BEHAVIOURAL AND SOCIETAL ASPECTS OF PATIENT'S DROPOUT FOR IVF TREATMENT

Dissertation Submitted to

The IIHMR University, Jaipur

for the partial fulfilment for the award of the degree of

Master of Business Administration (MBA)

in

Hospital and Health Management

by

Mukesh Nehra

Under the Supervision and Guidance of

Dr. Kajal Sitlani

2023

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DECLARATION BY STUDENT

I hereby declare that this dissertation titled **Behavioural and Societal aspects of patient's dropout for IVF treatment at ART Fertility Clinics, Delhi** is the bona fide record of my original research work. I declare that it has not been submitted to any other university or institution for the award of any degree or diploma. Information derived from the published or unpublished work of others has been duly acknowledged in the text.

(Signature)

Mukesh Nehra

Date:

Internship Completion Certification

ART FERTILITY CLINICS
Science Assisting Nature

TO WHOMSOEVER IT MAY CONCERN

This is to certify that **Mr Mukesh Nehra** has successfully completed 6 weeks of an internship program from **27 Feb 2023** to **10 Apr 2023** in **ART Fertility Clinics.**

His topic of the project was **Patient Conversion.**

He was highly motivated and hardworking. He worked sincerely at his tasks and did a very good Job.

We wish him great success in his future endeavors.

For Global Solutions

Human Resource – Head

Amit Toppo

ART Fertility Clinics
A unit of Global Fertility Solutions Pvt. Ltd.

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CERTIFICATE

This is to certify that dissertation titled **Behavioural and Societal aspects of patient's dropout for IVF treatment at ART Fertility Clinics, Delhi** is a record of the research work undertaken by Mr. Mukesh Nehra in partial fulfilment of the requirements for the award of the degree of MBA (Hospital and Health Management) from the IIHMR University, Jaipur under my guidance and supervision and his/her approach to the research study has been sincere, scientific, and analytical.

Faculty Guide	School Dean
IIHMR University, Jaipur	IIHMR University, Jaipur
Date:	Date:

ABSTRACT

Introduction

IVF is commonly known as In Vitro Fertilization. It is a technique of assisted reproductive technology which involves the fertilisation of female's egg and male's sperm outside the body within a laboratory environment.

IVF treatment can be very stressful for people and involves complex emotional challenges. Factors such as age, medical background, fertility, cultural norms, and personal beliefs all influence the decision to undergo IVF. Effective communication with IVF patients requires a deep understanding of their motivations, anxieties, and desires. Patients may have specific concerns or misunderstandings about the treatment process, while societal and cultural expectations regarding fertility and building a family can also influence their choices.

Healthcare providers should approach patients with empathy to encourage their active participation. It is crucial to offer patients precise and reliable details about the process of IVF treatment while also addressing any worries or inquiries they may have. To effectively manage the emotional and psychological strain related to IVF, patients might find counseling or support programs advantageous.

Productive communication with patients, cultural sensitivity, and patient-focused care are key components for achieving successful patient engagement in IVF treatment. By acknowledging the behavioral and societal aspects involved, healthcare practitioners can assist patients in making informed choices regarding their fertility treatment alternatives, all while delivering empathetic support throughout the entire IVF journey.

Objective:

The objectives of this study, focusing on the behavioral and societal aspects of patient dropout in IVF treatment, are as follows:

1. To identify the behavioural factors that contribute to patient dropout in IVF treatment, such as financial constraints, emotional stress, unrealistic expectations, and lack of perceived progress or success.

2. To examine the societal factors that influence patient dropout in IVF treatment, including societal norms, cultural or religious beliefs, stigma, societal pressure, and limited support.

3. To propose strategies and interventions to mitigate patient dropout by addressing the identified behavioral and societal factors, aiming to improve patient retention, treatment outcomes, and overall patient satisfaction in IVF treatment.

Methodology:

- The Study will be conducted in Art Fertility Clinic, Delhi. Retrospective and Prospective data will be collected. The study will be conducted among all the walk-in infertile patients who are IVF advised and to convert them to take advised treatment through Financial Counselling and understand their psychological aspects to reduce the first consultation drop out patients.

ACKNOWLEDGEMENT

This dissertation report titled **Behavioural and Societal aspects of patient's dropout for IVF treatment at ART Fertility Clinics, Delhi** is the culmination of keen observations and hard work. In accordance with my organisation's data privacy and confidentiality agreements with Fertility clinics, I'm unable to reproduce any patient specific information. Therefore, disclosing any name and MRN's is not done in the study.

I'm blessed to have an encouraging mentor **Dr Kajal Sitlani**, who has been the driving force of this project.

I'm grateful for all the support I received from my office team at the corporate office as well as at ART Fertility Clinics, Delhi, without their support this project could not be successfully completed. I would like to extend special thanks to my organization mentor **Ms. Saloni Egbert** for constant support and guidance.

I would also like to thank **Mr. Yashpal Rao** and **Mr. Amit Toppo** for always understanding and considering my viewpoints. They have been a constant driving force of motivation for me throughout this journey.

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Abbreviations:

- **IVF:** In Vitro Fertilization
- **ICSI:** Intracytoplasmic Sperm Injection
- **ART:** Assisted Reproductive Technology
- **GnRH:** Gonadotropin-releasing hormone
- **FSH:** Follicle-stimulating hormone
- **LH:** Luteinizing hormone
- **hCG:** Human chorionic gonadotropin
- **ET:** Embryo Transfer
- **IUI:** Intrauterine Insemination
- **PGD:** Preimplantation Genetic Diagnosis
- **MRN:** Medical Record Number
- **OHSS:** Ovarian Hyperstimulation Syndrome

Chapter 1. Introduction

In vitro fertilization is commonly known as IVF. IVF is a type of assisted reproductive technology (ART) used to treat infertility. It involves fertilizing an egg with sperm outside of the body in a laboratory, and then transferring the resulting embryo to the uterus for implantation and pregnancy.

Many infertile couples now have a higher chance of getting pregnant because of IVF technology. IVF may be used in some situations when other treatment options have been tried and failed.

- **When is IVF treatment recommended?**

The following is a list of some of the indications for IVF treatment:

1. **Male factor infertility**- In cases where the male partner has significantly low sperm count, poor sperm motility, or other sperm abnormalities, IVF with intracytoplasmic sperm injection (ICSI) may be recommended. ICSI involves injecting a single sperm directly into the egg to facilitate fertilization.

2. **Ovulation disorders**- If a woman has irregular or absent ovulation, IVF can be used to stimulate the ovaries and retrieve mature eggs for fertilization.

