"FACTORS AFFECTING NEW PATIENT CONVERSION TO IVF TREATMENT IN ART FERTILITY CLINICS-AHMEDABAD"

Dissertation Submitted to

The IIHMR University, Jaipur

for the partial fulfilment for the award of the degree ofMaster

of Business Administration (MBA)
in
Hospital and Health Management

By

Hafsah M Kureshi

Under the Supervision and Guidance of

Dr J P Singh

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DECLARATION BY STUDENT

I hereby declare that this dissertation "**FACTORS AFFECTING NEW PATIENT CONVERSION TO IVF TREATMENT IN ART FERTILITY CLINICS-AHMEDABAD"**

is the Bonafede 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 Information derived from the published or unpublished work of others has been duly acknowledged in the text.

Hafsah M Kureshi

Name of Student HAFSAH

Date: 14/05/2023

CERTIFICATE

This is to certify that **HAFSAH KURESHI** in partial fulfilment of the requirements for theaward of the degree of MBA (Hospital and Health Management from the IIHMR University, Jaipur has successfully completed her/his internship at **ART FERTILITY CLINICS** during February 27- May 27, 2023.

Place:
Ahmedabad

Date: 15/05/2023
Preceptor/Head of the Organization: YASHPAL SINGH RAO
Name of the organization: ART FERTILITY CLINICS

CERTIFICATE

This is to certify that dissertation titled "**FACTORS AFFECTING NEW PATIENT CONVERSION TO IVF TREATMENT IN ART FERTILITY CLINICS-AHMEDABAD**

" is a record of the research work undertaken by **HAFSAH KURESHI** in partial fulfilment of the requirements for theaward 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
IIHMR University, Jaipur
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Date

ABSTRACT

In vitro fertilization(IVF) has evolved as a highly effective assisted reproductive technique (ART) for treating infertility[1]. Understanding the factors that influence decision-making and the identification of new IVF patients is critical for optimising patient care and outcomes. The purpose of this study was to look into the process of selecting new patients for IVF therapy and the factors that influence their decision to pursue this treatment at ART Fertility Clinics in Ahmedabad. The study's goals were dual. To begin, the study sought to investigate the process of discovering new patients for IVF treatment. Second, it sought to ascertain the criteria that patients evaluate when considering IVF treatment. Male factor, female factor, genetic factor, clinical indication, and unexplained infertility were all examined for patient identification.

An observational study with a descriptive design was carried out to attain these goals. Data was acquired from the clinic's Vrepro (HMS) system, which contained information on the total number of patients who visited the clinic and the number of patients who were advised to undergo IVF therapy[7]. Patients were classified based on demographic factors such as age, income, marital status, and family participation, and their decision-making processes were examined. According to the study findings, age was a significant factor impacting the identification of new patients for IVF treatment. Patients aged 25-30 were more likely to be advised to have IVF, followed by those aged 31-34 and 35-40. Furthermore, wealth, marital status, and family engagement were discovered to influence the decision-making process for patients choosing IVF therapy.

This study adds to our understanding of the process of finding new patients for IVF therapy and offers light on the aspects that patients consider when making IVF decisions. The findings have implications for healthcare practitioners in adapting their efforts to meet the individual needs of each patient, taking age, income, and family history into account.

KEYWORDS

IVF treatment, decision making, male factor, female factor, clinical indication , demographic factors , ART Fertility Clinics,

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Finally, I want to thank all the participants who generously gave their time and shared their experiences, without whom this research would not have been possible.

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ABBREVIATIONS

IVF	In Vitro Fertilization
PGT	Preimplantation genetic testing
ART	Assisted reproductive technology
HCP	Healthcare professionals
OPU	Ovum pick up
LMP	Last menstrual cycle
EMI	Equated monthly instalment
ICSI	Intracytoplasmic sperm injection
PCOS	Polycystic ovary syndrome
POF	Premature ovarian failure

CHAPTER 1: INTRODUCTION

In this chapter, we will look deep into what is IVF and what is the process of IVF and how we see a done cycle in IVF and few important definition, thus establishing the background of the project. Followingthat, the project's goals and objectives are outlined.

1.1 BACKGROUND

Infertility is a complex medical condition that affects millions of people and couples worldwide[1]. It is defined as infertility despite a significant period of regular, unprotected intercourse. Individuals and couples can suffer major emotional, psychological, and social implications as a result of infertility, jeopardizing their overall well-being and quality of life[3].

In the treatment of infertility, assisted reproductive technology (ART) treatments like IVF have arisen as a ray of hope for those who have been unable to conceive.5 IVF includes utilizing sperm to fertilize an egg outside of the body and then implanting the resulting embryo into the uterus[6].

