EFFECTIVENESS OF CLINICAL PATHWAY FOR INTRAUTERINE INSEMINATION UPON THE KNOWLEDGE AND PRACTICE OF NURSES AND PATIENT OUTCOME

BY

BHUVANA.G

A DISSERTATION SUBMITTED TO THE TAMILNADU DR.M.G.R MEDICAL UNIVERSITY, CHENNAI IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OFMASTER OF SCIENCE IN NURSING

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DECLARATION

I hereby declare that the present dissertation entitled **"**Effectiveness Of Clinical Pathway For Intrauterine Insemination Upon The Knowledge And Practice Of Nurses And Patient Outcome**"** is the outcome of the original research work undertaken and carried out by me under the guidance of **Dr. Latha Venkatesan,** M.Sc (N)., M.Phil., Ph.D., Principal, Apollo College of Nursing, Chennai. I also declare that the material of this has not found in any way, the basis for the award of any degree or diploma in this university or any other university.

II Year M.Sc (N)

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SYNOPSIS

A Quasi Experimental Study was conducted to Assess the Effectiveness of Clinical Pathway for Infertile Women Undergoing Intra Uterine Insemination Upon the Knowledge and Practice of Nurses and Patient Outcome at Apollo Hospital, Chennai.

The Objectives of the Study were

1. To assess the pre test and post test level of knowledge and practice of nurses regarding clinical pathway for infertile women undergoing intra uterine insemination.
2. To evaluate the effectiveness of clinical pathway for infertile women undergoing intra uterine insemination upon the knowledge and practice of nurses.
3. To assess and compare patients outcome in control and experimental group of Infertile women.
4. To determine the level of satisfaction upon nursing care control and experimental group of infertile women.
5. To determine the association between the selected demographic variables of nurses with their pre and post test level of knowledge regarding clinical pathway for intra uterine insemination.
6. To determine the association between the selected demographic variables with patient outcome and level of satisfaction in control and experimental group of infertile women.
7. To determine the association between the selected clinical variables with patient outcome and level of satisfaction in control and experimental group of infertile women.

8. To determine the association between the selected psychosocial variables with patient outcome and level of satisfaction in control and experimental group of infertile women.

The conceptual framework of the study was developed on the basis of Rosentoch's and Becker and Maiman's Health Belief model. The study variables were effectiveness of clinical pathway and knowledge and practice of nurses working in ART unit. Hypotheses were formulated.

An extensive review of literature and guidance by experts formed the foundation to the development of clinical pathway, structured knowledge questionnaire, practice check list, satisfaction scale and Patient outcome check list.

An evaluative research with quasi experimental of control and experimental group design was used to achieve the objectives of the study. The present study was conducted in the Apollo Hospital, Chennai in ART unit, The Sample were Nurses working in IUI Unit. Infertile women undergoing Intra uterine insemination was selected through purposive sampling technique.

The investigator used Demographic variable proforma for infertile women, Clinical variable proforma for infertile women, Psychosocial proforma for infertile women, Satisfaction scale for infertile women, Outcome check list for infertile women Demographic variable proforma , Structured Knowledge questionnaire and Practice Check list for Nurses were used to collect the data. The data collection tools were validated and the reliability was established. After the pilot study, the data collection for the main study was done.

Major findings of the study were

Most the nurses working in IUI unit (50%, 50%) of the age group 18 - 29 years and 30- 40 years and GNM & ANM respectively. Majority of them (75%) has experience between 1-10 years.

Most of the infertile women in control and experimental group belonged to 21-29 years (67%, 60%) respectively. Majority of them were less than 29 years of age (97%) in control group and almost all of them were less than 29 years (100%) in experimental group at the time of marriage. Most of them belong to house wife (70%, 67%) in control group of infertile women and experimental group of infertile women respectively. Majority of them had non consanguineous marriage (83%, 93%) in both control and experimental group of infertile women.

Almost all of the nurses (100%, 100%) had moderately adequate knowledge and adequate knowledge after the post-test respectively. All nurses (100%) had moderately practice in the control group of infertile women. In the experimental group of infertile women, almost all of the nurse had adequate practice in experimental group (100%). All infertile women (100%) has moderately satisfied in the control group. In the experimental group, almost all of the infertile women (100%) has highly satisfied after administering clinical pathway for Intra uterine insemination for infertile women. Infertile women were (47%) of them conceived in control group and (66%) of them conceived in experimental group of infertile women. None of them developed OHSS complication.

Mean and standard deviation of level of knowledge of nurses were low in the pre-test (M= 14.25, SD=1.63) in comparison to the post-test (M=22.50, SD-0.52). The difference was found statistically significant at 12.92% level of confidence and can be attributed to the level of knowledge at 99.9 %. Mean and standard deviation of level of practice of nurses were low in the control group (M= 41.76, SD = 4.25) in comparison to the experimental group (M= 91.06, SD = 3.90) 98.7%. Mean and standard deviation of level of satisfaction of infertile women were low in the control group (M= 43.3, SD= 3.11) in comparison (M= 88.23, SD= 5.33) to the experimental group. This shows that the patient's satisfaction improved after administering clinical pathway for infertile women undergoing Intra uterine insemination. The result was statically significant at 99.9% level of significance. Mean and standard deviation of Patient outcome of infertile women were low in the control group (M= 0.73, SD= 0.888) in comparison (M= 0.83, SD=0.960) to the experimental group.

There was no significant association between the selected demographic variables such as Age, Religion, Educational qualification and Years of experience in the Level of knowledge for the nurses in the pre and post test. It has proven that there is no association between the selected demographic variables and level of knowledge. Hence the null hypothesis Ho_1 was retained. No statistics could be calculated for association between selected demographic variables and level of knowledge.

There was no association between age, education, occupation, type of family, type of marriage, religion, duration of infertility, economical support, family size with the level of satisfaction in the control group and experimental group of infertile women. Hence null hypothesis Ho_4 was retained. No statistics could be applied to find the

association between selected demographic variables and the level of satisfaction. There was a significant association between the Age in years and their treatment outcome (χ^2 = 8.0972) in control group. This shows that age in years and patient outcome not influencing each other.

There was no association between Age at menarche, Reproductive age, Menstrual history, Health history, Surgical history, Married years, Use of contraception, Infertility years, Cause of infertility, Treatment, No of Intra uterine insemination with the level of satisfaction in the control group and experimental group of infertile women. Hence null hypothesis Ho4 was accepted. No statistics could be applied to find the association between selected clinical variables and the level of satisfaction. There was a significant association between the menstrual history, (χ^2 = 15.934), Surgical illness (χ^2 =3.844) . Hence the null hypothesis Ho_5 is partially rejected. Hence no statistics could be calculated for association between selected clinical variables of control group and patient outcome. There was a significant association between the level of satisfaction (χ^2=13.4419) Gynecological illness. Hence the null hypothesis Ho_5 is partially rejected. No statistics could be calculated for association between selected clinical variables of experimental group and patient outcome.

There was no association between psychological variables such as Get together at home, Comfortable take part in social activities, instrument, emotion, support from husband, maternal and law's support, Job & work support in control and experimental group. Hence the null hypothesis $Ho_6$was retained. No statistics could be applied to find the association between selected psychosocial variables and the level of satisfaction. The patient outcome is not related to social variables. Hence no statistics could be

calculated for association between selected psychological variables and patient outcome.

Recommendations

- The same study can be conducted with larger number of samples.
- A comparison can be made between different health care settings.
- A comparison can be made with different group of infertile women treatment protocol
- The same study can be conducted with different specialization of treatment protocol.
- A comparison can be made between different types artificial reproduction treatment.

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CHAPTER-I

INTRODUCTION

Background of the Study

Every child begins the world again...

- Henry David Thoreau

Parenthood is a fundamental human need. The urge to reproduce is universal. Every human being has a desire to become a parent and look after his or her children. The very desire for parenthood is a step in the direction of creating a family. Fertility or the ability to reproduce children has a positive social value where as, infertility has a negative value in Indian culture. Today fertility and infertility have both emerged equally problematic in the world population context. Most fertile couples around 90% should get pregnancy, within a year of regular intercourse. This rises to 95% over a two-year period.

The WHO has defined infertility as the inability to achieve a pregnancy after one year of unprotected intercourse. When a woman has never conceived, despite sexual relation for a period of one year, it is primary infertility. When a woman has previously conceived and is subsequently unable to conceive, despite sexual relation for a period of one year, it is secondary infertility. According to this criterion 20% of couples are infertile though this falls to 10% after 18 months.

It is estimated that about 8%–10% of couples experience some sort of infertility in their reproductive lives. In India, primary and secondary infertility figures, as given in WHO studies, are 3% and 8%, respectively. A report available at the WHO library

explains primary and secondary infertility affects 8-12% couples (50-80 million) world wide.

According to National Survey of family growth, 1.2 million (2% of 10 million) woman of reproductive age had an infertility related medical appointment and an additionally 23% received infertility services sometimes in their lives. Approximately $1/6^{th}$ of marriages are involuntarily depends on how the complaints is defined.

Overall 7% of currently married women in India were childless, Southern (10.9%) and Western (10.7%) region shows highest percentage of women followed by Eastern region (6.5%). However Central region exhibits lowest (4.7%) of childlessness. Andhra Pradesh shows highest percentage of childless women (13.3%) in India followed by Goa (11.8%). Urban areas have more percentage of childless women than their rural counterparts. Results reveal that age is negatively associated with childlessness.

A community-based survey was done in an urban slum covering 7620 populations. The prevalence of primary infertility was 3.27%. Majority of woman with problems of infertility had problems of ill treatment to avail services from government hospital but only 42.87% complied with the treatment, major obstacle being non-cooperation from husband.

The first assisted reproductive technology was non-coital insemination, which may be intrauterine insemination, or intra vaginal insemination using sperm of a donor or from the woman's partner. IUI – May be either AIH (artificial insemination husband) or AID (artificial insemination donor). The purpose of IUI is to by pass the endocervical

canal which is abnormal and to place increased concentration of motile sperm as close to the fallopian tubes.

Intrauterine insemination is recommended for a various causes, it is best used in couples with failed post coital tests where the transport system to the oocytes through cervical mucus is defective or where the semen parameters are poor. Intrauterine insemination is an appropriate choice if the man's original sperm count is below 20 million.. Fertility treatment is the use of medical intervention techniques to aid the natural process of conception.

Today nurses are actively generating, publishing, and applying research in practice to improve client care and enhance nursing scientific knowledge base. The use of some form substantiation or evidence, can arise from tradition, authority, experience, trial, assesses cohort risk, and has the decision making authority to change care plans when necessary. The investigator felt, the nurses having more writing work, by writing care plans and the quality of care is reduced. To reduce substandard care, the clinical pathway is the effective tool to increase the Knowledge and Practice of Nurses and to increase the Patient Satisfaction and Patient outcome, to provide quality care for infertile women intra uterine insemination.

Need for the study

Pregnancy and childbirth usually take their normal course, and a healthy baby is born without problems. But some less fortunate couples are unable to fulfill their dream of having the desired baby because of infertility. Imagine the anguish of a married couple who desperately want to have a child yet because of infertility cannot. They look

to medical science for help and that many techniques and therapies have been developed to overcome infertility. Women initiate most fertility inquiries because they see physicians more frequently and because social norms assign them greater reproductive responsibility.

An estimated one in ten couples around world has difficulty conceiving at some point in their reproductive lives. Nearly 5.3 million American women are infertile; representing 9.1% of all women aged 15 to 44. Infertility affects 15 to 20% of all couples who are trying to conceive. The problem may be associated with male factors (40%) or both (10-15%) are unexplained.

Evidence from a village-level study in the state of Maharashtra in India puts the level of infertility at 6%–7%. According to the recent National Family Health Survey in India, 3.8% of women between the ages of 40 and 44 years have not had any children and 3.5% of currently married women are declared infecund.

Considering magnitude of problems of infertility & its consequences on couples like, the feelings of disbelief and denial, feeling of frustration, anger and anxiety, these seems to be a huge unmet demand for appropriate management of these problems. Childlessness causes couples to perceive a sense of loss in relationship, in health status, prestige, self-esteem, self-confidence, security and perceived loss of something of symbolic value.

Infertile couples describe their lives without children as being meaningless, fruitless, miserable, shameful and unhappy. There is understandable grief in response to their loss of ability to have children. There is little known about the long term outcomes

of such couples but it seems likely that for some it will be devastating experience that will affect their life time mental health. In addition to the above said problems such as in marital relations and conflicts such as second marriage, separation and divorce were of important problems, which make the psychological counseling services very important.

There are only a few studies in India that have focused on the sociocultural context of fertility-seeking practices in relation to infertility and childlessness. Even fewer studies have focused on the social implications of infertility and assisted reproduction. Since a woman is defined by her fertility, she internalizes the motherhood role to the extent that if she is infertile, she feels worthless. Then she proceeds to do all she can to reverse the situation.

Anxiety and fear, societal pressures to conceive and social stigmatization, and various trials of various treatments usually mark the experience of infertility. Infertility is a major problem in the context of important domains of social life such as kinship, inheritance, marriage and divorce patterns. It is political in the sense that it is in the over populated state's interest to control fertility and not be concerned about infertility. It is a threat to a woman's identity, status and economic insecurity. It may lead to identity dilemmas, lowered self-esteem, frustration and a sense of powerlessness.

Utilization of ART is low compared to the rate of infertility. About 10% of infertile couple only seeks ART of 50-80 million couples through out the world. The male is directly responsible for infertility in about 30-40%; the female in about 40-50% and both are responsible in about 10% cases. The remaining 10% is unexplained in spite of thorough investigations with modern technical know how. The investigator observed

that though treatments are available, many factors inhibit women from obtaining such treatment. They include misconceptions, malpractices and of course their cost effectiveness. It was felt that many women though they are aware of available ART; they abstain from opting for it. The purpose of this research is to outline suggested clinical pathways for the management of infertility by intra uterine insemination.

During last two decades there has been marked increase in patient population in all infertility clinics the world over, but all infertility clinics may not be sufficiently equipped with the latest technology and expertise essential to offer the best possible help. Hence there is a need for patient selection, in order to categorizes them in specific groups and then refer them to different levels of infertility care units for stepwise investigations and treatment.

Nursing practice is direct, goal oriented and adaptable to the needs of the individual, family, and Community during health and illness. Meaning of caring in Nursing has increased. Graber and Mitcham (2004) sought to identify actions, interventions, and interpersonal relationships that demonstrated caring and compassion.

The researcher has come across many infertile women undergoing intrauterine insemination. These groups if been utilizing the health care unit effectively would have helped them in fulfilling their wish of giving birth to a baby. A nurse can effectively provide care during infertile women undergoing Intra uterine insemination.

Hence, the investigator felt the need to implement clinical pathway for infertile women undergoing Intra uterine insemination influencing utilization of health services provided by nurses. No similar study was done in this subject by nurses and in the

selected study would help in developing a better understanding and provide baseline information on the clinical pathway improve the patient care and Increase the knowledge and practice of nurses for infertile women undergoing intra uterine insemination. The investigator interested to assess the effectiveness of clinical pathway for infertile women undergoing intra uterine insemination.

Statement of the Problem

A Quasi Experimental Study to Assess the Effectiveness of Clinical Pathway for Infertile Women undergoing Intra Uterine Insemination upon the Knowledge and Practice of Nurses and Patient Outcome at Apollo Hospital, Chennai.

Objectives of the Study

1. To assess the pre test and post test level of knowledge and practice of nurses regarding clinical pathway for infertile women undergoing intra uterine insemination.
2. To evaluate the effectiveness of clinical pathway for infertile women undergoing intra uterine insemination upon the knowledge and practice of nurses.
3. To assess and compare patients outcome in control and experimental group of infertile women.
4. To determine the level of satisfaction upon nursing care control and experimental group of infertile women.
5. To determine the association between the selected demographic variables of nurses with their pre and post test level of knowledge regarding clinical pathway for intra uterine insemination.

6. To determine the association between the selected demographic variables with patient outcome and level of satisfaction in control and experimental group of infertile women.
7. To determine the association between the selected clinical variables with patient outcome and level of satisfaction in control and experimental group of infertile women.
8. To determine the association between the selected psychosocial variables with patient outcome and level of satisfaction in control and experimental group of infertile women.

Operational Definitions

Effectiveness

In this study effectiveness refers to the difference between the pre test and post test knowledge and practice of nurses on clinical pathway for Intra uterine insemination.

The effectiveness is also measured by comparing the control and experimental groups of infertile women outcome in terms of their succession in conception, prevention of complications and satisfaction.

Clinical pathway

It is an algorithm developed by the investigator which will be used by the nurse based on activities for infertile women undergoing Intra uterine insemination as a guiding tool for providing care in ART unit.

Infertile women

In this study it refers to the women who are unable to achieve conception with unprotected sex for more than one year.

Intra Uterine insemination

It is an artificial placement of sperm in the uterus of infertile women for the purpose of enhancing the chance for pregnancy.

Clinical pathway for Intra Uterine Insemination

It refers to the group of activities developed by the researcher based on the activities such as History collection, Physical assessment, Investigation, Counseling, Health education, Follicular study period, Before procedure, During procedure, After procedure and Home care followed by nurses from deciding for IUI treatment from first day of menstrual cycle to pregnancy test to provide nursing care for the infertile women undergoing Intra Uterine Insemination.

Knowledge

In this study it refers to the level of understanding and awareness of nurses regarding clinical pathway for infertile women undergoing Intra uterine insemination.

Practice

In this study, the level of performance activities of the nurse for providing nursing care for infertile women undergoing intra uterine insemination regarding outcome of procedure.

Outcome

In this study it refers to, succession for conception, reducing complications and the satisfaction of infertile women regarding nursing care.

Nurse

A person who is qualified either A.N.M, G.N.M and B.Sc (N) and provides nursing care to the infertile women in ART unit.

Assumptions

The study assumed that

- Infertility treatment is expensive and challenging procedure which needs holistic approach to succeed conception.
- Health care aspect is multi disciplinary approach and focused on quality care.
- Systematic managed care will reduce the hospital stay and improve treatment outcome.
- Proper clinical pathway is a base for developing holistic comprehensive care plan for the patient.
- Clinical pathway has implications for nurse patient relationship and plays a key role of nurse among health care personnel to implement the effective care.

Null Hypotheses

Ho_1 There will be no significant difference between pre and post test level of knowledge and practice of nurses regarding clinical pathway for infertile women undergoing intra uterine insemination

Ho_2 There will be no significant difference in the patient outcome and level of satisfaction between the control and experimental group regarding clinical pathway for infertile women undergoing intra uterine insemination.

Ho_3 There will be no significant association between the selected demographic variables of nurses and the pre and post test level of knowledge and practice regarding clinical pathway for infertile women undergoing intra uterine insemination.

Ho_4 There will be no significant association between the selected demographic variables of control and experimental group of infertile women undergoing intra uterine insemination and patient outcome regarding clinical pathway.

Ho_5 There will be no significant association between the selected clinical variables of control and experimental group of infertile women undergoing intra uterine insemination and patient outcome regarding clinical pathway.

Ho_6 There will be no significant association between the selected psychosocial variables of control and experimental group of infertile women undergoing intra uterine insemination and patient outcome regarding clinical pathway.

Delimitation

- The women who is having complaints of infertility.
- The infertile women undergoing treatment in Apollo hospital, Chennai.
- Infertile women are present at the time of data collection.

Conceptual framework-Modified Rosentoch (1974) and Becker's Health Belief Model (1978)

It deals with the interrelated concepts of abstractions that are assembled together in some rational scheme by virtue of their relevance to common theme. Conceptual models are models made up of concepts, which describe the mental images of a phenomenon and integrate them into a meaningful configuration. The conceptual frame work gives the idea to the researcher's main view and core theme of the research i. e. it is a visual diagram by which the researcher explains the specific area of interest.

The conceptual framework for the study is based on Health Belief Model. Health Beliefs are person's ideas and attitude, about health and illness. They may be based on factual information or wrong information. The health belief usually results from within a person. So, the investigator felt the Becker's model is suitable as conceptual framework for this study, to assess the knowledge of nurses regarding clinical pathway for infertile women undergoing intra uterine insemination.

Rosentoch (1974) and Becker's Health Belief Model (1978), address the relationship between a person's belief and behaviors, it is way of understanding and predicting how clients will behave in relation to their health and how they will comply with health care therapies. Use of model is based on a person's perception of susceptibility to an illness and resources of illness. This model helps nurses to understand dimensions and steps for clinical pathway for infertile women undergoing Intra uterine insemination, in order to provide the most effective care.

The model describes about three variables

1. **Nurse's perception:** Knowledge clinical pathway for infertile women undergoing Intra uterine insemination.
2. **Modifying factors:** Demographic variables of nurses and patients, clinical variables and psycho social variables of infertile women, Clinical pathway Structured knowledge questionnaire, Practice check list for nurses, Satisfaction scale and outcome check list for patient.
3. **Likelihood of taking an action**: This part indicates nurse will gain knowledge on clinical pathway and improve the practice and infertile women satisfaction and improve patient outcome by improving effective and holistic care to infertile women undergoing Intra uterine insemination.

Fig 1. Conceptual frame work based on Rosentoch's and Becker and Mianman's health Belief Model

Projected Outcome

The projected outcome will be increase in knowledge and practice of nurses regarding clinical pathway for patient undergoing intra uterine insemination and success in their conception as well as increase their level of satisfaction.

Summary

This project dealt with background of the study, the need for the study, statement of the problem, objectives, assumptions, Operational definitions, null hypotheses and delimitations and conceptual framework of the study.

Organization of the Report

Further aspects of the study are presented in the following chapters.

Chapter II consists of review of literature

Chapter III consists of research methodology which includes research approach, research design, setting, population, sample, sampling technique, tools used in the study, data collection procedure and plan for data analysis.

Chapter IV deals with analysis and interpretation of data done through descriptive and inferential statistics.

Chapter V has Discussion

Chapter VI consists of summary, conclusion, implications, recommendations and limitations.

CHAPTER - II

REVIEW OF LITERATURE

A literature review is an organized written presentation of what has been published on a topic by scholars. (Burns & Groove, 2004)

This chapter deals with a review of published and unpublished research studies and from related material for the present study. The review helped the researcher to develop an insight into problem area. This helped the researcher in building the foundation of the study.