3. **Endometriosis-** The disorder known as endometriosis causes discomfort and might affect fertility because the tissue that typically borders the uterus develops outside the uterus. IVF can be an option for couples when endometriosis affects fertility, particularly if other treatments have not been successful.

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4. **Tubal Disease -** If the fallopian tubes are blocked or damaged, preventing the natural passage of eggs and sperm, IVF can bypass this issue by fertilizing the eggs outside the body and transferring the resulting embryos directly into the uterus.

5. **Unexplained infertility-** IVF may be suggested as a therapy option for a couple when a careful examination has been completed and no reason for their infertility has been found.

6. **To facilitate Pre-implantation Genetic Diagnosis (PGD)-** to avoid passing an inherited genetic disorder to your children.

7. **Fertility preservation-** Cryopreservation (freezing) of a woman's eggs or a man's sperm. For many reasons, including cancer, people may wish to cryopreserve their sperm or eggs. Chemotherapy / radiotherapy may adversely affect fertility. Later, the cryopreserved sperm or eggs can be thawed and used in IVF once their cancer treatment is completed.

➢ Procedures required for IVF treatment-

- **Stimulating the ovaries**: During the natural menstrual cycle, the ovaries normally produce eggs. The goal of an IVF cycle is to obtain more eggs by giving drugs that stimulate the growth of follicles (where eggs grow). This drug is usually given in the form of an injection. During ovarian stimulation, you should have an ultrasound scan in the clinic to monitor follicular development. Stimulation is complete when the doctor confirms that the follicles have developed to their optimal size.

- **Follicle aspiration (oocyte pickup or oocyte retrieval)**: Once the follicle reaches optimal size, a trigger shot is administered to initiate oocyte maturation. The induction shot is usually an injection of a hormone called human chorionic gonadotropin (hCG). Egg retrieval is scheduled 34-36 hours after the trigger shot. It is very important to perform the trigger injection exactly at the scheduled time, as the date and time of egg retrieval depend on it. This procedure is a day procedure. Under the guidance of modern ultrasound technology, doctors remove the egg cells from the ovary transvaginally under local or sometimes general anesthesia.

- **Egg fertilization and embryo culture:** A semen sample will be collected and prepared on the day of egg retrieval. An embryologist puts the egg and sperm together on a plate and allows them to fertilize naturally. This process is called insemination.

Approximately 17 hours after insemination (IVF) the eggs are placed in a special incubator to assess fertilization.

- **Embryo Transfer:** Daily assessment of embryo progress. The doctor and embryologist will determine the best time to transfer the embryo to maximize your chances of a successful pregnancy. The following factors are considered when determining the optimal day for embryo transfer:
  *Treatment history
  *Embryonic development (cell number and quality)
  *Whether genetic testing of embryos is done

Embryos are transferred into the uterus under ultrasound control using a flexible soft catheter. The procedure is painless and there is no need for anesthesia and sedatives.

Figure 1- IVF Procedure

➢ Potential Adverse Outcomes Following the Procedure-

While in vitro fertilization (IVF) has demonstrated its effectiveness as an assisted reproductive technique, it is crucial to be mindful of the potential risks and complications involved in the procedure. Here are several risks that individuals undergoing IVF treatment may encounter:

- **Multiple offspring** - One of the significant risks of IVF is the increased likelihood of multiple pregnancies, such as twins or triplets. Which can result in problems like-

  * miscarriage

  * pregnancy-related high blood pressure

  * gestational diabetes

  * anaemia and heavy bleeding

- **Medication Complications-** Many women have some reaction to the drugs used during IVF. Side effects may include heat waves, depression, anger, headaches, restlessness, ovarian hyperstimulation syndrome etc.

- **Risks for older women-** IVF treatments become less effective with age. Additionally, as women get older, the risk of miscarriage and birth defects increases.

- **Ovarian Hyperstimulation Syndrome (OHSS)-** Ovarian stimulants used during IVF can cause the ovaries to overreact, resulting in OHSS. This condition causes the ovaries to swell and become painful, and in severe cases fluid may accumulate in the abdomen, chest, or around the heart. Most cases of OHSS are mild, but in rare cases they can be severe and require medical intervention.

- **Ectopic Pregnancy-**There is a slightly increased risk of an ectopic pregnancy (embryo implanting in the fallopian tube instead of the uterus) if you are undergoing in vitro fertilization.

  This can cause abdominal pain, followed by vaginal bleeding and dark vaginal discharge.

➢ Anticipation-

Some of the considerations for post-IVF care:

- **Recovery time:** After the embryo transfer procedure, patients are usually told to rest for a short time, usually a few hours, before going home. It is important to follow the special instructions given by the fertility clinic or the doctor, regarding the duration of the recovery.
- **Medications:** Patients are prescribed medications that support embryo implantation and development. These medications usually contain progesterone preparations, which are usually continued for a period to maintain the endometrium.

- **Restrictions on physical activity:** Patients are usually advised to avoid vigorous physical activity, heavy lifting and vigorous exercise as recommended by their doctor. It is recommended to engage in gentle activities and avoid excessive pressure or tension on the pelvic area.

- **Advised test :** A pregnancy test is usually scheduled about two weeks after the embryo transfer to determine the success of IVF. This may include blood tests to measure levels of pregnancy hormones such as beta-hCG. Your doctor will decide when and how to do a pregnancy test.

- **Continuous treatment:** If the result of pregnancy is positive after IVF, patients receive continuous pregnancy treatment. This includes regular appointments, ultrasounds and monitoring to ensure the well-being and development of both the mother and the developing fetus.

  Following the post-procedure guidelines provided by the fertility clinic and maintaining effective communication with the doctor during the post-IVF period is strongly advised. This facilitates the prompt addressing of any concerns or complications and allows for necessary adjustments to the treatment plan, if needed.

➢ Behavioral and Societal aspect-

A variety of behavioral and societal factors are important in a patient's conversion to dropout in IVF, including information-seeking behavior, perceived need, cultural attitudes, clinic accessibility, insurance coverage, ethical beliefs etc.

- **Some of the behavioral and societal issues observed in IVF clinics are-**

- **Late marriageable age trend in youth-**

    - In recent years, there has been a significant trend of late marriages among this generation, which has increased the demand for IVF treatment. Several social factors influence the change in marriage patterns, such as pursuing higher education, building a career, and setting personal goals before marriage and starting a family. However, if individuals and couples delay marriage, they may face age-related fertility problems, including reduced fertility potential and an increased likelihood of infertility problems. As a result, more and more people are turning to IVF as a viable solution as they don't have any other option to have baby and fulfill their desire to become parents. A combination of late marriages and increasing awareness and availability of artificial insemination technologies has increased the demand for IVF treatment among this generation.