In contrast, the effectiveness of IVF treatment is affected by a number of factors, including the underlying causes of infertility. Only a few of the various causes of infertility include male factor infertility, female factor infertility, inherited factors, and clinical signs. Female factor infertility includes illnesses affecting the reproductive system, such as ovulation difficulties or tubal obstructions, whereas male factor infertility relates to problems with sperm quality, quantity, or function.[9] By way of chromosomal abnormalities or inheritable illnesses, genetic factors in infertility can be a factor. Additionally, the use of IVF may be required by clinical indications, such as certain medical disorders or prior unsuccessful attempts at natural conception.[8]

In addition to medical concerns, a patient's decision to choose IF therapy may also be influenced by a number of social and personal issues. Age is a significant role because fertility decreases with growing older. The cost of treatment and other financial factors, such as income, can affect whether IVF is a viable option[4.] Family members' participation in the decision-making process can offer both logistical and emotional support. Geographic closeness plays a part in the selection, as does location and accessibility to reproductive clinics. Additionally, a person's marital status can influence

their decision to seek IVF because having a supportive partner may play a big role. Understanding the factors influencing patient decisions and the procedure for selecting new patients is of the utmost relevance given the significance of IVF as a potential treatment option for infertility. This study seeks to clarify these issues by offering insightful information on patient preferences, societal dynamics, and demographic factors influencing the decision to receive IVF therapy[5]. Healthcare professionals and fertility clinics may improve patient care, customize treatment plans, and provide the right support to individuals and couples looking for assistance on their path to parenthood by developing a thorough awareness of these aspects.

1.2 SCOPE OF THE STUDY

Identifying new patients who are a good fit for IVF treatment and understanding the factors that influence decision-making are important components for taking decision in proceeding with the IVF treatment. The organization can adjust their efforts to fit the specific needs of each patient by recognizing the impact of age, financial obstacles, family engagement, and other demographic characteristics.

Sr no	Title	Author	Study location	Sample size	Sampling technique	Salient feature
1	"Feasibility and acceptability of psychosocial care for unsuccessful fertility treatment."	Aline R.Lorenzon, Desiree Garcia, Leticia Silva, Cristiane Araujo de Oliveria, Mauricio B.Chehin, Richardo Mello Marinho, Joao Perdo Junquira	Portuguese fertility clinics.	37	Convenience sampling	The ultimate data sample consist of 10 women who participated with their partner and 9 HCP. Reason for non conversion was due to emotional pressure of treatment, lack of time, novel events and unknown reasons. The study points that there is a need to improve patient care who go through negative result. Patient and HCP should see the emotional and psychological impact of failure cycle and purpose of giving support. Psychological counselling plays a major role in helping patient as well as Based on the data, patient and HCP agree on the Importance of improving fertility care, particularly for them who have failure cycle[8].
2	"Research priorities in infertility and assisted reproductive technology treatments"	Aline R.Lorenzon, Desiree Garcia, Leticia Silva, Cristiane Araujo de Oliveria, Mauricio B.Chehin, Richardo Mello Marinho, Joao Perdo Junquira	James Lind Alliance-National Institute for Health Research .	227	Random Sampling	Most common effect of ART were swelling, pain, tiredness and sensitivity. Psychological effects were seen like anxiety(36.1%) and depression(30.6%). The challenges connected with infertility treatment were indicated as time limits (47.2%) and financial constraints (13.9%)[9].
3	"Determinant	Willianne	16 clinic in	1499	Ross	

	s of patient experiences and satisfaction with fertility care. “	L.D.M Nelen, Reinier P. Akkermans, J.H.A Vollebergh, Selma M. Mourad, Richard P.T.M grol, Rosella P.M.G Hermens, Jan A.M. Kremer	Netherland		sectional questionnaire study	The researchers discovered four variables that had a substantial impact on patients' experiences and satisfaction with fertility care. Demographic variables (such as age, gender, and so on), the type of treatment received, and the patients' general and mental health state were discovered to be determinants at the patient level. Surveys on care experiences, with the findings indicating that not only the patient's characteristics, but also the clinic's characteristics, can influence how patients conversion
4	“A Conceptual framework for patient-centered fertility treatment.”	Elizabeth A.Duthie, Alexandra Cooper, Joseph B. Davis, Katherine D. Schoyer, Jay Sandlow, Estil Y.Strawn and Kathryn E. Flynn (2017)	Medical center in suburban Milwaukee , Wisconsin	37		This study was conducted to do a analysis for making a treatment decision. Efficiency, physical and emotional stress, time, expense, risk factors, and genetic parentage are the six treatment dimensions described. This implies that patients do not evaluate each dimension in isolation, but rather make compromises between them.
5	“Satisfaction with in vitro fertilization treatment: patients’ experiences and professionals ’ perceptions”	Limor Dina Gonen-2016	Eight IVF units in Israel.	204		The researchers discovered four variables that had a substantial impact on patients' experiences and satisfaction with fertility care. Demographic variables (such as age, gender, and so on), the type of treatment received, and the patients' general and mental health state were discovered to be determinants at the patient

