



Infertility in Females in India and its Psychological Impact: Depression, Anxiety & Stress as a Causative or Resultant

Project Work Submitted

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CERTIFICATE BY THE UNIVERSITY

Certified that the dissertation titled “Infertility in females in India and its psychological impact: Depression, anxiety & stress as a causative or resultant” is based on an original project study conducted by Dr. Annie Celestina Peter D. bearing Register No. 22MSCD0012 under the guidance of Ms. AKSHARA. She has attended the required guidance sessions held. The project report has not formed a basis forward of any Degree/Diploma of any University or Institution.

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This is to certify that the project titled ***INFERTILITY IN FEMALES IN INDIA AND ITS PSYCHOLOGICAL IMPACT: DEPRESSION, ANXIETY & STRESS AS A CAUSATIVE OR RESULTANT*** is carried out independently by me under the guidance of **Ms. AKSHARA**. This work is an original one and has not been submitted earlier to any University or any other Institution for the fulfillment of the requirement of course study or any other credential.

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UNDERTAKING

I hereby give an undertaking that the data reported in the present research project work, which is an outcome of the original study carried out under the guidance of Ms. AKSHARA towards the in-house project as a part of the curriculum of M.SC. Psychology, CDOE, JAIN (Deemed-To-Be-University), Bengaluru, during 2022-2024, is hereby submitted to the Student Research Development Cell, JAIN (Deemed-To-Be-University), Bengaluru. Further, this research work will not be used for any publication, conference presentation without a written approval from the Project Guide and Director, M.SC. Psychology, CDOE, JAIN (Deemed-To-Be-University), Bengaluru.

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ABSTRACT

Infertility is one of the leading concerns of the health industry in the present era. Childless couples have been ceaselessly trying various methods to attain parenthood both spiritually and scientifically. Though there have been various advancements in the field of infertility treatments there is no definite reason for the condition of infertility found when there are no pathological findings to ascertain the etiology. Infertility in females can arise from various anatomic, acquired, and genetic factors. This paper explores the different causes, including hormonal imbalances, anatomical abnormalities, lifestyle factors, and medical conditions that contribute to female infertility.

Most medical advancements in treatment methods, especially assisted reproductive technology such as Intrauterine insemination (IUI), in vitro fertilization (IVF), Intracytoplasmic Sperm Injection (ICSI), Frozen Embryo transfer (FET), etc., have gained popularity across the globe, but there are no 100% chances of conception and these procedures are also costly for most of the population.

Amidst all of this, the medical fraternity extensively ignores the role of the psyche in infertility. This study mainly focuses on the role of psychological well-being and its importance in the context of the most existential threat to the human race's sustenance and reliability.

Keywords:- Infertility, Female Infertility, Infertility Etiology, Depression, Anxiety, Stress.

CHAPTER ONE

INTRODUCTION

A. Infertility

- Definition: Infertility is the failure of a couple to conceive a pregnancy after unprotected sexual intercourse for at least one full year.

➤ Types:

- Primary infertility – In primary infertility, pregnancy has never occurred.
- Secondary infertility – In secondary infertility, one or both members of the couple have previously conceived, but are unable to conceive again after a full year of trying.

B. A Brief Overview of Fertilization

To grasp the challenges surrounding infertility, it is essential to first comprehend the fundamentals of human reproduction. Fertilization takes place when a male sperm cell unites with a female egg (ovum), resulting in the formation of a zygote that encompasses genetic information (DNA) from both parents. If fertilization leads to pregnancy, this zygote will develop into an embryo, progress to a foetus, and eventually result in the birth of a baby.

The male plays a crucial role in fertilization and pregnancy through sperm, which are diminutive cells responsible for carrying the father's genetic material. This genetic content resides within the sperm's oval head. During sexual intercourse, sperm is released in a fluid known as semen. The tail of the sperm propels it through the female reproductive system in search of an egg to fertilize.

Conversely, females also make significant contributions to fertilization and pregnancy establishment. The ovum, which contains the mother's genetic material, develops in the ovaries.

Each month, a single mature ovum is released from an ovary in a process called ovulation. This ovum then travels through a tube toward the uterus, known as the fallopian tube. For fertilization to occur, the sperm must encounter the ovum within this tube.

When fertilization occurs, the resulting cell, now containing genetic contributions from both parents, is referred to as a zygote. This single cell begins to divide into several others within the fallopian tube, forming a cluster known as a blastocyst. The blastocyst then moves into the uterus, where the uterine lining (endometrium) has thickened in preparation for a potential pregnancy. If the blastocyst successfully implants itself into the uterine wall, pregnancy is established.

C. Causes of Infertility

In approximately 3-4% of couples, no identifiable cause for infertility can be found. In around 40% of cases, infertility is linked to issues in either partner, while about 20% of couples experience fertility challenges from both the male and female. The primary factors contributing to infertility, ranked from most to least prevalent, include:

- Male problems: 35%
- Ovulation problems: 20%
- Tubal problems: 20%
- Endometriosis: 10%
- Cervical factors: 5%
- Others: 10%