    - A recent report released by the Ministry of Statistics and Program Implementation revealed alarming statistics on India's marriage situation. Among other things, the report found that the number of young people wanting to get married is declining. The report shows-

    - The Youth population who are 'never married' between the age of 15-29 has shown increasing trend from 20.8 percent in 2011 to 26.1 percent in 2019. The report has also revealed that, the population which has risen to 1211 million in 2011 and is anticipated to reach 1363 million in 2021 (with 27.3 percent of its population aged 15–29 years). By 2036, the percentage of youth would reach 22.7 percent, the report adds.

- **International patient seeking IVF treatment in India-**

    - IVF treatment in India is significantly more affordable as compared to many other countries in the world and India has a well-established medical tourism industry that assists international patients in coordinating their travel, accommodation, and treatment.

    - A huge number of international patients can be seen in IVF centres nowadays but still a very less patient conversion for IVF is a concern. It is seen that behavioural aspect affecting patient conversion is the choice of self-cycle over a donor cycle. Many international patients prefer to undergo IVF using their own gametes (eggs and sperm) rather than opting for donor gametes. This choice is influenced by various factors, including personal beliefs, cultural norms, and a desire to have a genetic connection with the child.

    - The preference for self-cycle may stem from a desire for genetic continuity and a cultural emphasis on biological lineage. As a result, international patients who

prioritize self-cycle may be less likely to convert and pursue IVF treatment in India, where donor cycles are commonly offered as an option.

- **Information-seeking behaviour-**

  - IVF patients frequently exhibit a tendency to conduct thorough research and actively seek information prior to embarking on their IVF treatment journey. Their motivation stems from the aspiration to acquire knowledge and insights that enable them to make well-informed decisions. The following points illustrate this behavior:

  - **Exploring the success rates of various clinics:** Patients are observed engaging in efforts to gather data concerning the success rates of different IVF clinics. This includes examining both the overall success rate as well as success rates specific to particular age groups or medical conditions. Conducting research on success rates allows patients to evaluate the effectiveness of the treatment and establish realistic expectations.

  - **Researching the experiences of others-** Patients often seek personal stories and experiences from those who have undergone IVF treatment. They can read testimonials, join online forums, or support groups, or watch videos to learn about others' journeys and results. Hearing the experiences of others can provide emotional support, reassurance, and hope to potential patients.

  - **Assessment of cost and financial impact-** Patients research the cost of IVF treatment and related costs such as medicines, consultations, and laboratory tests. They compare prices at different clinics and can explore options for financial assistance or insurance coverage. Understanding the financial implications helps patients assess the affordability of treatment and plan accordingly.

  - **Researching clinic reputation and physician expertise:** Patients consider IVF clinic reputation and physician expertise. They can seek referrals, read online reviews, or consult with their health care providers to gather information about clinical outcomes, quality of care, and expertise of fertility specialists. Trust in the clinic and doctors are crucial factors in the decision-making process.

  - After visiting the IVF clinic, individuals may receive medical advice or diagnosis that alters their decision. They may discover alternative treatment options, realize that their fertility issues can be addressed differently, or receive unexpected medical news that makes them reconsider IVF as the appropriate course of action.

- **Family and social Dynamics-**

- Social and family dynamics play a significant role in patient dropout for IVF. These dynamics encompass the social relationships, support systems, and familial influences that can influence an individual or couple's decision to pursue IVF treatment. Here are some key aspects of social and family dynamics in patient conversion for IVF:

- **Cultural Attitudes Toward Infertility:** Cultural attitudes toward infertility vary across societies and can significantly influence patient referral. In some cultures, infertility can be stigmatized, so individuals or couples seek IVF treatment as a solution to overcome social pressure or to fulfil social expectations of parenthood.

- **Social support systems:** The availability of social support systems such as family, friends and community networks can influence patient referral. A supportive social environment can provide encouragement, understanding and emotional support to individuals or couples seeking IVF treatment. Conversely, a lack of social support may hinder IVF seeking due to social criticism or lack of acceptance.

- **Pressure from family-** Patients visit IVF clinics but don't go for IVF treatment after the first consultation. IVF treatment can be emotionally challenging, and individuals may realize that they are not emotionally ready to undergo the process. They may need more time to process their feelings, discuss concerns with their loved ones, or seek additional support before proceeding with treatment.

- **Trust and Reliability:** Trust and reliability play an important role in conversion of patients for IVF treatment. Patients want to feel confident in the clinic and healthcare professionals, they choose to entrust with their fertility journey. Factors influencing trust and reliability are-

  - **Reputation:** The reputation of an IVF clinic and its medical professionals is a very important factor for patients. Positive word-of-mouth from friends, family, and online communities can greatly influence a patient's decision-making. Patients can also rely on online reviews, testimonials, and clinic ratings to determine its reputation and credibility.

  - **Success Rates:** Patients often seek information about the success rate of a clinic. A high success rate creates confidence in the clinic's expertise and chances of a successful pregnancy. Clinics that are transparent about their success rates and provide corroborative data can build trust with potential patients.

  - **Physician Expertise:** The patient will consider the experience, qualifications and expertise of any fertility specialist or physician associated with the clinic. Explore doctor education, training, and specialties in reproductive medicine. Knowing that

you are being treated by an experienced and knowledgeable professional increases trust and confidence.

- **Patient testimonials:** Personal stories and testimonials from her previous IVF patients who have achieved successful outcomes can have a significant impact on patient conversion. Patients often feel comfort and security from hearing about other people's positive experiences and successes. Testimonials can create a sense of trust by demonstrating a clinic's ability to deliver successful results.

- **Transparent Communication:** Open and transparent communication from the clinic is critical to building trust. Patients will appreciate clear explanations of the treatment process, risks, possible outcomes, and associated costs. When clinics are transparent about their protocols, success rates and limitations, patients can make informed decisions and have more confidence in the clinic's integrity.

- **Professionalism and Empathy:** Patients value the professionalism and empathy of their providers and staff. A caring and supportive approach, prompt response to questions, and personalized attention during the consultation improves the overall patient experience and builds trust.

- **Accreditation and Recognition:** Accreditation from recognized bodies such as the Joint Commission International (JCI) and the National Accreditation Board of Hospitals and Healthcare Providers (NABH) increases the credibility of the clinic. Certification and membership in professional associations may also demonstrate adherence to high standards of care and professionalism.

