



A Pilot Study To Assess Effectiveness Of Nurse Lead Program For Implementation Of In-Vitro Fertilization Treatment & Related Coping Strategies Among Infertile Women At Selected Hospital(Aum & Priya IVF Clinic) Annand ,Gujarat.

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1.1 Introduction:

Infertility affects many families in terms of their social relationships, finances, and intramarital relationship. But most significantly, it affects the psychological health of the infertile woman or couple. Infertility is stigmatized in our society. According to Inhorn MC's study, social isolation and negative self-perception are two outcomes of infertility. The inability to carry out a pregnancy successfully, or the pregnancy being interrupted at some point, is referred to as infertility. One-fifth to one-sixth of couples who are old enough to procreate suffer from infertility. Although infertility does not endanger a person's life or compromise their physical integrity, it has a detrimental impact on their social and psychological well-being.¹

According to **Kristin L. Rooney's** research, there is a connection between stress and infertility. Unpleasant emotions can lead to a number of detrimental effects in couples, such as hopelessness, a low quality of life, suffering, and anxiety. Compared to other patients, recipients of Assisted Reproductive Treatment (ART) are more likely to experience mental health issues. Infertility affects about 80 million couples globally, and the number is growing. A 2002 study by the World Health Organization (WHO) revealed that 186 million women (apart from China) were infertile. Infertility is a social and emotional problem as well as a medical one, in some cultures, and it can occasionally lead to divorce.²

Sheng chen revealed. A systematic assessment of website content was conducted between December 2019 and April 2020, capturing IVF add-ons advertised, including costs, claims of benefit, statements of risk or limitations, and evidence of effectiveness for improving live birth and pregnancy. A review of the literature was conducted to determine the strength and quality of evidence for each add-on. Of the 40 included IVF clinic websites, 31 (78%) listed one or more IVF add-ons. There were 21 different add-ons or add-on groups identified, with preimplantation genetic testing for aneuploidies (offered by 63% of clinics) being the most common. It is estimated that the use of IVF add-ons is common in many systems (33%) and assisted hatching (28%). Claims of benefit were typically made along with descriptions of the IVF add-ons in 77% of the cases. Only 9.8% of the claims were backed up by scientific publications, and 90% of the claims were not quantified.³

1.2 Need of the study :

Infertility is hidden label for sense of shame and unworthiness to experience motherhood. The psychological symptoms of infertility, as taken from a study, suggests that around 25-60% of individuals who are infertile have reported psychiatric symptoms. The depression and anxiety levels are high among the infertile individuals⁴.

For ,infertile couples, the society makes them feel emotions like disappointment, disapproval, and other coping issues for not being able to have a child. A female suffers various psychological distresses like loss of body control, the feeling of being an outcast, a psychological void due to an unfulfilled maternal instinct, loneliness from the lack of emotional support a child offers, unmet social role, lack of social security in old age, and low self-esteem. during my clinical postings & interaction. Unfortunately, there are a lot of infertile couples in society that could benefit from counselling sessions to improve their mental health and monitor the mother's reproductive health.

1.3 Problem statement

A study to Assess Effectiveness of Nurse Lead Program for Implementation of In-Vitro fertilization treatment & related coping strategies among Infertile women at selected hospital Annand ,Gujarat.

1.4 Objectives:

- To assess knowledge on Implementation of IVF treatment among infertile women.
- To assess Effectiveness of Nurse Lead program for coping strategies & implementation of treatment among infertile women
- To determine association between level of knowledge and selected Socio-demographic variables (Age, Education, Type of Family) among infertile mothers.

1.5 Operational definitions:

- **Effectiveness** : It is the ability to produce or develop something established.
- **Implementation** : is the execution or practice of a plan, a method or any design, idea, model, specification, standard or policy for doing something.
- **Nurse Lead Program** : it is care of patients which is organized and done by nurses
- **IVF Treatment** : a complex series of procedures used to help with fertility or prevent genetic problems and assist with the conception of a child
- **Infertile women** : women who is trying to get pregnant with frequent, unprotected sex for at least a year with no success.
- **Coping strategies** : to the specific efforts, both behavioral and psychological, that people employ to master, tolerate, reduce, or minimize stressful events.