						level. The study states that psychological characteristics, notably "Pessimism"&"Activeness," were also discovered to be connected to patient convinient. The study discovered a link between patients' willingness to pay for treatment.This suggests that patients who were dissatisfied with aspects of access to care and the physical environment were less willing to pay for treatment.
6	"Effect of body mass index on IVF treatment outcome: an updated systematic review and meta-analysis"	Rittenberg V, Seshadri S, Sunkara SK, Sobaleva S, Oteng-Ntim E, El-Toukhy T-2011		33		The study states that patient age, diagnosis, and the number of unsuccessful cycles were all significant predictors of patient conversion. According to the study, younger patients and those with primary infertility were more likely to convert to IVF. Similarly, van found that being younger, having more education, and having been infertile for a shorter period of time were related with higher conversion rates
7	"Physicians underestimate the importance of patient centeredness to patient: for infertility treatment"	van Empel IW, Dancet EA, Koolman XH, Nelen WL, Stolk EA, Sermeus W, Kremer JA (2011)	Dutch and Belgain Fertility clinics	1378		Patients valued patient-centeredness more than physicians did, and they were wishing to accept higher pregnancy rates in exchange. Pregnancy rates were prioritised by doctors. Patients ranked pregnancy rates 1.5 times higher than physician attitudes, but physicians ranked it 2.4 times higher. In comparison to physicians, patients were more willing rather than pregnancy rates for a happy mood.The study

						emphasizes the significance of patient preferences and the relevance of a patient-centered approach in fertility care
8	"Why patients drop out from IVF treatment? A prospective cohort study"	Mascarenhas M, Ramachandran A, Srinivasan S (2008)		384	Prospective cohort study	This study looked at IVF treatment drop-out rates among 38-year-old couples. Out of 384 couples, 17% dropped out due to the physical or psychological load of treatment. A modest treatment technique considerably lowered the risk of dropout. 8.The connection between baseline anxiety and drop-out was minimized when a gentle IVF technique was used. Dropout rates must be reduced in order to improve IVF efficacy and cost-effectiveness. Mild treatment tactics and controlling patient expectations can help to lower dropout rates

CHAPTER 3: METHODOLOGY

This Chapter provides the readers with a detailed explanation of how the data was collected and analyzed. It allows the reader to understand the research design, the population studied, the sampling methods used, and the data collection and analysistechniques employed.

3.1 RESEARCH QUESTION

1. What is the process of identifying new patient to IVF treatment?
2. What are the possible factors that influence decision making for an IVF treatment?

3.2 AIM AND OBJECTIVE

Aim: The intent of this research is to look at the selection of new patients for the procedure of IVF and to analyze probable factors that influence the decision to proceed with the treatment.

Objective:

1. To study the process of identifying new patient to IVF treatment.
2. To determine the factors which matters for patient to opt for the treatment.

3.3 RESEARCH DESIGN

It consists of a strategy for addressing the research issue and the study's goal. The main goal of the project is to investigate the factors that influence patient decisions about IVF therapy for infertility in ART reproductive clinics in Ahmedabad. The purpose of the study is to look at the relationship between infertility and IVF by looking at things like male factor infertility, female factor infertility, genetic variables, and clinical indications. Furthermore, the study seeks to ascertain the impact of demographic and socioeconomic characteristics such as age, income, family involvement in decision-making, geography, and marital status on patient decisions for IVF treatment.

3.3.1 STUDY SETTING

The study was carried out at ART Fertility Clinics-Ahmedabad, a chain of ART

Fertility Clinics. The study was conducted under the guidance of Center Head, of the Ahmedabad clinic, and spanned from March to May of 2023.

3.3.2 RESEARCH APPROACHES

Observational research would normally be used to investigate the factors influencing patient decisions and the process of selecting new patients for IVF therapy. A cross-sectional study design, in particular, would be appropriate for this research purpose.A cross-sectional study collects data from a specific population at a specific period in time without modifying any variables. In this situation, information would be gathered from individuals and couples who have either chosen IVF treatment or are evaluating it as a possible treatment option for infertility. The study would attempt to capture a snapshot of their decision-making process as well as the factors influencing their choices.

Sampling technique used for this study was purposive sampling to select the study population. Purposive sampling involves selecting participants who met specific criteria.

Data was collected from Vrepro (HMS) of the clinic to find the causes of the infertility factors the advised treatment plan was seen and after that only the patient were categorized for the research and was analyzed using MS-Excel. To Find out the factors affecting the decision making interview of patient were done on the the basis of that factors were taken like demographic details.

The data was collected and on the number of new patients visiting the clinic and number of patients opting for IVF treatment was recorded. Patients were divided on the basis of ages and were further defined on the basis of the parameter which includes unexplained infertility, male factor, female factor, genetic factors. The number of new patient which went for IVF advice were classified for the above parameters..

Table 1: Total number of patients and IVF advised patient

Total patient	**IVF treatment**
163	55

Table 1 shows the total number of patients who were infertile patient and 55 were the patient who opted for the IVF treatment.

Table 2: IVF opted patient distributed on basis of the parameters.

Age Group	Unexplained Infertility	Male Factor	Female Factor	Genetic Factor	Clinical Indicator
20-24	2	1	0	0	3
25-30	4	4	3	1	2
31-34	3	3	3	2	1
35-40	2	2	6	4	1
>40	1	1	4	2	0

Table 2 includes all the 5 parameters and the patient are included for the same. Different age groups were included and patient were distributed according to the parameters used. For example age group 25-30 includes 2 patients for unexplained fertility 1 for male factor and none for female factor none for genetic factor and 3 for clinical indication. The following distribution was used for further all patient.
In order to study the factors that influence the start and continuation of fertility treatment, we specifically sought out participants from the following two groups:
1.Patients who met the criteria for infertility but hadn't sought treatment
2.Patient who requested an evaluation for infertility but did not follow through with the recommended plan.
An interview was conducted for all 163 patients where different factors were analyzed based on their demographic characteristics. The patient decision was seen on factors such as age, location, income, family background, etc.