A literature review involves the systematic identification, location, scrutiny and summary of written material that contain information on a research problem (polit & Hungler 1999)

The review of literature in this chapter has been presented under the following headings:-

- Review of literature related to infertility
- Review of literature related to IUI
- Review of literature related to clinical pathway
- Review of literature related to clinical pathway for IUI

Review of literature related to infertility

Boivin, Takefman and Braverman (2011) conducted a survey both online and in fertility clinics in USA, Newzeland, Canada and UK. Fertility quality of life is a reliable

measure of the impact of fertility problems and its treatment on quality of life. Future research should establish its use in cross cultural research and clinical work.

Industrial differences in female fertility treatment rates aimed a new approach to assess differences related to occupation. This study aimed to estimate relative rates of female fertility treatment in the 5% industrial groups in Denmark. The closed cohort of all 29-39 year old economically active women in Denmark by Jan 2001 (n= 567,816) were followed up for hospital contacts due to , infertility from 2005-2005 as registered, with socio economic status. In total 12,575 women were diagnosed with infertility during the follow up period, reported by Feveile et al (2011) (15%) of the couples at reproductive age world wide suffer from infertility. It is estimated that (50%) of the entity result from male itself. The mechanism of male infertility is quite complicated, attributing to inherent and environment factors of the infertility patients of which defects of infertility – related genes are important for its occurrence. The clinical features of male infertility vary from azoospermia to oligoasthenoterotospermia. Ruan (2010) concluded the relationship between the known defects in genes and male infertility.

Clara (2004) conducted a randomized controlled trial study, Use of music as supplement to peri fallopian sperm perfusion period in giving better fertility (conception) results and accepted the stated hypothesis, women in the peri fallopian sperm perfusion period, listening to music show significant higher rate of conception. Women in the music group irrespective of the fertility outcome showed lesser anxiety compared to the women in the non music group ($P< 0.001$). Women in the music group who become pregnant had significantly lesser anxiety ($P<0.001$) when compared to the

women who did not become pregnant. Such different was not found in the non music group. (P= 194).

Venkatesan (2001) reported, Most of the infertile women had low self concept and it was related to increase in depression, stress and decrease in marital adjustment and family support. The level of self concept was low in infertile women > 30 years, women with education more than higher secondary level. Consanguineously married and having increasing duration of infertility.

Normally a fertile couple has approximately 20% of chance of conception in each Ovulatory cycle said by Nelson and Marshall (2004) further they explained that infertility affects about 10- 15% of reproductive aged couples. Female is responsible for infertility in which about 45-59% among them 92% are primary and 8% are secondary in India. Herbert (2001) highlighted that the prevalence of infertility is effectively stable among the over all population, but increases with the age of the women, particularly in those older than 40 year from Lowdermilk, Perry.S.(2007).

Review of literature related to IUI

Tayfun et al. (2011) conducted study on randomized trial reports similar live birth rates with single and double IUI .A recent single centered randomized trial reiterated that there is no statistically significant difference in the rates of live births between single and double IUI in ovarian hyper stimulation cycles with multi follicular development. Claimed to be the first randomized trial comparing single VS double IUI, the study findings have been published in the journal Human reproduction. The selected subjects were randomized to undergo single (group1 =112) or IUI group 2 = 114. IUI

was performed on group 1 patient 36 hours following the HCG administration, while in group 2, the first and second IUI was done 18 hours and 40 hours of HCG respectively. The over all live birth rate noted in the single & double IUI were 10.7 % and 12.3 % respectively. The researcher did not observe any statistically substantial variation in the live birth rates between single and double IUI.

In recent systematic review and meta analysis Polyzos et al (2009) demonstrated the absence of any benefit of double IUI over single IUI with respect to clinical pregnancy rates in unexplained infertility. However a Cochrane review (2003) found that double IUI significantly improves the pregnancy rates when compared to single insemination in sub fertile couples, but there was insufficient information pertaining to live birth or ongoing pregnancy rate.

Freour et al. (2008) Predictive value of CASA parameters in IUI with frozen donor sperm, the objective of this was to determine if characteristics of sperm motion determined by computer aided semen analysis after thawing and preparation on discontinuous gradient could predict pregnancy outcome after intra uterine insemination from frozen donor semen. In a multivariate analysis, only total motility percentage was able to predict pregnancy. Sperm motility parameters of frozen – thawed prepared donor sperm obtained by CASA do not seem to predict pregnancy in IUI cycles. Total motile and progressive percentages and concentrations remain in the best prognostic elements for pregnancy in IUI with donor semen.

A systematic review and meta analysis of indirect evidence of comparison treatment in trials of IUI, timed or uninfluenced intercourse, In 11 trials with 13

comparisons of IUI and intercourse among 1329 couples with subfertility, the average difference in pregnancy rate between IUI and controls was 6.1% in trials with expectant management, as the control. The adjusted indirect estimate of the difference between the types of control treatment was not significant, neither in the 11 most relevant trials (P= 0.82) nor, in a border group of 19 trials and 2512 patients (P= 0.20). The additional benefit accruing to IUI. Where TI is the control, is not significant, but it is consistent with the possibility that pregnancy may be less likely in TI controls than in expectant management controls reported by Snick et al(2008).

Haagen et al. (2005), guidelines aim to improve clinical practice but are not self –implementing. Insight into barriers to physician guideline adherence is crucial for development of effective implementation strategies. Multiple barriers impede physician adherence to sub fertility guidelines, mainly physicians and patients play an important role in future implementation interventions to optimize sub fertility care.

Ryan et al. (2005) conducted study on oral ovulation induction agents combined with low dose Gonotrphins injections and intra uterine insemination cost and clinical effectiveness. Combination protocols are less costly and equally effective, with potentially fewer multiple births than with gonadotropins alone. Letrazole may be effective than clomiphene and tamoxifen in a combination protocol. This prospective study was designed to assess the consistency of ovarian responses and the effect of various ovarian stimulation protocols on this consistency in consecutive cycles of ovarian stimulation and IUI in women with non – Ovulatory infertility. Using each patient as her own control, repeated measurements analysis of variance revealed consistency of ovarian response in consecutive of ovarian stimulation cycles, as shown

by the number and mean diameter of maturing pre- Ovulatory follicles, peak plasma estradiol, duration of stimulation protocols. Regularly menstruating ovarian stimulation and IUI if the same ovarian stimulation protocol is used consistently.

Review of literature related to clinical pathway

Sikolia et al. (2009) evaluate the utility of clinical care pathways in determining perinatal outcomes for women with one previous caesarean section as a retrospective study in Kenya. A total of 215 women with one previous caesarean section were followed up using a standard care pathway. The median parity was 1.0. The other demographic characteristics were comparable. The Outcome measures included are the proportion of eligible women who opted for test of scar proportion on women opting for elective repeat caesarean section and their perinatal outcomes. They conclude that besides ensuring standardized management, care pathways could be objective audit and service evaluation tools for determining perinatal outcomes.

An observational study to assess the use of critical pathways to improve efficiency in reducing patient length of stay and resource utilization in tertiary-care academic medical center at USA was conducted by Belgan (2008) .Three of the 13 pathways were associated with a statistically significant immediate decrease in inpatient length of stay. They are: acute myocardial infarction (20.7% decrease; P = .001), cesarean section (14.6% decrease; P = .03), and kidney transplantation (24.5% decrease; P = .003). Only 1 pathway, percutaneous Trans luminal coronary angioplasty (PTCA), produced a statistically significant decrease in length of stay slope (P = .001). They conclude that critical pathways reduce length of stay or resource utilization or both.

Khare (2007) stated that, use of algorithmic pathways to develop quality, cost effective clinical care. In this study, to analyze the cost of diagnosis and treatment associated with hydrosalpinges and pelvic adhesions, using algorithmic pathways, interventions are pathway was calculated by mathematical modeling. The greatest number of adhesions at laparoscopy with no previous screening. The least costly approach to pregnancy for blocked tubes was to start with HSG.

Rotter et al. (2006) analyze the existing evidence base for clinical pathways via a rigorous systematic review. Systematic reviews and meta-analyses provide a high level of evidence for the effectiveness of interventions. This method is especially useful when research results are known to be inconsistent. Instead of conducting another primary evaluation this states the effectiveness of clinical pathways in hospitals, based **on** professional practice, patient outcomes, length of stay and hospital costs. A pathway reflects the activities of a multidisciplinary team and can incorporate established guidelines and evidence-based medicine.

Leob (2006) used a Treatment in nursing homes according to a clinical pathway, which included use of oral antimicrobials, portable chest radiographs, oxygen saturation monitoring, rehydration, and close monitoring by a research nurse, or usual care. Hospital admissions, length of hospital stay, mortality, health-related quality of life, functional status, and cost. Thirty-four (10%) of 327 residents in the clinical pathway group were hospitalized compared with 76 (22%) of 353 residents in the usual care group. There were no significant differences between the groups in health-related quality of life or functional status. The clinical pathway resulted in an overall cost savings of US $1016 per resident (95% CI, $207-$1824) treated.

In the year 2006 an experimental research to evaluate the effect of a care map and nursing case management on patient satisfaction and staff job satisfaction, collaboration, and autonomy was conducted by Good et.al. The patients who had a Care map and a nurse case manager were more satisfied with their care. The multidisciplinary staff who worked on the experimental unit had increased job satisfaction and nurses who applied and were selected for case management positions had higher levels of collaboration and increased autonomy. Multidisciplinary team members who developed the Care map also had higher levels of collaboration than other multidisciplinary staff on the experimental unit and their job satisfaction with quality of care increased under this new care delivery system.

Garg and Nyberg (2005) conducted a retrospective qualitative study, to qualitatively describe patient hospital care, and critical pathway characteristics that may be associated with pathway effectiveness in reducing length of stay. The over all purpose of clinical pathways is to improve outcome by providing a mechanism to co-operate care and to reduce fragmentation and cost.

A retrospective study to assess the pathways, outcomes, and costs in colon cancer in two distinct databases. Disease-free survival in patients receiving adjuvant treatment was calculated in the first study. The second study used claims data from a national administrative claims database to examine direct medical costs and use, including the cost of chemotherapy and of chemotherapy-related hospitalizations according to pathway status. Overall costs per case and chemotherapy costs-were lower for patients treated according to Level I Pathways compared with patients not treated according to Level I Pathways. Use of pathways was also associated with a shorter

duration of therapy and lower rate of chemotherapy-related hospital admissions by Basse (2000).

Middleton et al. (2000) states that clinical pathway provides direction for managing the care of a specific patient during specified time period. It is also useful because they accommodate a unique characteristics of the patient and patients condition .It use resources appropriate to the care needed and the reduced cost and length of the stay . Some features are such as specific medical diagnosis, the expected length of stay, patient identification data, and appropriate time frames for interventions and patients outcomes. The clinical pathway must include a means to identify variances easily and to determine whether the outcome is met.

Using a retrospective cohort study (Mabrey 1997) the authors examined complications, readmissions, morbidity and mortality, and function scores in two groups of patients attended by the same surgeon for the year before and the year after the implementation of an outcomes management program with clinical pathways for patients undergoing total knee arthroplasty at an academic health center. The effectiveness of the pathway constantly was adjusted using variance analysis and continuous quality improvement techniques. The application of clinical pathways, variance analysis, and continuous quality improvement toward the treatment of patients who had total knee arthroplasty at an academic health center resulted in significant savings in length of stay without adversely affecting overall outcome.

Review of literature related to clinical pathway for IUI

Intra uterine insemination a first step procedure in the algorithm of male sub fertility treatment conducted by Ombelet, et al (2011), despite the widespread clinical

use of IUI in the treatment of male sub fertility, its therapeutic value remains unclear. The objective of this review was to determine why its efficacy has not been consistently documented in the literature and to give strong evidence supporting the therapeutic merit of ovarian stimulation/ IUI in male sub fertility treatment.

Badawy et al. (2009) conducted study to assess the effects of the number of motile spermatozoa inseminated and percentage of morphologically normal spermatozoa on the success of IUI. Intra uterine insemination used for treating male factor infertility has little chance of success when the woman is older than 35 years, the number of motile spermatozoa inseminated < 5 x 10(6), or normal sperm morphology is < 30%.

In 2008, Moosavifar et al. reported Association of the number of follicles of various sizes and treatment protocol with multiple pregnancies following ovulation induction and intra uterine insemination. To find the relationship between the number of follicles of different sizes and the stimulation protocol to the probability of multiple pregnancies .The risk of multiple conceptions is related to > or = 18 mm follicles in addition to the total number of follicles >12 mm. Different protocol of ovulation induction revealed no relationship with the risk of multiple conceptions.

A study to assess the sperm swim up , a simple and effective technique of semen processing for intra uterine insemination conducted by Jameel.T (2008) , Post swim up semen parameters including total motile sperm count and motility were observed . There was a trend towards an increased sperm count, motility and pregnancy

rate after the swim up procedure. Finding suggests that sperm swim up technique is an easy reliable and effective sperm processing method for insemination purposes.

Gezginc et al. (2008) conducted study on comparison of single versus double intra uterine insemination, single intra uterine insemination can be considered to be more reasonable than double intra uterine insemination treatment, taking into consideration the economic cost and the psychological trauma to the patients.

In 2008, Kucuk et al. conducted the study to assess intra uterine insemination with double ejaculate compared with single ejaculate in male factor infertility , In this study the mean total motile sperm count in the final inseminate was 7.35 x 10 (6) (SD + / - 1.90 x 10(6) , range 2.9 – 10.6) in the study group. The difference in total motile sperm counts between the study and the control group was statistically significant ($p<0.001$). There were 6 pregnancies in the study group, providing a pregnancy rate of 15.3%, where as there were 5 pregnancies in the control group, representing a pregnancy rate of 10% ($P = 0.44$). Obtaining a second semen sample when the motile sperm yield of the first semen sample is 1 million to 5 million significantly increases the total motile sperm count in the final inseminate.

Summary

The above mentioned studies helped the investigator to gains a greater understanding of infertility, IUI, Clinical pathway and Clinical pathway for IUI and to develop clinical pathway. The literatures presented here were extracted from 19 primary 7 secondary sources.

CHAPTER- III

RESEARCH METHODOLOGY

This chapter deals with the methodology adopted by the researcher for the study includes research approach, research design, the setting, population, sample and sampling techniques, development and description tool, validity, pilot study, data collection procedure, plan for data analysis.

Research Approach

According to Polit & Beck (2008) quasi experimental research the investigator controls the independent variable and assigns subjects to different conditions. An experimental research is generally applied where the primary objective is to determine the extent to which a given procedure meets the desired result. In this study the investigator wanted to assess the effectiveness of clinical pathway for infertile women undergoing intra uterine insemination, the quasi experimental approach seemed to be the most appropriate approach.

Research Design

The Research design is the overall plan for obtaining answers to the questions being studied and for handling some of the difficulties encountered during the research process (Polit & Beck 2010). A one group pre-test and post-test, which is Quasi-experimental in nature, was adopted for conducting the study. In this study, the investigator administered pre-test for the selected nurses and the investigator manipulated the independent variables i.e. administration of clinical pathway for the same group of nurses and the post test was conducted.

The research design of One Group Pre & Post-test for **Nurses** is represented diagrammatically as follows:

O_1 X O_2

O_1 --- Pre-test to assess the knowledge of nurses regarding clinical pathway for infertile women undergoing intrauterine insemination.

X --- Structured teaching on clinical pathway for infertile women undergoing intrauterine insemination.

O_2 --- Post-test to assess the gained knowledge of nurses regarding clinical pathway for infertile women undergoing intrauterine insemination.

The Quasi-experimental research design for **Infertile Women** is represented diagrammatically as follows:

- O_1

X O_1

X --- Implementation of clinical pathway for infertile women undergoing intrauterine insemination.

O_1 --- Observation of level of satisfaction and the patient outcome for infertile women undergoing intrauterine insemination.

Variables

Variable is an attribute that varies, that is takes on different values (Polit, 2010).

Independent variable

The variable that is believed to cause or influence the dependent variable is called independent variable. In this study clinical pathway is the independent variable. Clinical pathway is provided to the nurses after completing the control group.

Dependent variable

The variable hypothesized to depend on or be caused by independent variable is the dependent variable. Knowledge and practice of the nurses, level of satisfaction an outcome of the patients are dependent variables in this study. This is assessed and compared with the pre test and control group of the infertile women.

The schematic design of the study is given in Figure-2.

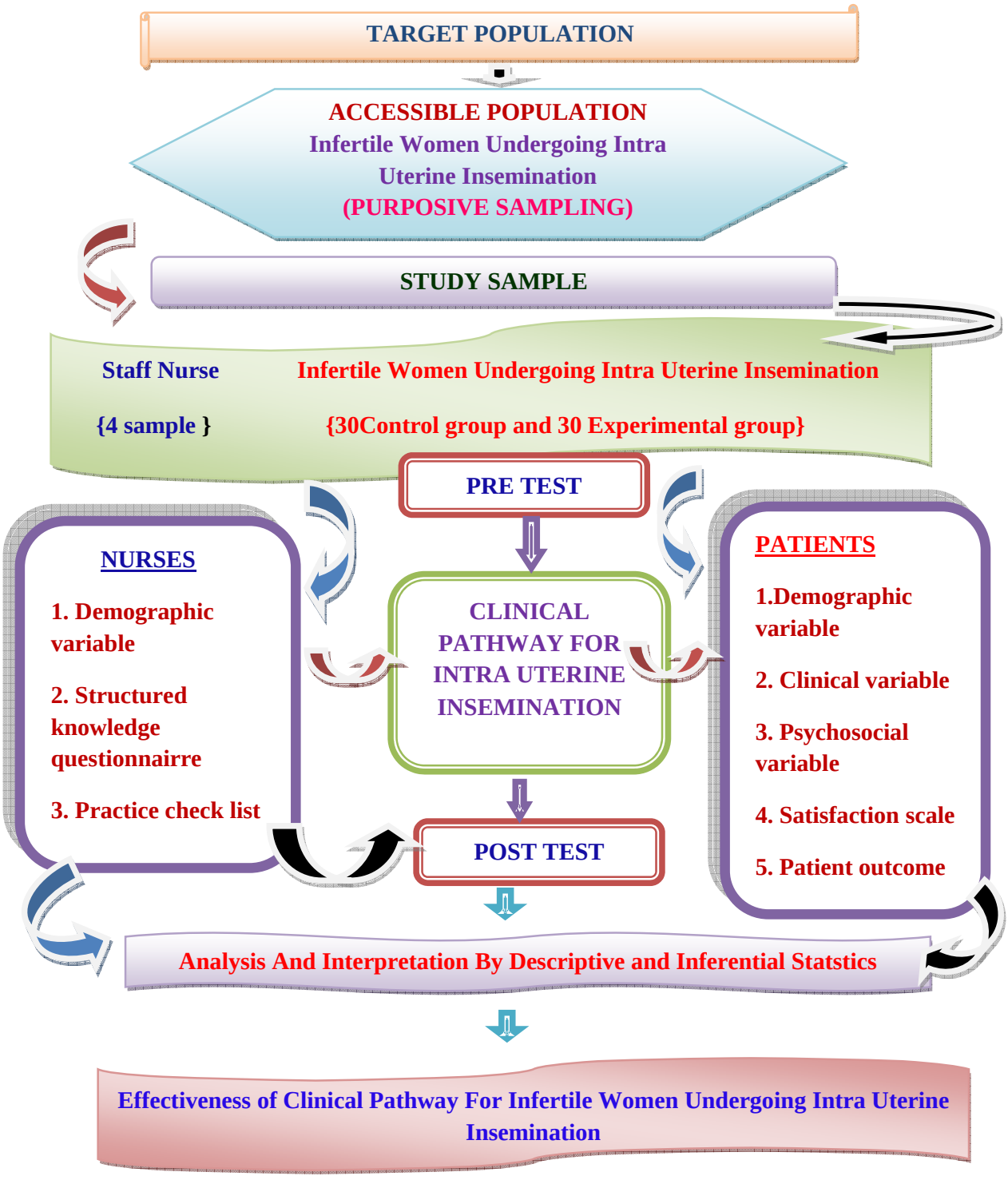

Figure – 2- Schematic representation of the study

Research Setting of the Study

The study was conducted in the Apollo hospital, Chennai. The hospital is multi specialty hospital 750 bedded and equipped to provide all specialized care and In ART Unit treatment provided care such as Intra uterine insemination, In vitro fertilization, Intra cytoplasmic semen injection and Freezed embryo transfer and hormonal replacement therapy. In this unit out patient department patient service will start at 9.00 am to 5.00 pm. Census for Intra uterine insemination 70 -90 patients per month. This hospital also providing counseling for infertility couple and holistic care for the infertile couple.

Population

Population is the entire set of individuals or objects having some common characteristics. (Polit & Beck 2008). The **target population** is the entire population ,in which a investigator is interested and to which he or she would like to generalize the study results. In this study, the target population comprises of all infertility couples undergoing Intra uterine insemination. The **accessible population** is the list of population that the investigator finds in study area. The accessible population in this study was Nurses working in IUI unit and Infertile women undergoing intra uterine insemination at Apollo Hospital, Chennai.

Sample

Polit and Beck (2008) said that sample is a subset of population. Selected to participate in this study, A sample of 60 infertile women undergoing treatment of Intra

uterine insemination in Apollo hospital Chennai, was selected for the study out of which 30 were assigned to Control group and 30 were assigned to Experimental group of infertile women.

Sampling Technique

Sampling is the process of selecting a portion of the population to represent the entire population (Polit & Beck 2008) .The subject of the study selected by purposive sampling.

Sampling Criteria

Inclusion criteria

The study includes patient who

- Were Infertile women undergoing treatment of Intra uterine insemination.
- Were Infertile women who are conscious and willing to participate in the study.
- Were Infertile women who speak and understand English and Tamil
- Were Nurses working in infertility treatment unit
- Were Nurses who are willing to participate in study

Exclusion criteria

The study excluded

- Infertile women who are not willing to participate in the study
- Nurses who are not willing to participate

Selection and Development of Study Instruments

As the study aimed at evaluating the effectiveness of clinical pathway for infertile women undergoing Intra uterine insemination upon the knowledge and practice of nurses and patient treatment outcome, data collection instruments were developed through an extensive review of literature, consultation with experts and opinion of faculty members and observed various ART unit. The instruments used were Demographic variable proforma of infertile women and nurses, Clinical and Psychosocial variable proforma of infertile women, structured knowledge questionnaire , Practice check list for nurses and Satisfaction scale and Patients outcome proforma for infertile women.

Demographic variable proforma for infertile women undergoing intra uterine insemination

Demographic variable proforma consist of age, education, occupation, type of family, type of marriage, religion, duration of infertility, economical support, family size.

