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Infertility Treatments, Mental Wellbeing & Yoga

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Introduction

Infertility i.e. the inability to have children affects men and women across the globe. A couple is considered infertile if the woman has not conceived post having unprotected sex for 12 months. As per Mascarenhas et al. [1], 48.5 million couples across the world suffer from infertility and prevalence of these cases was highest in South Asia, Sub-Saharan Africa, North Africa/ Middle East, and Central/Eastern Europe and Central Asia. One of the most common problems faced by women undergoing infertility treatments are anxiety, stress and depression. Campagne [2] suggests that stress reduction is an cost-effective and non-invasive method to improve fertility in women. Lintsen et al. [3] and Domar et al. [4] recommend research in the field of complimentary therapy and introduction of interventions to reduce stress levels in women undergoing fertility treatments to combat the manifestations of stress. There have been studies been done of how yoga can be useful in this patient population. Research trials of infertility and Yoga have been done only in the last 5 years. Given the recent interest of researchers and clinical practitioners into this area, a review of current literature and a discussion seems timely.

Double edged effect of infertility on mental well being

Anxiety and stress are common amongst women undergoing fertility treatments due to their state of infertility and more importantly, the uncertainty of results [5,6]. Infertility treatments are a cause for chronic stress as the couple has been going through successive cycles of hope and dejection [4].

Lintsen et al. [3] discusses three multidimensional sources of stress during an infertility treatment. Firstly, the threat that infertility can be permanent. Secondly, the prospect of the fertility treatment itself and lastly, the procedural stress of the actual treatment itself. Infertility evaluation and treatment can be one of the lowest points in a woman's life [7]. In a study by Veerhaak et al. [8], it was concluded that 20% of women showed some subclinical form of anxiety and/or depression post an unsuccessful treatment. A study by Chen et al. [9] reported that over 40% of women visiting an infertility clinic had some form of clinical depressive/anxiety disorder. Stress levels faced by an infertile woman have been shown to be equivalent to individuals suffering from cancer, cardiac diseases and chronic hypertension [4].

Physiologically, interference in gonadotrophin secretion, catecholamine effects on the uterus and fallopian tube and disturbances in the implantation process are few of the effects stress reactions can have on reproduction [10]. The Hypothalamic-Pituitary-Adrenal (HPA) Axis and the stress hormones in the body interact with hormones like Gonadotropin-releasing hormone (GnRH), prolactin, Follicle-stimulating hormone (FSH) and Luteinizing hormone (LH) which have a direct influence on fertility and with melatonin, cortisol and endogenous opioids which can interfere with fertility [2,11].

Raoul Duval et al. [12] reported that the psychological issues faced by couples conceiving with help of infertility treatments can carry on during pregnancy and has the probability to affect early parenting. These women suffer from greater anxiety during pregnancy [13,14] and reports antenatal complaints more often [15] which has a trickledown effect [16] into higher rates of hospital admissions for minor problems like a back pain [17]. A study of 45 couples during their infertility treatment, pregnancy and birth identified that the psychological burden was higher than physical burden and the pregnancy was perceived to be more stressful than the controls with spontaneous conception [18]. In a study by Monti et al. [19] Edinburgh Postnatal Depression Scores (EPDS) collected at 30-32 weeks gestation, 1 week after birth and 3 months after birth, reported higher scores in infertility treatment led pregnancies as compared to spontaneous conception pregnancies. The study also reported significantly higher number of depressed subjects in the treatment led pregnancy group as compared to controls. Maternal self-esteem, which is usually affected by stress/ anxiety, has been studied to be directly correlated to the infant's gestational age [20].

Does stress affect treatment outcomes?

There is contraindicating evidence to effect of stress levels on infertility treatment outcomes. Lower stress levels indicate

better fertility in men and women. A study on impact of stress on fecundity indicated that high stress levels can significantly affect chances of conception [21]. While few studies indicate that stress can have a negative impact on fertility treatment outcome [11,22-24], some studies including a meta-analysis of 14 studies [25], indicate that there is no dependant relationship between the outcome of treatments and stress levels in women [2,26] and also that, anxiety and depression levels before and during treatments have no significant influence on the cancellation and pregnancy rates of participants [3]. However, distress is one of the most common reasons given by fertility treatment patients who wish to voluntarily terminate the treatment process [27,28]. Psychological distress can interfere directly or indirectly on the success of treatment at least in terms of continuation of treatment making it a critical component in successful pregnancy rates [5]. Monitoring and decreasing stress levels at baseline is critical in successful IVF treatments [11].

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