3.3.3 ETHICAL CONSIDERATION

The study involves no personal patient data. This is done to ensure the confidentiality and privacy of patient. Ever patient was informed about the same and there was full transparency.

CHAPTER 4: RESULTS

This section provides the readers a clear and concise summary of the data collected, analyzed, and interpreted for proving the answer to the research questions for easy understanding

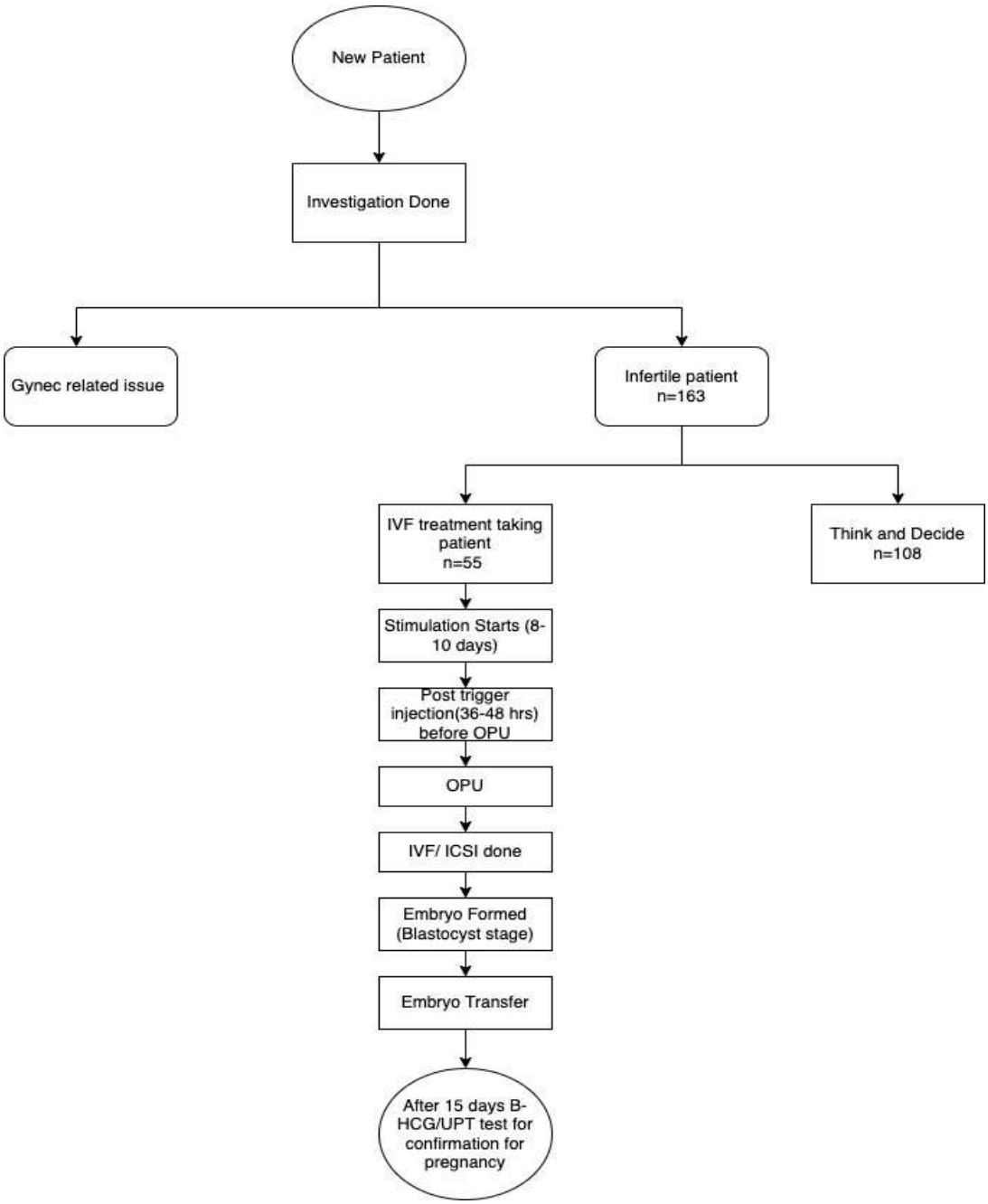

Figure 1: Flow chart process of IVF treatment

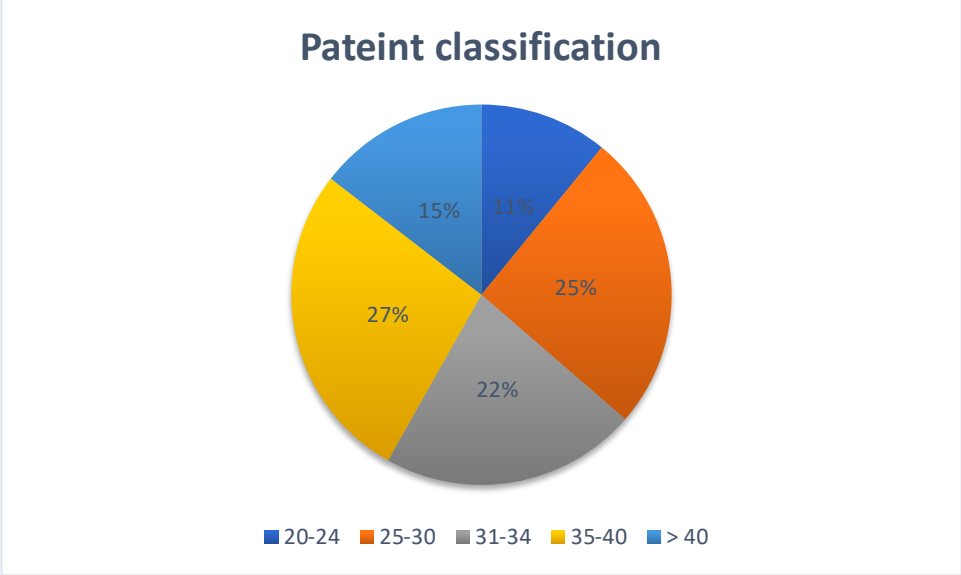