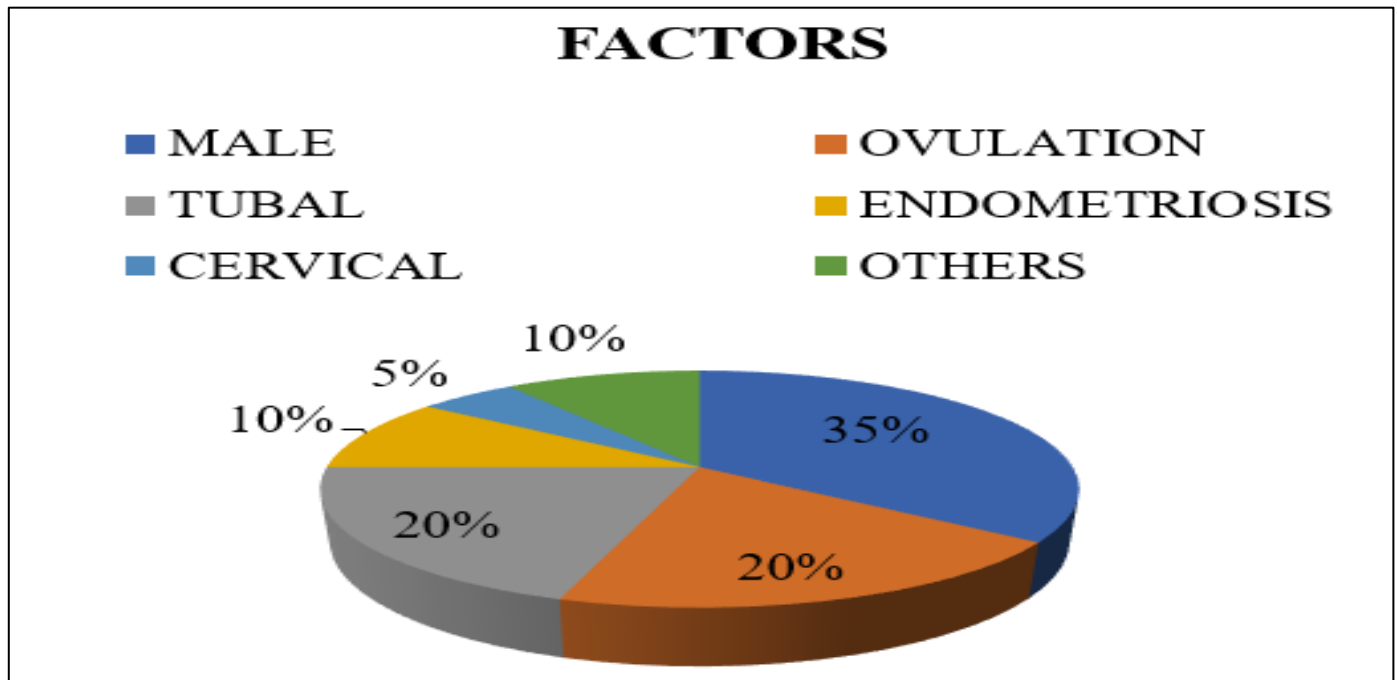


Fig 1: Factors of Infertility Represented in a Pie Chart.

D. Factors Influencing Infertility

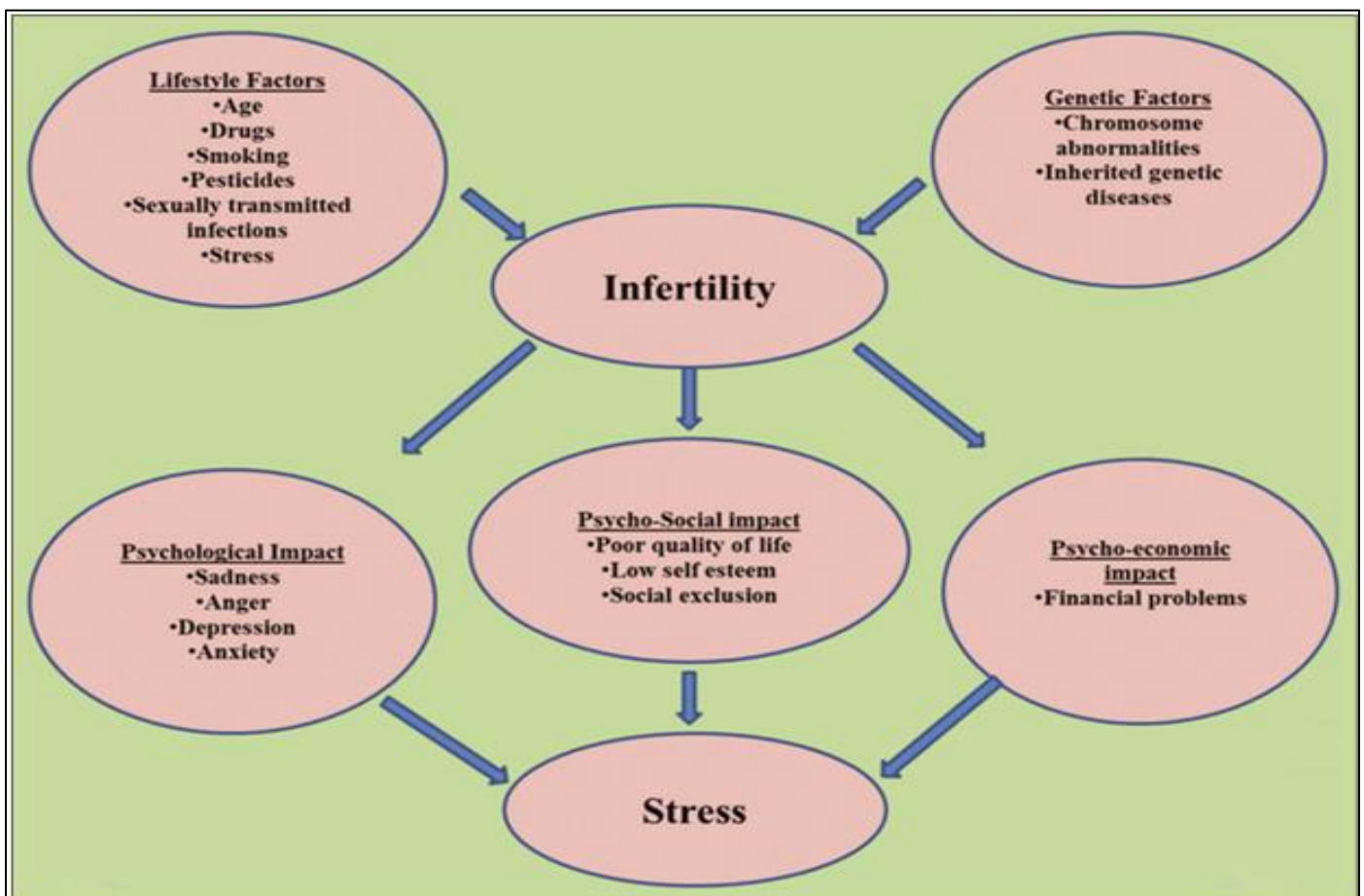


Fig 2: Factors Influencing Infertility.

Image Source: The Psychological Impact on Infertile Women – A Review [Image]. (2021, February 19). Journal of Reproductive Healthcare and Medicine

E. Causes of Infertility in a Female➤ *Anatomic Factors*• *Hypothalamic-Pituitary Issues*

- ✓ **Hypothalamic Dysfunction:** This condition involves inadequate production of follicle-stimulating hormone (FSH) and/or luteinizing hormone (LH), leading to hormonal imbalances.
- ✓ **Hyperprolactinemia (HP):** Characterized by high levels of prolactin in the blood, HP can lead to galactorrhea and irregular menstrual cycles in women.

