



# Depression, anxiety and stress in women with recurrent miscarriage and infertility compared to a control group

Manal Al Busaidi. Wadha Al Ghafri . Maryam Al Shukri., Hamed Al Sinawi  
Sultan Qaboos University Hospital (SQUH)



## Abstract

**Objective:** To establish the prevalence of Stress, anxiety and depression in patients with recurrent pregnancy loss (RPL) and infertility and to compare that with controls of normal fertility in Omani population.

**Methods:** this is a prospective cross-sectional study. Was conducted in two tertiary care centers. Sample size was estimated based on the anticipated prevalence of anxiety and depression among RPL and Infertility subjects and controls. Participants were asked to fill out a paper-pencil survey including sociodemographic data and two questionnaires for psychological assessment: Depression Anxiety Stress scale (DASS-42) and Becks depression inventory (BDI-II). Data collection was completed from patients' electronic records using hospital information system. Data was entered in EpiData Entry Client. Statistical analyses were performed using Statistical Package for Social Sciences (SPSS). Chi-Square test applied and a P-value of <0.05 was considered statistically significant.

**Results:** study included 111 participants in RPL group, 131 in infertility group and 210 in the control group. Thirty-one percent of RPL reported some level of stress ranging from mild to extremely severe, while in infertility group the prevalence was 35.9% compared to 17.1% in the control group with a p-value of 0.003. The prevalence of anxiety was 45% in RPL group, 45.5% in infertility group and 28.1% in the control group with a p-value of 0.019. Depression measured by DASS-42 was reported highest in RPL patients with a prevalence of 34.2%, while in infertility group it was 33.6% compared to 13.8% in the control group with a p-value of <0.001. Similar results for depression were reported based on BDI-II, with a prevalence of 23.4% in RPL group, 19.1% in infertility group and 7.6% in the control group with a p-value of 0.02.

**Conclusions:** this study shows that the prevalence of stress, anxiety and depression is higher among patients with RPL and infertility compared to those with normal fertility. Our study didn't evaluate the male partner. Further studies are needed to establish methods of providing psychological support to patients and their partners and to evaluate its effect on the outcome.

## Introduction

Miscarriage is the most common complication of pregnancy, it is defined as the loss of pregnancy before a fetus reaches viability (1). Recurrent pregnancy loss (RPL) affects 3-5% of women worldwide, in Oman it was found to affect 0.8% of women (3). Couples suffering from RPL were found to have higher levels of depression, anxiety and lowered self-esteem (4). Around 50% of miscarrying women suffer some form of psychological morbidity following their loss, including Elevated anxiety and depressive symptoms.