Figure 2: Pie chart of patient classification of IVF treatment on age group.

The total percentages of IVF patient converted finding from total number of patients was described in above pie chart.

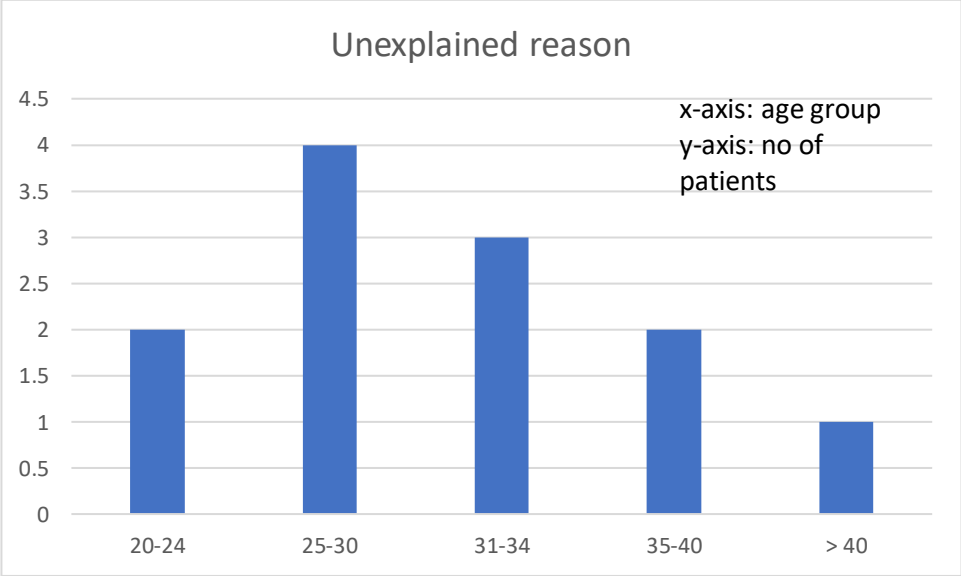

Figure 3: Age related distribution of unexplained infertility.

Figure 3

We can conclude that most of the patients for unexplained infertility converted to IVF advice were from the second age group i.e.(25-30) and followed by ages 31-34 and 35-40. The least was from above >40age group.

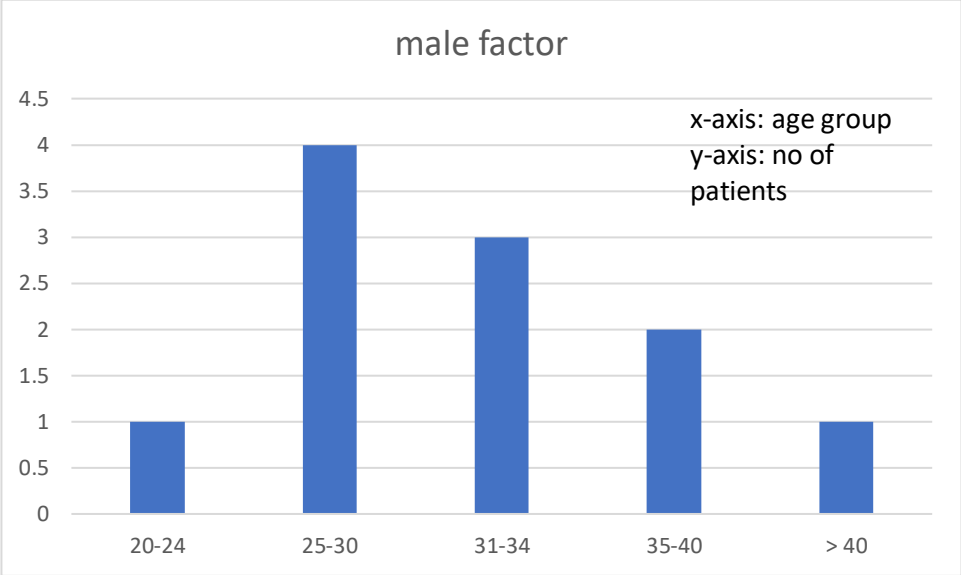

Figure 4: Age related distribution of male factor.