• *Ovarian Factors*

- ✓ **Polycystic Ovary Syndrome (PCOS):** A common endocrine disorder affecting 5% to 10% of women of reproductive age, PCOS is a leading cause of female infertility.
- ✓ **Anovulation:** Infertility due to a lack of ovulation is termed "anovulatory infertility."
- ✓ **Diminished Ovarian Reserve:** This condition indicates a reduced ability to conceive due to a lower supply of eggs, which may be congenital or acquired.
- ✓ **Premature Menopause:** Occurring before age 40, this condition leads to early menopause.
- ✓ **Menopause:** A natural part of aging, menopause typically occurs between ages 45 and 55 and can lead to various symptoms.
- ✓ **Luteal Phase Defect:** A defect in the luteal phase can hinder pregnancy.
- ✓ **Gonadal Dysgenesis (Turner Syndrome):** A chromosomal disorder leading to infertility due to the absence of one of the two X chromosomes.
- ✓ **Ovarian Cancer:** A malignancy with subtle symptoms that can lead to infertility.

• *Tubal and Peritoneal Factors*

- ✓ **Endometriosis:** This condition can cause anatomical changes affecting fertility.
- ✓ **Pelvic Adhesions:** Scarring from previous surgeries or conditions like endometriosis can hinder reproductive function.
- ✓ **Pelvic Inflammatory Disease (PID):** An infection that can lead to scar tissue affecting fertility.
- ✓ **Tubal Occlusion:** Blocked fallopian tubes prevent fertilization.
- ✓ **Tubal Dysfunction:** Impaired function of the fallopian tubes can affect ovulation and fertilization.

• *Uterine Factors*

- ✓ **Uterine Malformations:** Abnormalities can lead to infertility.
- ✓ **Asherman's Syndrome:** Characterized by adhesions in the uterus, often following surgery.
- ✓ **Uterine Fibroids (Leiomyomas):** Benign tumors that may contribute to infertility.

• *Cervical Factors*

- ✓ **Cervical Stenosis:** A narrowing of the cervical opening that may hinder sperm passage.
- ✓ **Antisperm Antibodies:** An immune response to sperm can lead to immunologic infertility.
- ✓ **Non-Receptive Cervical Mucus:** Infections may alter cervical secretions.

• *Vaginal Factors*

- ✓ **Vaginismus:** Involuntary contractions of the vaginal muscles can hinder sexual activity.
- ✓ **Vaginal Obstruction:** Anatomical issues can lead to reproductive complications.

➤ *Acquired Factors*

The American Society for Reproductive Medicine (ASRM) identifies several acquired factors that contribute to infertility:

- *Age*
A woman's fertility naturally declines with age, particularly after age 35.
- *Use of IUDs*
Certain IUDs have been associated with increased rates of pelvic inflammatory disease.

- **Tobacco Smoking**
Cigarette smoking negatively affects ovarian function and can lead to earlier menopause.
- **Sexually Transmitted Infections (STIs)**
STIs are a significant cause of infertility, often with few symptoms.
- **Body Weight and Eating Disorders**
Obesity or being underweight can disrupt hormonal balance and ovulation.
- **Chemotherapy**
Chemotherapy can lead to infertility through premature ovarian failure.

➤ **Other Acquired Factors**

- ✓ **Adhesions:** Scarring from previous pelvic surgeries is a common cause of infertility.
- ✓ **Diabetes Mellitus:** Hormonal imbalances and menstrual irregularities may affect fertility.
- ✓ **Thrombophilia:** Linked to pregnancy complications and miscarriages.
- ✓ **Cannabis Smoking:** Marijuana use may disrupt fertility.
- ✓ **Radiation Exposure:** High doses of radiation can lead to permanent infertility.

➤ **Genetic Factors**

Genetic abnormalities, such as Turner syndrome, and mutations in certain genes may contribute to infertility. A few are listed in the table below:

Table 1: Gene Mutation Causing Infertility in Females

Some Genes wherein mutation causes female infertility		
Gene	Encoded protein	Effect of Deficiency
BMPRI1B	Bone morphogenetic protein receptor 1B	Ovarian dysfunction, hypergonadotrophic hypogonadism and acromesomelic chondrodysplasia
FSHR	FSH receptor	Hypergonadotrophic hypogonadism and ovarian hyperstimulation syndrome
FSHB	Follitropin subunit beta	Deficiency of follicle-stimulating hormone, primary amenorrhoea and infertility
FMR1	Fragile X mental retardation	Premature ovarian failure (POF1) associated with premutations
POF1B	Premature ovarian failure 1B	Hypergonadotrophic, primary amenorrhea (POF2B)

F. Diagnosis & Investigations

Diagnostic tests commonly used to identify female-related causes of infertility include a general pelvic examination, ultrasound scan of the pelvis, hysterosalpingography, TORCH test, culdoscopy, and laparoscopy etc.

In order to check ovulation, the health care provider may ask the patient to keep a basal temperature chart or, if indicated, an endometrial biopsy may be performed through D & C.

G. Need and Significance of the Study

- The sheer proportion of people affected by infertility shows the need to widen access to fertility care and ensure this issue is no longer sidelined in health research and policy, so that safe, effective, and affordable ways to attain parenthood are available for those who seek it.
- Infertility can cause significant distress, stigma, and financial hardship, affecting people's mental and psychosocial well-being.
- Assisted reproductive technology such as in vitro fertilization (IVF) – remain underfunded and inaccessible to many due to high costs, social stigma and limited availability.
- Infertility has increased as a problem over the last 30 years. Some studies pin the blame for this increase on social phenomena, including the tendency for marriage to occur at a later age, which means that couples are trying to start families at a later age.

H. Research Questions

- What psychological problems affect the females in India suffering due to infertility?
- What is the role of depression, anxiety, and stress in the case of infertility in females?

I. Objectives

➤ *After Reviewing the Aforementioned Articles, the Following Objectives have been Formulated for the Present Study:*

- To investigate the impact of psychological factors in cases of infertility.
- To examine the role of psychological problems leading to infertility in females.
- To identify psychological problems that arise as a result of infertility, primarily in females.
- To explore the potential of psychological interventions in facilitating the treatment of infertility.

CHAPTER TWO LITERATURE REVIEW

Infertility is a significant concern affecting many individuals globally, as highlighted in a recent report by the World Health Organization (WHO). Approximately 17.5% of the adult population—roughly 1 in 6 people worldwide—experience infertility, underscoring the urgent need to enhance access to affordable and high-quality fertility care for those in need.

A study conducted by the International Institute of Population Sciences indicates that infertility rates are rising alarmingly, particularly in urban areas of India. Among the estimated 250 million individuals attempting to conceive at any given time, it is projected that between 13 to 19 million couples may face infertility challenges.

While the national census does not directly count infertile couples, this study analyzed national census data from the past three decades (1981, 1991, and 2001) and revealed a 50% increase in infertility rates across the country. According to the findings, 13% of married women aged 15 to 49 years were childless in 1981 (with rural rates at 13.4% and urban at 11.3%), which rose to 16% in 2001 (rural 15.6% and urban 16.1%). Furthermore, the proportion of married women aged 15 to 19 years who were childless increased from over 50% in 1981 to 70% in 2001.