- **Financial considerations:** Economic factors play an important role when switching patients to IVF treatment. The cost of IVF varies depending on factors such as clinic, location, specific treatment protocol and additional services. Here are some key points related to financial considerations:

  - **Affordability:** IVF treatment can be expensive, and patients decide whether the treatment is affordable based on their financial situation. Prospective patients assess the total cost of treatment, including consultation fees, diagnostic tests, medications, laboratory procedures, and the in vitro fertilization procedure itself.

  - **Insurance Coverage:** Patients can check if their health insurance covers part of the cost of IVF treatment. Coverage levels vary greatly by plan and country. Understanding insurance coverage and reimbursement possibilities can influence a patient's decision to undergo IVF treatment.

  - **Payment Options:** Some clinics provide payment plans or funding options to assist patients in managing the financial aspects of IVF. These options enable patients to divide the treatment cost into manageable instalments.

- **Cost- viability:** Patients often evaluate the cost-effectiveness of IVF in comparison to other treatment alternatives. They consider factors like success rates, chances of achieving pregnancy, and overall expenses involved. Assessing the potential benefits and outcomes helps patients determine if IVF is a worthwhile investment.

- **Extra Expenses:** Patients may also consider additional costs associated with IVF, such as travel expenses if they need to go to a different location for treatment. They might consider costs for accommodation, transportation, and time off work during the treatment process.

- **Financial Assistance:** Some patients take advantage of financial assistance programs and grants offered by organizations, foundations, or fertility clinics. These programs can provide financial assistance to patients who meet certain criteria and make IVF treatment more accessible and affordable.

- **Ethical considerations**- IVF treatment revolve around various aspects of assisted reproductive technology and their associated moral implications. These considerations are intended to ensure that IVF treatment respects the autonomy, health and dignity of all individuals involved.

    - Ethical practices in IVF require the consent of all parties involved, including the person being treated, their partner (if applicable), the donor or surrogate mother. It includes comprehensive information about the course of treatment, possible risks, success rates, and possible alternatives. Informed consent ensures that individuals have the information they need to make independent decisions about reproductive choices.

    - For the ethical concern, patients are observed to seek for-

    - **Seeking Ethical Advice:** Patients can actively seek out medical professionals, ethicists, or religious advisors who provide insights and perspectives tailored to their personal ethical concerns. They can participate in discussions, ask questions, and explore alternative approaches to addressing ethical considerations.

    - **Personal Moral Considerations:** Patients can engage in personal moral considerations to reconcile their ethical concerns with IVF treatment options. They may be thinking about the moral status of embryos, the ethical implications of using third-party gametes or surrogates, or considerations related to genetic testing. This introspective process helps individuals understand and clarify their own ethical positions.

- **Accessibility and convenience of clinic-**

    - The ease of access to IVF treatment and the convenience factors that can influence an individual or couple's decision to pursue IVF. Factors that Influence Accessibility and Convenience-

    - **Availability of IVF clinics:** The presence and availability of IVF clinics in a particular region or locality play a crucial role in patient conversion. Having well-established and reputable IVF clinics nearby increases the accessibility of treatment and reduces logistical challenges for individuals or couples considering IVF.

    - **Geographic proximity:** The geographic proximity of IVF clinics to patients' residences can impact patient conversion. If the clinics are located far away, it may pose challenges in terms of travel logistics, accommodation, and time commitment. Patients may prefer clinics that are conveniently located and easily accessible, allowing for regular monitoring appointments and ease of transportation during the IVF treatment process.

    - **Waiting time and appointment availability:** The waiting times for consultations, diagnostic tests, and treatment cycles can influence patient conversion. Long waiting times or limited appointment availability may delay the start of IVF treatment and potentially discourage individuals or couples from pursuing the treatment. On the other hand, clinics that offer shorter waiting times and prompt appointment scheduling may enhance patient conversion rates.

➢ Leading causes of patient dropout –

There are many reasons for patient dropout in IVF treatment, but figuring out the main ones enable healthcare providers to discover remedies -

1. Emotional and psychological stress
2. Financial constraints
3. Low success rates or repeated failures
4. Religion constraint
5. Lack of support or inadequate communication
6. Lack of follow-ups
7. Age-related factors

8. Proximity of the center

➢ What can be done to stop patient dropout due to societal and behavioral aspects?

- **Easy EMI option**- Fertility treatment is very specific and can cost a lot of money. EMI seems to be a failure to IVF patients in providing help to their financial issues, due to high down payment. So, to resolve this issue IVF clinics can work with financial institutions to negotiate favorable terms for EMIs, including lower interest rates, extended repayment periods or flexible payment plans tailored to the patient's financial capabilities.

- **Grant or scholarship programs:** Establishing grant or scholarship programs specifically for IVF treatment can provide financial assistance to patients who demonstrate financial need. Collaborating with organizations, foundations, or philanthropic individuals can help create such programs.

- **Non-profit organizations and fundraising:** IVF clinics can collaborate with non-profit organizations or initiate fundraising efforts to create financial support programs for patients. These programs can provide grants, subsidies, or interest-free loans to eligible patients.

- **Patient education and counseling:** Providing comprehensive patient education about the IVF process, treatment expectations, success rates, and potential challenges can help manage patient expectations and reduce uncertainties. Employ or collaborate with qualified and experienced psychologists or counsellors who specialize in infertility and reproductive health. These professionals should have a deep understanding of the emotional challenges and psychological impact associated with fertility treatment. Fertility clinic should Offer pre-treatment counselling sessions to educate patients about the emotional aspects of fertility treatment.

- **Culturally sensitive care:** Recognizing and respecting diverse cultural backgrounds and beliefs is crucial. Clinics can provide culturally sensitive care by offering language support, understanding cultural preferences, and adapting treatment plans to accommodate specific cultural considerations.

- **Patient support groups:** Establishing patient support groups where individuals or couples can connect with others going through similar experiences can foster a sense of community and emotional support. These groups can provide a platform for sharing experiences, exchanging advice, and offering encouragement during the IVF process.

- **Emotional support services:** Offering access to counseling services, psychologists, or mental health professionals who specialize in infertility and IVF-related emotional support can be valuable. These professionals can help patients navigate the emotional challenges

associated with fertility treatment and provide coping mechanisms to reduce patient dropout.

- **Financial counseling and assistance:** Financial constraints are a significant factor in patient dropout. Providing financial counseling and assistance options, such as payment plans, insurance guidance, or information about available grants or financial aid programs, can help alleviate the financial burden and enable more patients to continue their treatment.