1.6 Assumption :

Infertile women may have negative feelings for IVF Treatment & related Coping strategies.

1.7 Hypothesis :

H₁: There will be significant association between Implementation of IVF Treatment and coping strategies for infertile women.

1.8 Delimitations:

- Study is delimited to Infertile women who are receiving IVF treatment
- Study is delimited to those infertile women who faces stress and problem with coping
- Study is conducted only in Akansha Hospital Annand.

1.9 Conceptual Framework :

The conceptual framework used in the present study is modified Nola Pender's Health Promotion Model.

1.10 Review of Literature:

Review of literature is a systematic identification, location, selection and summary of written material that contains information on research problems. Literature review is based on the extensive survey of books, journals, audio visual aids and international nursing indices. It provides books for future investigations, justifies the need for study of scientific knowledge in a profession discipline from which valid and pertinent theories may be developed. The investigator followed these steps in the review of related research and non research literature to broaden the understanding and to gain an insight into the selected problem, under study. Various books, journals, printed sources and electronic sources were utilized for this purpose and the review of literature for present study was organized under the following heads

1.10.1 Section wise classification of Review of literature

1.10.1.1 literature Review related to Implementation of IVF Treatment .

1.10.1.2 literature review related to coping strategies for IVF.

1.10.1.1 literature Review related to Implementation of IVF Treatment among infertile women :

On March 17, 2020, Catherine Averal surveyed patients whose fertility care had been disrupted by COVID-19 about their psychological experiences and coping strategies after treatment was resumed. The two academic fertility practices in the Northeast were included in the survey were the Yale Medicine Fertility Center in Connecticut and Montefiore's Institute for Reproductive Medicine and Health in New York. Both multiple-choice and open-ended questions were used to collect demographic and reproductive history data. 734 patients in all were invited to take part. 214 respondents, or 29.2%, finished the survey. Individuals stated that, on average, their infertility treatment had involved oral medication use ($p = 0.0001$) and anxiety history, both of which were associated with decreased resilience. Using oral medication as a prior infertility treatment was linked to lower resilience ($p = 0.003$), as was having higher STAI-I scores.⁵

According to **Mariyam Ghorbani** The effect of patient-physician communication, 488 patients from 28 infertility clinics in France took part in the observational research. Questionnaires were administered prior to treatment initiation (V1) and at oocyte retrieval (V2) to collect data on communication quality, patient

knowledge, understanding of treatment instructions, and adherence to treatment protocol. Averaging 75 percent on a 0–100% rating scale, (71% on average) in understanding potential side effects of the treatment. Differences between the reports from the patient and the doctor revealed gaps in the treatment of 20.5% of patients ($n = 79/386$), most often due to confusion about the dosage and units of gonadotropin. Anxiety over self-injections and low self-confidence in one's ability to do the procedure correctly were evident in about one-third of the patients. As for patient satisfaction, doctors reported high levels of it. ⁶

In the University Hospital's Center for Reproductive Medicine in Coventry, UK, **Bee K. Tan** conducted research and developed a survey. 2% of those surveyed gave a response. The definition that was most commonly used was three unsuccessful IVF cycles (range 2–6). In 19% of the cases, frozen embryo replacements (FERs) were used. The most frequently suggested tests were hysteroscopy and karyotype, which were followed by lupus anticoagulant and anticardiolipin antibodies. Most centers would use a different treatment strategy with blastocyst culture and assisted hatching in a later cycle. The results of this survey suggest that there is considerable variation in the approach to investigation and management of recurrent IVF treatment failure in the UK, although in some areas There was widespread agreement. Not every one of these methods is supported by evidence. ⁷

