



# Bio-Psycho-Social-Vocational causative risk factors and their management among women with primary infertility; A concept review

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**Abstract:** Infertility can have a significant impact on the affected individuals and their families as well. It is imperative to understand the various bio-psycho-socio-vocational causative factors among women with primary infertility. This review gives an insight into look at the various bio-psycho-socio-vocational causative factors and their management. In addition, this review suggests the significance of multidisciplinary team tailor-made interventions. This review Reproductive health care professionals can consider the implications of looking beyond the symptomatology and incorporating multidisciplinary team interventions in infertility treatment. This Bio-Psycho-Socio-Vocational framework helps us to examine the infertility issue from various causative factors.

Every couple or spouse desires the birth of a kid who will carry on their heritage. Some couples experience difficulties becoming pregnant due to a variety of issues. Infertility is a condition when couples are unable to conceive even after engaging in sexual activity 2-3 times per week for a whole year without the use of any form of contraception.<sup>1</sup> Regardless of the outcome, infertility might be "primary," which is the condition of never becoming pregnant, or "secondary," which is the condition of having once become pregnant. The male factor (also known as the male factor) or the female factor (also known as the female factor) or both may be to blame for its occurrence.<sup>2</sup> According to the World Health Organisation (2013), 48.5 million couples worldwide struggle with infertility. When it comes to India, based on a very recent community-based cross-sectional study the overall prevalence of primary infertility among reproductive age group women was 8.9% (51/570).<sup>3</sup> Infertility is a common problem in poor nations. It gets to 30%, In contrast, just 5-8% of people in industrialized

nations are infertile. Both men and women can contribute to infertility. Male infertility is caused by 30–40% of variables, compared to female infertility which is caused by 60–70% of factors.<sup>4</sup>

Since infertility problems are not just a medical problem but also an economic and psychological one, infertility concerns are still one of the most significant, severe, and frightening issues. Infertility takes a heavy toll on couples and their families on a physical, emotional, and financial level.<sup>5</sup> In order to understand the significance of forces from the outside or from the inside, important Bio-Psycho-Social models are studied. Additionally, biological, psychological, and social variables could play a role in infertility. The Bio-Psycho-Social model gives an insight into look at the interconnection between biological, psychological, and social factors.

As per this model, any medical condition is not only due to the medical factors but also due to the psychological and social factors. Hence, the interaction of biological, psychological, and social factors are causative for the development of any illness.<sup>6</sup> If we look at the possible causative risk factors of primary infertility among women adopting this model would give us a holistic approach. This holistic approach would help us to both identify the causative risk factors as well as the possible interventions/management for primary infertility among women. Many research articles across the globe have stressed the association between vocational factors and infertility,<sup>7</sup> hence, for a comprehensive understanding, we have also included the vocational factors which are another prominent causative factor for infertility.

### **Causative Bio-Psycho-Socio-Vocational factors and their management among women with primary infertility:**

The gynaecologist's chosen method of intervention for the treatment of infertility is typically either medical or, and surgical. Women with Primary Infertility (WwPI) face additional and unique complications compared to men with infertility. As a result, compared to other chronic illnesses, WwPI would necessitate added care and Bio-Psycho-Socio-Vocational (BPSV) management. In this context, there is a scarcity of healthcare experts such as gynaecologist's, reproductive endocrinologists, reproductive immunologists, andrologists, reproductive surgeons, reproductive psychologists, medical social workers, and counsellors who can assess BPSV concerns and provide tailored BPSV management.

Healthcare professionals play an imperative role in providing BPSV interventions to WwPI and their families to improve their quality of life by changing their knowledge, attitude, and practice regarding infertility and its associated concerns and their management. Given the precise nature of BPSV issues among WwPI in their reproductive years, there is a necessity to look beyond symptomatology and illness while providing care. The illness-specific BPSV causative factors/issues has mentioned in Table No. 01. We need to understand the BPSV causative factors from intrapersonal (WwPI) and interpersonal (primary and secondary social support systems) dimensions for a holistic point of view. The interplay of the intrapersonal and interpersonal factors has mentioned in Table No. 02.