- **Improving overall patient happiness:** Improving overall patient satisfaction can help reduce the likelihood of discontinuation. This includes making appointments as easy as possible, minimizing waiting times, creating a pleasant and appealing clinic atmosphere, and developing efficient communication channels via which patients may readily communicate their questions or concerns.

Research Question:

• Why is the patient advised to undergo IVF therapy but does not do so?
• What financial considerations impact patients' decisions to pursue IVF therapy, and how do they navigate the cost-benefit analysis?
• How does the societal stigma associate with infertility and IVF therapy influence patient decision-making and access to care?

Objective:

The objectives of this study, focusing on the behavioral and societal aspects of patient dropout in IVF treatment, are as follows:

1. To identify the behavioral factors that contribute to patient dropout in IVF treatment, such as financial constraints, emotional stress, unrealistic expectations, and lack of perceived progress or success.

2. To examine the societal factors that influence patient dropout in IVF treatment, including societal norms, cultural or religious beliefs, stigma, societal pressure, and limited support.

3. To propose strategies and interventions to mitigate patient dropout by addressing the identified behavioral and societal factors, aiming to improve patient retention, treatment outcomes, and overall patient satisfaction in IVF treatment.

Chapter 2. Review of literature

Authors (Year)	Study Location	Sample Size	Sampling Technique	About Study
Grishma Kulkarni, Nimain C. Mohanty, Ipseeta Ray Mohanty, Pradeep Jadhav, and B. G. Boricha (2014 Oct-Dec)	A retrospective analysis was carried out in couples/patients between the age group of 20 and 40 years who opted for IVF at a tertiary care hospital and Private Infertility center.	Eighty-eight cases of IVF were included in this study.	Medical records for 3 years (2009-2012) were taken out and included in the study for analysis. Socio-demographic details along with indication for IVF and reasons for drop-separate IVF therapy were recorded on case record form and were analyzed.	Tubal pathology was identified as the most prevalent female-related factor, accounting for 21% of the patients who underwent IVF treatment. Among male-related infertility factors, oligoasthenospermia (reduced sperm count and motility) was found to be the most common cause, affecting 13% of the cases. The primary reason for discontinuing treatment in most IVF cases was the financial burden associated with the procedure.
Arthur L. Greil, Kathleen Slauson – Blevins, Julia McQuillan (2009 Dec 9)	Review of recent literature	Report	Literature review of various research papers	Researchers are actively investigating the psychological impact of infertility and the role of gender in the experience. They are examining the characteristics and experiences of IVF patients and conducting ethnographic research to understand the sociocultural context of infertility. Attention is being given to the long-term consequences of infertility, and efforts are being made to understand the relationship between infertility and stress. Additionally, researchers are evaluating the

				effectiveness of psychological interventions. This comprehensive approach aims to deepen our understanding of infertility and contribute to improved support and treatment options.
Daniel M. Campagne (16 March 2006)	Review of literature	Report	Literature review of various research papers	Based on the existing evidence, it is crucial for fertility treatment protocols to incorporate stress management and reduction strategies as significant factors. Prior to commencing fertility treatment, reproductive medicine professionals should consistently assess individuals for chronic stress and modify their selection and treatment protocols accordingly.
Helen E Rockliff , Stafford L.Lightman , Emily Rhidian , Heather Buchanan , Uma Gordon , Kavita Vedhara (2014 Mar 27)	Peer study review	Literary analysis	MEDLINE/PUBMED (US National Library of Medicine), PsycINFO (American Psychological Association), Web of Science (Social Sciences Citation Index) and EMbase, were searched from 1978 to September 2012.	Psychosocial factors have consistently shown a connection with stress levels in patients undergoing in vitro fertilization (IVF). However, it has been observed that around two-thirds of the tested variables do not appear to be associated with emotional adjustment. This review emphasizes the importance of identifying key psychosocial factors that can indicate patients who are more likely to experience psychological distress. These findings underscore the potential for psychological or

				educational interventions to address at least two psychological factors that can be modified to alleviate distress in IVF patients.
Ansha Patel, P. S. V. N. Sharma, and Pratap Kumar, V.S. Binu (January 2018)	Assessed on the consent basis, using the Mini International Neuropsychiatric Interview 5.0 English version	300 man and women with primary infertility	Questionnaire based cross-sectional research.	According to a study, in the initial years of marriage, low support from one's spouse, financial limitations, and societal pressures are predictive factors of infertility for both men and women. However, the presence of peer support does not appear to be a significant predictor or protective factor against infertility challenges.
L. Garceau, J. Henderson, L.J. Davis, S. Petrou, L.R. Henderson, E. McVeigh, D.H. Barlow, L.L. Davidson	Kerman and Isfahan, Iran	2547 papers	A variety of approaches were employed to identify pertinent studies. Two members of the research team independently reviewed each title and abstract and categorized them based on their perceived relevance. Subsequently, the chosen papers underwent quality assessment, and data were extracted and converted to UK pounds sterling using 1999/2000 price values. The gathered information was organized into tables and evaluated.	When making decisions regarding treatment, it is essential to take into account the cost-effectiveness of different interventions. However, many of the published studies on economic evaluations of assisted reproductive techniques lack robust methodology. Some consistent findings have emerged, including the observation that initiating treatment with intrauterine insemination is more cost-effective than in vitro fertilization (IVF). Additionally, vasectomy reversal appears to be a more cost-effective option compared to intracytoplasmic sperm injection (ICSI).

Chapter 3 - Material and Methodology:

The Study will be conducted in Art Fertility Clinic, Delhi. Retrospective and Prospective data will be collected. The study will be conducted among all the walk-in infertile patients who are IVF advised and to convert them to take advised treatment through Financial Counselling and understand their psychological aspects to reduce the first consultation drop out patients.

Study Design- Cross-sectional studies- It can provide a snapshot of the prevalence of certain beliefs or behaviours among patients.

Setting- ART Fertility Clinic, Delhi

Study Population – Include patients who are advised or are considering IVF treatment and exclude the patients who are not advised IVF treatment.

Study Tools – Patients advise IVF treatment and to conversion rate.

Sample Size – 70 Patient's

Sample Technique – Purposive sampling

Data Collection Procedure – Retrospective and Prospective data.

Data Analysis Plan: The collected data will be analysed using - Microsoft Excel, Financial counselling consent form.

Ethical Considerations: This study will involve the direct interaction with patients, and the data used will be obtained from secondary data. Patient's personal details such as name, age, sex, MRN is kept confidential in the study.