Demographic variable proforma for nurses working in ART unit

Demographic variables of nurses consist of age, religion, educational status, marital status, type of the residence, professional experience (in years), income, previous knowledge on clinical pathway and sources of information about clinical pathway.

Clinical variable proforma for infertile women undergoing intra uterine insemination

Clinical variables consist of Age at menarche, Reproductive age, Menstrual history, Health history, Surgical history, Married years , Use of contraception, Infertility years, Cause of infertility, Infertility treatment, No. Of IUI undergone.

Psychosocial variable proforma for infertile women undergoing intra uterine insemination

Psycho social variables consist of participate in social gathering ceremony, get – together at home, feel comfortable when take part in social activities, instrumental support, emotional support from significance others, support from husband, maternal and in law's support and job support and work support.

Structured questionnaire on knowledge regarding clinical pathway for infertile women undergoing intra uterine insemination

This structured questionnaire schedule is used to collect information on knowledge of nurse regarding clinical pathway for infertile women undergoing Intra uterine insemination. This was framed very carefully, considering the language, clarity, organization and sequence of items. The questions were formulated and options were given below the questions. Structured questionnaire on knowledge consisted of 25 multiple choice of questions on knowledge regarding clinical pathway, investigation, ovulation, medication and procedure. Each question had four options which included one right answer. The subjects were to choose any option for each question. Every

correct answer was assigned a score of '1'. The total score of structured questionnaire on knowledge was 25. The knowledge scores were classified into 3 levels.

Knowledge level	**Score**	**Percentage**
Inadequate knowledge	<13	below 50%
Moderate knowledge	13-18	51 - 75%
Adequate knowledge	>19	> 75 %

Practice check list for infertile women undergoing intra uterine insemination

Compliance is activity that has been completed by the nurse, Partially compliance this indicates attempt to perform, but not completed, Non compliance this indicates unable to complete a specific activity by nurses. The level of performance activities of the nurse for providing nursing care for infertile women undergoing intra uterine insemination regarding Assessment and Procedure for outcome of procedure as evaluated by compliance of clinical pathway, practice was measured in terms of practice level was divided into

Level of Practice	**Score**	**Percentage**
Inadequate practice	<60	< 50%
Moderate practice	61-90	51 - 75%
Adequate practice	>90	>75 %

Rating scale for Satisfaction for infertile women undergoing intra uterine insemination

Rating Scale for Patient Satisfaction Scale consisted of history collection, physical assessment, investigation, and counseling, basal scanning & follicular

scanning, 36 hours before procedure, before and after procedure. The rating of satisfaction scale into

Level of Satisfaction	**Score**	**Percentage**
Very satisfied (HS)	>72	>75%
Moderately satisfied (MS)	72- 53	75- 55 %
Satisfied (S)	53-49	55%- 40%
Dissatisfied (DS)	<49	< 40%

Checklist for patient outcome for infertile women undergoing intra uterine insemination

Checklist for patient treatment outcome consisted of Patient satisfaction, quality of care, procedure, reduced documentation and complication. The score divided into

Success in conception - 2

Failure in conception - 1

Developing Ovulation Hyper Stimulation Syndrome (OHSS) - 0

Psychometric Properties of the Instruments

Validity of the Instruments

Validity is the degree to which an instrument measures what it is intended to measure (Polit, 2010).

Content validity of the tool was obtained from seven experts in the field of Obstetrics and Gynaecology. Two of the experts were doctors and five were nursing personnel. The suggestions given by the validators regarding rating scale was made in the final preparation of the tool.

Reliability

Reliability is the degree of consistence or dependability with which an instrument measures an attribute (Polit 2010). The reliability of the tools was determined by using split half method and inter rater technique. Karl Pearson's 'r' was computed for finding out the reliability.

Structured knowledge questionnaire for nurses	-	0.97 (test -retest method)
Practice checklist for nurses	-	0.98 (inter rater technique)
Rating scale on satisfaction of infertile women	-	0.9 (split half method)
Rating scale on patient outcome	-	0.8 (split half method)

Pilot Study

Pilot study was conducted with five infertile women undergoing Intra uterine Insemination who come to Prashanth Fertility Research Centre, Chetpet, Chennai. The purpose was to find out the feasibility and practicability of the design. The structured knowledge questionnaire and clinical pathway were administered and found to be feasible on the whole, clinical pathway was found to be feasible.

Protection of Human Rights

- The study was conducted after the approval of Ethical committee, Apollo hospitals, Chennai.
- Obtained permission from Principal, Apollo college of nursing and Medical superintendent, Apollo hospitals.
- Consent was obtained from all the participants before the data collection.
- Confidentiality was maintained throughout the study.

Development of Clinical pathway

Clinical pathway was prepared based on patient's need followed Henderson's theory and based on activities by the investigator with an approval of objectives , Care pathway and day care from day one to follow up care. It included clinical pathway, investigation, ovulation, medication and procedure. The staff nurse instructed to follow the clinical pathway for providing care for infertile women undergoing intra uterine insemination. The prepared clinical pathway was distributed to the experts in the field of obstetrics and gynecology for establishing content validity. The content was modified according to the expert advice.

Data Collection Procedure

Data collection is the precise, systematic gathering of information relevant to the research purpose**.** The researcher presented the proposal to the ethical committee of Apollo Hospitals and got ethical clearance was obtained to proceed the study. The investigator collected the data from Apollo Hospital, Chennai after obtaining formal permission from concerned authorities. The observation time schedule was from 9 am – 5.00pm from Monday to Saturday. The data collection period was from June 16th to July 26th 2011.

A group of 4 nurses were selected from ART unit by purposive sampling technique and obtained verbal consent for the study participants. Collected the baseline data by using demographic variable proforma .Their pretest knowledge level was assessed by using structured knowledge questionnaire on clinical pathway for Intra uterine Insemination.

The control group of 30 infertile women undergoing Intra uterine Insemination were selected by purposive sampling method. Baseline data was collected by using demographic, Clinical variable proforma and Psychosocial proforma, after obtaining a consent from them. Nursing care received by infertile women undergoing Intra uterine Insemination was assessed by using practice checklist through participatory observation method.. After the IUI procedure rating scale on satisfaction of nursing care was distributed and their level of satisfaction was assessed.

The clinical pathway for infertile women undergoing Intra uterine Insemination was educated to same group of nurses and the doubts of nurses were cleared. The nurses were then instructed to use the clinical pathway from the during their treatment period. After one week the investigator assessed the post test knowledge level of same group of nurses.30 infertile women undergoing Intra uterine Insemination were selected for the experimental group. After obtaining a consent, pathway was placed in their files and baseline data was collected by using demographic, clinical Psycho social variable proforma. Nursing care of these infertile women was assessed by using practice checklist upon the nurses by participatory observation method. After their IUI procdure rating scale on satisfaction of nursing care was distributed and their level of satisfaction was assessed. Patient outcome assessed through phone conversation for their success in conception after 21 days of IUI procedure of control and experimental group of infertile women.

The problems faced during the process of the data collection were

- The infertile women coming for outpatient department can’t observe completely.
- Some of the infertile women showed unwillingness to participate in the study.

- Nurses are involving taking care of other infertile women with treatment such as IVF, ICSI and HRT etc.

Plan for data analysis

Data analysis is the systematic organization and synthesis of research data, and testing of research hypothesis by using the obtained data. (Polit & Beck). Descriptive statistics like frequency distribution, percentage, mean, standard deviation and inferential statistics like paired 't' test were used to analyze the data.

Summary

This chapter has dealt with the research approach, design, setting, population, sample and sampling technique, description and validation of study instruments, reliability of the instruments, data collection procedure and plan for data analysis.

CHAPTER –IV

ANALYSIS AND INTERPRETATION

In this chapter the data collected from 4 nurses working in IUI unit and 60 infertile women undergoing intra uterine insemination to determine the effectiveness of clinical pathway for infertile women undergoing Intra uterine insemination upon the knowledge and practice of nurses and patient outcome , the data were analyzed according to the objectives and hypothesis of the study. Analysis of data was done after all the data were transferred to a master data sheet. It was done through descriptive and inferential statistics by the investigator herself manually.

Organization of Findings

The findings of the study are organized and presented under the following headings.

- Description of sample (nurses and patients) characteristics in frequency and percentage.
- Difference between the pre test and post test level of knowledge and practice of nurses in control and experimental group regarding clinical pathway for infertile women undergoing intra uterine insemination.
- Evaluate the effectiveness of clinical pathway for infertile women undergoing intra uterine insemination upon the outcome of infertile women undergoing intra uterine insemination in experimental group.
- Determine the association between the selected demographic variables of nurses and their pre test and post test level of knowledge and practice regarding clinical pathway for infertile women undergoing intra uterine insemination.

- Determine the association between the selected demographic variables of infertile women in control and experimental group undergoing intra uterine insemination and patient outcome.
- Determine the association between the selected clinical variables of infertile women in control and experimental group undergoing intra uterine insemination and patient outcome.
- Determine the association between the selected psychosocial variables of infertile women in control and experimental group undergoing intra uterine insemination and patient outcome.

Table 1

Frequency and Percentage Distribution of Demographic variables of Nurses by (Age, Religion, Educational Status, Professional Experience, Previous Knowledge on Clinical Pathway and Sources of Information About Clinical Pathway)

(N=4)

Sample characteristics	f	P
Age (years)		
17	-	-
18 - 29	2	50
30 - 40	2	50
≥ 40	-	-
Educational Status		
ANM	2	50
Diploma in Nursing	2	50
BSc Nursing	-	-
Post Certificate Course	-	-
Marital Status		
Married	3	75
Single	1	25
Type of the Residential Area		
Home	4	100
Hostel	-	-
Years of Experience		
1 year - 10 years	1	25
11 years - 20 years	1	25
21 years - 30 years	1	25
> 30 years	1	25
Income per month in Rupees		
< 5000	-	-
5001 – 7500	2	50
7501 - 10,000	2	50
> 10,000	-	-
Information about Clinical Pathway		
Yes	-	-
No	4	100
If yes, source of information		
Books	-	-
Journals	-	-
Magazines	-	-
Colleagues	-	-
Previous Work Experience	-	-

It can be noted from Table 1 that most the nurses were (50%, 50%) working in IUI unit between the age of 18 - 29 years and belongs to 30 - 40 years respectively. (50%, 50%) of the Nurses belongs to GNM and ANM respectively. Majority of them (75%) having experience between 1-10 years. None of the nurses received previous information regarding clinical pathway.

Fig 3 shows that majority of the nurses were Hindu (75%) and 25% significant difference of nurses belongs to Christian.

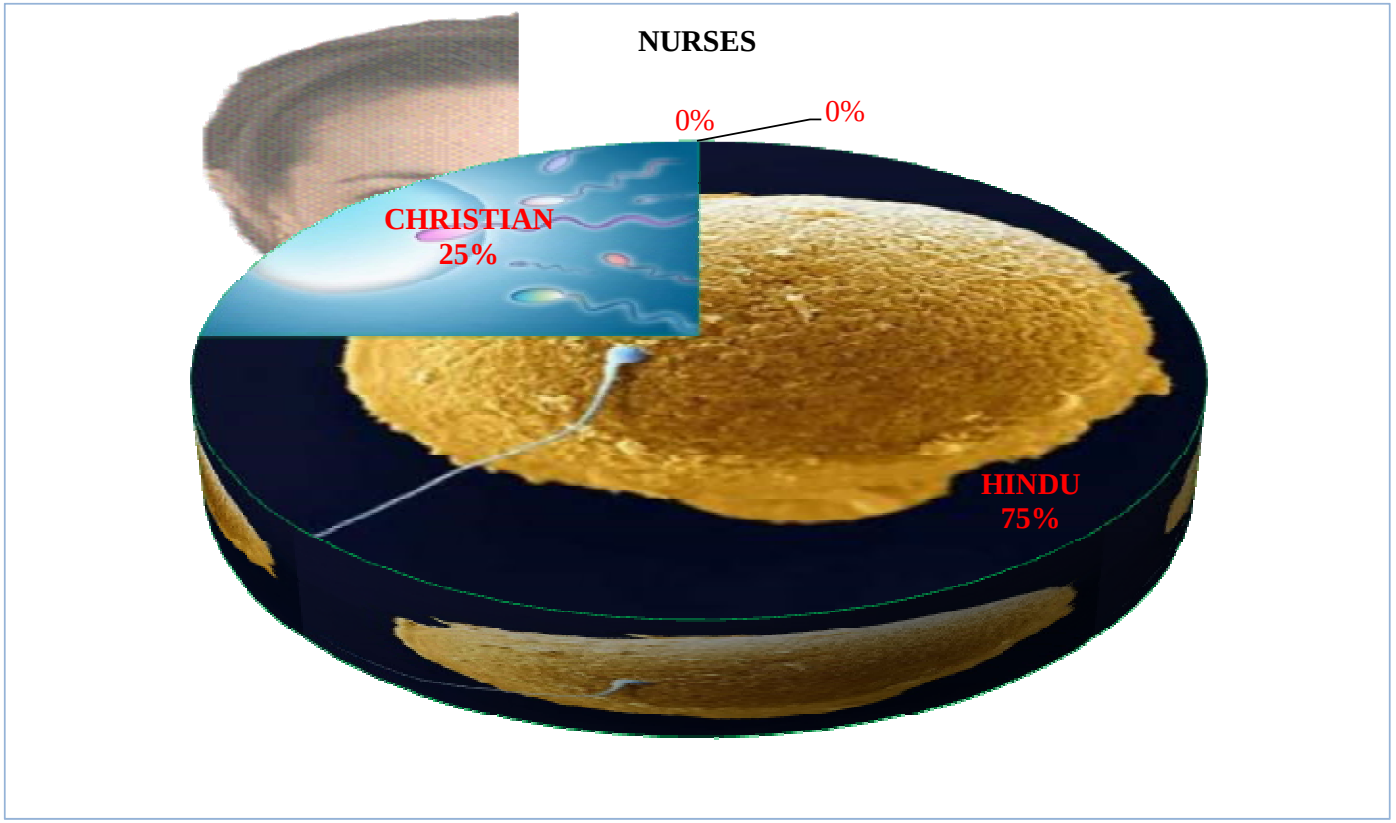

Fig.3. Percentage and Distribution of Religion of Nurse

Table 2

Frequency and Percentage Distribution of Demographic Variable in Control and Experimental group of Infertile women (by Age, Education, Occupation, Type of Family, Type of Marriage, Religion, Duration of Infertility, Family Size and Economical Support).

Sample Characteristics	Control Group(n=30)		Experimental Group(n=30)	
Demographic variables	**f**	**P**	**f**	**P**
Age in Years				
20 years	-	-	-	-
21 years - 29 years	20	67	18	60
30 years - 40 years	10	33	12	40
≥ 40 years	-	-	-	-
Age at Marriage				
≤ 29 years	29	97	30	100
≥ 30 years	1	3	-	-
Religion				
Hindu	27	90	27	90
Christian	2	7	3	10
Muslim	1	3	-	-
Occupation				
House Wife	21	70	20	67
Employed	9	30	10	33
Type of Family				
Nuclear	16	53	12	40
Joint	14	47	18	60
Monthly Income				
≤ Rs. 2000/-	-	-	1	3
Rs. 5001/- to 6000/-	3	10	1	3
Rs. 6001/- to 10,000/-	2	7	-	-
≥ Rs. 10,000/-	25	83	28	94

Type of Marriage				
Consanguineous	5	17	2	7
Non Consanguineous	25	83	28	93
Economical Support				
Self	30	100	30	100
Family	-	-	-	-
Company	-	-	-	-

The data presented in Table 2 shows that most of the infertile women (67%, 60%) in control and experimental group belongs to between the age of 21- 29 years. Majority of them time of marriage were < 29 years of age (97%, 100%) in control group and experimental group of Infertile women. Most of them belong to house wife (70%, 67%) in control group and experimental group respectively. Majority of them had non consanguineous (83%, 93%) in both control and experimental group of infertile women.

The percentage distribution of educational status as shown in Fig. 4 revealed that majority of them (87% & 63%) in control and experimental group studied graduate.

The percentage distribution of duration of infertility < 2 years (77%) in control group and (60%) of them belongs to 3-5 years in experimental group of infertile women as depicted Fig.5.

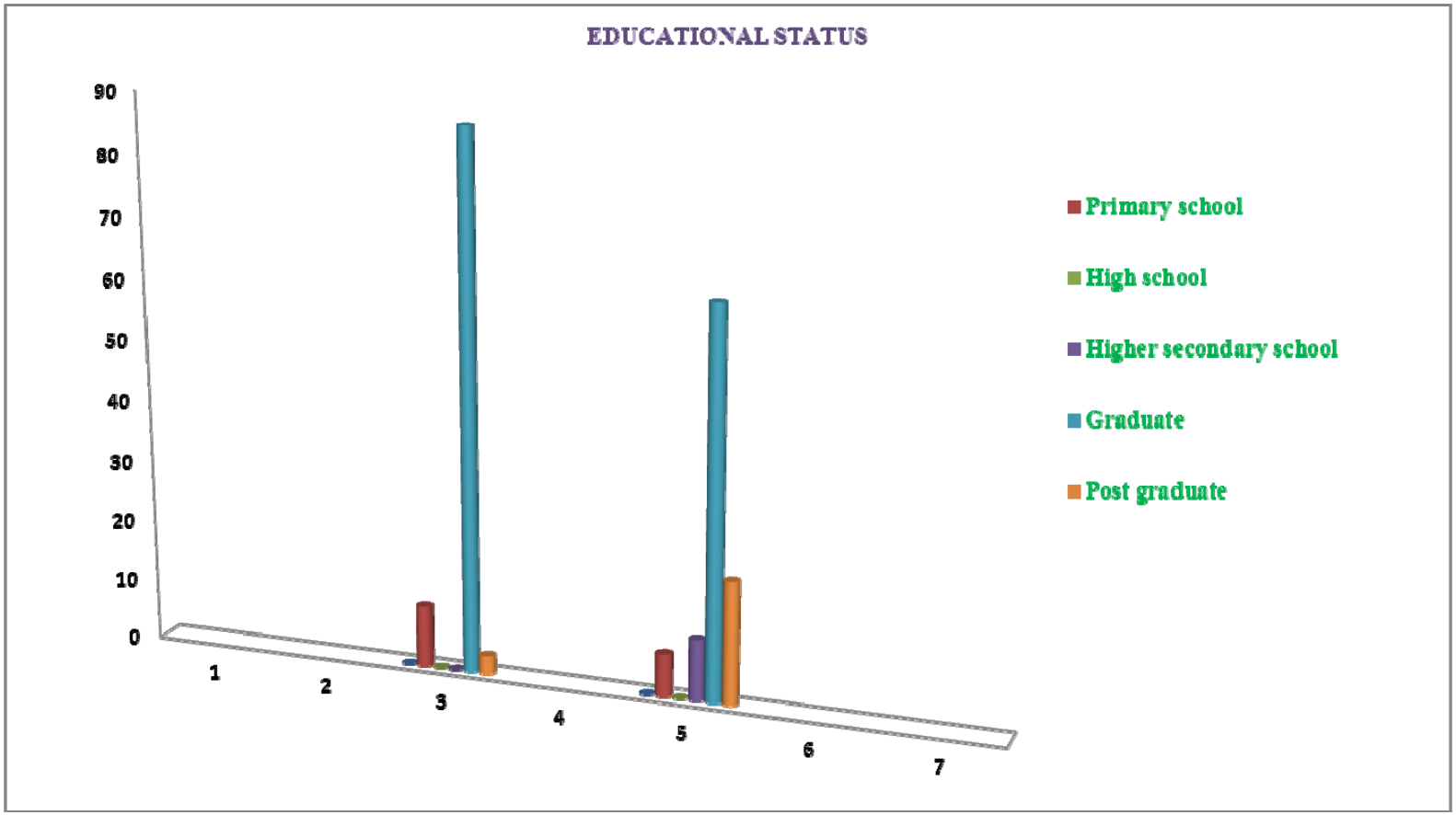

Fig 4. Percentage distribution of educational status of control and experimental group

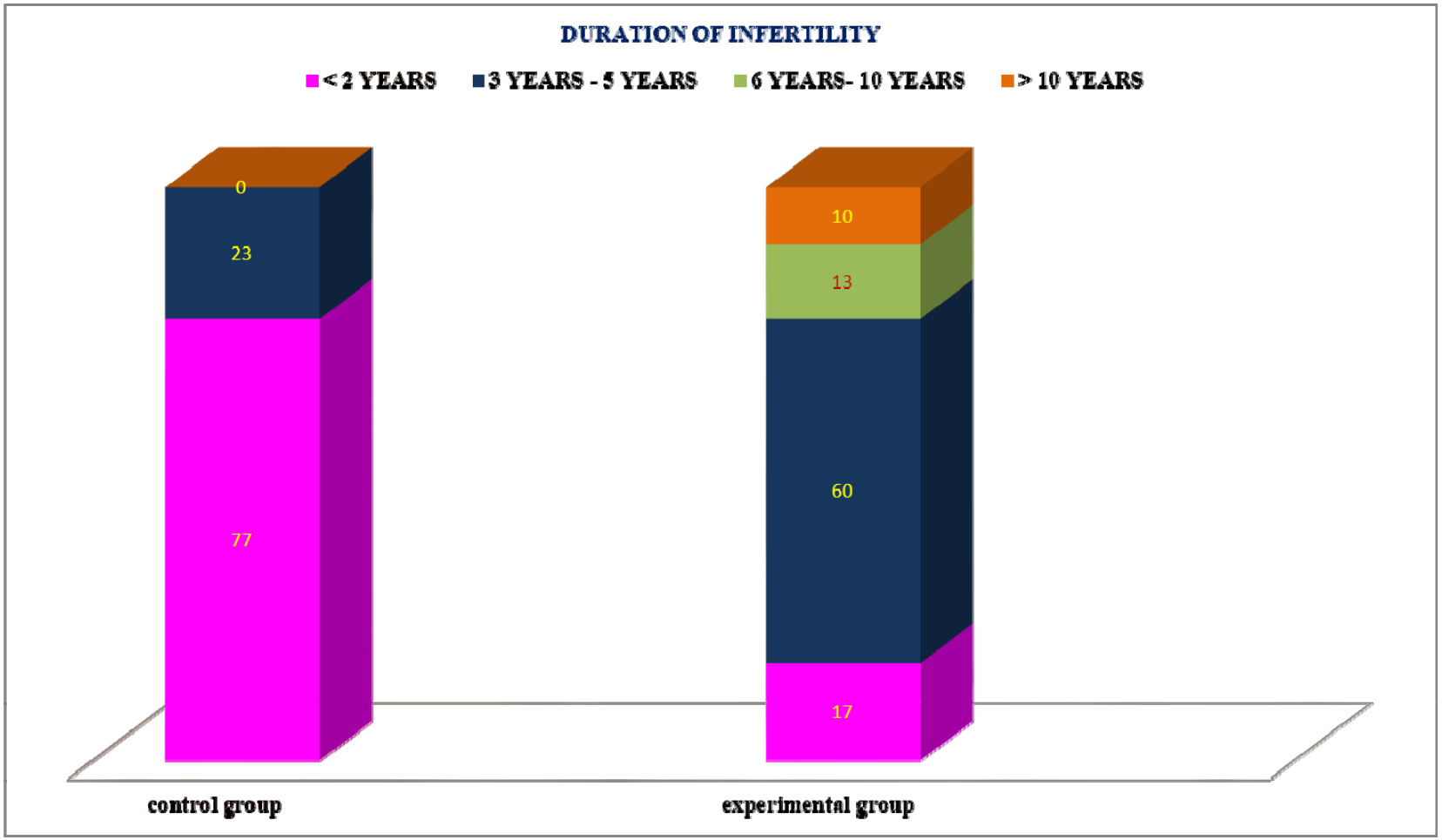

Fig 5. Percentage Distribution of Duration of Infertility of Control and Experimental Group of Infertile Women

Table 3

Frequency and Percentage Distribution of Clinical variables in Control and Experimental group of Infertile women by (Menstrual history, Health history, Surgical history, Married years Use of contraception, Infertility years, Cause of infertility treatment, No of IUI).