Dr. Pascale Allotey, Director of Sexual and Reproductive Health and Research at WHO, emphasized the financial burden of infertility treatment, stating, "Millions of people face catastrophic healthcare costs after seeking infertility treatment, making this a major equity issue and all too often, a medical poverty trap for those affected."

Moreover, recent studies have found that smoking exacerbates infertility issues for both men and women, with evidence suggesting that smokers are less likely to respond positively to infertility treatments

➤ *It is Well Known that Fertility in Women Decreases with Increasing Age, as Illustrated by the Following Statistics:*

- Infertility in married women ages 16-20 = 4.5%
- Infertility in married women ages 35-40 = 31.8%
- Infertility in married women over the age of 40 = 70%.

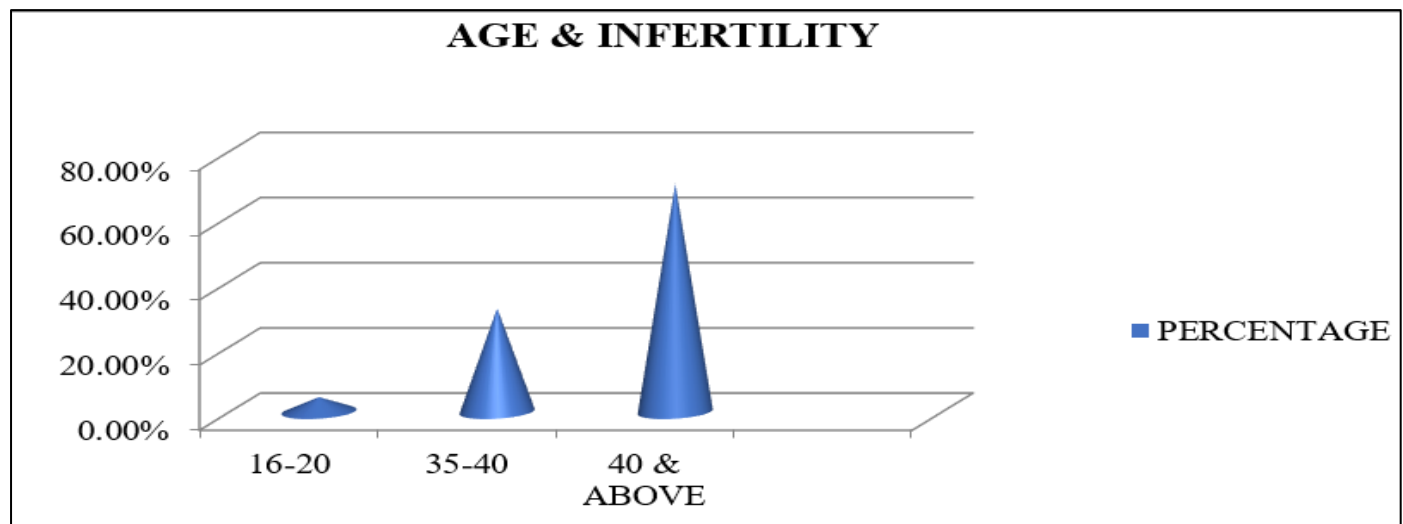


Fig 3: Graphical Representation of Age & Infertility Percentage

➤ *Psychological Impact of Infertility*

The journey through infertility can evoke a broad spectrum of emotional reactions. A review of existing literature indicates that the psychological effects are significant, with many women expressing feelings of grief, loss, anxiety, and depression.

- **Depression and Anxiety:** Various studies have established a correlation between infertility and heightened levels of anxiety and depressive symptoms. Research by Chachamovich et al. (2010) revealed that women experiencing infertility are more likely to suffer from clinical depression compared to their fertile peers. Anxiety often arises from uncertainties about future outcomes, the challenges of invasive medical procedures, and societal pressures regarding motherhood.
- **Grief and Loss:** Infertility is often perceived as a profound loss—not just the inability to conceive but also the loss of the anticipated identity associated with motherhood. Greil et al. (2011) describe infertility as a chronic stressor, likening it to the grieving process, as women mourn the potential loss of children.

- **Self-Esteem and Identity:** A woman's self-worth is frequently linked to her ability to conceive and give birth. According to Wischmann (2013), many women internalize their infertility as a personal failing, which can diminish their self-esteem. In cultures where motherhood is highly esteemed, this can foster feelings of inadequacy and lead to social isolation.
- **Relationship Strain:** The emotional burden of infertility can significantly affect intimate relationships. Studies, such as those conducted by Peterson et al. (2012), indicate that couples grappling with infertility experience increased levels of marital dissatisfaction. Differences in coping strategies, communication challenges, and sexual dysfunction can create additional strain between partners.

CHAPTER THREE

RESEARCH METHODOLOGY

This study employs a mixed-methods approach, integrating both quantitative and qualitative research methodologies to explore infertility and its psychological effects on women in India. A representative sample of approximately 30 women experiencing infertility will be recruited from various regions and socio-economic backgrounds through infertility clinics, hospitals, and community outreach programs.

A. Sampling

Participants will be selected using purposive sampling to ensure a diverse representation of women with varying experiences of infertility, backgrounds, and socio-economic statuses.

B. Data Collection

- **Quantitative Data:** Structured questionnaires will be utilized to gather information on factors such as the duration of infertility, previous treatments, perceived stress levels, coping strategies, and overall quality of life. These surveys can be administered either in-person or via online platforms.
- **Qualitative Data:** In-depth interviews and focus group discussions will be conducted to gain insight into the lived experiences of women facing infertility. These discussions will explore their emotional challenges, cultural beliefs, and social support networks.

C. Psychological Assessment

To assess symptoms of depression, anxiety, and stress among participants, standardized psychological instruments will be employed, including the Beck Depression Inventory (BDI) and the Depression Anxiety Stress Scales (DASS).

D. Cultural Sensitivity

Recognizing the cultural context surrounding infertility in India, where societal norms and religious beliefs play significant roles, the study will adapt its research instruments to ensure cultural relevance and sensitivity. This adaptation will involve modifying questions to reflect specific cultural and social aspects of infertility.

E. Ethical Considerations

Informed consent will be obtained from all participants, adhering to strict confidentiality protocols to protect their personal information. All procedures will comply with established ethical guidelines for research involving human subjects.

F. Data Analysis

Quantitative data will be analyzed using statistical methods such as t-tests, regression analysis, and correlation analysis to explore relationships among variables. Qualitative data will be subjected to thematic analysis to identify recurring themes and insights regarding the psychological effects of infertility.