The tailored BPSV interventions would address the said BPSV issues to improve WwPI and their families' quality of life. Women (WwPI), families (caregivers, spouses, family of origin, and family of procreation), and communities should all be targeted for the required interventions. The tailored BPSV interventions will be delivered at various levels such as individual level (WwPI), family level (caregivers, spouses, family of origin, and family of procreation), and community level. The list of BPSV interventions has mentioned in Table No 03. A few factors to take into account for a good outcome include using female counsellors (if necessary), keeping privacy and secrecy, interview room settings, and WwPI terminology. The Counsellors should be available at all primary healthcare clinics, district hospitals, and private hospitals for discussions about the BPSV concerns that affect WwPI. Sensitizing health-care professionals involved in the management of infertility (gynaecologist's, reproductive endocrinologists, reproductive immunologists, andrologists, reproductive surgeons, reproductive psychologists, medical social workers, and counsellors) about the several BPSV issues and the impact of providing BPSV interventions timely on the quality of life among WwPI in reproductive years will also need to be considered.

The importance of BPSV variables on WwPI illness, treatment, recovery, and outcomes is predominantly significant for reproductive health care professionals. A medical social worker focuses on the PSV factors that are causative toward the precipitating and maintaining of the infertility behavior and its consequences. Making a personalized intervention to address the difficulties related to it for the treatment of infertility and their well-being while identifying interrelated variables linked to the problems of WwPI. Early identification of the BPSV issues and addressing their issues by providing appropriate tailor-made interventions would benefit WwPI and enhance their quality of life.

**Conclusion:** It is imperative to understand the various bio-psycho-socio-vocational causative factors among women with primary infertility. Reproductive health care professionals address the needs and support the women with primary infertility and their families. This review gives an insight into the various bio-psycho-socio-vocational causative factors and their management. This review also highlights the significance of timely multidisciplinary team tailor-made interventions. Reproductive health care professionals can consider the implications of looking beyond the symptomatology and incorporating multidisciplinary team interventions in infertility treatment.

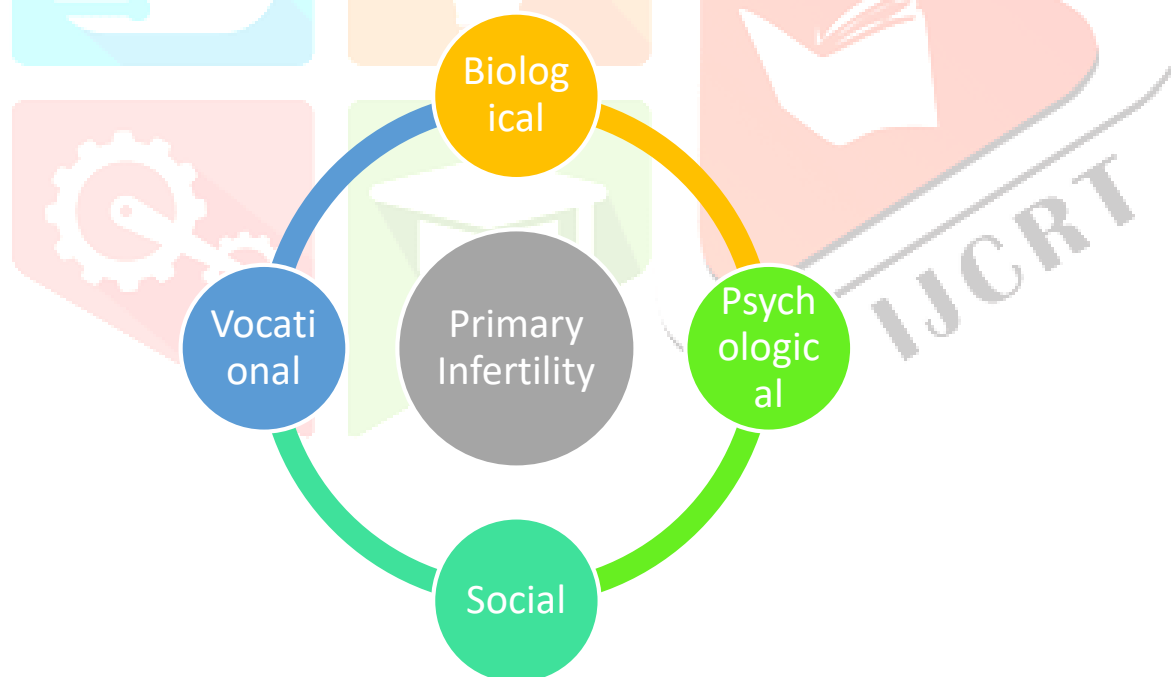
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There are no conflicts of interest