Sample Characteristics	Control Group(n=30)		Experimental Group(n=30)	
Clinical variable	f	P	f	P
Age at Menarche				
10 years	-	-	-	-
11 years - 15 years	30	100	30	100
> 15 years	-	-	-	-
Menstrual History				
Regular	19	63	19	63
Irregular	11	37	11	37
Health History				
General Health Illness	-	-	-	-
Gynec Health Illness	9	30	13	43
Nil	21	70	17	57
Surgical History				
General Health surgery	-	-	-	-
Gynec Health Surgery	7	23	8	27
Nil	23	77	22	73
Married Years				
< 5 years	26	87	17	57
5 years – 10 years	4	13	11	37
11 years – 20 years	-	-	2	6
> 20 years	-	-	-	-
Cause of Infertility				
Ovarian	11	37	15	50
Uterine	-	-	-	-
Tubal	-	-	-	-
Pelvic	-	-	-	-
Male	9	30	11	37
Others	10	33	4	13
Prev. Infertility Treatment				
Yes	22	73	21	70
No	8	27	9	30

If yes means				
Ayurveda	-	-	-	-
Allopathy	22	73	21	70
Siddha	-	-	-	-
Others	8	27	9	30

The data presented in the table 3 shows that Majority of them had regular menstrual history (63%, 63%) in both control group and experimental group of infertile women. Significant difference of infertile women had Gynecological health illness (30%, 43%) in both the control and experimental group of infertile women respectively. Most of the women were having Gynecological illness in both the group and had previous treatment (73%, 70%) and the mode of treatment was allopathy (77%, 70%).

Women with infertility significant difference in various causes of infertility were Ovarian, Male and Others (37%, 30%, and 33%) in the control group Most of them in experimental group had ovarian causes (50%).

Fig 6 reveals that significant difference of infertile women had no previous IUI (33%, 40%) in both the control and experimental group.

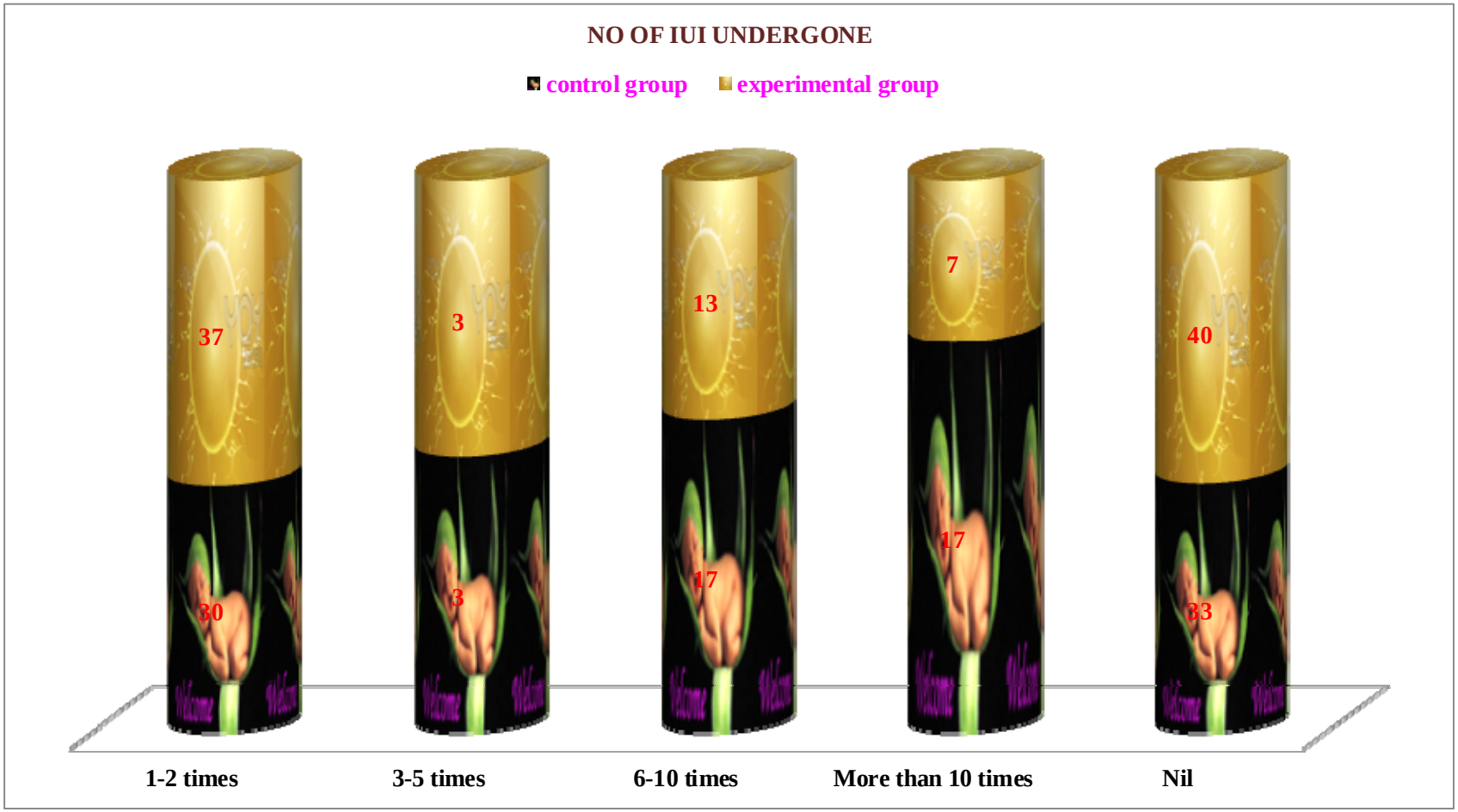

Fig 6. Percentage Distribution of No of Intra Uterine Insemination

Table 4

Frequency and Percentage Distribution of Psychosocial Variable in Control and Experimental Group of Infertile women by(Social Gathering Ceremony, Get – Together at Home, Feel Comfortable In Social Activities, Instrumental Support, Emotional Support, Support from Husband, Maternal and In Law's Support And Job Support &Work Support).

Sample Characteristics	**Control Group (n=30)**		**Experimental Group (n=30)**	
Psychosocial variables	**f**	**P**	**f**	**P**
Social gathering ceremony				
Invitation offered	24	80	25	83
When I feel like	3	10	5	7
Normally avoid	3	10	-	-
Get together at home				
Very frequently	25	83	25	83
When not able to avoid	4	13	5	7
Never entertain	1	4	-	-
Comfortable in social activities				
Always	24	80	25	83
Sometimes	6	20	5	7
Never	-	-	-	-
Instrumental support				
Access to health device	-	-	30	100
Read health magazine	2	7	-	-
Watch health programme	28	93	-	-
Emotional support from others				
Always	30	100	30	100
Sometimes	-	-	-	-
Never	-	-	-	-
Support from husband				

Always	30	100	30	100
Sometimes	-	-	-	-
Never	-	-	-	-
Maternal and law's support				
Always	30	100	30	100
Sometimes	-	-	-	-
Never	-	-	-	-
Job & work support				
Always	30	100	30	100
Sometimes	-	-	-	-
Never	-	-	-	-

The data presented in the table 4 shows Majority of the infertile women (83%, 83%) very frequently gets together at home in control and experimental group of infertile women respectively. Most of them were (80%, 83%) in control and experimental group of infertile women always comfortable to take part n the social activities.

The percentage distribution of social gathering ceremony as shown in Fig.7 revealed that majority of the infertile women (80%, 93%) in control and experimental group of infertile women. Significant difference of Infertile women in Control group normally avoid social gathering.

Majority (93%, 100%) of the infertile women watch health programme access to health device in Control and experimental group of infertile women. Almost all of them (100%) always get emotional support from husband, maternal and in law's support and job support and work support.

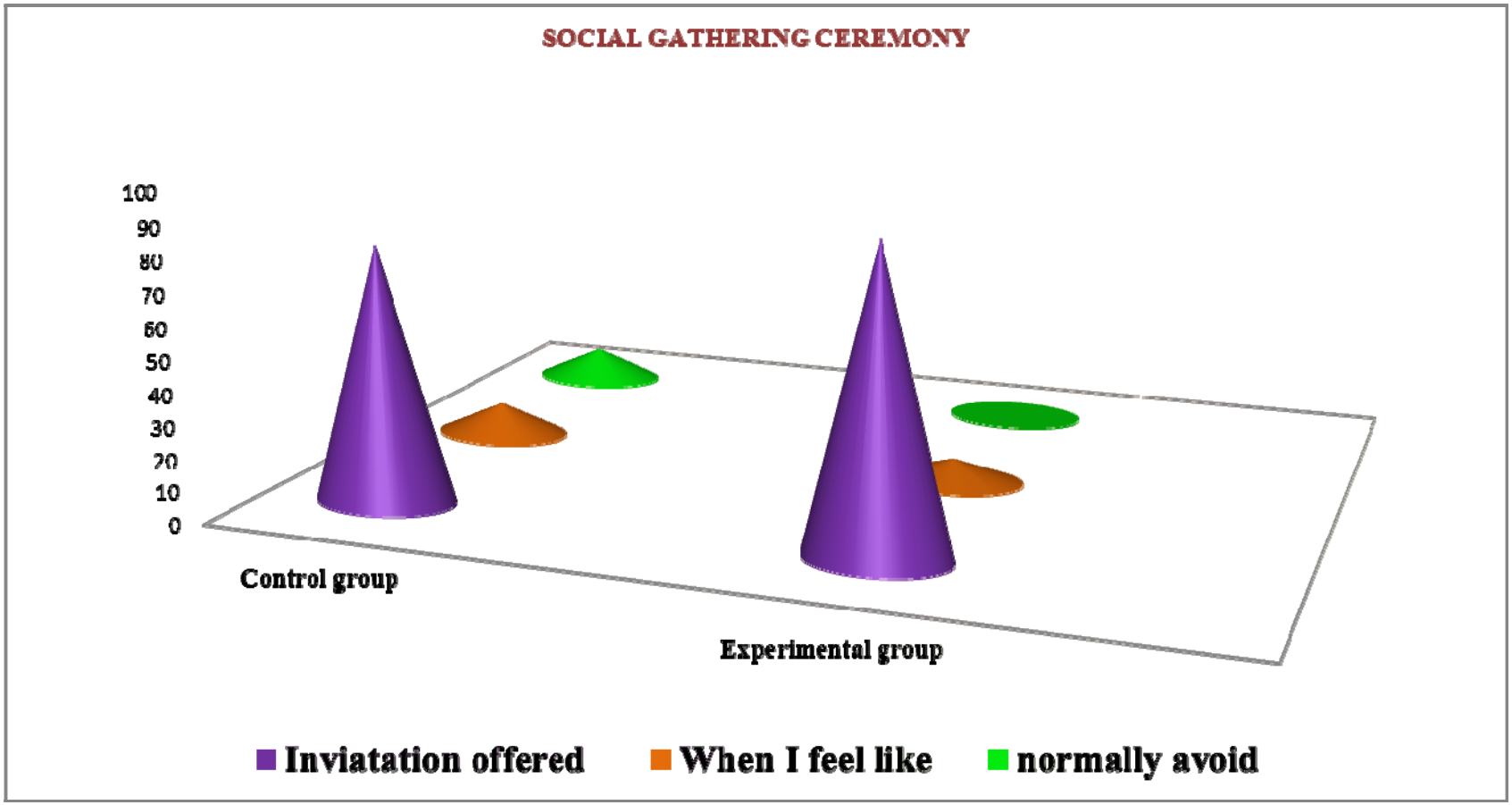

Fig 7. Percentage Distribution of Social Gathering Ceremony of Control and Experimental Group of Infertile Women

Table 5

Frequency and Percentage Distribution of level of Knowledge of Nurses Pre and Post test on clinical pathway for Infertile women with Intra Uterine Insemination.

(N=4)

Knowledge	Inadequate		Moderately adequate		Adequate	
	f	**P**	**f**	**p**	**f**	**P**
Pre test	-	-	4	100	-	-
Post test	-	-	-	-	4	100

Table 5 depicts that the pre-test most of the nurses (100%) were having moderately adequate knowledge and almost all of the nurses (100%) had adequate knowledge after the post-test.

Table 6

Frequency and Percentage distribution of Practice of Nurses in control and experimental group of infertile women.

	Control Group(n=30)		Experimental Group(n=30)	
Practice	**f**	**P**	**f**	**p**
Inadequate practice	-	-	-	-
Moderate practice	30	100	-	-
Adequate practice	-	-	30	100

The data given in the table 6 reveals that all nurses (100%) had moderately practice in control group of infertile women. In the experimental group of infertile women, almost all nurses were (100%) having adequate practice.

Table 7

Frequency and Percentage Distribution of Level of Satisfaction in Control And Experimental Group Of Infertile Women.

	Control Group(n=30)		Experimental Group(n=30)	
Satisfaction	**f**	**P**	**f**	**p**
Highly satisfied	-	-	-	-
Moderately satisfied	30	100	-	-
Satisfied	-	-	30	100

The data given in the table 7 reveals that all infertile women (100%) had moderately satisfied in the control group of infertile women. In the experimental group of infertile women, almost all of the infertile women (100%) were highly satisfied.

Table 8

Frequency and Percentage distribution of Patient Outcome in Control and Experimental group of Infertile women.

	Control Group (n=30)		Experimental Group (n=30)	
Patient outcome	**f**	**P**	**f**	**p**
Developing OHSS	-	-	-	-
Success in conception	14	47	20	66
Failure in conception	16	53	10	34

The data given in the table 8 reveals that (47%) significant difference of infertile women conceived in control group and (66%) of them conceived in experimental group. None of them developed OHSS complication shown in Fig 8.

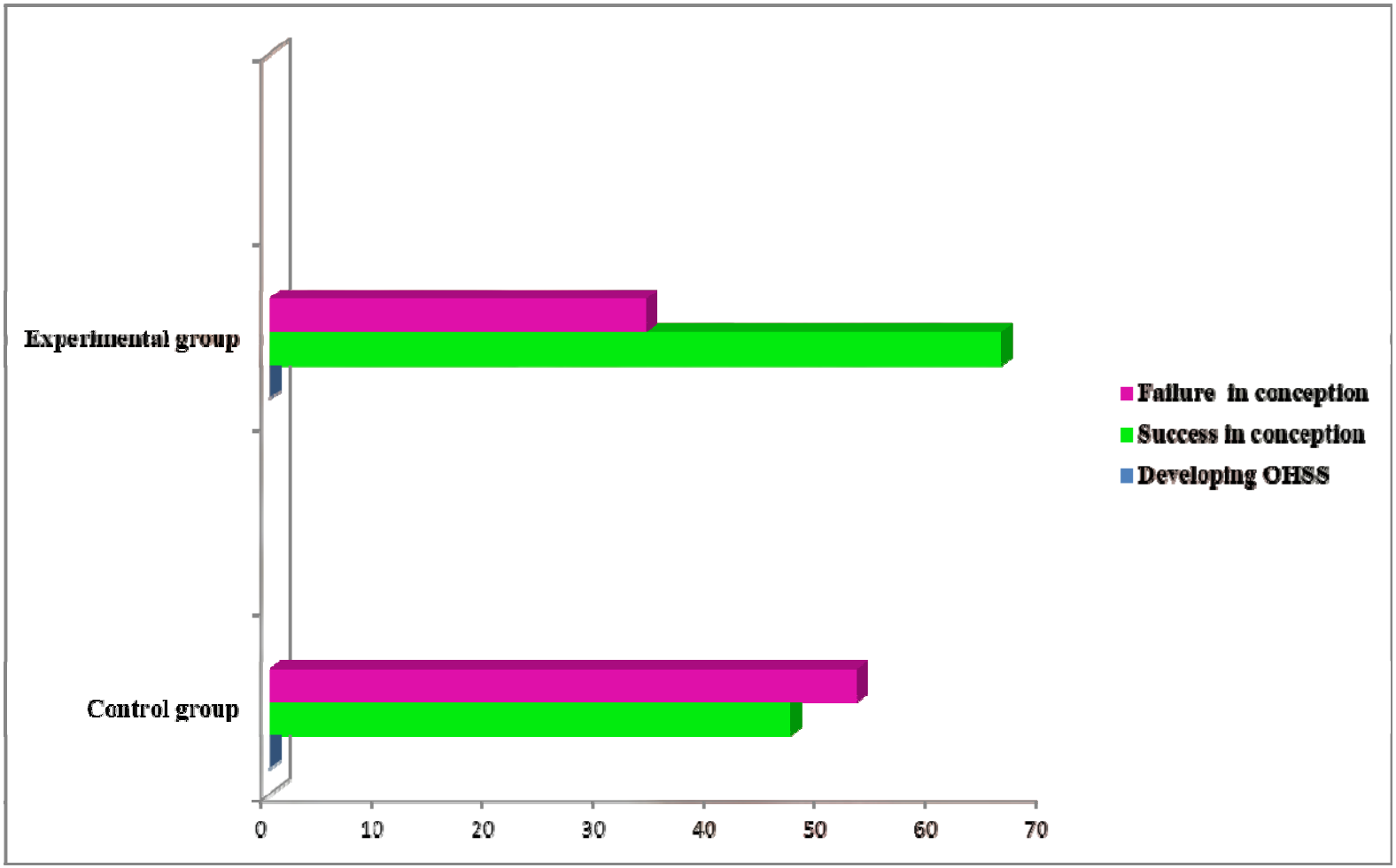

Fig.8. Percentage distribution of Patient outcome of control and experimental group of infertile women

Table 9

Comparison of Mean and Standard Deviation of Pre & Post test Level of Knowledge of Nurses.

(N=4)

Knowledge	Mean	Standard deviation	't' Value
Pre test	14.25	1.63	-
Post test	22.50	1.11	-
Improvement	8.5	0.52	19.90***

***P< 0.001

It can be inferred from table 9 that mean and standard deviation of level of knowledge of nurses were low in the pre-test (M= 14.25, SD=1.63) in comparison to the post-test (M=22.50, SD-0.52). The difference was found statistically significant at 99.9% level of confidence and can be attributed to the level of knowledge. Thus the null hypothesis Ho_1 was rejected.

Table 10

Comparison of Mean and Standard Deviation of Pre & Post test Level of Knowledge among Nurses in relation to Various aspects of Clinical pathway in Infertile women.

(N=4)

Knowledge	Pre test		Post test		
	Mean	SD	Mean	SD	't' Value
Clinical pathway	0.2	0.4	3.2	1.5	8.31**
Investigation	3.5	1.1	5.5	0.0	2.68
Ovulation	2.7	0.4	4.7	0.4	5.65*
Medication	4.0	0.7	5.0	0.0	2.82
Procedure	4.7	0.43	5.0	0.00	1.15

***P< 0.001

The result in the above Table 10 shows that the mean and standard deviation of clinical pathway and ovulation low in pre test (M= 0.2, SD= 0.4) and (M= 0.2 , SD= 0.4) High in post test (M= 3.2 , SD= 1.5) and (M= 4.7 , SD= 0.4) respectively. This shows the knowledge of the nurses in Clinical pathway and Ovulation knowledge increases during post test. The mean of other knowledge of nurses investigation, medication, procedure same after implementing clinical pathway. Hence the null hypothesis partially Ho_1 rejected.

Table 11

Comparison of Mean and Standard Deviation Practice of the Nurses in Control And Experimental Group of Infertile Women.

(N=4)

Practice	Mean	Standard deviation	't' Value
Control group (n=30)	41.76	4.25	-
Experimental group (n=30)	91.06	3.90	-
Improvement	49.30	0.35	37.83***

**P< 0.01

It can be inferred from table 11 that mean and standard deviation of level of practice of nurses were low in the control group of infertile women (M= 41.76, SD = 4.25) in comparison to the experimental group of infertile women (M= 91.06, SD = 3.90). Hence the null hypotheses Ho_1 rejected.

Table 12

Comparison of Mean and Standard Deviation Practice of the Nurses in relation to various components in control and experimental group of infertile women

Practice	Control group(n=30)		Experimental group(n=30)		
	Mean	SD	Mean	SD	't' Value
Assessment	42.36	4.45	90.30	6.81	31.92***
Procedure	40.46	6.66	91.06	4.15	33.2***

***P< 0.001

The results in the above Table 12 shows that the mean and standard deviation of practice of patients of assessment low in control group of infertile women (M = 42.36, SD = 4.45) and procedure and high in Experimental group of infertile women (M = 90.30, SD = 6.81) .Procedure is low in control group (M= 40.46, SD = 6.66) and high in experimental group (M = 91.06. SD = 4.15). This shows that the practice of nurses statically significant at 99.9% level of significance. Hence the null hypothesis HO1 was rejected.

