Hazem Elewa

Supervising Committee: Dr. Yassin Eltorki and Dr. Taimour Langaee

Thursday, 12 January, 2023

8:00 am - 10:00 am

Ibn Al-Bitar Building (I06), G.CI.03

Summary: Genetic factors have been reported to play an important role in the treatment efficacy of antidepressants. The aim of this research was to explore the role of pharmacogenetics in the management of major depression as well as the potential for its application in the Middle East and North Africa (MENA) region.

The first phase of this research consisted of a systematic review to summarize and update the available evidence regarding the clinical utility of pharmacogenetic testing in depression. The second phase entailed conducting a qualitative study utilizing semi-structured interviews with mental health prescribers from the MENA region to assess their perceptions and experience with genetic testing. The third phase involved conducting a prospective cohort study to assess the genetic associations with response to selective serotonin reuptake inhibitors in people of Arab ancestry diagnosed with depression.

Results of the systematic review highlighted that pharmacogenetic testing showed positive but inconsistent effects on efficacy outcomes. Five overarching major themes, and 11 subthemes, emerged from 18 interviews with psychiatrists from the MENA region in regard to pharmacogenetic testing in mental health. A total of 62 patients enrolled in the prospective study, which demonstrated a lack of significant associations between genetic variants on CYP2C19, HTR2A, and GRIK4 and clinical outcomes of depression. Additionally, vitamin D levels and caffeine were identified as significant predictors for safety outcomes.

The findings from the three phase investigations revealed that pharmacogenetics showed potential in improving depression outcomes. Psychiatrists expressed high awareness and positive perceptions towards its adoption in the health systems of the MENA region. However, supporting strategies are needed to facilitate its implementation.

