

The Impact of a Pharmaceutical Care Model on Improving Polycystic Ovary Syndrome Associated Factors amongst Females in Jordan and Syria

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ABSTRACT

Polycystic ovarian syndrome (PCOS) is a serious health problem that affects females of all ages. It increases the cardiovascular risk factor for females and leads to infertility, depression, anxiety and lower quality of life (QOL). Lifestyle modification intervention is regarded as a suitable therapy of choice with many advantages on the clinical and humanistic outcomes for the affected females. Pharmacists are in a pivotal position to identify women diagnosed with PCOS and in need of lifestyle interventions. They have the knowledge and the time to deliver feasible interventional services capable of changing the life of PCOS women.

The primary aim of this study was to assess the effectiveness of a PCOS pharmaceutical care service delivered by a pharmacist to Jordanian (Amman) and Syrian (Damascus) women diagnosed with PCOS on their anxiety scale, depression scale, QOL and some biochemical parameters (blood pressure, blood glucose level, blood cholesterol level and triglycerides). The secondary aim involved estimating the prevalence of anxiety and depressive disorder amongst the participants. The third aim was to identify factors associated with anxiety, depression and QOL scores' change across the study.

PCOS Females (n= 118) from both Jordan (n= 58) and Syria (n= 60) with age above 16 years were recruited into the study. Females randomly allocated into the active group received an educational intervention by the pharmacist (via oral and written educational

module) with special focus on diet and exercise. Females allocated to the control group did not receive the educational intervention. Both groups were followed for four months. Females in both groups completed the Beck Anxiety Inventory, the Beck Depression Inventory, PCOS QOL questionnaires at both baseline and end of study. Blood pressure was measured at base study points. Multi-parameter diagnostic device was used to measure blood glucose level, blood cholesterol level and triglycerides at both study points as well. Multiple regression analysis was performed to identify factors associated with anxiety, depression and QOL scores' change across the study.

The anxiety mean score were significantly improved in Syria active group (34.97 vs. 30.47) and in Jordan active group (26.93 vs. 23.37) with P value < 0.001. The depression mean score were significantly enhanced in Syria active group (26.53 vs. 22.93) with P < 0.001, and in the active group of Jordan (17.70 vs. 15.76, p = 0.049). The QOL was also significantly improved in the active group at the end of the study in Syria (3.43 vs. 3.95, P < 0.001), and in Jordan (3.23 vs. 3.68, P < 0.001). According to some biochemical parameters, systolic blood pressure was significantly changed at the end of the study in the active group of both countries (Syria; 122.33 vs. 116.40, P = 0.003. Jordan; 119.33 vs. 116.83, P < 0.001). On the other hand, glucose, cholesterol and triglycerides levels all were significantly improved in the active group in both Syria and Jordan.

The prevalence of anxiety disorder in PCOS women in Syria was found to be very high (95%), similarly in Jordan (98%). Moreover, the prevalence of depression disorder in PCOS women in Syria was found to be higher (83%) than that in Jordan (65%).

Results of the multiple regression showed that the group of the study (active versus control) was the only dependent variable that showed association with the dependent variables: difference in anxiety, depression and QOL mean scores across the study period.

Conclusion: this study showed positive outcomes due to a pharmacist delivered feasible intervention on lifestyle modifications to PCOS diagnosed females. Positive effects were seen on the anxiety scores, depression scores, QOL scores and some biochemical parameters' levels for females who received the service. Prevalence of anxiety and depression for PCOS women in both Syria and Jordan was found to be very high and calls for special attention by the specialists and policy makers in both countries. Pharmacist led intervention was the only variable that affected the improvements seen concerning anxiety, depression and QOL for study participants. This highlights, for the first time in both countries, the significant role that can be played by the pharmacist in improving the life of women with PCOS.

Key Words: PCOS, lifestyle modifications, anxiety, depression, quality of life, some biochemical parameters, prevalence and pharmacist.