## Methods & Materials

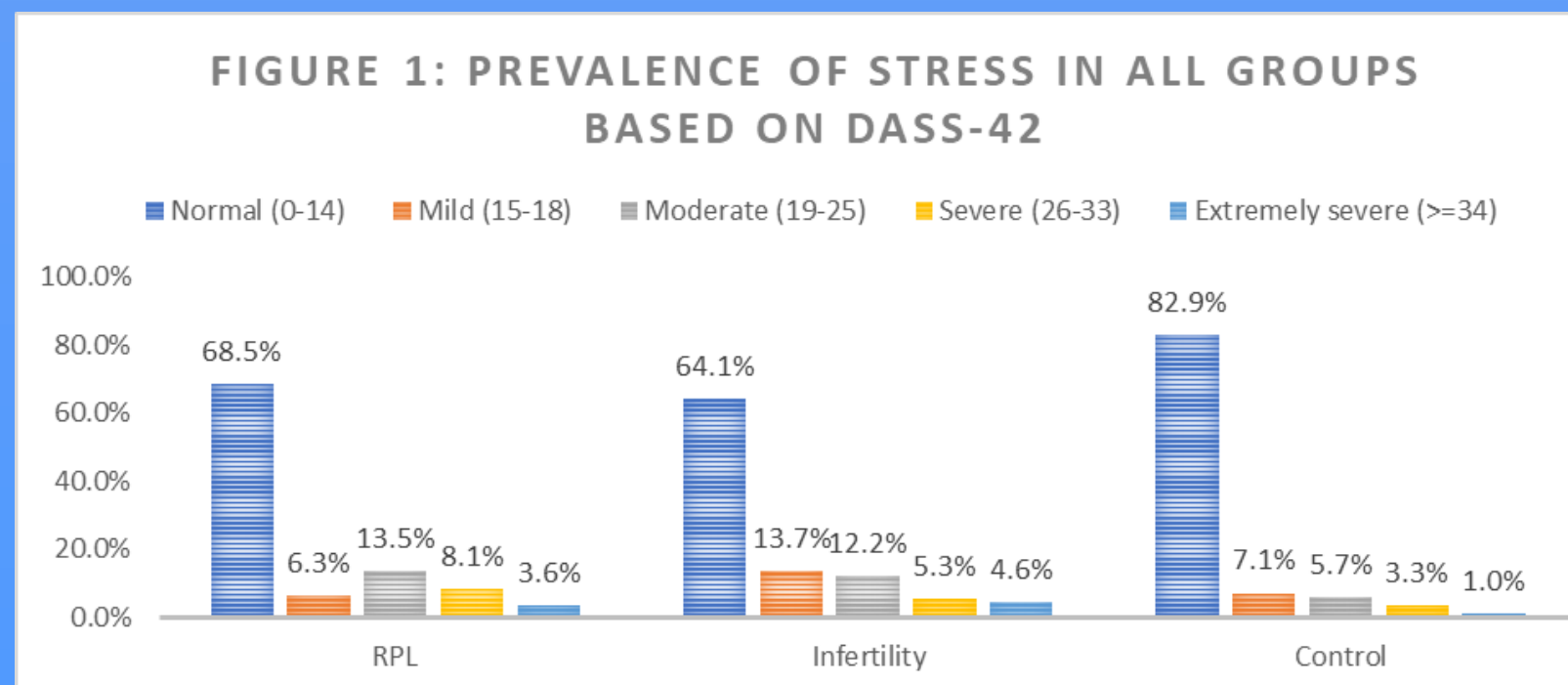
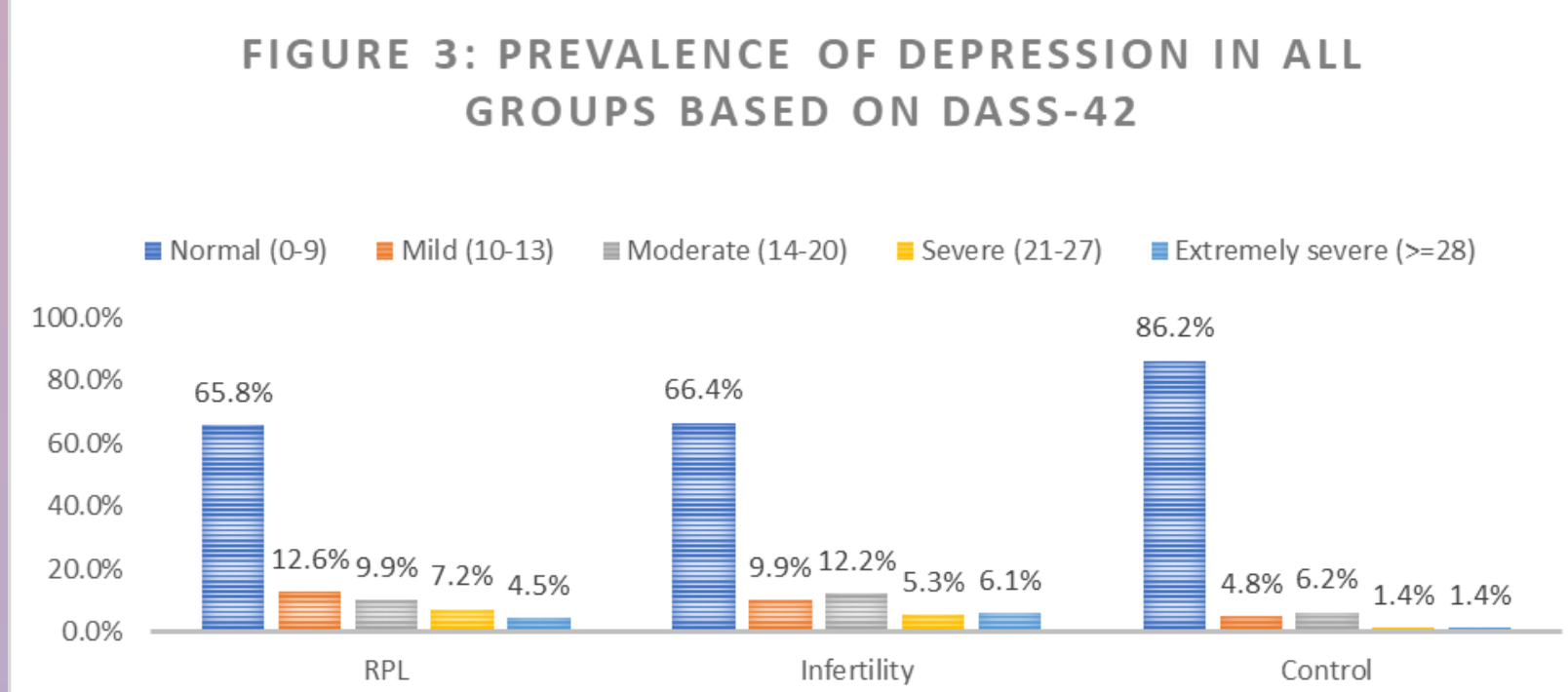
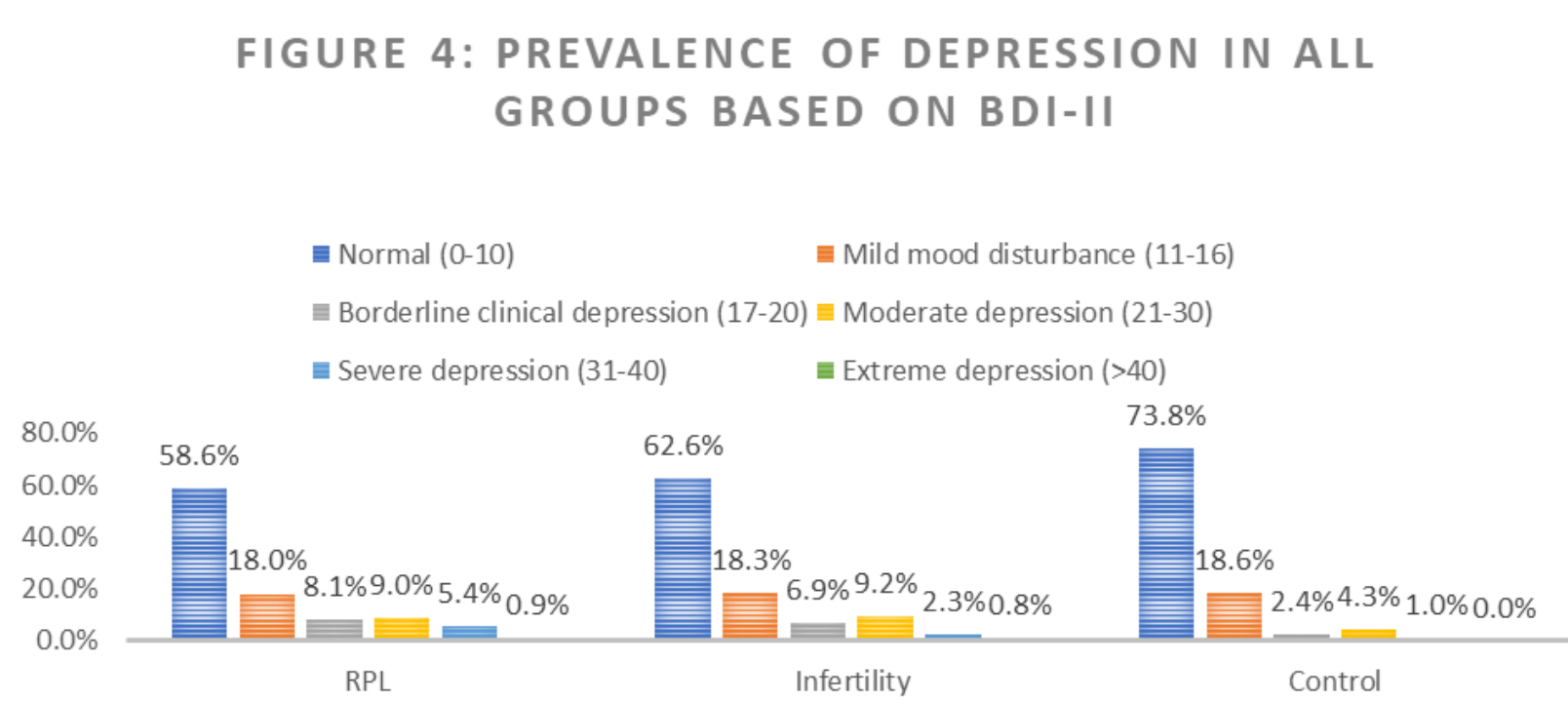
All patients presenting to clinic at two tertiary care centersI, Muscat Oman, were offered to be included in the study. During the study period between September 2018 and July 2021, a total of 111 patients were recruited for the RPL group and 131 patients for infertility group. A total of 210 subjects were recruited from low-risk antenatal clinics. Non-Omani patients and those with missing data were excluded from the study. Ethical approval was obtained All participants presenting to the clinics were asked to fill out a paper-pencil survey including sociodemographic data and psychological assessment in the form of Becks depression inventory (BDI-II) and Depression Anxiety Stress scale (DASS-42). Data was entered in EpiData Entry Client version 4.4.2.0. All statistical analyses were performed using Statistical Package for Social Sciences (SPSS) version 28.0.0.0. Chi-Square tests were used and a P-value of <0.05 was considered significant.

