

Psychological Status and Balance among Pregnant Women: A Comparison between Natural Pregnancy and in Vitro Fertilization- Short Communication

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Pregnancy, also known as gestation, is the period during which one or more offspring develop inside a woman. The stages of pregnancy are divided into 3 trimesters, each lasting 3 months, and are characterized by distinct changes in mother and foetus (1). In vitro fertilization (IVF) is a form of assisted reproductive technology (ART) where eggs and sperm are combined in a laboratory dish before being transferred to the uterus (2).

The transition to motherhood is a dynamic period in life, characterized by significant neurobiological and psychosocial changes. These changes can have a profound impact on the physical and mental well-being of women and their offspring. Depressive symptoms impact over 25% of women during the peripartum period, with anxiety and related disorders affecting 10–20% (3). There is evidence indicating that maternal depression and anxiety symptoms can significantly impact infant development. Risk for peripartum depression and anxiety may be linked to some of the physiological changes (Shifts in hormones, neurobiological changes) that women experience during this period (3). New mothers' ability to respond sensitively to their infants may be influenced by interactions between psychosocial and physiological factors. Research in rodents and humans has found evidence of reductions in brain volume and increases in ventricular size during the peripartum period (3).

The hormonal, anatomical, and physiological changes that occur during pregnancy lead to weight gain, reduced abdominal muscle strength and neuromuscular control, increased ligamentous laxity, and spinal lordosis (1). These changes diminish the body's ability to maintain adequate balance and

increase the risk of injury and falls for pregnant women (1). The shift in increased abdominal content due to increased body weight leads to reduced stability and greater reliance on visual cues in females as pregnancy progresses (1).

There may be some physiological differences between natural and IVF pregnancies. One study suggested that mothers who underwent IVF more frequently observed an improvement in their psychological well-being during pregnancy compared to mothers in a control group, whose psychological well-being generally remained unchanged (4). The satisfaction of IVF mothers increases as the pregnancy progresses, and there is a growing hope that they will finally have a baby, which increases their sense of purpose in life (4).

Sanjay Kumar et al., (2015) suggested that psychological factors during pregnancy and childbirth are important. Neglecting these factors can cause grave damage, resulting in lifelong costs to the infant, parents, and society. Women need to formulate a treatment plan to manage common psychological problems during pregnancy (5). Vislava Globevnik Velikonja et al., (2016) suggested that women undergoing IVF may be prone to social isolation. Despite experiencing more medical issues during pregnancy, they reported increased positive emotions and a sense of purpose as the pregnancy advanced (4). Mei-Zen Huang et al (2019) conducted a study on the psychological health of women who have conceived using ART in Taiwan. They investigated the changes over time in the psychological health of women during the first, second, and third trimesters of pregnancy, as well as the postpartum period. The study found that psychological health was poorest during

the first trimester and at two months postpartum. Furthermore, pregnancy stress and social support were identified as key predictors of change in psychological health. The study's results highlight the importance of healthcare professionals being more attuned to the psychological needs of women who have undergone ART (6). Tailored interventions should be introduced to offer appropriate psychological support to these women (6).

More researches need to be conducted in this area so that the focus is on non-pharmacological interventions for timely and effective treatment. The following interventions can be used: for psychological well-being, group exercises can be given to the patient to help reduce depression and anxiety and improve emotional well-being. For balance, we can also advise balance exercises to the patient to avoid the risk of falls during pregnancy.

REFERENCES

1. Radhika K. Shingala *1 , Manali Desai 2 , Priyanka Honkalas 3 , Ajay Kumar. Evaluation Of Postural Balance In Third Trimester Pregnancy. *International Journal Of Physiotherapy And Research*, Int J Physiother Res 2019, Vol 7(4):3109-12. ISSN 2321-1822
DOI: <https://dx.doi.org/10.16965/ijpr.2019.11>
2. Lynne S. Wilcox, M.D., M.P.H.* Herbert B. Peterson, M.D.T Florence P. Haseltine, Ph.D., M.D.:J: Mary C. Martin, M.D.§Defining And Interpreting Pregnancy Success Rates For In Vitro Fertilization FERTILITY AND STERILITY Copyright " 1993 The American Fertility Society Vol. 60, No. 1, July 1993 Printed On Acid-Free Paper In U. S. A.
3. Emilia F Cárdenas, Autumn Kujawa, Kathryn L Humphreys, Neurobiological Changes During The Peripartum Period: Implications For Health And Behavior, *Social Cognitive And Affective Neuroscience*, Volume 15, Issue 10, October 2020, Pages 1097–111
4. Globevnik Velikonja V, Lozej T, Leban G, Verdenik I, Vrtačnik Bokal E. The Quality Of Life In Pregnant Women Conceiving Through In Vitro Fertilization. *Zdr Varst*. 2015;55(1):1-10. Published 2015 Dec 16. Doi:10.1515/Sjph-2016-0001
5. Dr. Sanjay Kumar Nayak¹, Rinku Poddar², Dr. Masroor Jahan³ Psychological Problems During Advance Stage Of Pregnancy. *The International Journal Of Indian Psychology* | ISSN 2348-5396 Volume 2, Issue 2, Paper ID: B00313V2I22015 [Http://www.ijip.in](http://www.ijip.in) | January To March 201
6. Huang Et Al Psychological Health Of Women Who Have Conceived Using Assisted Reproductive Technology In Taiwan: Findings From A Longitudinal Study Huang Et Al. *BMC Women's Health* (2019) 19:97 <https://doi.org/10.1186/S12905-019-0801-7>