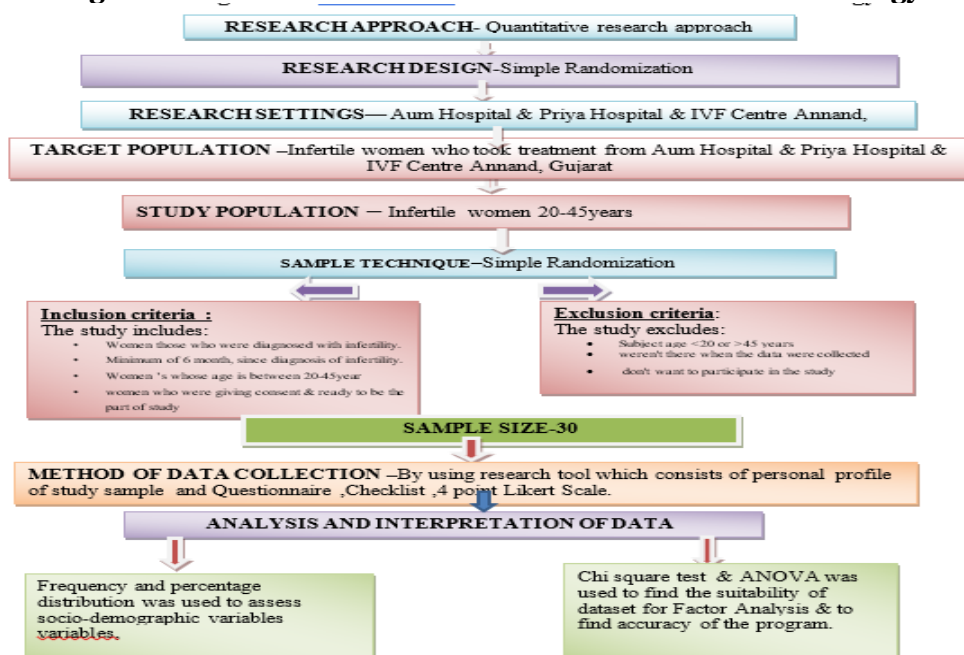
1.10.1.2 Literature review related to coping strategies for IVF

Alicia Malina shown in her studies as 51 heterosexual couples who were candidates for in vitro fertilization participated in an experimental study. Two groups were randomly assigned to the participants: the experimental group and the control group. As a biomarker for stress, the first step in the research process was to take a sample of each couple's saliva (cortisol). In the second stage, the control group watched an educational (non-emotional) video about human embryology. The experimental group engaged in a social interaction process that was supportive. Based on statistical analysis, there is a significant reduction in stress levels following the supportive social interaction. Both men and women saw a higher drop in cortisol levels, according to the reported differences between the experimental and control groups. The results of the study unequivocally demonstrate the positive effects of communication and expression of emotions on infertility treatment recipients, both physiologically and psychologically. ⁸

HongkunZhu. Recommended reading to evaluate the cooperation between different authors, countries, and organizations. There were 151 publications in all about psychology and infertility. Between 2001 and 2021, the number of publications grew gradually. For bibliometric analyses, the biblio metrix R package and the VOS viewer software were used. Boivin J. was the most prolific author (16 articles), with the highest h-index and the greatest number of citations (890 times). in terms of regular publication as well as involvement in ongoing projects. The United Kingdom (34 papers) and Cardiff University (25 articles) contributed the most in terms of publications. Active cooperation between countries and organizations was observed, as well as an analysis of publications and references. The outcomes of this study provide a thorough overview of the evolution of scientific literature, allowing relevant authors and research teams to assess the current state of the field's research. ⁹

CHAPTER III RESEARCH METHODOLOGY

Figure No: 1 Schematic Presentation of Research Methodology



1.11 DEVELOPMENT AND DESCRIPTION OF TOOL

The final draft consist of the following part-

Part-I- Structured Knowledge questionnaire.: Socio-demographic variable which includes Age of Female. Religion, family, Education level , Employment status, Place of Residence, source of information

Part-II- Nurse lead program on knowledge for infertility & its treatment.

Infertility Counseling Education Program Study Procedure Since there were not enough previous studies on the infertility counseling education program to suggest a number and time of operation for the program, the program was developed as an 4-h education program with 30 participants per day, The validity of the contents of the developed program was evaluated by 1 professor in counseling psychology, 1 infertility specialist nursing team leader, and 1 female health nursing professor. The expert content validity index (CVI) .7 or higher is recommendable.