Chapter 4- Result

- Total no. of patients observed as a part of this study were 100 patients.
- Out of these 100 patients, 70 patients were advised IVF treatment whereas 30 patients were advised Gynecologist consultation, natural conceiving methods, age then required for the treatment.

Total No. of patients observed	100
No. of patients advised IVF	70
No. of patients advised other procedures	30

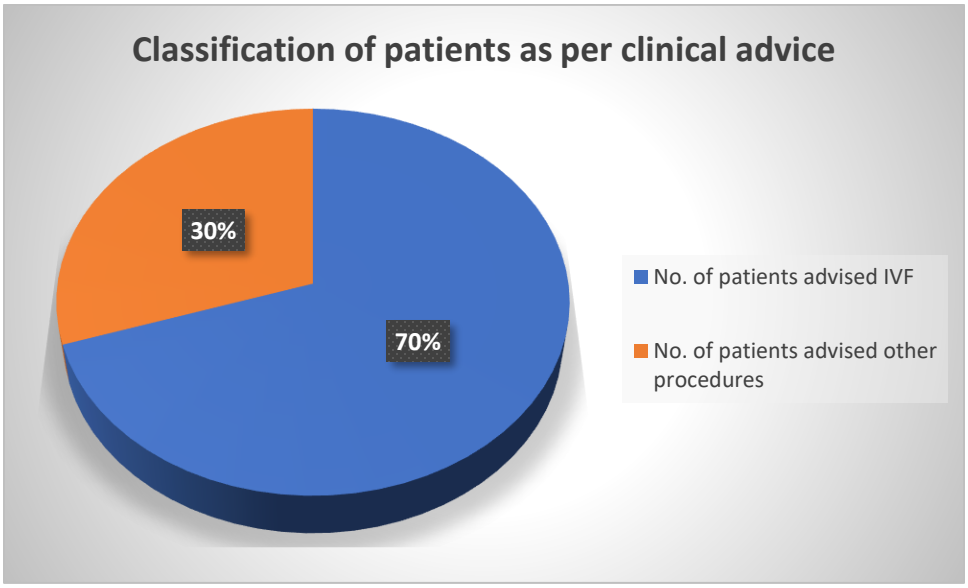

Figure 2 – Classification of patients as per clinical advice

- Out of the 70 IVF advised patients 33 were potentially converted and booked for the IVF treatment, at the other end 37 patients were not converted or not booked for the IVF treatment.

Out of 70 IVF advised patients	
No. of patients booked for IVF treatment	33
No. of patients not booked for IVF treatment	37

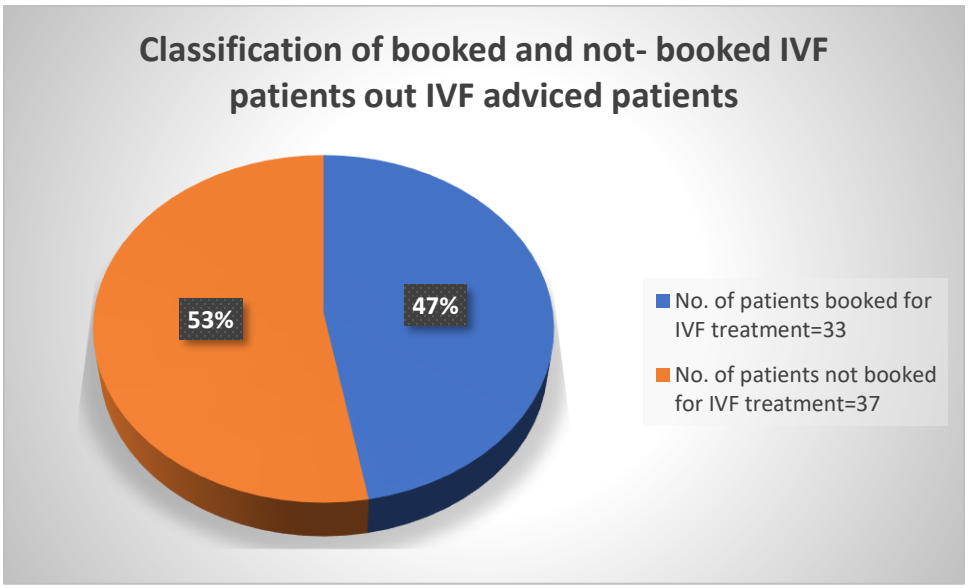

Figure 3 – Classification of booked and not – booked IVF patients out IVF advised patients.

- Due to privacy concern of patients and the clinic, no person specific data can be published in this study.

- When followed-up with the non-converted patients at regular intervals, with the help of telephonic calls, WhatsApp messages, at the time of counselling, at the time of feedback the following interpretation came-

1. Observed dropout patient for societal reasons- 17 Patients as follows:

Patient Dropout Reasons	Number of Patients	Percentage
Stigma and Societal Pressure	6	35%
Cultural or Religious Beliefs	2	12%
Lack of Support	5	29%
Limited Awareness or Education	3	18%
Societal Norms and Priorities	1	6%