Figure 4

The above graph states that 25-30 ages patient male has the issue more than any ages which lead to take IVF treatment followed 31-34 ages group and other.

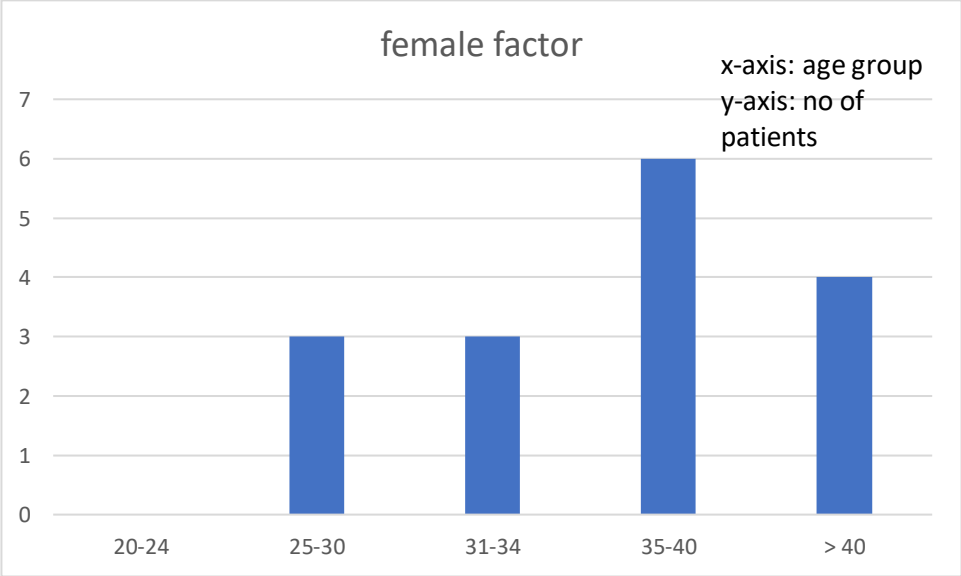

Figure 5: Age related distribution of female factor.

Figure 5

Female factors which helped for IVF advice among the total patients were at the age of 35-40 which was found to be the most. Followed by the age group above >40 females had issue led to take advise of IVF treatment.

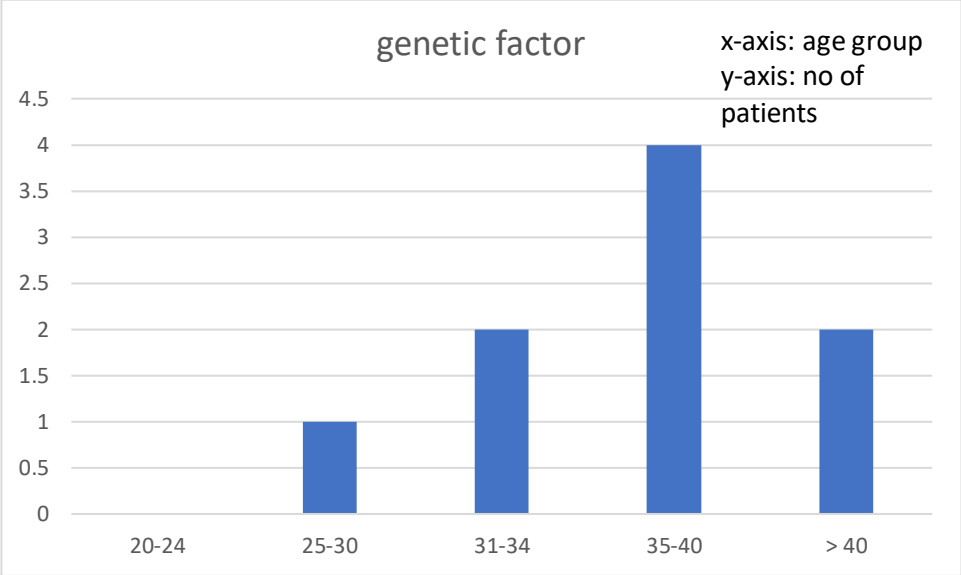

Figure 6: Age related distribution of genetic factor.

Figure 6

The IVF advised for the genetic factor was more in patient between ages35-40 among the total number of patient found followed by other age group like >40 and 31-34 ages patient.