- Checklist for coping strategies (COMPI) was used
- Further, 4-point Likert scale is used to evaluate the adequacy of the content of the counseling program, the practical utility, the benefit of the educational content, the appropriateness of the education time, and the appropriateness of the education method.

1.12 ETHICAL CONSIDERATION

- Ethical clearance was obtained from the DESH BHAGAT UNIVERISITY concerned authority.
- Before subjects are enrolled, they will be told of the study's goals and specifics, and their informed consent will be obtained.
- The confidentiality of the data gathered will be guaranteed to the study volunteers
- Permission will be obtained from selected Hospital Annand Gujarat.

1.13 DATA COLLECTION METHOD

A formal permission was obtained from the Research Dean -Desh Bhagat University, Mandi Gobindgarh ,Punjab & concerned authority of AUM Hospital & Priya Hospital & IVF Centre ,Annad, Gujarat and took consent from study participant. Then The purpose of the study was explained to the participants and informed written consent was also obtained from them.. The data collection period was for one week. (February 2023)

• Pilot Study

“Pilot study will be conducted on 10% of population sample of subjects to find out the feasibility for conducting the study and design a plan on statistical analysis”.

Table 1.1 Sociodemographic variables:

| 1. Age | Frequency | Percent |
|---|-----------|---------|
| 31 - 35 Years | 30 | 100.0 |
| 2. Education | | |
| College Education | 30 | 100 |
| 3. Occupation | | |
| Self Employed | 27 | 90.0 |
| Unemployed | 3 | 10.0 |
| 4. Family income | | |
| More than 20,000 | 30 | 100.0 |
| 5 Religion | | |
| Hindu | 13 | 43.3 |
| Muslim | 14 | 46.7 |
| 6. Type of family | | |
| Nuclear Family | 9 | 30.0 |
| Joint Family | 21 | 70.0 |
| 7. Residing area | | |
| Urban Area | 30 | 100 |
| 8. Sources of Information regarding Infertility | | |
| Mass media | 20 | 66.7 |
| From Parents/relatives | 10 | 33.3 |

Table 1.1 Depicts the entire group consists of 30 individuals, all of whom are aged between 31 and 35 years old. Whereas all the individuals received college education so group is homogeneous education background, 90% of the group (27 individuals), are self-employed, while the remaining 10% (3 individuals) are unemployed. Similarly, the entire group falls into a higher income bracket, with all families earning more than 20,000. an overview of the religious diversity within the sample group is shown with Hinduism (43.3%) and Islam (46.7%) being the most prevalent religions. Although majority of individuals in the group are part of joint families (70%)while a smaller proportion are from nuclear families. Considering that all individuals in the group reside in urban areas. As significant portion of the group relies on mass media for information about infertility, while another portion relies on family members for the same.

1.14 Content validity and reliability

Development and validation of measure in pilot study : To establish reliability and validity for new and adapted items, we conducted a pilot study with 30 participants from the same community as the main sample, recruited through personal interaction and word-of-mouth. Of the 13 coping strategies items used in the main sample of over 590 participants, a domain-level factor analysis for all regulatory strengths produced this 13-item factor, consisting of items reflecting both appraisal and behavioral methods of coping. Internal consistencies (coefficient alphas) for the pilot study was 0.7.

Table 1.2
Reliability Statistics

| Cronbach's Alpha | N of Items |
|------------------|------------|
| .704 | 16 |

Table 1.3 Checklist was analyzed by Modifying COMPI Tool For infertility as under
Correlation Matrix