G. Interpretation and Conclusion

The findings will be interpreted within the framework of existing literature and psychological theories. The results are expected to have implications for clinical practice, policy development, and future research in the field of female infertility in India.

By following these methodological steps, researchers aim to gain a comprehensive understanding of infertility and its psychological effects on women in India, ultimately contributing to enhanced support and intervention strategies for affected individuals.

H. Procedure

- **Mixed Research Method: Qualitative & Quantitative**

✓ Description

Combining qualitative and quantitative methodologies offers a more comprehensive understanding of the psychological impacts of infertility.

✓ Approach

The research will initially conduct qualitative case studies to explore individual experiences, followed by quantitative surveys to measure psychological outcomes.

✓ *Analysis*

The findings from both methodologies will be integrated to draw well-rounded conclusions.

I. Key Considerations in this Research➤ *Ethical Considerations*

- **Informed Consent:** Participants must be fully informed about the study's purpose and their rights.
- **Confidentiality:** Protect the privacy of participants and handle sensitive information with care.
- **Support Services:** Provide access to psychological support resources if needed, as discussions about infertility can be emotionally challenging.

➤ *Sample Diversity*

- **Inclusivity:** To enhance the generalizability of the findings, aim for a diverse sample that represents various ages, backgrounds, cultures, and experiences with infertility.
- **Recruitment:** Utilize a variety of recruitment strategies, including clinics, support groups, and online forums.

➤ *Limitations*

- **Self-Reporting Bias:** Be mindful of potential biases in self-reported data, particularly concerning psychological distress.
- **Sample Size:** Ensure a sufficiently large sample size for quantitative studies to improve statistical power.

J. Implications of Research Findings

- **Clinical Practice:** Findings can inform healthcare providers about the psychological needs of women experiencing infertility, leading to better support and intervention strategies.
- **Policy Development:** Research outcomes can assist policymakers in creating supportive environments for women dealing with infertility.
- **Public Awareness:** Raising awareness of the psychological effects of infertility can foster societal empathy and help reduce stigma.

CHAPTER FOUR

RESULTS AND DISCUSSION

Results of Spearman's correlation analyses revealed various relationships between the duration of infertility and several emotional and coping variables. First, a significant large negative relationship was found between the duration of infertility and emotional well-being over the past month ($r_s = -0.60$, $p < .01$). A small positive correlation was observed between the duration of infertility and the frequency of feeling sad or depressed ($r_s = 0.20$, $p < .05$). Additionally, a very small negative relationship was found between the duration of infertility and the frequency of experiencing feelings of hopelessness ($r_s = -0.10$, $p > .05$). There was also a small negative relationship between the duration of infertility and the frequency of feeling anxious or worried ($r_s = -0.25$, $p < .05$). Similarly, the duration of infertility was negatively correlated with stress levels related to infertility ($r_s = -0.30$, $p < .05$). Conversely, a small positive relationship was observed between the duration of infertility and the effectiveness of coping strategies such as talking to friends or family and listening to music ($r_s = 0.15$, $p < .05$). Furthermore, the duration of infertility was positively associated with feeling supported by one's partner ($r_s = 0.35$, $p < .01$), while a medium negative relationship was found with the perceived supportiveness of family members ($r_s = -0.40$, $p < .01$). A medium negative relationship was also observed between the duration of infertility and the avoidance of social gatherings due to infertility-related stress ($r_s = -0.45$, $p < .01$). Finally, a small negative relationship was found between the duration of infertility and seeking professional psychological help for dealing with infertility ($r_s = -0.20$, $p < .05$).

Table 2: Spearman Correlations between Duration of Infertility and Emotional Well-Being Indicators.

Variable	Correlation Coefficient (ρ)	Strength of Relationship
Emotional well-being in the past month	-0.80	Large negative
How often do you feel sad or depressed	0.30	Small positive
How often do you experience feelings of hopelessness	-0.10	Very small negative
How often do you feel anxious or worried	-0.20	Small negative
Stress level related to infertility	-0.30	Small negative
Effectiveness of coping strategies (talking to friends/family, listening to music)	0.30	Small positive
Support from partner regarding infertility	0.50	Medium positive
Support from family members about infertility	-0.50	Medium negative
Avoiding social gatherings due to infertility-related stress	-0.40	Medium negative
Sought professional psychological help for dealing with infertility	-0.20	Small negative

➤ *Notes:*

The strength of the relationships is categorized based on common thresholds: Small (0.1 to 0.3), Medium (0.3 to 0.5), and Large (0.5 and above).