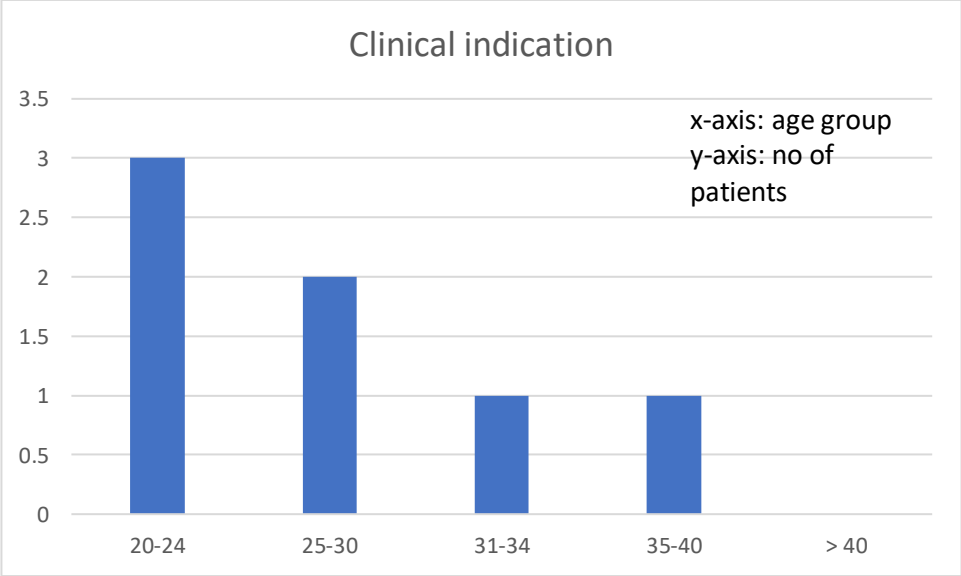

Figure 7: Age related distribution of clinical indication.

Figure 7

This includes clinically indicated patients who were included for IVF advice. This states that ages between 20-24 was highly advised followed by ages 25-30 and age between 31-34

& 35-40 are at same position. beside patients above 40 were not advice to IVF.

Table 3: Decision factors considered by patient for getting converted

	Patient to seek care(n=55)		**Patient to return for care(n=108)**	
	Enhancing driver	Non-Enhancing driver	Enhancing driver	Non-Enhancing driver
Age	45%	10%	35%	15%
Location	12%	5%	6%	10%
Income	5%	25%	3%	27%
Family member	5%	3%	14%	5%
Marital status	23%	2%	11%	1%
None of the above	10%	15%	31%	42%

Table displays the factors that influence seeking and returning for the therapy. The biggest motivator for both seeking (45%) and returning to care (35%) was age. The greatest deterring factor for both seeking (40%) and returning to care (27%) was reported as income. All age groups (20-34, 35-39, 40-44, and 45+ years) indicated similar rates of age as a factor in seeking or returning for care.

Age was mentioned as the main motivator for initial care seeking by both treated and non-treated participants when responses were compared by treatment category (treated vs. non-treated). More non-treated individuals than treated participants named household income as the most deterring aspect of their decision-making. those who had received treatment were more likely than those who had not to say that none of the listed variables had the most negative impact on their choice to seek reproductive care.Age was mentioned as the main factor in decision-making among participants who completed an unsuccessful IVF cycle and returned for care (35%), followed by other members of the participant's household (14%). And "none of the above" (31%). In contrast, participants who chose not to return for follow-up care after unsuccessful IVF treatment most frequently said that none of the aforementioned variables had a role in their choice (60%).

CHAPTER 5: DISCUSSION

Various parameters were analyzed during discussions with 163 patients based on their demographic data, such as age, location, income, and family involvement.

The following were the key findings:

- Age distribution: The majority of individuals with unexplained infertility who were advised to undergo IVF therapy were between the ages of 25 and 30, followed by 31-34 and 35-40. The number was lowest in the over-40 age group.
- Male factor infertility: Patients aged 25-30 had the highest number of cases, followed by those aged 31-34.
- Female factor infertility: The age group 35-40 had the most cases, followed by the age group beyond 40.
- Genetic factors: Patients aged 35-40 had the highest number of instances, followed by those aged beyond 40 and 31-34.
- Clinical indication: Patients aged 20-24 were the most likely to be advised for IVF, followed by those aged 25-30. Patients aged 31-34 and 35-40 had similar statistics, whereas patients above 40 were not encouraged to do IVF.

Further investigation found that age was the most important motivator for seeking and returning to care, while financial was the most important deterrent. Age was recognized as a consideration by all age groups, although non-treated individuals identified income as the most significant deterrent. Participants who returned for care after an unsuccessful IVF cycle cited age, family members, and "none of the above" as decision-making considerations. Participants who elected not to return for follow-up care following unsuccessful IVF treatment cited no specific factors as affecting their decision.