Table 13

Comparison of Mean and Standard Deviation Practice of Nurses of various components in Control and Experimental group of infertile women

Practice Dimension	Control group(n=30)		Experimental group (n=30)		
	Mean	SD	Mean	SD	't' Value
History collection	0.0	0.0	7.13	0.33	68.83***
Physical assessment	0.0	0.0	0.0	0.0	0.00
Investigation	0.0	0.0	0.0	0.0	0.00
Counseling	5.46	1.78	15.9	1.22	26.63***
Health education	4.6	0.55	16.7	1.31	49.59***
Follicular period	5.4	0.80	8.6	0.61	33.86***
Before procedure	5.4	1.08	13.36	0.98	30.15***
During procedure	4.4	1.40	12.9	0.97	27.86***
After procedure	4.6	1.00	6.9	1.20	8.24***
Home care	4.9	1.38	13.4	0.88	61.92***

***P < 0.001

The results in the above Table 13 shows that Clinical pathway was increase the quality of practice among nurses in various dimensions for providing nursing care. The result was statically significant at 99.9% level of confidence. The mean of other two dimension II & III namely physical assessment & investigation was same before and after administering clinical pathway. Hence the Null Hypothesis Ho_1 was partially retained.

Table 14

Comparison of Mean and Standard Deviation Level of Satisfaction in Control and Experimental group of infertile women

Satisfaction	Mean	Standard deviation	't' Value
Control group (n=30)	43.43	3.11	-
Experimental group(n=30)	88.23	5.33	-
Improvement	44.80	2.22	40.39***

***P < 0.001

It was observed from Table 14 that mean and standard deviation of level of satisfaction of infertile women were low in the control group of infertile women (M= 43.3, SD= 3.11) in comparison (M= 88.23 , SD= 5.33) to the experimental group of infertile women. This shows that the patient's satisfaction improved after administering clinical pathway. The result was statically significant at 99.9% level of significance. Hence the Ho_2null hypothesis is rejected.

Table 15

Comparison of Mean and Standard Deviation Level of Satisfaction various aspects in Control and Experimental group of infertile women

Level of Satisfaction	Control group(n=30)		Experimental group (n=30)		
	Mean	SD	Mean	SD	't' Value
Health Assessment	45.20	4.88	92.26	6.54	68.83***
Ultrasonography	42.36	6.22	84.40	7.91	0.00
Before procedure	43.76	4.60	89.56	6.23	0.00
During& After procedure	45.23	6.73	90.03	6.20	26.63***
Health education	52.00	16.16	94.00	6.00	49.59***

The results in the above Table 15 shows that the mean and standard deviation of Practice in various aspects History Assessment (M= 45.20, SD= 4.88) low in control group of infertile women, in comparison with experimental group of infertile women (M = 92.26, SD = 6.54). Ultrasonography (M= 5.46, SD=1.78) low in control group of infertile women, in comparison with experimental group of infertile women (M = 89.56, SD = 6.23), Before procedure (M= 43.76, SD=4.60) low in control group of infertile women, in comparison with experimental group of infertile women (M = 89.03, SD =6.23),During and after procedure (M=45.23, SD=6.73) low in control group of infertile women, in comparison with experimental group of infertile women (M =90.03, SD = 6.20), Health education (M= 52.00, SD=16.16) low in control group of infertile women, in comparison with experimental group of infertile women (M= 94.00, SD=6.00) in comparison with experimental group of infertile women (M= 13.4, SD= 0.88) . This shows that the practice of nurses is increases in experimental group of infertile women than experimental group of infertile women.

Table 16

Comparison of Mean and Standard Deviation Patient outcome in Control and Experimental group of Infertile Women

Patient outcome	Mean	Standard deviation	't' Value
Control group (n=30)	0.73	0.888	-
Experimental group (n=30)	0.83	0.960	-
Improvement	0.1	0.072	0.420

It was observed from Table 14 that mean and standard deviation of Patient outcome of infertile women were low in the control group of infertile women (M= 0.73, SD= 0.888) in comparison (M= 0.83, SD=0.960) to the experimental group of infertile women. This shows that the patient's satisfaction improved after administering clinical pathway.

Table 17

Association between selected Demographic Variables and the Level of Knowledge in Pre & Post test among Nurses

(N=4)

Demographic variables	Pre test			Post test			
Knowledge	**IAdeq**	**Moder**	**Adeq**	**IAdeq**	**Moder**	**Adeq**	χ^2
Age in years							
17 years	-	-	-	-	-	-	-
18 years - 29 years	-	2	-	-	-	2	-
30 years - 40 years	-	2	-	-	-	2	-
≥ 40 years	-	-	-	-	-	-	-
Religion							-
Hindu	-	3	-	-	-	3	-
Christian	-	1	-	-	-	1	-
Muslim	-	-				-	-
Educational Status							-
ANM	-	2	-	-	-	2	-
Diploma in Nursing	-	2	-	-	-	2	-
BSc Nursing	-	-	-	-	-	-	-
Post Certificate Course	-	-	-	-	-	-	-
Marital Status							-
Married	-	3	-	-	-	3	-
Single	-	1	-	-	-	1	-
Type of the Residential							-
Home	-	4	-	-	-	4	-
Hostel	-	-	-	-	-	-	-
Years of Experience							-
1 year - 10 years	-	1	-	-	-	1	-
11 years - 20 years	-	1	-	-	-	1	-
21 years - 30 years	-	1	-	-	-	1	-
> 30 years	-	1	-	-	-	1	-

Income per month(Rs)							-
< 5000	-	-	-	-	-	-	-
5001 – 7500	-	2	-	-	-	2	-
7501 - 10,000	-	2	-	-	-	2	-
> 10,000	-	-	-	-	-	-	-
Inf. Clinical Pathway							-
Yes	-	-	-	-	-	-	-
No	-	4	-	-	-	4	-
Source of information							-
Books	-	-	-	-	-	-	-
Journals	-	-	-	-	-	-	-
Magazines	-	-	-	-	-	-	-
Colleagues	-	-	-	-	-	-	-
Prev. Work Experience	-	-	-	-	-	-	-

It was noted from Table 17 that there was no significant association between the selected demographic variables such as Age, Religion, Educational qualification and Years of experience in the Level of knowledge for the nurses in the pre and post test. It has proven that there is no association between the selected demographic variables and level of knowledge. Hence the null hypothesisHo_3 was retained. No statistics could be calculated for association between selected demographic variables and level of knowledge.

Table 18

Association between selected Demographic Variables and Level of Satisfaction in Control group and Experimental group of Infertile women

Demographic variables	Control group(n=30)			Experimental group(n=30)			
Level of Satisfaction	**S**	**MS**	**HS**	**S**	**MS**	**HS**	χ^2
Age in Years							
20	-	-	-	-	-	-	-
21 - 29	-	20	-	-	-	18	-
30 - 40	-	10	-	-	-	12	-
$\geq$ 40	-	-	-	-	-	-	-
Age at Marriage (Years)							
$\leq$ 29	-	29	-	-	-	30	-
$\geq$ 30	-	1	-	-	-	-	-
Educational Status							
Primary School		3	-			2	-
High School	-	-	-	-	-	-	-
Higher Secondary School	-	-	-	-	-	3	-
Graduate	-	26	-	-	-	19	-
Post Graduate	-	1	-	-	-	6	-
Religion							
Hindu	-	27	-	-	-	27	-
Christian	-	2	-	-	-	3	-
Muslim		1	-	-	-	-	-
Occupation							
House Wife	-	21	-	-	-	20	-
Employed	-	9	-	-	-	10	-
Type of Family							
Nuclear	-	16	-	-	-	12	-
Joint	-	14	-	-	-	18	-
Monthly Income							

≤ Rs. 2000/-	-	-	-			1	-
Rs. 5001/- to 6000/-	-	3	-	-	-	1	-
Rs. 6001/- to 10,000/-	-	2	-	-	-	-	-
≥ Rs. 10,000/-	-	25	-	-	-	28	-
Type of Marriage							
Consanguineous	-	5	-	-	-	2	-
Non Consanguineous	-	25	-	-	-	28	-
Duration of Infertility							
≤ 2 years	-	23	-	-	-	5-	-
3 years – 5 years	-	7	-	-	-	18	-
6 years – 10 years	-	-	-	-	-	4	-
≥ 10 years	-	-	-	-	-	3	-
Economical Support							
Self	-	21	-	-	-	20	-
Family	-	9	-	-	-	10	-
Company	-	-	-	-	-	-	-

From the data presented in table 18 it can be revealed that there is no association between age, education, occupation, type of family, type of marriage, religion, duration of infertility, economical support, family size with the level of satisfaction in the control group and experimental group of infertile women. Hence null hypothesis Ho_4 was retained. No statistics could be applied to find the association between selected demographic variables and the level of satisfaction.

Table 19

Association between selected Clinical Variables and Level of Satisfaction in Control group and Experimental group of Infertile women

Clinical variables	Control group(n=30)			Experimental group(n=30)			
Level of Satisfaction	**S**	**MS**	**HS**	**S**	**MS**	**HS**	χ^2
Age at Menarche (Years)							
10	-	-	-	-	-	-	-
11 - 15	-	30	-	-	-	30	-
> 15	-	-	-	-	-	-	-
Menstrual History							
Regular	-	19	-	-	-	19	-
Irregular	-	11	-	-	-	11	-
Health History							
General Health Illness	-	-	-	-	-	-	-
Gynec Health Illness	-	9	-	-	-	13	-
Nil	-	21	-	-	-	17	-
Surgical History							
General Health surgery	-	-	-	-	-	-	-
Gynec Health Surgery	-	7	-	-	-	8	-
Nil	-	23	-	-	-	22	-
Married Years							
< 5	-	26	-	-	-	17	-
5 – 10	-	4	-	-	-	11	-
11 – 20	-	-	-	-	-	2	-
> 20	-	-	-	-	-	-	-
Cause of Infertility							
Ovarian	-	11	-	-	-	15	-
Uterine	-	-	-	-	-	-	-
Tubal	-	-	-	-	-	-	-
Pelvic	-	-	-	-	-	-	-

Male	-	9	-	-	-	11	-
Others	-	10	-	-	-	4	-
Prev. Infertility Treatment							
Yes	-	22	-	-	-	21	-
No	-	8	-	-	-	9	-
If yes means							
Ayurveda	-	-	-	-	-	-	-
Allopathy	-	23	-	-	-	21	-
Siddha	-	-	-	-	-	-	-
Others	-	7	-	-	-	9	-
No.of IUI Undergone							
One - Two times	-	9	-	-	-	11	-
Three – Five times	-	1	-	-	-	1	-
Six - Ten times	-	5	-	-	-	4	-
More than 10 times	-	5	-	-	-	2	-
Nil	-	10	-	-	-	12	-

From the data presented in table 19 it can be revealed that there is no association between Age at menarche, Reproductive age, Menstrual history, Health history, Surgical history, Married years, Use of contraception, Infertility years, Cause of infertility, Treatment, No of IUI with the level of satisfaction in the control group and experimental group of infertile women. Hence null hypothesis Ho_5 was retained. No statistics could be applied to find the association between selected clinical variables and the level of satisfaction.

Table 20

Association between selected Psychosocial Variables and Level of Satisfaction in Control group and Experimental group of Infertile women

Psychosocial variables	Control group(n=30)			Experimental group(n=30)			
Level of Satisfaction	S	MS	HS	S	MS	HS	χ^2
Social gathering ceremony							
Invitation offered	-	-	-	-	-	25	-
When I feel like	-	30	-	-	-	5	-
Normally avoid	-	-	-	-	-	-	-
Get together at home							
Very frequently	-	19	-	-	-	25	-
When not able to avoid	-	11	-	-	-	5	-
Never entertain	-		-	-	-	-	-
Comfortable social activities		-					
Always	-	9	-	-	-	25	-
Sometimes	-	21	-	-	-	5	-
Never	-		-	-	-	-	-
Instrumental support		-					
Access to health device	-	7	-	-	-	30	-
Read health magazine	-	23	-	-	-	-	-
Watch health programme	-		-	-	-	-	-
Emotional support		26					
Always	-	4	-	-	-	30	-
Sometimes	-	-	-	-	-	-	-
Never	-	-	-	-	-	-	-
Support from husband							
Always	-	11	-	-	-	30	-
Sometimes	-	-	-	-	-	-	-
Never	-	-	-	-	-	-	-
Maternal and law's support		-					
Always	-	9	-	-	-	30	-
Sometimes	-	10	-	-	-	-	-
Never	-		-	-	-	-	-
Job & work support		22					
Always	-	8	-	-	-	30	-
Sometimes	-		-	-	-	-	-
Never	-	-	-	-	-	-	-

From the data presented in table 20, it can be revealed that there is no association between psychological variables such as Get together at home, Comfortable take part in social activities, instrument, emotion, support from husband, maternal and law's support, Job & work support in control and experimental group. Hence the null hypothesis Ho_6 was retained. No statistics could be applied to find the association between selected psychosocial variables and the level of satisfaction.

Table 21

Association between selected Demographic Variables and Patient Outcome in Control group and Experimental group of Infertile women

Demographic variables	Control group (n=30)			Experimental group(n=30)		
Patient Outcome	**Success**	**Fail**	χ^2	**Success**	**Fail**	χ^2
Age in Years						
20	-	-		-	-	
21 - 29	13	7		17	1	
30 - 40	1	9		3	9	
≥ 40	-	-	8.097**	-	-	45.20***
Age at Marriage (Years)			Df=1			Df=1
≤ 29	14	15		20	9	
≥ 30	-	1	0.5430	-	1	5.860
Educational Status			Df=1			Df=1
Primary School	1	-		1	1	
High School	-	-		-	-	
Higher Secondary School	-	-		2	1	
Graduate	12	14		18	1	
Post Graduate	1	-	2.0980	1	5	17.296
Religion			Df=1			Df=3
Hindu	13	14		19	8	
Christian	1	1		1	2	
Muslim	-	1	5.133	-	-	
Occupation			Df=2			
House Wife	12	9		15	5	
Employed	2	7	2.7078	5	5	1.8691
Type of Family			Df=1			Df=1
Nuclear	10	6		10	2	
Joint	4	10	2.860	10	8	2.7000
Monthly Income			Df=1			Df=1
≤ Rs. 2000/-	-	-		-	1	
Rs. 5001/- to 6000/-	1	2		1	-	
Rs. 6001/- to 10,000/-	1	1		-	-	
≥ Rs. 10,000/-	12	13	7.840	19	9	2.495
Type of Marriage			Df=2			Df=2
Consanguineous	2	3		2	-	
Non Consanguineous	12	13	0.1082	20	8	0.7806
Duration of Infertility			Df=1			Df=1
≤ 2 years	12	11		3	2	

3 years – 5 years	2	5		16	2	
6 years – 10 years	-	-		1	3	
≥ 10 years	-	-	1.1985	-	3	10.2263**
Economical Support			Df=1			Df=3
Self	14	16		20	10	
Family	-	-	0.000	-	-	0.000
Company	-	-	Df=1	-	-	Df=1

**P<0.01

It was observed from table 21 that there was a significant association between the Age in years and their treatment outcome (χ^2 = 8.0972) in control group. Hence the null hypothesis $H0_4$ is partially rejected. Hence no statistics could be calculated for association between selected demographic variables and patient outcome except age in year.

There was a significant association between the age in years (χ^2 = 45.208) and Duration of infertility (χ^2 = 10.226) after administering clinical pathway at p> 0.001 and p>0.01. Hence the null hypothesis $H0_4$ is partially rejected. Hence no statistics could be calculated for association between selected demographic variables of experimental group of infertile women.

Table 22

Association between selected Clinical Variables and Patient Outcome in Control group and Experimental group of Infertile women

Clinical variables	Control group (n=30)			Experimental group(n=30)		
Patient Outcome	**Success**	**Fail**	χ^2	**Success**	**Fail**	χ^2
Age at Menarche (Years)						
10	-	-		-	-	
11 - 15	14	16	0.000	20	10	0.000
> 15	-	-	Df=1	-	-	Df=1
Menstrual History						
Regular	12	7		13	6	
Irregular	2	9	5.6721*	7	4	0.0835
Health History			Df=1			Df=1
General Health Illness	-	-		-	-	
Gynec Health Illness	1	8		7	6	
Nil	13	8	15.934***	13	4	1.6824
Surgical History			Df=1			Df=1
General Health surgery	-	-		-	-	
Gynec Health Surgery	1	6		2	6	
Nil	13	10	3.844*	18	4	13.44***
Married Years			Df=1			Df=1
< 5 years	12	14		13	4	
5 years – 10 years	2	2		6	5	
11 years – 20 years	-	-		1	1	
> 20 years	-	-	0.0208	-	-	1.7190
Cause of Infertility			Df=1			Df=2
Ovarian	4	-		8	7	
Uterine	-	-		-	-	
Tubal	-	-		-	-	
Pelvic	-	-		-	-	
Male	4	5		8	3	

Others	6	4	1.322	4	-	3.0209*
Pre.InfertilityTreatment			Df=1			Df=2
Yes	12	10		16	5	
No	2	6	7.2461**	4	5	2.856
If yes means			Df=1			Df=1
Ayurveda	-	-		-	-	
Allopathy	12	11		19	2	
Siddha	-	-		-	-	
Others	2	5	1.1490	1	8	17.856***
No.Of IUI Undergone			Df=1			Df=1
One - Two times	6	3		8	3	
Three – Five times	1	5		1	-	
Six - Ten times	3	2		2	2	
More than 10 times	3	2	5.467	1	1	3.8172
Nil	1	4	Df=4	8	4	Df=4

***P<0.001, *P<0.05

It was observed from Table 22 that there was a significant association between the Menstrual history, (χ^2 = 15.934), Gynecological illness, Surgical illness (χ^2 =3.844) . Hence the null hypothesis $H0_5$ is partially rejected. Hence no statistics could be calculated for association between selected clinical variables of control group of infertile women and patient outcome.

There was a significant association between the, (χ^2=13.4419) Gynecological illness. Hence the null hypothesis $H0_5$ is partially rejected. Hence no statistics could be calculated for association between selected clinical variables of experimental group of infertile women and patient outcome.

Table 23

Association between selected Psychosocial Variables and Patient Outcome in Control group and Experimental group of Infertile women

Psychosocial variables / Patient Outcome	Control group (n=30)			Experimental group (n=30)		
	Success	Fail	χ^2	Success	Fail	χ^2
Social ceremony						
Invitation offered	12	12		18	7	
When I feel like	1	1		2	3	
Normally avoid	1	3	0.8989	-	-	2.0587
Get together at home			Df=2			Df=1
Very frequently	11	14		18	7	
When not able to avoid	3	1		2	3	
Never entertain	-	1	8.9777*	-	-	2.0587
Comfort social activities			Df=2			Df=1
Always	13	12		18	7	
Sometimes	1	4		2	3	
Never	-	-	2.5081	-	-	2.0587
Instrumental support			Df=1			Df=1
Access to health device	14	16		18	7	
Read health magazine	-	-		2	3	
Watch health programme	-	-	17.298** *	-	-	2.0587
Emotional support			Df=1			Df=1
Always	12	14		18	7	
Sometimes	2	2		2	3	
Never	-	-	2.0631	-	-	2.0587
Support from husband			Df=1			Df=1
Always	12	14		18	7	
Sometimes	2	2		2	3	
Never	-	-	2.0631	-	-	2.0587
Maternal& law's support			Df=1			Df=1

Always	12	14		18	7	
Sometimes	2	2		2	3	
Never	-	-	2.0631	-	-	2.0587
Job & work support			Df=1			Df=1
Always	12	14		18	7	
Sometimes	2	2	2.0631	2	3	2.0587
Never	-	-	Df=1	-	-	Df=1

*p<0.05

It was observed from Table 23 that there was a significant association between the comfortable take part in psychosocial activities (χ^2= 8.9777) at P < 0.05. Hence the null hypothesis $H0_6$ is partially rejected. No statistics could be calculated for association between selected psychosocial variables and patient outcome. There was no significant association between the selected psychosocial variables such as Get together at home, Comfortable take part in social activities, instrument, emotion, support from husband, maternal and law's support, Job & work support in control and experimental group of infertile women. Hence the null hypothesis $H0_6$ was retained. The patient outcome is not related to social variables. Hence no statistics could be calculated for association between selected psychological variables and patient outcome.

Summary

This chapter has dealt with the analysis and interpretation of the data obtained by the researcher. The analyst of the results showed that in the experimental group of the patients improved satisfaction compared to control group. This implied that the Clinical pathway has an effect to improve the knowledge and practice of nurses and improved the patient satisfaction and outcome.

CHAPTER – V

DISCUSSION

A Quasi Experimental Study was conducted to assess the Effectiveness of Clinical Pathway for Infertile Women Undergoing Intra Uterine Insemination upon the Knowledge and Practice of Nurses and Patient Outcome at Apollo Hospital, Chennai.

The Objectives of the Study were

1. To assess the pre test and post test level of knowledge and practice of nurses regarding clinical pathway for infertile women undergoing intra uterine insemination.
2. To evaluate the effectiveness of clinical pathway for infertile women undergoing intra uterine insemination upon the knowledge and practice of nurses.
3. To assess and compare patients outcome in control and experimental group of infertile women.
4. To determine the level of satisfaction upon nursing care control and experimental group of infertile women.
5. To determine the association between the selected demographic variables of nurses with their pre and post test level of knowledge regarding clinical pathway for intra uterine insemination.
6. To determine the association between the selected demographic variables with patient outcome and level of satisfaction in control and experimental group of infertile women.

7. To determine the association between the selected clinical variables with patient outcome and level of satisfaction in control and experimental group of infertile women.
8. To determine the association between the selected psychosocial variables with patient outcome and level of satisfaction in control and experimental group of infertile women.

This study was carried upon four nurses working in ART unit, 60 infertile women undergoing Intra uterine insemination in Apollo Hospital, Chennai. The nurses knowledge on clinical pathway was pre tested using a structured knowledge questionnaire in the IUI unit. Selected control group of infertile women undergoing Intra uterine insemination and observed for nursing care for the same by using practice followed by clinical pathway was administered post test was conducted to nurses and observed the practice of nursing care for Experimental group of infertile women undergoing Intra uterine insemination. Level of Satisfaction and patient outcome used for infertile women undergoing Intra uterine insemination before and after implementing clinical pathway. Gain in knowledge and practice were assessed by post test and practice check list for nurses and satisfaction scale and outcome check list for infertile women.

The discussion is presented under the following headings:

- Demographic variables of nurses
- Demographic variables, clinical variables and Psycho social variables in control and experimental group of infertile women.