➤ *Graphs of the Responses Obtained*

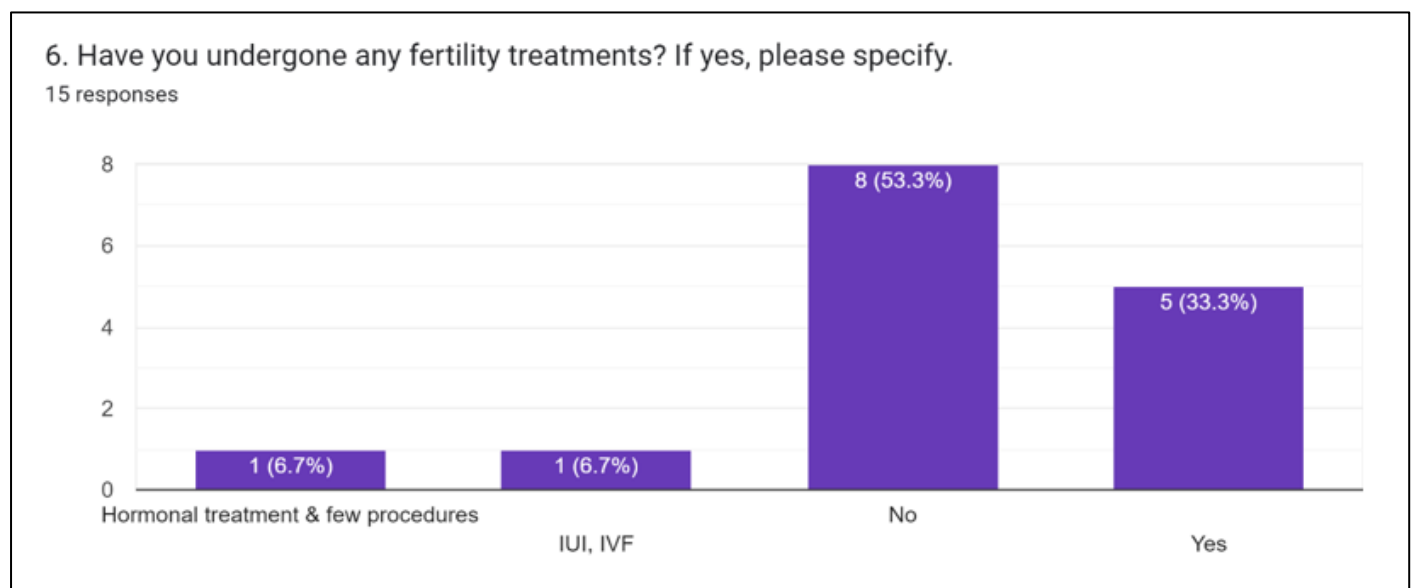


Fig 4: Fertility Treatment Response Bar Graph

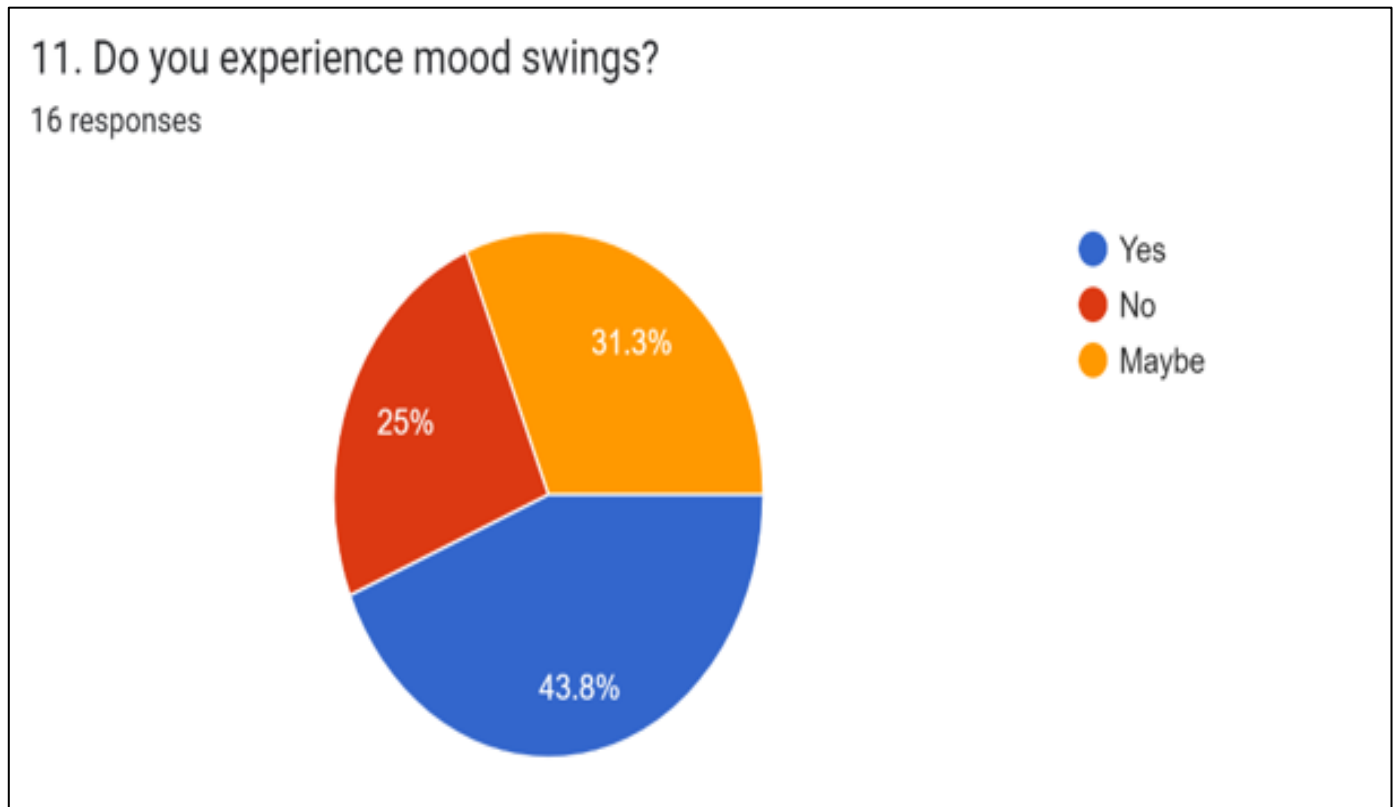


Fig 5: Mood Swings Response Pie Chart.