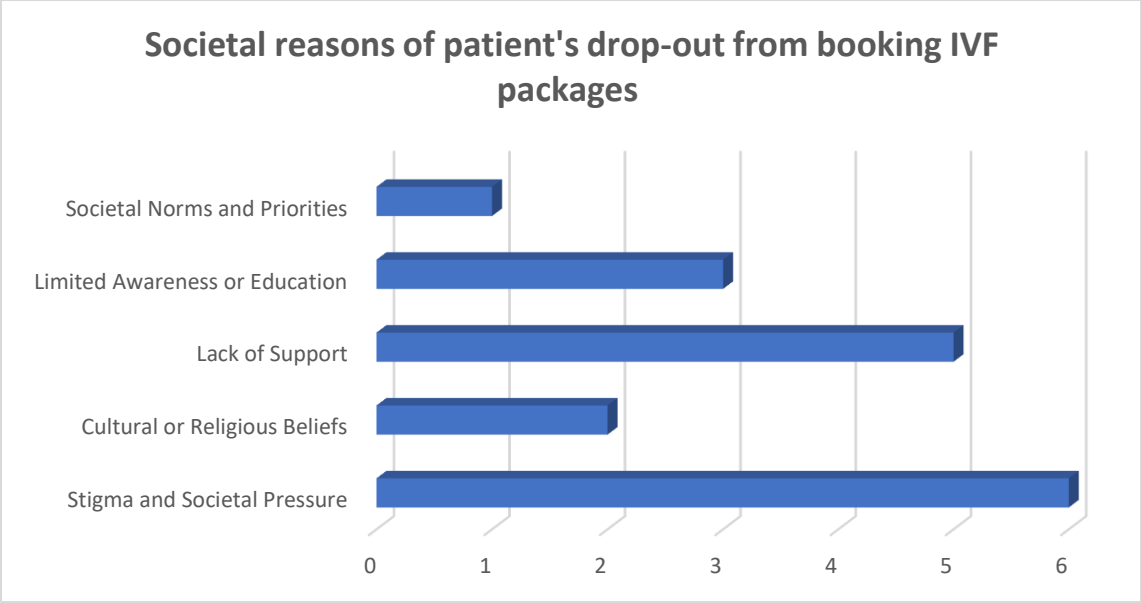

Figure 4- Behavioral **reasons of patients drop-outs from booking IVF packages**

1. **Stigma and societal pressure:** Among the 17 patients, 6 (35%) reported stigma and societal pressure as the primary reason for discontinuing IVF treatment. These patients expressed concerns about the social stigma associated with infertility and assisted reproductive technologies, which influenced their decision to discontinue treatment.

2. **Cultural or religious beliefs:** Two out of the 17 patients (12%) cited cultural or religious beliefs as the main factor leading to treatment discontinuation. These patients highlighted conflicts between their personal beliefs and the recommended IVF treatment, which influenced their decision.

3. **Lack of support from family or community:** Among the 17 patients, 5 (29%) discontinued treatment due to a lack of support from their family or wider community. These patients faced emotional and practical challenges when their loved ones or community failed to understand or provide the necessary support during their fertility journey.

4. **Limited awareness or education:** 3 out of the 17 patients (18%) reported limited awareness or education about IVF treatment as the reason for discontinuation. These patients expressed uncertainties and doubts due to insufficient knowledge or misconceptions about the treatment process, potential outcomes, and available resources.

5. **Norms and priorities of society:** One in 17 patients (6%) cited societal norms and priorities as the reason for stopping IVF treatment. This has been observed that patients felt the need to adapt fertility decisions to current societal norms or prioritize other aspects of life over ongoing treatment.

2. Observed dropout patient for behavioral reasons- 20 Patients as follows:

Dropout Reasons	Number of Patients	Percentage
Financial constraints	8	40%
Emotional stress and psychological burden	5	25%
Lack of perceived progress or success	3	15%
Time commitment and lifestyle disruptions	2	10%
Unrealistic expectations	2	10%

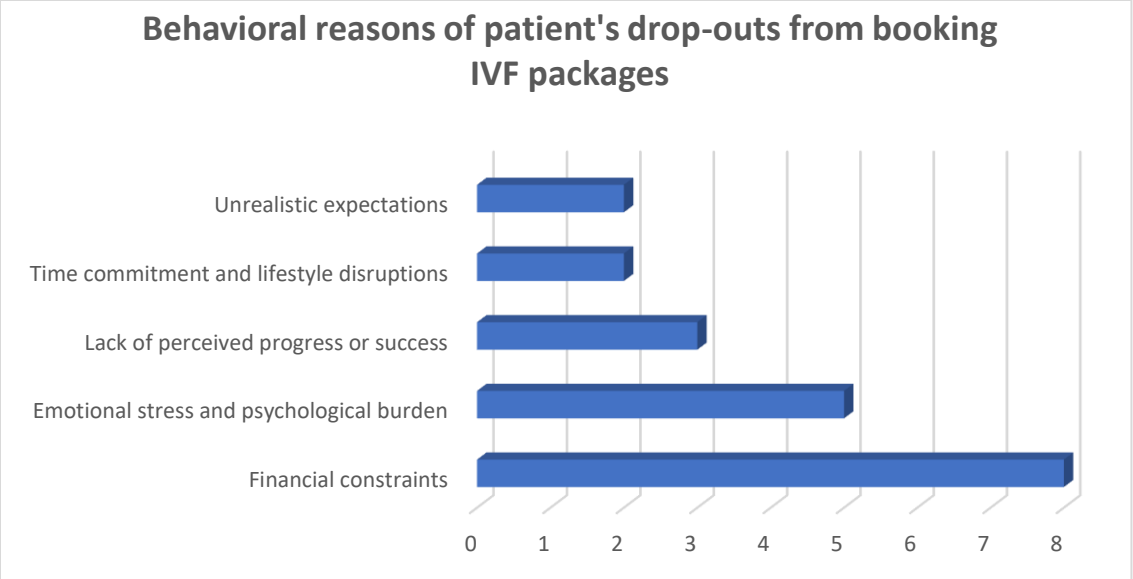

Figure 5 – Behavioral **reasons of patient's drop-outs from booking IVF packages**

1. **Financial reason:** Eight of 20 patients (i.e.,40%) cited financial constraints as the main reason for dropping out. This finding suggests that the cost of IVF treatment remains a major barrier for some patients. Financial burden may limit access to necessary procedures, medications, or additional courses of treatment and may ultimately influence the decision to discontinue treatment.

2. **Patient's stress and psychology -** It has been observed that Five out of 20 patients (i.e.25%) indicated emotional and psychological stress as the main reason for discontinuing IVF treatment. This indicates that the emotional impact of trying to conceive can be overwhelming for some patients. The stress, anxiety, and frustration associated with failed cycles and uncertain outcomes can cause emotional exhaustion and impair your ability to continue treatment.

3. **Lack of perceived progress or success:** Three out of twenty (15%) patients quit therapy owing to a perceived lack of improvement or repeated unsuccessful cycles. This shows that patients' expectations about the effectiveness and timing of IVF therapy may not match reality. Frustration and loss of hope might occur from a lack of tangible results or repeated failures, leading to treatment termination.

4. **Time consumption and lifestyle disruptions:** Two out of twenty patients (10%) had difficulty dealing with the time and lifestyle disruptions associated with IVF therapy. Patients' daily routines and obligations may be impacted by a tight treatment plan,

numerous visits, and essential lifestyle adjustments. Treatment cessation may be influenced by the difficulty of integrating caring requirements with job, family, or personal activities.

5. **Unrealistic expectations:** Two out of every twenty patients (10%) had unrealistic expectations that did not correspond to the therapy or the results. Patients may have had misunderstandings about the success rate or the quick results of IVF treatment. If their expectations are not met, they may get sad or dissatisfied, which may lead to treatment termination.