| Correlation | Q1 | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 |
|-----------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Q1 | 1.000 | -.290 | -.247 | -.061 | -.186 | -.033 | .221 | .397 | -.057 | -.410 | -.086 | -.435 | -.030 |
| Q2 | -.290 | 1.000 | .135 | .036 | .465 | .294 | -.211 | .245 | .017 | .573 | .008 | .379 | -.168 |
| Q3 | -.247 | .135 | 1.000 | -.082 | -.021 | .161 | .018 | .076 | -.029 | .050 | -.189 | -.012 | .385 |
| Q4 | -.061 | .036 | -.082 | 1.000 | .272 | .126 | -.095 | .277 | .651 | .432 | .111 | .373 | -.406 |
| Q5 | -.186 | .465 | -.021 | .272 | 1.000 | .264 | -.107 | .155 | .313 | .515 | .307 | .583 | -.310 |
| Q6 | -.033 | .294 | .161 | .126 | .264 | 1.000 | -.224 | .386 | .332 | .264 | .090 | .171 | .095 |
| Q7 | .221 | -.211 | .018 | -.095 | -.107 | -.224 | 1.000 | -.077 | -.013 | -.272 | -.133 | -.014 | .061 |
| Q8 | .397 | .245 | .076 | .277 | .155 | .386 | -.077 | 1.000 | .129 | .220 | -.060 | .032 | .095 |
| Q9 | -.057 | .017 | -.029 | .651 | .313 | .332 | -.013 | .129 | 1.000 | .239 | .004 | .299 | -.301 |
| Q10 | -.410 | .573 | .050 | .432 | .515 | .264 | -.272 | .220 | .239 | 1.000 | .307 | .583 | -.389 |
| Q11 | -.086 | .008 | -.189 | .111 | .307 | .090 | -.133 | -.060 | .004 | .307 | 1.000 | .399 | -.222 |
| Q12 | -.435 | .379 | -.012 | .373 | .583 | .171 | -.014 | .032 | .299 | .583 | .399 | 1.000 | -.106 |
| Q13 | -.030 | -.168 | .385 | -.406 | -.310 | .095 | .061 | .095 | -.301 | -.389 | -.222 | -.106 | 1.000 |
| Sig. (1-tailed) | | | | | | | | | | | | | |
| Q1 | | .060 | .094 | .374 | .162 | .432 | .120 | .015 | .382 | .012 | .326 | .008 | .436 |
| Q2 | .060 | | .238 | .426 | .005 | .057 | .131 | .096 | .465 | .000 | .483 | .019 | .187 |
| Q3 | .094 | .238 | | .332 | .455 | .197 | .462 | .344 | .439 | .396 | .158 | .475 | .018 |
| Q4 | .374 | .426 | .332 | | .073 | .253 | .309 | .069 | .000 | .009 | .280 | .021 | .013 |
| Q5 | .162 | .005 | .455 | .073 | | .079 | .287 | .206 | .046 | .002 | .050 | .000 | .048 |
| Q6 | .432 | .057 | .197 | .253 | .079 | | .117 | .018 | .037 | .079 | .319 | .184 | .308 |
| Q7 | .120 | .131 | .462 | .309 | .287 | .117 | | .343 | .474 | .073 | .241 | .471 | .375 |
| Q8 | .015 | .096 | .344 | .069 | .206 | .018 | .343 | | .248 | .121 | .377 | .433 | .308 |
| Q9 | .382 | .465 | .439 | .000 | .046 | .037 | .474 | .248 | | .102 | .492 | .055 | .053 |
| Q10 | .012 | .000 | .396 | .009 | .002 | .079 | .073 | .121 | .102 | | .050 | .000 | .017 |
| Q11 | .326 | .483 | .158 | .280 | .050 | .319 | .241 | .377 | .492 | .050 | | .014 | .119 |
| Q12 | .008 | .019 | .475 | .021 | .000 | .184 | .471 | .433 | .055 | .000 | .014 | | .288 |
| Q13 | .436 | .187 | .018 | .013 | .048 | .308 | .375 | .308 | .053 | .017 | .119 | .288 | |

Table 1.3 depicts

• Strength of Correlation:

The values in the matrix range from -1 to 1, with 1 indicating a perfect positive correlation, -1 indicating a perfect negative correlation, and 0 indicating no correlation. a correlation of 0.397 between Q1 and Q8 suggests a relatively strong positive correlation between these two variables.

• Direction of Correlation:

Negative values (-1 to 0) indicate an inverse relationship, meaning as one variable increases, the other tends to decrease. Positive values (0 to 1) indicate a direct relationship, where both variables tend to increase or decrease together.