## Results

Total sample size was 452 subjects, including 111 in RPL group, 131 in infertility group and 210 in control group. The age of patients in RPL ranged between 19-44 years with a mean of 33.5 years, in infertility group the age ranged between 21-43 years with a mean of 33.4 years, in control group age ranged between 20-45 years with a mean of 31.8 years. Majority of patients in RPL and infertility fell in the age group of 31-35 years (30.6% each), while most patients in control group were aged 26- 30 years (33.3%).

|                                       |                  | Control (n= 210) | RPL (n= 111) | Infertility (n= 131) |
|---------------------------------------|------------------|------------------|--------------|----------------------|
| Age                                   |                  | N (%)            | N (%)        | N (%)                |
|                                       | <=20             | 1 (0.5)          | 1 (0.9)      | 0 (0.0)              |
|                                       | 21-25            | 23 (11.0)        | 8 (7.3)      | 8 (7.2)              |
|                                       | 26-30            | 70 (33.3)        | 26 (23.4)    | 26 (23.4)            |
|                                       | 31-35            | 62 (29.5)        | 34 (30.6)    | 34 (30.6)            |
|                                       | 36-40            | 41 (19.5)        | 28 (25.2)    | 28 (25.2)            |
| Level of education                    | >=41             | 13 (6.2)         | 14 (12.6)    | 14 (12.6)            |
|                                       | Illiterate       | 1 (0.5)          | 0 (0.0)      | 0 (0.0)              |
|                                       | Reads/writes     | 2 (1.0)          | 0 (0.0)      | 0 (0.0)              |
|                                       | Elementary       | 0 (0.0)          | 1 (0.9)      | 0 (0.0)              |
|                                       | Preparatory      | 5 (2.4)          | 4 (3.6)      | 5 (3.8)              |
|                                       | Secondary        | 66 (31.4)        | 44 (39.6)    | 54 (41.2)            |
| Employment status                     | Higher education | 136 (64.8)       | 62 (55.9)    | 62 (55.9)            |
|                                       | Employed         | 107 (51.0)       | 51 (45.9)    | 52 (39.7)            |
| Monthly income in Omani Rials         | Not employed     | 103 (49.0)       | 60 (54.1)    | 79 (60.3)            |
|                                       | <500             | 45 (21.4)        | 15 (13.5)    | 19 (14.5)            |
|                                       | 500-1000         | 94 (44.8)        | 67 (60.4)    | 68 (51.9)            |
| Years of marriage                     | >1000            | 71 (33.8)        | 29 (26.1)    | 44 (33.6)            |
|                                       | <6 years         | 80 (38.1)        | 31 (27.9)    | 40 (30.5)            |
|                                       | 6-10 years       | 79 (37.6)        | 43 (38.7)    | 42 (32.1)            |
| Prescence of another wife             | >10 years        | 51 (24.3)        | 37 (33.3)    | 49 (37.4)            |
|                                       | Yes              | 1 (0.5)          | 2 (1.8)      | 8 (6.1)              |
|                                       | No               | 209 (99.5)       | 109 (98.2)   | 123 (93.9)           |
| Number of living children             | 0                | 40 (19.0)        | 38 (34.2)    | 74 (56.5)            |
|                                       | >=1              | 170 (81.0)       | 73 (65.8)    | 57 (43.5)            |
| Psychiatric illness                   | Yes              | 1 (0.5)          | 1 (0.9)      | 0 (0.0)              |
|                                       | No               | 209 (99.5)       | 110 (99.1)   | 131 (100)            |
| Family history of psychiatric illness | Yes              | 7 (3.3)          | 0 (0.0)      | 3 (2.3)              |
|                                       | No               | 203 (96.7)       | 111 (100)    | 128 (97.7)           |

Table 1: Patients' characteristics for all groups



## Conclusion

This study shows that prevalence of stress, anxiety and depression is higher in patients with RPL and infertility compared to patients with normal fertility. Multiple factors can affect the psychological outcome in those patients. This study is a cross-sectional study and conducted at one point of time where it is difficult to establish cause and effect relationship. Further studies are needed to evaluate the cause and effect and to establish the appropriate psychological intervention needed to improve patients' outcome.

## References

- Ewington LJ, Tewary S, Brosens JJ. New insights into the mechanisms underlying recurrent pregnancy loss. J Obstet Gynaecol Res. 2019;45(2):258–65.
- El Hachem H, Crepau V, May-Panloup P, Descamps P, Legendre G, Bouet P-E. Recurrent pregnancy loss: current perspectives. Int J Womens Health. 2017 May;Volume 9:331–45.
- Eltayeb SM, Ambusaidi SK, Gowri V, Alghafri WM. Etiological profile of Omani women with recurrent pregnancy loss. :4.
- Morley L, Shillito J, Tang T. Preventing recurrent miscarriage of unknown aetiology. Obstet Gynaecol. 2013 Apr;15(2):99–105.
- Lok IH, Neugebauer R. Psychological morbidity following miscarriage. Best Pract Res Clin Obstet Gynaecol. 2007 Apr 1;21(2):229–47.