Chapter-5 Discussion-

This study primarily focuses on the impact of social and behavioral factors on patient dropout from IVF therapy. Patients' decisions to stop receiving treatment are significantly influenced by social issues like stigma, cultural or religious views, a lack of support, a lack of knowledge or education, and society norms and priorities, according to the findings. Patients' decisions are significantly influenced by these external social factors.

Moreover, conduct reasons like monetary limitations, close to home pressure and mental burden, an absence of seen progress or accomplishment, time responsibility and way of life interferences, and unreasonable assumptions, these all factors add to treatment dropout. These components are inseparably connected to the ways of behaving and encounters of patients all through the treatment interaction.

As the sample size was small for the study, which may not contribute to provide all the behavioural and societal reasons but able to find potential reasons. Consequently, while the findings provide valuable insights into observed discontinuation reasons, they should be interpreted with caution and not considered exhaustive.

Understanding the social and behavioural components of IVF treatment dropout is critical for healthcare practitioners and policymakers. It allows for the creation of effective solutions to address these elements, such as identifying and addressing social pressures and building support structures to assist patients in overcoming behavioural problems. By doing so, healthcare practitioners may endeavour to improve patient results and the whole IVF treatment experience.

Chapter-6 Suggestions-

Suggestions to minimize dropout patients due to behavioral reason-

1. Improvement in the financial aid- Healthcare providers ought to look into ways to provide financial support or direction given that financial constraints were the primary factor that led to the discontinuation of IVF treatment. This could mean connecting patients with outside resources like grants or programs that provide financial assistance, looking into insurance options, or providing flexible payment plans.

2. Integrate comprehensive psychological support services into IVF treatment programs to alleviate mental stress and psychological burden. Integrating comprehensive psychological support services is crucial. This might include having access to support groups, counseling, or mental health professionals who can guide you through fertility issues. Support like this can help patients deal with the emotional challenges of IVF and build resilience so they don't have to stop treatment.

3. Effectively managing expectations: Clear and open communication with patients should be prioritized by healthcare providers to lessen the impact of unrealistic expectations. This necessitates providing precise data regarding IVF treatment options, potential obstacles, and success rates. Patients are better able to understand the treatment process and make informed decisions if they are provided with realistic expectations from the beginning.

4. Enhance patient education: Healthcare providers should place an emphasis on patient education during IVF treatment to address misconceptions and low awareness. This might incorporate giving nitty gritty data about the treatment cycle, potential results, and accessible assets. Patients can be empowered to make informed decisions and reduce the uncertainty that can lead to treatment discontinuation by using educational materials, workshops, and individual discussions.

5. Providing flexible treatment options: When time and lifestyle disorders are identified by healthcare providers, they can investigate flexible treatment protocols. To accommodate a patient's particular circumstances and minimize the impact on their day-to-day life, this may entail providing alternative schedules, remote monitoring options, or simplified procedures.

Suggestions for Societal Analysis Report:

1. Combat stigma and raise awareness: Stigma and social pressure must be addressed collectively. To raise awareness about infertility and assisted reproductive technologies, health care providers ought to collaborate with patient advocacy groups, community organizations, and

the media. It is possible to lessen the stigma associated with IVF treatment and create a more supportive environment for patients by encouraging open discussions, education, and encouraging stories.

2. Approach that is culturally sensitive: Considering the impact of social or strict convictions, medical services suppliers ought to involve a socially delicate methodology in their correspondence and care systems. Respecting the values of patients, providing tailored information that addresses their concerns, and collaborating with cultural or religious leaders to bridge potential gaps between medical recommendations and personal beliefs are all necessary for this to happen.

3. Make encouraging groups of people- For addressing the absence of family or local area support, for this purpose medical care suppliers can make encouraging groups of people for patients going through IVF therapy. There can be support groups, mentors with similar experiences, and social events where patients can meet and talk about their experiences. Patients' emotional well-being can be significantly improved, and treatment continuation encouraged by providing a sense of connection and understanding.

4. Communication with policymakers: It can be done by the health care providers that they can collaborate with influencers and policymakers to promote reproductive health and IVF policies to challenge social norms and priorities. Reproductive health policies that are inclusive, insurance coverage for fertility treatments, and workplace policies that cater to the requirements of IVF patients are all examples of this.

5. Continuous evaluation and improvement- It is important for health care providers to continuously evaluate and improve their practices based on patient feedback and evolving social dynamics. Regularly assessing the patient's experience, addressing concerns, and implementing necessary changes can help create a more patient and supportive environment for IVF treatment.

By implementing these suggestions, healthcare providers can address the behavioral and societal factors contributing to patient dropout in IVF treatment, ultimately improving patient experiences, treatment adherence, and overall outcomes.

Chapter- 7 Conclusion-

This study can help to improve the overall care of patient keeping in mind about the behavioural and societal aspects. It is concluded that by reducing stigma, providing comprehensive information, offering emotional support, fostering trust, facilitating community engagement, developing flexible financing options, collaborating with insurance providers, and advocating for policy changes, clinics and healthcare providers can create an environment that supports patients in their decision-making process and enhances their access to and continuation of IVF treatment. By addressing these aspects, we can empower patients, reduce barriers, and ultimately improve the overall success and satisfaction of individuals undergoing IVF treatment.

According to the observation of the patients, financial burden was found to be the biggest reason for patient dropout. IVF treatment is often expensive, and overhead costs can be a significant barrier for patients. The high costs associated with multiple treatment sessions, medications, lab tests and other necessary procedures can add up quickly. Patients with limited financial resources may find it difficult to pay the full cost of treatment, which may lead to cancellation or delay of IVF plans. So easy EMI options, discounts to the dropout patients, collaborating with fundraising organization can positively impact the patient conversion.

Gaps observed- Patients dropout after first consultation are observed to have insufficient knowledge about the IVF treatment like minimum and maximum age (Male- 21-50, Female- 21-50), Among IVF patient, it is also observed that they seek for alternate option that can fulfil their desire of conceiving baby (i.e.- IUI, fertility medications , surrogacy) but also don't have to go through the complications of the IVF process. For these issues, ART Fertility clinic Delhi is now started providing camp to nearby cities, media coverage on IVF treatment, follow-up calls for the dropout patients to helping them in their queries.

A proper follow-up needs to be implemented for the dropout patients, which makes feel them connected with the clinic and to get informed about any discount offers in upcoming days.

As we know IVF clinic is a single speciality organization, so the patient load is quite low then the multispeciality hospitals, and due to less patient footfall, only 100 patient data was available to analyse, but significantly it contributes to evaluate the major reasons for patient dropout but not all reasons.

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