• Interpretation of Specific Correlations:

Significant correlations (those with p-values below a certain threshold, typically 0.05) are typically highlighted. For instance, the correlation between Q4 and Q9 (0.651) appears to be significant, indicating a potentially strong positive relationship between these two variables.

• Insights into Relationships:

Analyzing correlations can provide insights into which variables are related to each other, high correlations between certain questions may indicate redundancy in the questionnaire or suggest underlying patterns in the data.

• Consideration of Significance:

Correlations should be interpreted in conjunction with their associated p-values (significance levels). A low p-value indicates that the observed correlation is unlikely to be due to random chance, a correlation may be strong, but if the associated p-value is high, it suggests that the observed correlation could have occurred by chance.

Overall, this correlation matrix provides valuable information about the relationships between different variables in the dataset, aiding in further analysis and interpretation of the data.

Table 1.4 Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy:

KMO and Bartlett's Test

| | |
|--|--------------------|
| Kaiser-Meyer-Olkin Measure of Sampling Adequacy. | .603 |
| Bartlett's Test of Sphericity | Approx. Chi-Square |
| | Df |
| | Sig. |
| | 126.007 |
| | 78 |
| | .000 |

Table 1.4 suggests The KMO measure to assesses the appropriateness of data for factor analysis. The obtained KMO value was 0.603, indicating a marginally adequate fit for factor analysis. While the KMO value falls in the marginally adequate range, the highly significant result of Bartlett's Test of Sphericity suggests that this dataset is suitable for factor analysis.

Table 1.5 Likert scale measures :

| | N | Minimum | Maximum | Mean | | Std. Deviation |
|-----|-----------|-----------|-----------|-----------|------------|----------------|
| | Statistic | Statistic | Statistic | Statistic | Std. Error | Statistic |
| SUM | 30 30 | 18 | 22 | 20.57 | .213 | 1.165 |

Table 1.5 Indicates The values in question have a range from 18 to 22, with a standard deviation of 1.16. This suggests that the data points are relatively closely clustered together, indicating limited variability within this dataset

1.15 References:

- Inhorn MC, Patrizio P. Infertility around the globe: new thinking on gender, reproductive technologies and global movements in the 21st century. Hum Reprod Update. 2015;21(4):411–426. doi: 10.1093/humupd/dmvo16. [PubMed] [CrossRef] [Google Scholar]
- Kristin L. Rooney, BA; Alice D. Domar, PhD Dialogues in Clinical Neuroscience The relationship between stress and infertility - Vol 20 . No. 1 . 2018)
- Sarah Lensen, Sheng Chen IVF add-ons in Australia and New Zealand: A systematic assessment of IVF clinic websites.16 February 2021 <https://doi.org/10.1111/ajo.13321>, ANZJOG
- Psychological experience and coping strategies of patients in the Northeast US delaying care for infertility during the COVID-19 pandemic David B. Seifer^{1*}, Department Obstetrics, Gynecology and Reproductive Sciences, Yale School of Medicine, New Haven, CT, USA.
- Paul Barrière a, Catherine Avril b Patient perceptions and understanding of treatment instructions for ovarian stimulation during infertility treatment. Reproductive biomedicine & society 2019. Service de médecine de la reproduction, Rouen, France; c Affaires Médicales MSD, Courbevoie, France <https://doi.org/10.1016/j.rbms.2019.08.003>
- Maryam Ghorbani¹, Fatemeh Sadat Hosseini², Dropout of infertility treatments and related factors among infertile couples. Ghorbani et al. Reprod Health (2020) 17:192 <https://doi.org/10.1186/s12978-020-01048-w>
- Bee K. Tan, Patrick Vandekerckhove Investigation and current management of recurrent IVF treatment failure in the UK <https://doi.org/10.1111/j.1471-0528.2005.00523.x>
- Alicia Malina An Experimental study on Supportive social interaction in infertility treatment decrease cortisol levels, front psychol,13 december 2019. Volume 10 - 2019 | <https://doi.org/10.3389/fpsyg.2019.02779>
- Hongkun Zhu Global Research Trends on Infertility and Psychology From the Past Two Decades: A Bibliometric and Visualized Study .