- Level of satisfaction and Patient outcome in control and experimental group of infertile women.
- Mean and Standard Deviation of Level of Knowledge and practice in the pre and post test of nurses and in control and experimental group of infertile women.
- Mean and Standard Deviation of Level of Knowledge and practice in various aspects of the pre and post test of nurses and in control and experimental group of infertile women.
- Mean and Standard Deviation of level of Satisfaction and patient outcome in control and experimental group of infertile women.
- Association between selected demographic variables and Level of knowledge in pre and post test of nurses.
- Association between selected demographic variables and Level of satisfaction and patient outcome in control group and experimental group of infertile women.
- Association between selected clinical variables and Level of satisfaction and patient outcome in control group and experimental group of infertile women.
- Association between selected psychosocial variables and Level of satisfaction and patient outcome in control group and experimental group of infertile women.

Demographic variables of the Nurses

Most the nurses working in IUI unit (50%, 50%) of the age group 18 - 29 years and 30- 40 years and GNM & ANM respectively. This result shows after completion of Degree in nursing, the nurses were migrating to other countries, So majority of the nurses were belonged to GNM & ANM. Majority of them (75%) having experience between 1-10 years Aboulghar et al (2009) a study on awareness about to among nurses

working in a ART hospital. The study concluded that there is a general lack of knowledge regarding various aspects of ART among Nurses. Investigator found that most of Nurses had no previous information on their own specialization working unit. This clinical pathway for IUI will help the Nurses to gain the knowledge and improve the practice of Nurses working in IUI unit.

Demographic variables, Clinical variables and Psycho social variables in control and experimental group of infertile women

Most of the infertile women in control and experimental group belonged to 21-29 years (67%, 60%). Majority of them were < 29 years of age (97%) at the time of marriage in control group of infertile women and all of them were < 29 years (100%) in experimental group of infertile women. This study implies that, The Indian culture, most of the female will get marriage between the age of 20-29 years. This findings were supported by awareness about increasing age will decline the fertility rate by Mathiessen (2006).

Most of them belong to house wife (70%, 67%) in control group and experimental group of infertile women respectively. Majority of them had non consanguineous in both control and experimental group (83%, 93%). Now days the people were aware about blood relation marriage will give the chromosomal anomalies to their generation. It could be interpreted that the public had adequate awareness about the consanguineous marriage reduces the fertility either by altering the prevalence of primary sterility or through increasing the spontaneous abortion rate. This aspect is contradictory to the results of the study conducted by Hussain and Bitters (2004) in

South East Asian countries, revealed that higher fertility among women in the first cousin unions comparison to those married to non relatives.

Majority of them (87%, 63%) of the control and experimental group of infertile women studied graduate. Education is one of the facilitating factors for Infertile Women to understand the treatment process of IUI. It also helps to recognize the treatment progress and their satisfaction of nursing care. This study results also indicated that the public is more aware of the importance of female literacy which is consistent with national literacy mission census in the year 2001 indicated that female literacy have heightened from 8.86% to (54.16%) in 2001.

The percentage distribution of duration of infertility < 2 years (77%, 17%) Most of them (23%, 60%) belonged to 3-5 years control and experimental group of infertile women respectively, Significant difference 13% of the infertile women >10 years of period infertility of experimental group of infertile women. The couple after one year of their married period will come for the treatment due to more awareness about infertility treatment through Mass media, Health magazines etc.

Clinical variables, Majority of them had regular menstrual history (63%, 63%) and no surgical history (77%, 73%) in both control group and experimental group of infertile women respectively. Significant difference of them had Gynecological health illness (30%, 43%) in both the control and experimental group. Most of the women who had Gynecological illness in both the group had previous treatment (73%, 70%) and the mode of treatment was allopathy (77%, 70%). Due to increased female literacy the couple will approach the Health care providers in Allopathy hospitals. This findings was

consistent with the findings of Bere (2008) increase in the use of infertility medical care stems from many factors, including a heightened awareness that infertility is a medical condition that may be treated many cases.

Women with infertility were equally distributed between the various causes of infertility (37%, 30%, and 33%) Ovarian, Male and Other factors in the control group of infertile women whereas significant of them in the experimental group of infertile women had ovarian and male causes (50% and 37%). The following studies also support the same findings. Report From UK data Female causes were 30%, Male causes were 30%, Combined 10%, and unexplained 25% others were 5%.

Psychosocial variables, Majority (83%) of the infertile women very frequently get together at home in control and experimental group of infertile women. Most of them (80%, 83%) of the control and experimental group of infertile women always comfortable to take part n the social activities. Social gathering ceremony, majority of the infertile women (80%, 93%) of the in control and experimental group. Significant difference (10%, 7%) of the infertile women when they feel and 10% of the control group of infertile women normally avoid social gathering. Majority (93%) of the infertile women watch health programme control of infertile women and Almost all infertile women (100%) access to health device experimental group of infertile women. Almost all of them (100%) always get emotional support from significance others, support from husband, maternal and in law's support and job support and work support. This Resolve 2006 coated that, the attitude, the sensitivity and the caring nature of those who involved in the assessment of infertility by foundation for the clients ability to cope with the subsequent therapy and management. From Lowdermilk, Berry (2007).

Although infertility has an effect on a couple's mental health, different psychological factors have been shown to affect the reproductive ability of both partners. Proposed mechanisms through which depression could directly affect infertility involve the physiology of the depressed state such as elevated prolactin levels, disruption of the hypothalamic-pituitary-adrenal axis, and thyroid dysfunction. One study of 10 depressed and 13 normal women suggests that depression is associated with abnormal regulation of luteinizing hormone, a hormone that regulates ovulation.

Level of satisfaction and Patient outcome in control and experimental group of infertile women

All infertile women (100%) had moderately satisfied in the control group of infertile women. In the experimental group of infertile women, almost all of the infertile women (100%) had highly satisfied. (47%) of them conceived in control group of infertile women and (66%) of them conceived in experimental group of infertile women. None of them developed OHSS complication. The increase in the use of infertility medical care stems from many factors, including a heightened awareness that infertility is a condition that may be treated in many cases.

Mean and Standard Deviation of Level of Knowledge and practice in the pre and post test of nurses and in control and experimental group of infertile women

Mean and standard deviation of level of knowledge of nurses were low in the pre-test (M= 14.25, SD=1.63) in comparison to the post-test (M=22.50, SD-0.52). The difference was found statistically significant at 99.9% level of confidence and can be attributed to the level of knowledge. This aspect was consistent with Chakravarthy

(2004) by During last two decades there has been marked increase in patient population in all infertility clinics the world over, but all infertility clinics may not be sufficiently equipped with the latest technology and expertise essential to offer the best possible help. Hence there is a need for patient selection, in order to categorizes them in specific groups and then refer them to different levels of infertility care units for stepwise investigations and treatment.

Mean and standard deviation of practice of nurses were low in the control group (M= 41.76, SD = 4.25) in comparison to the experimental group (M= 91.06, SD = 3.90) . This view was highlighted ombelet et al (2011) Intra uterine insemination a first step procedure in the algorithm of male sub fertility treatment. Despite the widespread clinical pathway use of IUI in the treatment with knowledge of health team members the effective of IUI treatment.

Mean and Standard Deviation of Level of Knowledge and practice in various aspects of the pre and post test of nurses and in control and experimental group of infertile women

Mean and standard deviation of clinical pathway low in pre test (M= 0.2 , SD= 0.4) High post test (M= 3.2 , SD= 1.5), Ovulation low in pre test (M= 0.2 , SD= 0.4) High post test (M= 4.7 , SD= 0.4) . This shows the knowledge of the nurses in Clinical pathway and Ovulation knowledge increases during post test. The mean of other knowledge of nurses investigation, medication, procedure same after implementing clinical pathway.

Mean and Standard Deviation of level of Satisfaction and patient outcome in control and experimental group of infertile women

Mean and standard deviation of level of satisfaction of infertile women were low in the control group (M= 43.3, SD= 3.11) in comparison (M= 88.23 , SD= 5.33) to the experimental group. Mean and standard deviation of Patient outcome of infertile women were low in the control group (M=0.73, SD=0.888) in comparison (M= 0.83, SD=0.960) to the experimental group this shows that the patient's satisfaction improved after administering clinical pathway in the experimental group of infertile women.

Association between selected Demographic Variables and Level of knowledge in pre and post test of nurses

There was no significant association between the selected demographic variables such as Age, Religion, Educational qualification and Years of experience in the Level of knowledge for the nurses in the pre and post test. It has proven that there is no association between the selected demographic variables and level of knowledge. Hence the null hypothesis $Ho_1$was retained. Irrespective of demographic variables the nurse acquired knowledge and improved their practice and quality of care was improved after administering clinical pathway.

Association between selected Demographic Variables and Level of satisfaction and patient outcome in control group and experimental group of infertile women

There was no association between age, education, occupation, type of family, type of marriage, religion, duration of infertility, economical support , family size with

the level of satisfaction in the control group and experimental group of infertile women. Hence null hypothesis Ho_4 was retained. No statistics could be applied to find the association between selected demographic variables and the level of satisfaction. There was a significant association between the Age in years and their treatment outcome (χ^2 = 8.0972) in control group. This shows that age in years and patient outcome influencing each other. Women in their twenties have a good chance of becoming pregnant as a result of a relatively greater number of eggs in their ovaries. Additionally, a larger percentage of those eggs are normal genetically. Since a woman is born with all of the eggs that they will have in their lifetime, the older she gets the fewer eggs are left. In addition, as women age the percentage of genetically normal eggs remaining decreases. This is why women have a decreasing fertility rate, increased miscarriage rate and increased chance of birth defects like Down syndrome as they age. Women in their twenties have a good chance of becoming pregnant as a result of a relatively greater number of eggs in their ovaries. Additionally, a larger percentage of those eggs are normal genetically. Since a woman is born with all of the eggs that they will have in their lifetime, the older she gets the fewer eggs are left. In addition, as women age the percentage of genetically normal eggs remaining decreases. This is why women have a decreasing fertility rate, increased miscarriage rate and increased chance of birth defects like Down syndrome as they age. This was supported by Demographic studies demonstrate a consistent decline in fecundity after 30 – 35 years of age , with an incidence of involuntary infertility in women older than 40 years of age ranging from approximately (33- 64%) by Ranson et al (2000).

Association between selected Clinical Variables and Level of satisfaction and patient outcome in control group and experimental group of infertile women

There was no association between Age at menarche, Reproductive age, Menstrual history, Health history, Surgical history, Married years, Use of contraception, Infertility years, Cause of infertility, Treatment, No of IUI with the level of satisfaction in the control group and experimental group of infertile women. Hence null hypothesis Ho_4 was retained. No statistics could be applied to find the association between selected clinical variables and the level of satisfaction. There was a significant association between the Menstrual history, (χ^2 = 15.934), Surgical illness (χ^2 =3.844) . Hence the null hypothesis Ho_5 is partially rejected. No statistics could be calculated for association between selected clinical variables of control group and patient outcome. There was a significant association between the, (χ^2=13.4419) Gynecological illness. Hence the null hypothesis Ho_5 is partially rejected. No statistics could be calculated for association between selected clinical variables of experimental group and patient outcome.

Association between selected Psychosocial Variables and Level of satisfaction and patient outcome in control group and experimental group of infertile women

There was no association between psychological variables such as Get together at home, Comfortable take part in social activities, instrument, emotion, support from husband, maternal and law's support, Job & work support in control and experimental group. Hence the null hypothesis Ho_5 was retained. No statistics could be applied to find the association between selected psychosocial variables and the level of satisfaction. There was a significant association between the comfortable take part in psychosocial

activities (χ^2= 8.9777) at 99.9% level of significance.Hence the null hypothesis Ho_6 is partially rejected. No statistics could be calculated for association between selected psychosocial variables and patient outcome. There was no significant association between the selected psychosocial variables such as Get together at home, Comfortable take part in social activities, instrument, emotion, support from husband, maternal and law's support, Job & work support in control and experimental group. Hence the null hypothesis Ho_6 was retained. No statistics could be calculated for association between selected psychological variables and patient outcome. Various research studies support the theory that distress is associated with lower pregnancy rates among women pursuing infertility treatment. Since psychological factors play an important role in the pathogenesis of infertility, exploration of this is also an important task to manage this devastating problem, which has cultural and social impact.

Summary

This chapter has dealt about the discussion on the various aspects of the study findings. This chapter comprises of demographic variables of nurses and infertile women undergoing Intra Uterine Insemination, clinical variables, Psychosocial variables, Clinical pathway, Practice check list, Satisfaction scale, Patient outcome of infertile women undergoing Intra Uterine Insemination, Comparison of clinical pathway for infertile women undergoing IUI upon the Nurses Knowledge and practice in pre and post test, Comparison of level of satisfaction and patient outcome of infertile women in control and experimental group before and after implementing the Clinical pathway, The association between the selected demographic variables of nurses and their pre and post test level of knowledge regarding clinical pathway for infertile women undergoing

Intra uterine Insemination, The association between the selected demographic variables of infertile women and in control and experimental group undergoing Intra uterine Insemination and their treatment outcome, the association between the selected clinical variables of infertile women and in control and experimental group undergoing Intra uterine Insemination and their patient outcome and the association between the selected Psychosocial variables of infertile women and in control and experimental group undergoing Intra uterine Insemination and their treatment outcome are discussed with supporting study findings.

CHAPTER- VI

SUMMARY, CONCLUSION, IMPLICATIONS & RECOMMENDATIONS

This chapter deals with the summary of these study findings, conclusions, implications and recommendations.

Summary

A Quasi Experimental Study was conducted in Apollo Hospital, Chennai, to Determine the Effectiveness of Clinical Pathway for Infertile Women Undergoing Intra Uterine Insemination upon the Knowledge and Practice of Nurses and Patient Outcome

The Objectives of the Study were

1. To assess the pre test and post test level of knowledge and practice of nurses regarding clinical pathway for infertile women undergoing intra uterine insemination.
2. To evaluate the effectiveness of clinical pathway for infertile women undergoing intra uterine insemination upon the knowledge and practice of nurses.
3. To assess and compare patients outcome in control and experimental group of Infertile women.
4. To determine the level of satisfaction upon nursing care control and experimental group of infertile women.
5. To determine the association between the selected demographic variables of nurses with their pre and post test level of knowledge regarding clinical pathway for intra uterine insemination.

6. To determine the association between the selected demographic variables with patient outcome and level of satisfaction in control and experimental group of infertile women.
7. To determine the association between the selected clinical variables with patient outcome and level of satisfaction in control and experimental group of infertile women.
8. To determine the association between the selected psychosocial variables with patient outcome and level of satisfaction in control and experimental group of infertile women.

Null Hypotheses

Ho_1 There will be no significant difference between pre and post test level of knowledge and practice of control and experimental group of nurses regarding clinical pathway for infertile women undergoing intra uterine insemination

Ho_2 There will be no significant difference in patient outcome between the control and experimental group regarding clinical pathway for infertile women undergoing intra uterine insemination.

Ho_3 There will be no significant association between the selected demographic variables of control and experimental group of nurses and the pre and post test level of knowledge and practice regarding clinical pathway for infertile women undergoing intra uterine insemination.

Ho_4 There will be no significant association between the selected demographic variables of control and experimental group of infertile women undergoing intra uterine insemination and patient outcome regarding clinical pathway.

Ho_5 There will be no significant association between the selected clinical variables of control and experimental group of infertile women undergoing intra uterine insemination and patient outcome regarding clinical pathway.

Ho_6 There will be no significant association between the selected psychosocial variables of control and experimental group of infertile women undergoing intra uterine insemination and patient outcome regarding clinical pathway.

The conceptual framework of the study was developed on the basis of Rosentoch's and Becker and Maiman's Health Belief model. The study variables were effectiveness of clinical pathway and knowledge and practice of nurses working in ART unit. Hypotheses were formulated. The level of significance selected was 0.05.

An extensive review of literature and guidance by experts formed the foundation to the development of clinical pathway, structured knowledge questionnaire, practice check list, satisfaction scale and outcome check list.

An evaluative research with quasi experimental of control and experimental group design was used to achieve the objectives of the study. The present study was conducted in the Apollo Hospital, Chennai in ART unit with sample size of 60 infertile women undergoing Intra uterine insemination selected through purposive sampling technique.

The investigator used demographic variable proforma for infertile women undergoing IUI, clinical variable proforma of infertile women undergoing IUI, psychosocial proforma of infertile women undergoing IUI, satisfaction scale infertile women undergoing IUI, outcome check list infertile women undergoing IUI of,

demographic variable proforma, clinical pathway and practice check list for nurses working in ART unit were used to collect the data. The data collection tools were validated and the reliability was established. After the pilot study, the data collection for the main study was done. After the pre test for nurses, control group implemented the clinical pathway for the participants. Post test was done and experimental group were selected for checking the knowledge and practice of nurses. The data was tabulated and analyzed by using descriptive and inferential statistics.

The collected data was tabulated and analyzed using descriptive and inferential statistics. Frequency and percentages were computed to summarize the sample characteristics and component and dimension wise description of pre test and post test of nurses, control group and experimental group of nurses and infertile women undergoing Intra uterine insemination respectively. Chi- square test was applied to find out the relationship between Knowledge of Nurses with selected variables Independent 't' test and Satisfaction scale and Patient outcome of patients with selected variables and paired 't' test value was calculated to find out the difference between pre test and post test of nurses and control and experimental group of infertile women undergoing Intra uterine insemination.

Major Findings of the Study were:

Characteristics of the sample

Most the nurses working in IUI unit 18 years - 29 years them belonged to (50%, 50%) & (50%)of the Nurses belongs to GNM , and (50%) of the nurses were ANM. Majority of them (75%) having experience between 1-10 years.

Most of the infertile women in control and experimental group of infertile women belonged to 21- 29 years (67%, 60%). Majority of them were less than 29 years of age (97%) in control group of infertile women and all of them were less than 29 years (100%) in experimental group of infertile women at the time of marriage. Most of them belong to house wife (70%, 67%) in control group and experimental group of infertile women respectively. Majority of them (83%, 93%) had non consanguineous in both control and experimental group of infertile women.

Comparison of level of Knowledge and Practice of nurses in Pre and Post test and Level of Satisfaction and Patient outcome in control and experimental group of infertile women

Most of the nurses 100% moderately adequate knowledge and almost all of the nurses (100%) had adequate knowledge after the post-test. All nurses (100%) had moderately practice in the control group of infertile women. Almost all of the adequate practice in experimental group (100%). All infertile women (100%) had moderately satisfied in the control group of infertile women. In the experimental group of infertile women, almost all of the infertile women (100%) had highly satisfied. Patient outcome were (47%) of them conceived in control group of infertile women and (66%)of them conceived in experimental group of infertile women . None of them developed OHSS complication.

Effectiveness of clinical pathway for Knowledge and Practice of Nurses and Level of Satisfaction and Patient outcome

Mean and standard deviation of level of knowledge of nurses were low in the pre-test (M= 14.25, SD=1.63) in comparison to the post-test (M=22.50, SD-0.52). The difference was found statistically significant at 12.92% level of significance and can be attributed to the level of knowledge at ***P< 0.001. Mean and standard deviation of level of practice of nurses were low in the control group (M= 41.76, SD = 4.25) in comparison to the experimental group (M= 91.06, SD = 3.90) **P< 0.01. Mean and standard deviation of level of satisfaction of infertile women were low in the control group (M= 43.3, SD= 3.11) in comparison (M= 88.23, SD= 5.33) to the experimental group. This shows that the patient's satisfaction improved after administering clinical pathway. The result was statically significant at 99.9% level of significance. Mean and standard deviation of Patient outcome of infertile women were low in the control group (M= 0.73, SD= 0.888) in comparison (M= 0.83, SD=0.960) to the experimental group of infertile women.

Association between selected Demographic Variables and Level of knowledge in pre and post test of nurses

There was no significant association between the selected demographic variables such as Age, Religion, Educational qualification and Years of experience in the Level of knowledge for the nurses in the pre and post test. It has proven that there is no association between the selected demographic variables and level of knowledge. Hence

the null hypothesis was retained. Hence no statistics could be calculated for association between selected demographic variables and level of knowledge.

Association between selected Demographic Variables and Level of satisfaction and patient outcome in control group and experimental group of infertile women

There was no association between age, education, occupation, type of family, type of marriage, religion, duration of infertility, economical support, family size with the level of satisfaction in the control group and experimental group of infertile women. Hence null hypothesis Ho_4 was retained. No statistics could be applied to find the association between selected demographic variables and the level of satisfaction. There was a significant association between the Age in years and their treatment outcome (χ^2 = 8.0972) in control group. This shows that age in years and patient outcome not influencing each other.

Association between selected Clinical Variables and Level of satisfaction and patient outcome in control group and experimental group of infertile women

There was no association between Age at menarche, Reproductive age, Menstrual history, Health history, Surgical history, Married years , Use of contraception, Infertility years, Cause of infertility, Treatment, No of IUI with the level of satisfaction in the control group and experimental group of infertile women. Hence null hypothesis Ho_4 was accepted. No statistics could be applied to find the association between selected clinical variables and the level of satisfaction. there was a significant association between the Menstrual history, (χ^2 = 15.934), Surgical illness (χ^2 =3.844) . Hence the null hypothesis Ho_5 is partially rejected. Hence no statistics could be

calculated for association between selected clinical variables of control group and patient outcome. There was a significant association between the, (χ^2=13.4419) Gynecological illness. Hence the null hypothesis Ho_5 is partially rejected. Hence no statistics could be calculated for association between selected clinical variables of experimental group and patient outcome.

Association between selected Psychosocial Variables and Level of satisfaction and patient outcome in control group and experimental group of infertile women

There was no association between psychological variables such as Get together at home, Comfortable take part in social activities, instrument, emotion, support from husband, maternal and law's support, Job & work support in control and experimental group. Hence the null hypothesis Ho_6 was retained. No statistics could be applied to find the association between selected psychosocial variables and the level of satisfaction. There was a significant association between the comfortable take part in psychosocial activities (χ^2= 8.9777) at $P < 0.05$. Hence the null hypothesis Ho_6 is partially rejected. No statistics could be calculated for association between selected psychosocial variables and patient outcome. There was no significant association between the selected psychosocial variables such as Get together at home, Comfortable take part in social activities, instrument, emotion, support from husband, maternal and law's support, Job & work support in control and experimental group. Hence the null hypothesis Ho_6 was retained. The patient outcome is not related to social variables. Hence no statistics could be calculated for association between selected psychological variables and patient outcome.