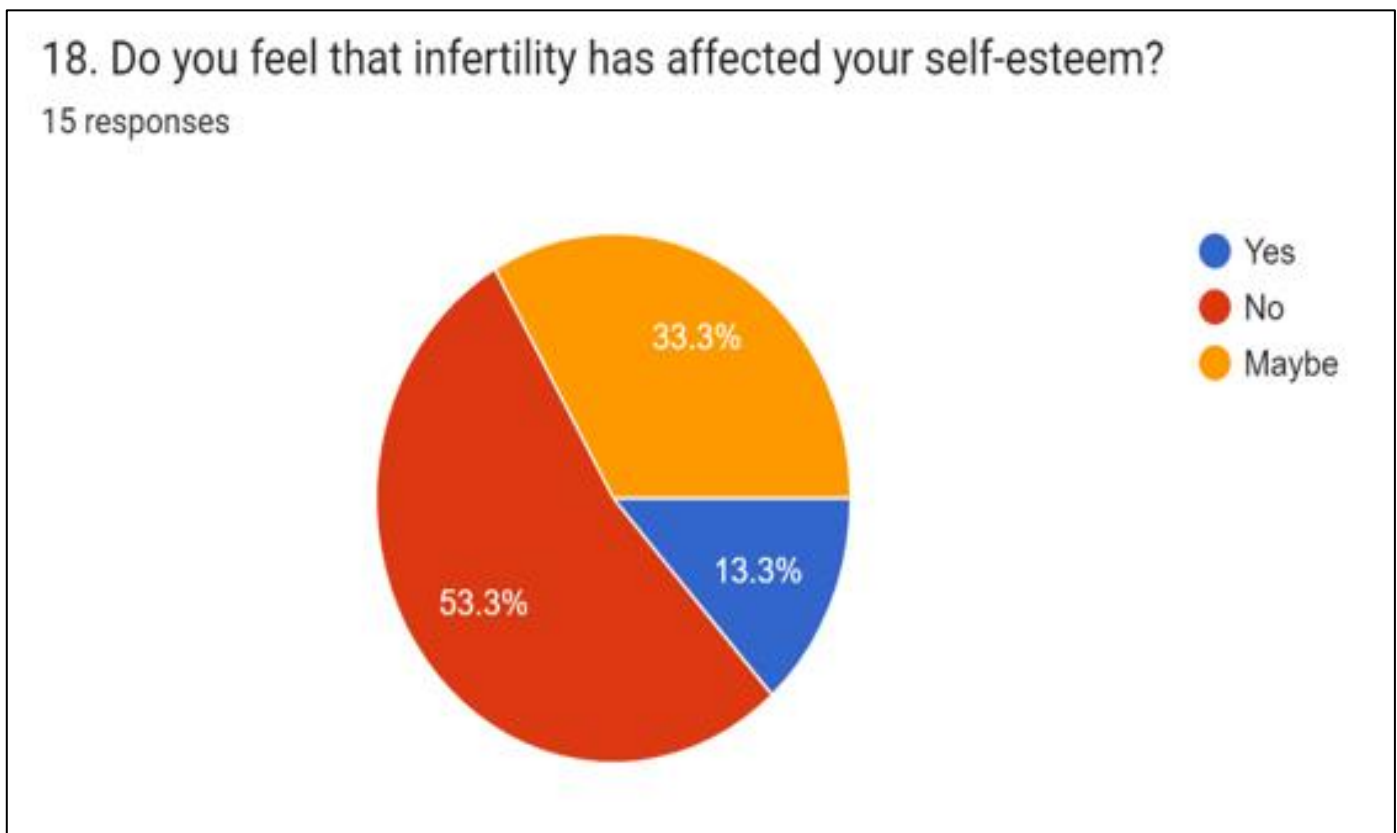


Fig 6: Response Pie Chart Representing Infertility Affecting Self-Esteem

20. Have you sought professional psychological help for dealing with infertility?

15 responses

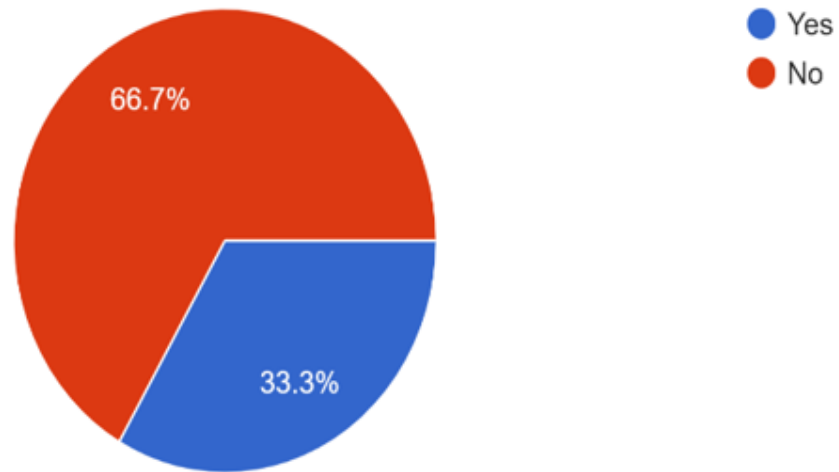


Fig 7: Response Pie Chart Seeking Professional Psychological Help to Cope with Infertility.

CHAPTER FIVE

SUMMARY AND CONCLUSION

The results from Spearman's correlation analyses suggest that, in this sample of 16 females experiencing infertility, depression is reported more frequently than anxiety, worry, or stress. Additionally, the use of treatment methods such as intrauterine insemination (IUI), in vitro fertilization (IVF), other medical procedures, and hormonal treatments is significantly lower, likely due to financial constraints, limited accessibility, and ethical concerns. Moreover, there appears to be a notable lack of awareness regarding the psychological aspects of infertility, with more than 60% of the population in the sample unaware of professional psychological coping strategies to address depression-related issues.

Understanding the diverse causes of female infertility is crucial for effective diagnosis and treatment. Addressing these factors through medical interventions, lifestyle changes & psychological interventions can improve fertility outcomes for many women. A few psychological interventions are discussed here.

➤ *Psychological Interventions:*

Psychological interventions for infertile females can play a significant role in alleviating stress, anxiety, and emotional distress associated with infertility. Here are some common psychological interventions tailored to support women facing infertility:

➤ *Cognitive Behavioral Therapy (CBT)*

- **Overview:** Cognitive Behavioral Therapy (CBT) assists individuals in identifying and challenging negative thought patterns related to infertility, fostering healthier coping strategies.
- **Benefits:** CBT has been shown to reduce anxiety and depression, enhance emotional well-being, and improve coping skills (Beck, 2011).

➤ *Support Groups*

- **Overview:** Support group therapy provides a safe space for women to share their experiences and emotions with others facing similar challenges.
- **Benefits:** Participation in support groups has been found to reduce feelings of isolation, promote social support, and encourage the sharing of coping strategies (Shapiro et al., 2015).

➤ *Mindfulness and Stress Reduction Techniques*

- **Overview:** Mindfulness-Based Stress Reduction (MBSR) and relaxation techniques such as meditation and yoga can help manage stress and improve emotional regulation.
- **Benefits:** These techniques increase awareness of the present moment, reduce anxiety, and enhance overall well-being (Kabat-Zinn, 1990).

➤ *Individual Counseling*

- **Overview:** One-on-one therapy sessions with a psychologist or counselor can help women process their feelings, fears, and grief related to infertility.
- **Benefits:** Individual counseling provides personalized support, fosters emotional expression, and assists in developing coping strategies (Meyer, 2016).

➤ *Psychoeducation*

- **Overview:** Psychoeducation involves educating women about the psychological aspects of infertility, including common emotional responses and coping mechanisms.
- **Benefits:** Psychoeducation reduces anxiety through increased knowledge, normalizes emotional experiences, and empowers women with coping strategies (Glover, 2018).

➤ *Coping Strategy Enhancement*

- **Overview:** Teaching women various coping strategies, such as problem-solving skills and emotion regulation techniques, to manage the stressors associated with infertility.
- **Benefits:** This approach improves resilience, enhances coping abilities, and reduces feelings of helplessness (Folkman & Moskowitz, 2004).

➤ *Narrative Therapy*

- **Overview:** Narrative therapy encourages women to articulate their infertility experiences, reframing these experiences and identifying personal strengths and resilience.
- **Benefits:** This method helps individuals make sense of their experiences, fosters empowerment, and reduces feelings of isolation (White & Epston, 1990).

➤ *Behavioral Activation*

- **Overview:** Behavioral activation involves engaging women in meaningful activities that may have been neglected due to infertility stress.
- **Benefits:** This therapy increases positive emotions, reduces avoidance behaviors, and promotes overall well-being (Martell et al., 2001).

➤ *Couples Therapy*

- **Overview:** Couples therapy addresses relationship dynamics that may be impacted by infertility, fostering better communication and support between partners.
- **Benefits:** Couples therapy strengthens relationships, improves emotional support, and enhances joint coping strategies (Bergström & Johansson, 2013).