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**Figure No 01 Causative Bio-Psycho-Socio-Vocational factors among women with primary infertility**



**Table No 01 Causative Bio-Psycho-Socio-Vocational factors among women with primary infertility**

Biological	Psychological	Social	Vocational
Failure to Ovulate	Low self-esteem	Aging	Type of occupation
Problems in the Menstrual Cycle	Poor coping skills	Type of family	Occupational stress
Structural Problems of the Reproductive System	Poor problem-solving skills	Domicile	High workload
Infections	Poor stress management	Low education status	Irregular working shifts
Failure of an Egg to Mature Properly	Poor help seeking behaviour	Poor socio-economic status	Poor work life balance
Implantation Failure	Cognitive distortions	Poor social support system	
Endometriosis	Emotional dysregulation	Inter-personal relationship issues	
Polycystic Ovary Syndrome (PCOS)	Perceived infertility stress	Poor marital adjustment	
Primary Ovary Insufficiency (POI)	Illness anxiety	Poor spousal emotional support	
Uterine Fibroids	Depression	Financial constraints	
A past ectopic (tubal) pregnancy	Anger outburst	Excessive exercises	
Autoimmune Disorders	Post traumatic stress experiences	Smoking	
Undergoing chemotherapy, radiotherapy		Drinking	
Tumors		Timing and Frequency of Sexual Intercourse	
Other co-morbid conditions		Other substance abuse	
Unhealthy body weight		Sedentary lifestyle	
Sexually transmitted diseases		Social isolation	
Genetic disorders		Poor quality of life	
Poor diet		Cultural, and religious beliefs	

**Table No 02 Intrapersonal and Interpersonal factors among women with primary infertility**

Intrapersonal	Interpersonal
<ul style="list-style-type: none"> <li>• Inadequate biological conditions</li> <li>• Mental health disorders</li> <li>• Poor psychological well-being</li> <li>• Risk socio-demographic conditions</li> <li>• Maladaptive state</li> </ul>	<ul style="list-style-type: none"> <li>• Inter-personal relationship issues</li> <li>• Poor marital adjustment</li> <li>• Poor spousal emotional support</li> <li>• Inadequate primary and secondary social support</li> <li>• Poor family dynamics</li> </ul>

**Table No 03 Bio-Psycho-Socio-Vocational Interventions among women with primary infertility**

Individual level	Family level	Community level
Medical treatment	Psycho-education	Conducting workshops, seminars
Surgical treatment	Supportive psychotherapy	Stakeholder involvement
Pharmacological management	Addressing the caregiver burden	Policy level changes
Ovulation induction	Family counselling	Community support
Assisted reproductive technologies (ART)	Marital counselling	Affordable, accessible, available health care services
In-vitro fertilisation (IVF)	Teaching healthy coping skills	
Gamet intrafallopian tube transfer (GIFT)	Teaching problem-solving skills	
Zygote intrafallopian transfer (ZIFT)	Strengthening family bond	
Intracytoplasmic sperm injection	Relaxation exercises	
Controlled ovarian hyperstimulation	Mindful techniques	
Intrauterine insemination	Referring to a mental health care professional	
Surrogacy		
Genetical counselling		
Psychoeducation		

Supportive psychotherapy		
Cognitive behavior therapy		
Rational emotive behavior therapy (REBT)		
Stress management		
Teaching healthy coping skills		
Teaching problem-solving skills		
Work-life balance management		
Skilled occupation		
Enhancing social support system		
Relaxation exercises		
Mindful techniques		
Referring to a mental health care professional		

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