Conclusion

The findings of this study indicate that the clinical pathway enhanced the knowledge of the nurses . It is suitable method of tool for the nurses to provide quality care for infertile women undergoing intra uterine Insemination. Clinical pathway is necessary to improve the knowledge of nurses for providing cost effective care by providing quality care for success in conception. An improvement of knowledge level of nurses will lead to better practices, reducing variance and provide quality care.

Implications

Nursing practice:

The infertile women of the experimental group felt increased satisfaction regarding care provided by nurses after implementing clinical pathway than the control group proving it to be effective to use. As clinical pathway is an important nursing responsibility to follow and provide care by saving time, cost effective care and quality care. As the study found (M=49.30 & SD= 0.35) improvement after implementing clinical pathway.

Nursing education:

The nursing profession has a long history of viewing and caring for individuals in a holistic manner. Out of 100 couples trying to conceive naturally, 20 will conceive within one month, 70 will conceive within six months, 85 will conceive within a year , 90 will conceive within 18 months , 95 will conceive within two years Nobel prize .org(2010). In 1994, Speroff et al, stated that, The problem may be associated with male factor infertility (35% -45%) or female factors 40% or both. 10% -15% are

unexplained. Inherent in the nurse's role is the ability to assess, intervene and evaluate preventive, supportive, and restorative functions of a patient's physical, emotional, mental and spiritual domains. This should be emphasized to the nursing students through educating them about the various diseases preparing clinical pathway and using to provide care that helps the patients in providing care to meet the above aspects.

Nursing administration:

With the advent of various technologies in the field of nursing, nurses are expected to be skillful in various aspects of providing care for which student nurses has to be trained in it through their education. Thus it is the responsibility of the nurse administrators to include the concept of clinical pathway in the nursing curricula. The nursing staffs and the nursing students should be encouraged by the nurse administrators to learn various nursing modalities in caring patients by using various protocols for various disease conditions.

Nursing research:

There is need for extensive and intensive research in this area. It opens a big avenue for research on innovative methods of using clinical pathway for the development of good and effective method to render the quality care. The competence of a nurse to perform the skills of using tool for providing care begins with nursing education and ends with nursing practice which requires an evidence to give assurance that the knowledge and practice gained by the nurse are safe and provides comfort for the patients. Thus major research has to be promoted and conducted by the nurse researchers to prove the effectiveness of nursing care in nursing profession.

Nursing theory

The conceptual framework for the present study is based on Health Belief Model views Health Beliefs are person's ideas and attitude, about health and illness. They may be based on factual information or wrong information. The health belief usually results from within a person. So, the investigator felt the Becker's model is suitable as conceptual framework for this study, to assess the knowledge of nurses regarding clinical pathway for infertile women undergoing intra uterine insemination. This Model provide frame work to identify needs of the patients in an organized manner and it can be used to educate and guide the nurses.

Recommendations

- The same study can be conducted with larger number of samples.
- A comparison can be made between different health care settings.
- A comparison can be made with different group of infertile women treatment protocol.
- The same study can be conducted with different specialization of treatment protocol.
- A comparison can be made between different types artificial reproduction treatment.

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APPENDIX-I

CO/0149/11

Apollo College of Nursing

(Recognised by the Indian Nursing Council and Affiliated to the Tamil Nadu Dr. M.G.R. Medical University, Chennai)

15/03/2011

To

Dr.Radha Rajagopalan
Director of Medical Education
Apollo Hospital,
21, Greams lane,
Off. Greams Road,
Chennai-6

Respected Sir / Madam,

Sub.: To request permission for research study – Reg.

Greetings! As part of the curriculum requirement our 2nd year M. Sc. (N) student Ms. Bhuvana.G has selected the following title for her research study.

"A Quasi experimental study to assess the effectiveness of clinical pathway for infertile women undergoing intrauterine insemination upon the knowledge and practice of nurses and patient outcome at selected Hospitals, Chennai".

So I kindly request your goodselves to permit her to conduct study in your esteemed institution.

Thanking You,

Dr. LATHA VENKATESAN
PRINCIPAL

IS/ISO 9001:2000

Vanagaram to Ambattur Main Road, Ayanambakkam, Chennai - 600 095.
Ph. : 044 - 2653 4387 Tele fax : 044 - 2653 4923 / 044- 2653 4386

APPENDIX-II

Apollo College of Nursing

(Recognised by the Indian Nursing Council and Affiliated to the Tamil Nadu Dr. M.G.R. Medical University, Chennai)

CO/01285/11 **07.06.11**

To

Ms.Punitha Singh
Asst. Nursing Director
Apollo Main Hospitals
Greams Road
Chennai – 600 006.

Director Nursing
Apollo Hospitals
Chennai-600 006.

Dear Ms.Punitha ,

As part of the curriculum requirement our 2nd year M. Sc. (N) student Ms. Bhuvana. G has selected the following title for her research study.

"A quasi experimental study to assess the effectiveness of clinical pathway for infertile women undergoing Intra uterine insemination upon the knowledge and practice of nurses and patient outcome at Apollo Hospital, Chennai".

Kindly do the needful,

Thanking You,

Dr. LATHA VENKATESAN
PRINCIPAL

IS/ISO 9001:2000

Vanagaram to Ambattur Main Road, Ayanambakkam, Chennai - 600 095.
Ph. : 044 - 2653 4387 Tele fax : 044 - 2653 4923 / 044- 2653 4386

APPENDIX-III

LETTER REQUESTING OPINIONS AND SUGGESTIONS OF EXPERTS FOR ESTABLISHING CONTENT VALIDITY OF RESEARCH TOOL

From
Ms. Bhuvana.G,
M.Sc (Nursing) Second year,
Apollo college of Nursing,
Chennai-600095.

To,
Forwarded through:
Dr.Latha Venkatesan,
Prinicipal,
Apollo College of Nursing.

Sub: **Requesting for opinions and suggestions of experts for establishing content validity for Research tool.**

Respected Madam,

I am post graduate student of the Apollo college of Nursing. I have selected the below mentioned topic for research project to be submitted to The Tamilnadu Dr.M.G.R medical University, Chennai. As a partial fulfillment of Masters of Nursing Degree.

TITLE OF THE TOPIC

"A quasi experimental study to assess the effectiveness of clinical pathway for infertile women undergoing Intra uterine insemination upon the knowledge and practice of nurses and patient outcome at Apollo Hospital, Chennai".

With regards may I kindly request you to validate my tool for its appropriateness and relevancy. I am enclosing the Background ,Need for the study, Statement of the problem, Objectives of the study, Demographic variable Proforma, Clinical variable proforma, Psychosocial Variables, Clinical Pathway, Practice check list, Satisfaction Scale, Patient Outcome. I would be Highly obliged and remain thankful for your great help if could validate and send it as soon as possible.

Thanking You

Yours sincerely,
Ms. BHUVANA.G

APPENDIX –IV

List of experts for content validation of the tool

1. **Dr. Latha Venkatesan, M.Sc(N), M.Phil, Ph.D.,**
   Principal,
   Apollo College of Nursing,
   Chennai-95.
2. **Dr.Sarat Battina M.D., D.G.O.,**
   Senior Co ordinator,
   Apollo Hospitals,
   Chennai.
3. **Mrs. Lizy Sonia M.Sc (N).,**
   Vice principal
   Apollo College of Nursing,
   Chennai-95.
4. **Mrs.Vijayalakshmi. M.Sc (N).,**
   Professor,
   HOD of Psychiatric Department,
   Apollo College of Nursing,
   Chennai-95.
5. **Mrs.Kanimozhi. . M.Sc (N).,**
   Assoc.Professor,
   Apollo College of Nursing,
   Chennai-95.
6. **Mrs.Shobana. M.Sc (N).,**
   .Professor,
   Apollo College of Nursing,
   Chennai-95.
7. **Mrs.Sathya Lawrence. M.Sc (N).,**
   Reader
   Apollo College of Nursing,
   Chennai-95.
8. **Mrs. Pappy yuvarani. M.Sc (N).,**
   Lecturer
   Apollo College of Nursing,
   Chennai-95.
9. **Mrs.Saraswathy.K M.Sc (N).,**
   Lecturer,
   Apollo College of Nursing,
   Chennai-95.

APPENDIX-V

Ethics Committee

Apollo HOSPITALS
TOUCHING LIVES

22 June, 2011

To,
Ms. Bhuvana. G
1st Year M.Sc (Nursing)
Dept. of Obstetrics & Gynaecology
Apollo College of Nursing, Chennai
Tamil Nadu, India

Ref: Effectiveness of clinical pathway for infertile women undergoing intrauterine insemination

Sub: Your letter dated 9 June, 2011 for approval of the above referenced project and its related documents

Dear Ms. Bhuvana. G,

Ethics committee – Apollo Hospitals has received the following document submitted by you related to the conduct of the above – referenced study.

- Project Proposal titled "Effectiveness of clinical pathway for infertile women undergoing intrauterine insemination"
- Study Performa

The above-mentioned documents have been reviewed and approved (through expedited review) by the Chairman, Vice-Chairman and Member Secretary at a specially convened meeting of the Ethics Committee. The study is hereby approved to be conducted by you in the presented form.

The following Ethics Committee members were present at the meeting held on 22 June, 2011

Name	Profession	Position in the committee
Mr. S. S. Narayanan	Ethicist	Chairman
Dr.Radha Rajagopalan	Clinician	Vice - Chairman
Dr. Jayanthi Swaminathan	Sr.GM Clinical & Collaborative Research	Member Secretary

Apollo Hospitals Enterprise Limited
21, Greams Lane, Off Greams Road, Chennai - 600 006
Tel : 91 - 44 - 2829 3333 Extn : 6008, 91 - 44 - 2829 5465 Extn : 6639 Fax : 91 - 44 - 2829 4449
E - Mail : ecapollochennai@gmail.com

Ethics Committee

Apollo HOSPITALS
TOUCHING LIVES

After due ethical and scientific consideration, the Ethics Committee has approved the above presentation submitted by you. Since your dissertation does not involve any administration of drug(s) or therapeutic composition(s) to patients and involves only interpretation of collected data, the Ethics Committee has decided to waive the requirement of informed consent.

The Ethics Committee is constituted and works as per ICH-GCP, ICMR and revised Schedule Y guidelines.

Yours sincerely,

Date 22/6/11

Dr. Radha Rajagopalan
Ethics Committee – Vice Chairman
Apollo Hospitals, Chennai

DR. RADHA RAJAGOPALAN
Vice Chairman
Ethics Committee
Apollo Hospitals Enterprise Limited
Chennai-600 006 Tamil Nadu

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E - Mail : ecapollochennai@gmail.com

APPENDIX – VI

RESEARCH PARTICIPANT'S CONSENT FORM

Dear Participant,

I am BHUVANA.G, M.Sc. Nursing student of Apollo College of Nursing, Chennai. As a part of my study, I have selected a Research Project on "A quasi experimental study to assess the effectiveness of clinical pathway for infertile women undergoing Intra uterine insemination upon the knowledge and practice of nurses and patient outcome at Apollo Hospital, Chennai."

I hereby seek your consent and co-operation to participate in the study. Please be frank and honest in your response. The information collected will be kept confidential and anonymity will be maintained.

Signature of the Researcher

I ……., hereby give my consent to participate in the study.

Signature of the Participant

APPENDIX- VII

CERTIFICATE FOR ENGLISH EDITING

TO WHOMSOVER IT MAY CONCERN

This is to certify that the dissertation "**A quasi experimental study to assess the effectiveness of clinical pathway for infertile women undergoing Intra uterine insemination upon the knowledge and practice of nurses and patient outcome at Apollo Hospital, Chennai".** By Ms.Bhuvana.G, II year, M.Sc (N), Apollo College of Nursing was edited for English language appropriateness by Mr. R. Arivazhagan.

Signature

R. ARIVAZHAGAN, B.Sc.,M.A.,B.Ed.,
Founder & Managing Trustee,
THAI VEEDU Charitable Trust
No-1, Bajanai Koil Street
PAMMAL, CHENNAI-600 075

APPENDIX–VIII

DEMOGRAPHIC VARIABLE PROFORMA FOR NURSES

Purpose: This proforma is used by the researcher to collect the information on demographic variables of nurses such as age, religion, educational status, marital status, type of the residence, professional experience(in years), income, previous knowledge on clinical pathway and sources of information about clinical pathway.

1. Sample Number

2. Age in years

2.1 17 years ❑

2.2 18 years – 29 years ❑

2.3 30 years – 40 years ❑

2.4 > 40 years ❑

3. Religion

3.1 Hindu ❑

3.2 Muslim ❑

3.3 Christian ❑

3.4 Other ❑

4. Educational status

4.1 ANM ❑

4.2 Diploma in nursing ❑

4.3 B.Sc., nursing ❑

4.4 Post certificate course ❑

5. Marital status

5.1 Married ❑

5.2 Single ❑

6. Type of the residential area

6.1 Home ❑

6.2 Hostel ❑

7.	**Years of experience**	❑
7.1	< 1 year to 2 years	❑
7.2	3 years – 5 years	❑
7.3	> 5 years	❑
8.	**Income per month in Rupees**	
8.1	< 5000	❑
8.2	5001-7500	❑
8.3	7501-10,000	❑
8.4	> 10,000	❑
9.	**Previous information acquired regarding clinical pathway**	
9.1	Yes	❑
9.2	No	❑
10.	**If yes, what was the source of information?**	
10.1	Books	❑
10.2	Journals	❑
10.3	Magazines	❑
10.4	Colleagues	❑
10.5	Previous work experience	❑

APPENDIX – IX

DEMOGRAPHIC VARIABLE PROFORMA FOR INFERTILE WOMEN

PURPOSE: This proforma is used to measure the demographic variables such as age, education, occupation, type of family, type of marriage, religion, duration of infertility, economical support, family size.

INSTRUCTIONS: The investigator will be collecting the information by interviewing the patient and by referring the records.

SAMPLE NO:

1.	**Age in years**	
1.1	20 years	❑
1.2	21 years – 29 years	❑
1.3	30 years – 40 years	❑
1.4	> 40 years	❑
2.	**Age at marriage**	
2.1	< 29 years	❑
2.2	> 30 years	❑
3.	**Educational status**	
3.1	Primary school	❑
3.2	High school	❑
3.3	Higher secondary school	❑
3.4	Graduate	❑
3.5	Post graduate	❑
4.	**Religion**	
4.1	Hindu	❑
4.2	Christian	❑
4.3	Muslim	❑

5.	**Occupation**	
5.1	House wife	❑
5.2	Employed	❑
6.	**Type of family**	
6.1	Nuclear	❑
6.2	Joint	❑
7.	**Monthly income**	
7.1	< Rs. 2000/-	❑
7.2	Rs. 5001/- - 6000/-	❑
7.3	Rs. 6001/- - 10,000/-	❑
7.4	> Rs10000/-	❑
8.	**Type of marriage**	
8.1	Consanguineous	❑
8.2	Non Consanguineous	❑
9.	**Duration of infertility**	
9.1	< 2 years	❑
9.2	3 years – 5 years	❑
9.3	6 years – 10 years	❑
9.4	> 10 years	❑
10.	**Economical support**	
10.1	Family	❑
10.2	Company	❑
10.3	Insurance	❑

APPENDIX-X

CLINICAL VARIABLE PROFORMA

PURPOSE: The proforma is used to measure the clinical variables such as Age at menarche, Reproductive age, Menstrual history, Health history, Surgical history, Married years , Use of contraception, Infertility years, Cause of infertility, Infertility treatment, No. Of IUI undergone.

INSTRUCTIONS: The investigator will check the record of the patient and fill the details. Sample No:

1.	**Age at menarche**	
1.1	10 years	❑
1.2	11 years – 15 years	❑
1.3	> 15 years	❑
2.	**Menstrual history**	
2.1	Regular	❑
2.2	Irregular	❑
3.	**Health history**	
3.1	General health illness	❑
3.2	Gynecological health illness	❑
3.3	Nil	❑
4.	**Surgical history**	
4.1	General surgery	❑
4.2	Gynecological surgery	❑
4.3	Nil	❑
5.	**Married years**	
5.1	< 5 years	❑
5.2	5 years – 10 years	❑
5.3	11 years – 20 years	❑
5.4	> 20 years	❑

6.	**Cause of infertility**	
6.1	Ovarian	❑
6.2	Uterine	❑
6.3	Tubal	❑
6.4	Pelvic	❑
6.5	Male	❑
6.6	Others	❑
7.	**Previous infertility treatment**	
	Yes	❑
	No	❑
8.	**If yes means**	
7.1	Ayervedha	❑
7.2	Allopathy	❑
7.3	Siddha	❑
7.4	Others	❑
9.	**No. of Intra uterine insemination undergone**	
9.1	One time – two times	❑
9.2	Two times - three times	❑
8.3	Three times – five times	❑
8.4	More than five times	❑
8.5	Nil	❑

APPENDIX-XI

PSYCHOSOCIAL VARIABLE PROFORMA

PURPOSE: The proforma is used to measure the psycho social variables such as participate in social gathering ceremony, get –together at home , feel comfortable when take part in social activities, instrumental support , emotional support from significance others, support from husband, maternal and in law's support and job support and work support.

I.SOCIAL PARTICIPATION;

1. Do you participate in social gathering ceremony

a. Whenever invitation offered ❑

b. Only when I feel like ❑

c. Normally avoid ❑

2. Do you get –together at home?

a. Very frequently ❑

b. When not able to avoid ❑

c. Never entertain ❑

3. Do you feel comfortable when you are take part in social activities?

a. Always ❑

b. Some times ❑

c. Never ❑

II. PSYCHOSOCIAL SUPPORT

1. Instrumental support

a. Do you have access to health advice ❑

b. Do you read health magazine ❑

c. Do you watch health programme ❑

2. Emotional support from significance others

a. Always ❑

b. Sometimes ❑

c. Never ❑

3. Support from husband

a. Always ❑

b. Sometimes ❑

c. Never ❑

4. Maternal and in law's support

a. Always ❑

b. Sometimes ❑

c. Never ❑

5. Work support (House hold OR Job support)

a. Always ❑

b. Sometimes ❑

c. Never ❑

APPENDIX-XII

BLUE PRINT ON STRUCTURED QUESTIONAIRRE ON KNOWLEDGE REGARDING CLINICAL PATHWAY FOR INFERTILE WOMEN UNDERGOING INTRA UTERINE INSEMINATION

S.NO	CONTENT	ITEMS	TOTAL ITEMS	PERCENTAGE
1.	Clinical pathway	1,2,3,4,5	5	20%
2.	Investigation	6,7,8,,23, 25	5	20%
3.	Ovulation	9, 10, 11,16, 17	5	20%
4.	Medication	12,13,14,15,24	5	20%
5.	Procedure	18, 19,20,21,22	5	20%
TOTAL			25	100%

STRUCTURED QUESTIONAIRRE ON KNOWLEDGE REGARDING CLINICAL PATHWAY FOR INFERTILE WOMEN UNDERGOING INTRA UTERINE INSEMINATION

PURPOSE: This structured questionnaire schedule is used to collect information on knowledge of nurse regarding clinical pathway for infertile women undergoing IUI.

INSTRUCTIONS: The structured questionnaires consist of multiple choice questions. Please read the questions and the answers given below. Place a tick mark against the right answer in respective box of each question. Please be frank in your responses. The information collected will be kept confidential and anonymity will be maintained.

Sample No:

1. **What is the other name for clinical pathway?**
   - a) Care pathway ❑
   - b) Care study ❑
   - c) Care plan ❑
   - d) Procedure pathway ❑
2. **Who was the first person to start clinical pathway?**
   - a) Karen Zander and kathleen Bower ❑
   - b) Helen A. carci ❑
   - c) Alice Domal.P ❑
   - d) Daniel R.Grow ❑
3. **Which of the following are the purposes of clinical pathway?**
   - a) Quality care, achieve the goal with prescribed time and evaluate patient outcome. ❑
   - b) Quantity of care and evaluate the knowledge of family members of patient. ❑
   - c) Evaluate the production company of pharmacological measures ❑
   - d) Evaluate the student knowledge, skill and attitude. ❑

4. When was tele health clinical pathway started?

a) 2006 ❑

b) 2005 ❑

c) 2010 ❑

d) 2011 ❑

5. Clinical pathway helps the healthcare organization in the following EXCEPT

a) To reduce the length of stay in hospital and cost ❑

b) To improve the satisfaction of customers ❑

c) To decrease the burden of documentation ❑

d) To improve the nurse's responsibilities ❑

6. What are all the routine investigations done for infertile women?

a) CT scan, Coomb's test and USG ❑

b) ESR, Stool examination,
urine examination and trans abdominal USG ❑

c) Chest x-ray, Doppler scanning and MRI ❑

d) CBC, thyroid function test, FSH,LH,
prolactin and trans vaginal ultrasound ❑

7. When will you ask the women to come for basal scanning?

a) 1st day of menstruation ❑

b) 2nd day of menstruation ❑

c) 3rd day of menstruation ❑

d) 5th day of menstruation ❑

8. What is the purpose of asking the women to come for follicular study?

a) To assess maturation of ovum ❑

b) To check tubal patency ❑

c) To monitor the hormone levels ❑

d) To assess the Cervical mucus level ❑

9. When will you ask the woman to check basal body temperature during ovulation?

a) Afternoon ❑

b) Evening ❑

c) Morning ❑

d) Before sleep during night ❑

10. How much of temperature will be increased during ovulation period?

a) 0.6 – 0.8 o F ❑

b) 0.4– 0.6 o F ❑

c) 0.2 – 0.6 oF ❑

d) 0.8 – 1 o F ❑

11. How much is the size of ovum when it reaches complete maturation?

a) 20 X 20 mm ❑

b) 40X 40 mm ❑

c) 60X 60 mm ❑

d) 80X 80 mm ❑

12. Which of the following drug is the first line treatment for medical induction of ovulation?

a) Clomiphine citrate ❑

b) Bromocriptine ❑

c) Human menopausal gonodotrophin ❑

d) Gonodotrophin ❑

13. What are the other drugs that are used for induction of ovulation?

a) Testosterone ❑

b) FSH & LH ❑

c) Gonodotrophin and androgen ❑

d) Bromocriptine and Human menopausal gonodotrophin ❑

14. What drug you will advice the women to take before, during and after procedure?

a) Cynocobalamine ❑

b) Riboflavin ❑

c) Pyruvic acid ❑

d) Folic acid ❑

15. Which of the following drug you will administer for rupture of follicles?

a) HMG ❑

b) Gonotrphins ❑

c) Folic acid ❑

d) HCG ❑

16. What are the signs to be checked for the women with Oestrogen Hyper Stimulation Syndrome?

a) Hypotension , hemodynamic instability and dehydration ❑

b) Flank pain and breast tenderness ❑

c) Excessive vaginal discharge and abdominal pain ❑

d) Hypertension, edema and abdominal pain ❑

17. What are the signs and symptoms of ovulation?

a) Flank pain in ovulation side,
nausea and increased basal body temperature ❑

b) Chest pain and head ache, nausea ❑

c) Neck pain and abdominal bloating ❑

d) Chest and back pain ❑

18. What instruction should be given to the couple, before collecting semen sample?

a) To be in abstinence for 8-10 days ❑

b) To be in abstinence for 5-8 days ❑

c) To be in abstinence for 3-5 days ❑

d) To be in abstinence for 10-14 days ❑

19. Which of the following instrument you will give to physician during IUI procedure?

a) Ovum forceps & uterine sound ❑

b) Allies forceps & vaginal speculum ❑

c) Artery forceps & thump forceps ❑

d) Babcock forceps & Gream armitage ❑

20. How much of prepared semen is needed for IUI?

a) 2 ml ❑

b) 1.5 ml ❑

c) 0.5 ml ❑

d) 5 ml ❑

21. What position you will advice for the woman during IUI procedure?

a) Prone position ❑

b) Lithotomy position ❑

c) Supine position ❑

d) Left lateral position ❑

22. What advice you will give for the woman during the procedure?

a) To take a deep breath ❑

b) To be in prone position ❑

c) To close their eyes tightly ❑

d) To keep the body erect ❑

23. When will you ask the women to come for pregnancy test?

a) 7 days after procedure ❑

b) 15 days after procedure ❑

c) 21 days before procedure ❑

d) 28 days after procedure ❑

24. Which of the following drug is used per rectum?

a) Progesterone suppositories ❑

b) FSH ❑

c) LH ❑

d) Oestrogen ❑

25. What instructions you will give to the couple before collecting the semen?

a) To use condom while collecting sample ❑

b) Use narrow container while collecting sample ❑

c) To use plastic paper while collecting sample ❑

d) To collect the sample in sterile container ❑

KEY ANSWERS

1. a
2. a
3. a
4. b
5. a
6. d
7. b
8. a
9. c
10. c
11. a
12. a
13. d
14. d
15. d
16. a
17. a
18. c
19. b
20. c
21. b
22. a
23. c
24. a
25. d

Knowledge level	**Score**	**Percentage**
Inadequate knowledge	<13	below 50%
Moderate knowledge	13-18	51 - 75%
Adequate knowledge	>19	> 75 %

APPENDIX-XIII

Purpose:

This proforma is used to carry out the sequence of timely care with appropriate needs of the patient. This pathway helps the nurses to meet the needs of the infertile women and promote reduction in the cost-effectiveness, promotes team work, improves patient outcome.

