

The prevalence and predictability of depression in infertile women

Domar A, Broome A, Zuttermeister P, Seibel M, Friedman R. - *Fertility and Sterility*. 1992; 58:1158-1163.

OBJECTIVE: To determine the prevalence, severity, and predictability of depression in infertile women compared with a control sample of healthy women. **DESIGN:** Subjects were assessed while waiting to see their physician: infertility patients before a visit with an infertility specialist and control subjects before seeing either a gynecologist or internist for a routine gynecological examination. Subjects completed a demographic form and two depression scales. **SETTING:** A group infertility practice affiliated with an academic medical center, a hospital-based gynecology practice, and a health maintenance organization internal medicine clinic. **PARTICIPANTS:** 338 infertile women and 39 healthy women. **INTERVENTIONS:** None. **MAIN OUTCOME MEASURES:** The Beck Depression Inventory and the Center for Epidemiological Studies Depression Scale. **RESULTS:** The infertile women had significantly higher depression scores and twice the prevalence of depression than the controls; women with a 2- to 3-year history of infertility had significantly higher depression scores compared with women with infertility durations of < 1 year or > 6 years; women with an identified causative factor for their infertility had significantly higher depression scores than women with unexplained or undiagnosed infertility. **CONCLUSIONS:** Depressive symptoms are common in infertile women. Psychological interventions aimed at reducing depressive symptoms need to be implemented, especially for women with a definitive diagnosis and for those with durations of 2 to 3 years of infertility.

Domar A, Clapp, D, Slawsby E, Kessel B, Orav J, Freizinger M. **The Impact of Group Psychological Interventions on Distress in Infertile Women** *Health Psychology*. 2000; Vol. 19, No. 6: 568-575.

Infertile women express higher levels of distress than fertile women, with distress peaking between the 2nd and 3rd year. The purpose of this study was to determine whether group psychological interventions could prevent this surge. One hundred eighty-four women who had been trying to conceive between 1 and 2 years were randomized into either a cognitive-behavioral group, a support group, or a control group. All experimental participants attended a 10-session group program. Participants completed psychological questionnaires at intake and again at 6 and 12 months. Substantial attrition occurred, particularly in the control group. The cognitive-behavioral and support participants experienced significant psychological improvement at 6 and 12 months compared with the control participants, with the cognitive-behavioral participants experiencing the greatest positive change.

Domar AD, Friedman R, Zuttermeister P. **Distress and Conception in Infertile Women: A Complementary Approach.** *Journal of American Medical Women's Association*. 1999; Vol. 54, No. 4: 196-8.

OBJECTIVES: To examine the relationship of pretreatment psychological distress and demographics to conception in infertile women attending a group cognitive-behavioral treatment program. **METHODS:** Pre- and postprogram psychological measures and live birth rates were collected for 132 infertile women attending a ten-session group cognitive-behavioral treatment program. Subjects completed the Beck Depression Inventory (BDI) and the Symptom Checklist-90 (Revised) (SCL-90R). Conceptions that resulted in live births within six months of completing the program were noted. **RESULTS:** Women who conceived viable pregnancies within six months of the program had higher levels of psychological distress at program entry. Using logistic regression analysis, the best predictors of viable birth were younger age and a higher score on the global severity index of the SCL-90R. Significant pre- to postprogram psychological improvement was demonstrated by the SCL-90R and the BDI. Forty-two percent of the sample conceived viable pregnancies within six months of completing the program. **CONCLUSIONS:** Preprogram psychological distress and younger age were associated with significantly higher viable pregnancy rates.

Domar AD, Seibel MS, Benson H. **The mind/body program for infertility: A new behavioral treatment approach for women with infertility.** *Fertility and Sterility*. 1990;53: 246-9.

There is increasing evidence that a behavioral treatment approach might be efficacious in the treatment of the emotional aspects of infertility and may lead to increased conception rates. The first 54 women to complete a behavioral treatment program based on the elicitation of the relaxation response showed statistically significant decreases in anxiety, depression, and fatigue as well as increases in vigor. In addition, 34% of these women became pregnant within 6 months of completing the program. These findings established a role for stress reduction in the long-term treatment of infertility. They further suggest that behavioral treatment should be considered for couples with infertility before or in conjunction with reproductive technologies such as intrauterine insemination and gamete intrafallopian transfer.

Domar AD, Zuttermeister P, Seibel M, Benson H. **Psychological improvement in infertile women after behavioral treatment: A replication.** *Fertility and Sterility*. 1992;58: 144-7.

OBJECTIVE: To replicate previously reported psychological improvements in infertile women attending a group behavioral treatment program. DESIGN: Psychological and demographic data were collected before entering and again upon completion of a behavioral medicine program on a second cohort of patients. SETTING: The program was offered in the Division of Behavioral Medicine, an outpatient clinic of the Department of Medicine at New England Deaconess Hospital. All patients were receiving care from infertility specialists not affiliated with this hospital. PATIENTS: Fifty two self-referred women receiving medical treatment for infertility attended the program. INTERVENTION: A 10-week group behavioral treatment program. MAIN OUTCOME MEASURES: Three validated psychological instruments. RESULTS: Psychological improvement was statistically significant (Profile of Mood States Tension/Anxiety: P less than 0.0001; Depression/Dejection: P less than 0.0122; Vigor/Activity: P less than 0.0431; Confusion/Bewilderment: P less than 0.0057; Spielberger Anger Expression: P less than 0.0013; Spielberger State Anxiety: P less than 0.0037, and Trait Anxiety: P less than 0.0001). CONCLUSIONS: Behavioral treatment is associated with significant decreases in negative psychological symptoms.

Domar AD, Zuttermeister P, Friedman R. **The psychological impact of infertility: comparison with patients with other medical conditions.** *Obstetrical Gynecology*. 1993;14:45-52.

To compare the psychological symptoms of infertile women with patients with other chronic medical conditions, subjects completed the Symptom Checklist-90 (Revised) (SCL-90R), a standardized, validated and widely used psychological questionnaire, prior to enrolling in a group behavioral treatment program. All subjects were female and the totals in each program were as follows: 149 with infertility, 136 with chronic pain, 22 undergoing cardiac rehabilitation, 93 with cancer, 77 with hypertension, and 11 with human immunodeficiency virus (HIV)-positive status. The infertile women had global symptom scores equivalent to the cancer, cardiac rehabilitation and hypertension patients, but lower scores than the chronic pain and HIV-positive patients ($p < 0.0001$ and $p < 0.02$ respectively). The anxiety and depression scores of the infertile women were significantly lower than chronic pain patients but not statistically different from the other groups. The results suggest that the psychological symptoms associated with infertility are similar to those associated with other serious medical conditions. Therefore, standard psychosocial interventions for serious medical illness should also be applied in infertility treatment.