RECOMMENDATIONS

1. *Increase patient awareness: There is a need to raise public understanding regarding infertility and various treatment options, including IVF. Educational initiatives and programmes can be established to dispel myths about fertility treatments and provide factual information.*
2. *Counselling and follow-up techniques should be tailored: Because age influences the decision to pursue IVF therapy, healthcare professionals should prioritise counselling and follow-up interventions for patients in their late twenties and early thirties. Individuals can make more educated decisions if they are given thorough information regarding fertility preservation alternatives and the potential impact of age on*

treatment success. Implement a systematic follow-up system:

3. *Create a systematic follow-up strategy for patients who have been advised to undergo treatment for IVF but have yet to do so. Follow-up calls or personalized communication on a regular basis can assist address any concerns, provide extra information, and urge patients to continue with the suggested treatment.*
4. *Maintaining menstrual cycle data: The clinic should have the data of LMP of patient who are advised IVF treatment as this will help in calling the patient to start the stimulation at the best time and will help in improve result of conversion cycle.*
5. *Provide financial assistance option: For some patients considering IVF therapy, financial restraints might be a substantial hurdle. Explore financial help options like as payment plans, collaboration with insurance providers, flexible installment payment option and EMI choices. By making payment choices more accessible and inexpensive, more patients may be motivated to pursue the indicated treatment.*
6. *Enhance patient education and counselling: Improve patient education and counselling sessions to address typical IVF concerns and misconceptions. A thorough grasp of the process, success rates, potential hazards, and emotional components involved can soothe patient concerns and boost their confidence in pursuing IVF treatment.*

REFERENCES

1.Subramanian V, Ravichandran A, Thiagarajan N, Govindarajan M, Dhandayuthapani S, Suresh S. Seminal reactive oxygen species and total antioxidant capacity: Correlations with sperm parameters and impact on male infertility. Clinical and Experimental Reproductive Medicine. 2018 Jun;45(2):88

2. Sousa-Leite M, Fernandes M, Reis S, Costa R, Figueiredo B, Gameiro S. Feasibility and acceptability of psychosocial care for unsuccessful fertility treatment. Health Expectations. 2022 Sep 20.

3. Lorenzon AR, Garcia D, Silva L, de Oliveira CA, Chehin MB, Marinho RM, Caetano JP, Vassena R, da Motta EL. Research priorities in infertility and assisted reproductive technology treatments-a James Lind Alliance priority setting partnership with brazilian patients. JBRA Assisted Reproduction. 2020 Jul;24(3):265.

4. Duthie EA, Cooper A, Davis JB, Schoyer KD, Sandlow J, Strawn EY, Flynn KE. A conceptual framework for patient-centered fertility treatment. Reproductive health. 2017 Dec;14:1-0.

5. Determinants of patients' experiences and satisfaction with fertility care:Selma M. Mourad, Willianne. Nelen , Reinier P. Akkermans J.H.A. Vollebergh, Richard P.T.M. Grol, Rosella P.M.G. Hermens , Jan A.M. Kremer;2010.

6. Gonen LD. Satisfaction with in vitro fertilization treatment: patients' experiences and professionals' perceptions. Fertility research and practice. 2016 Dec;2(1):1-1.

7. Rittenberg V, Seshadri S, Sunkara SK, Sobaleva S, Oteng-Ntim E, El-Toukhy T. Effect of body mass index on IVF treatment outcome: an updated systematic review and meta-analysis. Reproductive biomedicine online. 2011 Oct 1;23(4):421-39.

8. Van Empel IW, Dancet EA, Koolman XH, Nelen WL, Stolk EA, Sermeus W, D'Hooghe TM, Kremer JA. Physicians underestimate the importance of patient-centredness to patients: a discrete choice experiment in fertility care. Human reproduction. 2011 Mar 1;26(3):584-93.

9. Dancet EA, Nelen WL, Sermeus W, De Leeuw L, Kremer JA, D'Hooghe TM. The patients' perspective on fertility care: a systematic review. Human Reproduction Update. 2010 Sep 1;16(5):467-87.

10. Verberg MF, Fauser BC, Macklon NS. Reply: Why do couples drop out from IVF treatment?. Human reproduction. 2009 Mar 1;24(3):759-.

11. Aletebi F. High-response intrauterine insemination cycles converted to low-cost in vitro fertilization. Journal of Multidisciplinary Healthcare. 2011 May 10:119-24.

12. Delbos L, Parot-Schinkel E, El Hachem H, Legendre G, Descamps P, Boucret L, Ferré-L'Hotellier V, Jeanneteau P, Dreux C, Morinière C, May-Panloup P. ConFIRM trial-conversion of in vitro fertilization cycles to intrauterine inseminations in patients with a poor ovarian response to stimulation: a protocol for a multicentric, prospective randomized trial. Trials. 2018 Dec;19:1-8.

13. Fujii DT, Quesnell JL, Heitmann RJ. Conversion to IUI versus continuance with IVF in low responder patients: A systematic review. European Journal of Obstetrics & Gynecology and Reproductive Biology. 2018 Aug 1;227:35-40.

14. Whittier Olerich K, Summers K, Lewis AM, Stewart K, Ryan GL. Patient identified factors influencing decisions to seek fertility care: adaptation of a wellness model. Journal of reproductive and infant psychology. 2021 May 27;39(3):263-75.

15.Van Loendersloot LL, Van Wely M, Limpens J, Bossuyt PM, Repping S, Van Der Veen F. Predictive factors in in vitro fertilization (IVF): a systematic review and meta-analysis. Human reproduction update. 2010 Nov 1;16(6):577-89.

16. Amini P, Ramezanali F, Parchehbaf-Kashani M, Maroufizadeh S, Omani-Samani R, Ghaheri A. Factors associated with in vitro fertilization live birth outcome: a comparison of different classification methods. International Journal of Fertility & Sterility. 2021 Apr;15(2):128.