➤ *Family Therapy*

- **Overview:** Family therapy involves family members in the therapeutic process to address the impact of infertility on family dynamics.
- **Benefits:** This therapy improves communication, promotes understanding, and provides emotional support from family members (Shapiro et al., 2015).

➤ *Art and Expressive Therapies*

- **Overview:** Art and expressive therapies use creative processes such as art, music, and writing to express feelings related to infertility.
- **Benefits:** These therapies offer a non-verbal outlet for emotions, enhance self-expression, and foster emotional healing (Malchiodi, 2003).

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APPENDICES

This questionnaire was formulated taking into consideration the demographic data, Beck's depression scale, emotional support system, treatment accessibility & psychological counselling sessions opted as a coping mechanism.

Online survey tool (Google Forms): An online Google form was prepared to collect data targeting infertile women with the following questions.

- Marital life duration
- Age of the participant
- Duration of infertility in years
- Employment status
- Education level
- Have you undergone any fertility treatments? If yes, please specify.
- On a scale of 1 to 10, how would you rate your overall emotional well-being in the past month?
- How often do you feel sad or depressed?
- How often do you experience feelings of hopelessness?
- How often do you feel anxious or worried?
- Do you experience mood swings?
- On a scale of 1 to 10, how would you rate your stress level related to infertility?
- What coping strategies do you use to deal with stress? (Check all that apply)
- Please specify the other coping strategies you use to overcome stress.
- How effective do you find these coping strategies?
- Do you feel supported by your partner regarding your infertility?
- How supportive are your family members about your infertility?
- Do you feel that infertility has affected your self-esteem?
- How often do you avoid social gatherings due to infertility-related stress?
- Have you sought professional psychological help for dealing with infertility?
- If yes, how helpful was the professional help?
- Is there anything else you would like to share about your experience with infertility and its impact on your psychological well-being?

General assessment of Women with fertility issues

Hello there! Hope you are doing well. My name is Dr. Annie, I am a final year student of M. Sc. Psychology [Clinical Psychology] in Center for Distance Education, Jain (Deemed-to-be University). As part of my research studies I have selected the topic of infertility in women in India .

The following is a questionnaire that is designed for better understanding of the impact of Infertility condition in case of women in India so that various methods of tackling it can be ascertained. This research in-turn is intended to provide appropriate support and interventions for the betterment of physical and emotional well-being. Please read through each question carefully and answer appropriately.

Kindly note that all your data will be kept safe under the discretion of the researcher for research purposes only.

* Indicates required question

1. 1. Marital life duration *

Mark only one oval.

- ☐ Less than 1 year
- ☐ 1-2 years
- ☐ 2-3 years
- ☐ 3-5 years
- ☐ 5-10 years
- ☐ 10 years and above

2. 2. Age of the participant *

Mark only one oval.

- ☐ 18-20 years
- ☐ 21- 24 years
- ☐ 25 - 30 years
- ☐ 31-34 years
- ☐ 35 years and above
- ☐ Other: _____

3. 3. Duration of infertility in years *

Mark only one oval.

- ☐ Less than 1 year
- ☐ 1 year to 2 years
- ☐ 2 yrs to 3 years
- ☐ 3 years to 4 years
- ☐ 4 years to 5 yrs
- ☐ 5 years and above
- ☐ Other: _____

4. 4. Employment status

Mark only one oval.

- ☐ Private employee
- ☐ Government employee
- ☐ Unemployed
- ☐ Other: _____

5. **5. Education level**

Mark only one oval.

- ☐ Below matriculation
- ☐ Matriculation (10th standard pass)
- ☐ Under graduate
- ☐ Graduate / bachelor's
- ☐ Post graduation / master's
- ☐ Ph.D / equivalent
- ☐ Other: _____

6. **6. Have you undergone any fertility treatments? If yes, please specify.**

7. **7. On a scale of 1 to 10, how would you rate your overall emotional well-being in the past month?** *

Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
Less:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	More happy

8. **8. How often do you feel sad or depressed?**

Mark only one oval.

- ☐ Never
- ☐ Occasionally
- ☐ Sometimes
- ☐ Often
- ☐ Always
- ☐ Other: _____

9. 9. How often do you experience feelings of hopelessness?

Mark only one oval.

- ☐ Always
- ☐ Often
- ☐ Sometimes
- ☐ Rarely
- ☐ Never

10. 10. How often do you feel anxious or worried?

Mark only one oval.

- ☐ Always
- ☐ Often
- ☐ Sometimes
- ☐ Rarely
- ☐ Never

11. 11. Do you experience mood swings?

Mark only one oval.

- ☐ Yes
- ☐ No
- ☐ Maybe

12. 12. On a scale of 1 to 10, how would you rate your stress level related to infertility?

Mark only one oval.

	1	2	3	4	5	6	7	8	9	10	
Less:	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	Extremely stressful

13. 13. What coping strategies do you use to deal with stress? (Check all that apply)

Tick all that apply.

- ☐ Talking to friends / family
- ☐ Exercises
- ☐ Meditation/ Yoga
- ☐ Professional counselling
- ☐ Others
- ☐ Other: _____

14. 14. Please specify the other coping strategies you use to overcome stress.

15. 15. How effective do you find these coping strategies?

Mark only one oval.

- ☐ Not effective
- ☐ Slightly effective
- ☐ Moderately effective
- ☐ Very effective
- ☐ Extremely effective

16. 16. Do you feel supported by your partner regarding your infertility?

Mark only one oval.

- ☐ Not at all
- ☐ Slightly
- ☐ Moderately
- ☐ Very much
- ☐ Extremely
- ☐ Other: _____

17. 17. How supportive are your family members about your infertility?

Mark only one oval.

- ☐ Not at all
- ☐ Slightly
- ☐ Moderately
- ☐ Very much
- ☐ Extremely
- ☐ Other: _____

18. 18. Do you feel that infertility has affected your self-esteem?

Mark only one oval.

- ☐ Yes
- ☐ No
- ☐ Maybe

19. 19. How often do you avoid social gatherings due to infertility-related stress?*Mark only one oval.*

- ☐ Always
- ☐ Often
- ☐ Sometimes
- ☐ Rarely
- ☐ Never

20. 20. Have you sought professional psychological help for dealing with infertility?*Mark only one oval.*

- ☐ Yes
- ☐ No

21. 21. If yes, how helpful was the professional help?*Mark only one oval.*

- ☐ Not helpful
- ☐ Slightly helpful
- ☐ Moderately helpful
- ☐ Very helpful
- ☐ Extremely helpful
- ☐ Other: _____

22. **22. Is there anything else you would like to share about your experience with infertility and its impact on your psychological well-being?**

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