CLINICAL PATHWAY FOR INFERTILE WOMEN UNDERGOING INTRAUTERINE INSEMINATION

Name of the client :

OP No :

Consultant' Name :

Date :

ASSESSMENT	C (2)	PC (1)	NC (0)	PROCEDURE	C (2)	PC (1)	NC (0)
1. History collection 1.1 Baseline information 1.2 Medical, surgical, gynaecological and obstetrical history. 1.3 Observe emotional and social impact on Infertility. 1.4 Education on sex life and ovulation. **2. Physical assessment** 2.1 Head to foot assessment 2.2 Gynecological assessment **3. Investigations** **Female** 3.1 Complete blood count 3.2 Thyroid function test 3.3 FSH, LH and prolactin level. 3.4**USG:**				**7. Before Procedure** 7.1 Educate about signs and symptoms of ovulation *Pain in the flank region *Nausea *Increased basal body temperature 0.2 – 0.6 degree F. 7.2 Advised her to go for follicular study for detecting release of ovum in the morning. 7.3 Once the ovulation occurs, advice her partner to give semen specimen in the lab.			

✓ Day 2 and day 3 basal scan through transvaginal scan. ✓ Follicular scan during ovulation period. (10^{th} day of menstruation- till rupture of follicles). ***Male** 3.5 Semen analysis **4. Counselling** 4.1 Allow the couple to participate in counselling. 4.2 Educate about causes of infertility. 4.3Advise about life style modification. 4.4 Ask about sexual life pattern. 4.5 Advise about types and choice of infertility treatment detail. 4.6 Educate about cost and expected outcome of Intra uterine insemination procedure. 4.7 Be attentive when counselling the couple. 4.8 Encourage the couple to ask any queries. 4.9 Allow the couple to ventilate their feelings. **5. Health Education** . ***For Female** 5.1 Advice to take Folic acid 5mg daily and regularly 5.2 Advice the couple to avoid Stressful situation 5.3 Educate the couple balanced diet 5.4 Administration of Clomiphine citrate(first line drug) or Letrazole other drugs such as Human menopausal hormone , Bromocriptine orally for maturation of ovum 5.5 Timing and duration of drug intake .- Daily morning to take tablet 5.6 Education about Oestrogen hyper stimulation syndrome symptoms such as				7.4 Preparation of articles for procedure Articles are * Sim's vaginal speculum * Allis forceps * Gluco needle or IV cannula * Semen container * Syringe 1 ml * Gloves * Gauze * Saline * Kidney tray 7.5 Educate about position, deep breathing exercise during procedure 7.6 Positive attitude about success of procedure. 7.7 Collect the prepared 0.5ml semen sample from lab. **8. During Procedure** 8.1 Explain about procedure 8.2 Cross Check the articles 8.3 Provide privacy & switch on the light 8.4 Assist for Lithotomy positioning and draping. 8.5 Provide prepared semen specimen to physician to take into cannula. 8.6 Assist to give instruments to visualize the cervix by Cosco's speculum and allis forceps. 8.7 Encourage her to take deep breathing and relaxed. **9. After procedure** 9.1 Provide comfortable (supine) position and cover			

nausea, dryness of mouth and skin, fainting and palpitation. *** For Male** 5.7 Advice him to avoid stress in occupational area. 5.8 Educate him about avoiding of bad habits such as smoking, alcoholism and junk foods. 5.9 Advice him to take healthy diet**,** such as • Protein rich diet • Fibre rich diet • Advice to avoid fat rich diet and junk foods. 5.10 Change in life style and occupation if needed. **6. Follicular Period (3 Days To Till Follicular Rupture)** **Female:** 6.1 . Education regarding daily scanning, *Every morning during ovulation period. 6.2 Administration of medication (HCG) when follicle reaches 20 x20 mm for rupture. 6.3 Maintenance of oral drug treatment of Folic acid0.5 mg per orally. ***Male:** 6.4 Advice him to avoid sexual activity and masturbation for 3 -5 days before sample collection. 6.5 Educate him about collection of sample of semen. * Advice him not to use of condom for collection of semen. * Advice him to use wide mouth and sterile container				with sheet. 9.2 After procedure advice her to lie down for 10 - 20 minutes. 9.3. Discard the used supplies. 9.4 Send the instruments for cleaning and sterilization. **10. Home care** 10.1 Avoid Heavy lifting 10.2 Advice her to follow relaxation technique such as reading books and meditation etc. 10.3 Advice the couple to have sexual intercourse from next day of procedure day. 10.4 Positive attitude of conception 10.5 Educate about taking folic acid regularly 10.6 Advice her to insert Progesterone suppositories per vagina or oral tablets as per order. 10.7 Advice the couple to come for follows up after 21 days from procedure date, to test for pregnancy.			

APPENDIX-XIV

BLUE PRINT

ON

RATING SCALE FOR SATISFACTION FOR INFERTILE WOMEN

UNDERGOING INTRAUTERINE INSEMINATION

S. NO	CONTENT	ITEMS	TOTAL ITEMS	ITEMS PERCENTAGE
1.	History collection, Physical assessment, Investigation And counselling	1,2,3,	3	12
2.	Basal scanning & Follicular scanning	4,5,6,7,8,9,10, 11,12,13,14	11	46
3.	36 hours before procedure	15, 16,17,18	4	17
4.	Before and after procedure	19,20,21,22,	4	17
5.	Health education & Follow up	23 & 24	2	8
TOTAL			**24**	**100%**

RATING SCALE FOR SATISFACTION FOR INFERTILE WOMEN

UNDERGOING INTRAUTERINE INSEMINATION

Purpose

The rating scale is designed to assess the level of satisfaction of the infertile women regarding the nursing care. This is assessed by the researcher after implementation of clinical pathway.

Instruction

There are times given below. Kindly read the items. Responses extend from Highl Satisfied to Satisfied. Describe your satisfaction regarding nursing care. Give your responses freely and frankly. The responses will be kept confidential.

S.NO	ITEMS	SATISFACTION SCALE			
		HS (4)	S (3)	MS (2)	DS (1)
1.	1.1 Are you satisfied with arrangements were handled and history collection?				
	1.2 Are you satisfied the way staff treated, at the time of assessment and investigation?				
	1.3 Are you comfortable with staff explanation during counseling session?				
2.	2.1 Are you comfortable during basal scanning				
	2.2 Are you satisfied with follicular study and cleanliness of the facility?				
	2.3 Are you satisfied with safety and security of the facility?				
	2.4 How well the day-to-day structure and environment in the hospital?				
	2.5 Are you satisfied with facility allowed you to work on your succession in conception?				
	2.6 Are you satisfied with staff efforts in involving you to develop your treatment plan?				
	2.7 Are you satisfied staff response to your concerns?				

	2.8 Are you satisfied amount of time staff spent with you?				
	2.9 Are you satisfied psychological support helped to address your treatment needs?				
	2.10 Are you satisfied with health education regarding entire treatment?				
	2.11 Are you satisfied with services for your partner during sample collection and health education?				
3.	3.1 Are you satisfied with timely care?				
	3.2 Are you satisfied with quality of care?				
	3.3 Are you satisfied with respect from the care giver?				
	3.4 Are you satisfied with care provided by the staff and their performance?				
4.	4.1 Are you satisfied with during History collection and Investigation?				
	4.2 Are you satisfied with during procedure?				
	4.3 Are you satisfied with follow up & home care?				
	4.4 Are you satisfied with overall services?				
5.	5.1 Are you satisfied with health education regarding home care?				
	5.2 Are you satisfied with follow up?				
Total					

Key :-

Very satisfied (HS) = Above 75%

Moderatly satisfied (MS) = 75- 55 %

Satisfied (S) = < 55%

APPENDIX-XV

PATIENTS OUTCOME CHECKLIST FOR INFERTILE WOMEN UNDERGOING INTRA UTERINE INSEMINATION

Purpose:

This check list provides information of patient's outcome through clinical pathway.

S.NO	PATIENTS OUTCOME	YES	NO
1.	Success in conception		
2.	Failure in conception		
3.	Prevention of Ovulation hyper stimulation syndrome		

Key:

Success in conception -2

Failure in conception -1

Developing OHSS -0

APPENDIX-XVI

CLINICAL PATHWAY

INTRODUCTION:

Clinical pathways, also known as care pathways, critical pathways, integrated care pathways, or care maps, are one of the main tools used to manage the quality in health care concerning the standardization of care processes. It has been proven that their implementation reduces the variability in clinical practice and improves outcomes. Clinical pathways promote organized and efficient patient care based on the evidence based practice. Clinical pathways optimize outcomes in the acute care and homecare settings.

DEFINITION:

Multidisciplinary management tool based on evidence-based practice for a specific group of patients with a predictable clinical course, in which the different tasks (interventions) by the professionals involved in the patient care are defined, optimized and sequenced either by hour (ED), day (acute care) or visit (homecare). Outcomes are tied to specific interventions.

-Wikipedia.

HISTORY:

The clinical pathway concept appeared for the first time at the New England Medical Center in 1985 inspired by Karen Zander and Kathleen Bower. Clinical pathways appeared as a result of the adaptation of the documents used in industrial quality management, the Standard Operating Procedures (SOPs), whose goals are, improve efficiency in the use of resources and finish work in a set time. In April, 1991,

Home Care Steps Protocols., South Natick, MA, developed the Home Health Care Map Tools. In 2005, the telehealth clinical pathway was introduced to standardize telehealth visits and telephone calls in homecare.

GOALS:

- Improve efficiency in the use of resources.
- Finish work in a set time.

SCOPE OF CRITICAL PATHWAY:

- The care pathway may only be developed for a individual specialty or be Multidisciplinary (Integrated Care Pathway ICP).
- It may encompass only part of the total treatment plan such as a assessment & disease condition.

CHARACTERISTICS:

- An application of process management thinking to the improvement of patient healthcare.
- Cross-functional team
- Guideline or a protocol, a care pathway is typically crystallized in the development and use of a single all-encompassing bedside document.
- The pathway design tries to capture the foreseeable actions which will most commonly represent best practice for most patients most of the time, and include prompts for them at the appropriate time in the pathway document to ascertain whether they have been carried out, and whether results have been as expected.

COMPONENTS:

- Time
- Event
- Comment

SELECTION CRITERIA:

- The following signals may indicate that it may be useful to commit resources to establish and implement a clinical pathway for a particular condition:
- Prevalent pathology within the care setting.
- Pathology with a significant risk for patients
- Pathology with a high cost for the hospital
- Predictable clinical course
- Pathology well defined and that permits a homogeneous care
- Existence of recommendations of good practices or experts opinions
- Unexplained variability of care
- Possibility of obtaining professional agreement
- Multidisciplinary implementation

REASON TO DEVELOP CRITICAL PATHWAYS

- Enhance communication between health care workers and patients
- Easy to use. Because they tend to be developed specifically for each site they are easy to use.
- Reduce Paperwork Exception reporting reduces the paperwork tremendously.
- Provide Bottom up financial information The care pathway provides the opportunity for bottom up
- Facilitate Medical Audit The continuing analysis of data, both process and outcome orientated.
- Facilitate Teaching Students can see the projected course of events easily.

Purpose: This proforma is used to carry out the sequence of timely care with appropriate needs of the patient. This pathway helps the nurses to meet the needs of the infertile women and promote reduction in the cost-effectiveness, promotes team work, improves patient outcome.

CLINICAL PATHWAY FOR INFERTILE WOMEN UNDERGOING INTRAUTERINE INSEMINATION

ASSESSMENT	PROCEDURE
1. History collection 1.5 Baseline information 1.6 Medical, surgical, gynaecological and obstetrical history. 1.7 Observe emotional and social impact on Infertility. 1.8 Education on sex life and ovulation. **2. Physical assessment** 2.1 Head to foot assessment 2.2 Gynecological assessment **3. Investigations** **Female** 3.1 Complete blood count 3.2 Thyroid function test 3.3 FSH, LH and prolactin level. 3.4**USG:** ✓ Day 2 and day 3 basal scan through transvaginal scan. ✓ Follicular scan during ovulation period. (10^{th} day of menstruation- till rupture of follicles). ***Male**	**7. Before Procedure** 7.1 Educate about signs and symptoms of ovulation *Pain in the flank region *Nausea *Increased basal body temperature 0.2 – 0.6 degree F. 7.2 Advised her to go for follicular study for detecting release of ovum in the morning. 7.3 Once the ovulation occurs, advice her partner to give semen specimen in the lab. 7.4 Preparation of articles for procedure Articles are * Sim's vaginal speculum * Allis forceps * Gluco needle or IV cannula * Semen container * Syringe 1 ml * Gloves * Gauze

3.5 Semen analysis **4. Counselling** 4.1 Allow the couple to participate in counselling. 4.2 Educate about causes of infertility. 4.3Advise about life style modification. 4.4 Ask about sexual life pattern. 4.5 Advise about types and choice of infertility treatment detail. 4.6 Educate about cost and expected outcome of Intra uterine insemination procedure. 4.7 Be attentive when counselling the couple. 4.8 Encourage the couple to ask any queries. 4.9 Allow the couple to ventilate their feelings. **5. Health Education** . ***For Female** 5.1 Advice to take Folic acid 5mg daily and regularly 5.2 Advice the couple to avoid Stressful situation 5.3 Educate the couple balanced diet 5.4 Administration of Clomiphine citrate(first line drug) or Letrazole other drugs such as Human menopausal hormone , Bromocriptine orally for maturation of ovum 5.5 Timing and duration of drug intake .- Daily morning to take 5.6 Education about Oestrogen hyper stimulation syndrome symptoms such as nausea, dryness of mouth and skin, fainting and palpitation. *** For Male** 5.7 Advice him to avoid stress in occupational area. 5.8 Educate him about avoiding of bad habits such as smoking, alcoholism and junk foods.	* Saline * Kidney tray 7.5 Educate about position, deep breathing exercise during procedure 7.6 Positive attitude about success of procedure. 7.7 Collect the prepared 0.5ml semen sample from lab. **8. During Procedure** 8.1 Explain about procedure 8.2 Cross Check the articles 8.3 Provide privacy & switch on the light 8.4 Assist for Lithotomy positioning and draping. 8.5 Provide prepared semen specimen to physician to take into cannula. 8.6 Assist to give instruments to visualize the cervix by Cosco's speculum and allis forceps. 8.7 Encourage her to take deep breathing and relaxed. **9. After procedure** 9.1 Provide comfortable (supine) position and cover with sheet. 9.2 After procedure advice her to lie down for 10 - 20 minutes. 9.3. Discard the used supplies. 9.4 Send the instruments for cleaning and sterilization. **10. Home care** 10.1 Avoid Heavy lifting 10.2 Advice her to follow relaxation technique such as reading books and meditation etc. 10.3 Advice the couple to have sexual intercourse from next day of procedure day.

5.9 Advice him to take healthy diet**,** such as • Protein rich diet • Fibre rich diet • Advice to avoid fat rich diet and junk foods. 5.10 Change in life style and occupation if needed. **6. Follicular Period (3 Days To Till Follicular Rupture)** **Female:** 6.1 . Education regarding daily scanning, *Every morning during ovulation period. 6.2 Administration of medication (HCG) when follicle reaches 20 x20 mm for rupture. 6.3 Maintenance of oral drug treatment of Folic acid0.5 mg per orally. ***Male:** 6.4 Advice him to avoid sexual activity and masturbation for 3 -5 days before sample collection. 6.5 Educate him about collection of sample of semen. * Advice him not to use of condom for collection of semen. * Advice him to use wide mouth and sterile container.	10.4 Positive attitude of conception 10.5 Educate about taking folic acid regularly 10.6 Advice her to insert Progesterone suppositories per vagina or oral tablets as per order. 10.7 Advice the couple to come for follows up after 21 days from procedure date, to test for pregnancy.

APPENDIX-XVII

PLAGIARISM ORIGINALITY REPORT

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	Plagiarism Detector Project: [http://plagiarism-detector.com] Application core verrsion: 557

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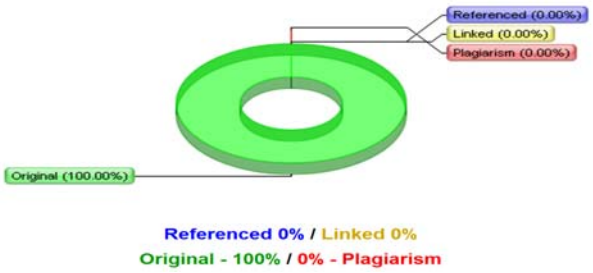

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APPENDIX-XVIII

DATA CODE SHEET

I. Demographic Variable of Nurses

AG - Age in years

2.1 17 years

2.2 18 years – 29 years

2.3 30 years – 40 years

2.4 ≥ 40 years

RG - Religion

2.1 Hindu

2.2 Muslim

2.3 Christian

2.4 Other

ES- Educational status

4.1 ANM

4.2 Diploma in nursing

4.3 BSc nursing

4.4 Post certificate course

MS-Marital status

5.1 Married

5.2 Single

RA - Type of the residential area

6.1 Home

6.2 Hostel

YE - years of experience

7.1 < 1 year to 2 years

7.2 3 years – 5 years

7.3 > 5 years

IM- Income per month in Rupees

8.1 < 5000

8.2 5001-7500

8.3 7501-10,000

8.4 > 10,000

PI-Previous information acquired regarding clinical pathway

9.1 Yes

9.2 No

YN- If yes, what was the source of information?

10.1 Books

10.2 Journals

10.3 Magazines

10.4 Colleagues

10.5 Previous work experience

II. Demographic Variable Of infertile women

1.1 AG- Age in years

1.2 20 years

1.3 21 years – 29 years

1.4 30 years – 40 years

1.5 $\geq$ 40 years

MG-Age at marriage

2.1 $\leq$ 29 years

2.2 $\geq$ 30 years

ES-Educational status

3.1 Primary school

3.2 High school

3.3 Higher secondary school

3.4 Graduate

3.5 Post graduate

RG-Religion

4.1 Hindu

4.2 Christian

4.3 Muslim

OC- Occupation

5.1 House wife

5.2 Employed

TF-Type of family

6.1 Nuclear

6.2 Joint

MI-Monthly income

7.1 ≤ Rs. 2000/-

7.2 Rs. 5001/- - 6000/-

7.3 Rs. 6001/- - 10,000/-

7.4 ≥ Rs10000/-

TM-Type of marriage

8.1 Consanguineous

8.2 Non Consanguineous

DI-Duration of infertility

9.1 ≤ 2 years

9.2 3 years – 5 years

9.3 6 years – 10 years

9.4 ≥ 10 years

EC-Economical support

10.1 Family

10.2 Company

10.3 Insurance

Clinical Variable Proforma Of Infertile Women

AM-Age at menarche

1.1 10 years

1.2 11 years – 15 years

1.3 > 15 years

MH-Menstrual history

2.1 Regular

2.2 Irregular

HH-Health history

3.1 General health illness

3.2 Gynecological health illness

3.3 Nil

SH-Surgical history

4.1 General surgery

4.2 Gynecological surgery

4.3 Nil

MY-Married years

5.1 $\leq$ 5 years

5.2 5 years – 10 years

5.3 11 years – 20 years

5.4 > 20 years

CI-Cause of infertility

6.1 Ovarian

6.2 Uterine

6.3 Tubal

6.4 Pelvic

6.5 Male

6.6 Others

PI-Previous infertility treatment

Yes

No

YN-If yes means

7.1 Ayervedha

7.2 Allopathy

7.3 Siddha

7.4 Others

NIUI-No. Of Intra uterine insemination undergone

8.1 One time – two times

8.2 Two times - three times

8.3 Three times – five times

8.4 More than five times

8.5 Nil

IV. Psychological variable proforma of infertile women

SG-Do you participate in social gathering ceremony

a. Whenever invitation offered
b. Only when I feel like
c. Normally avoid

GT-Do you get –together at home?

a. Very frequently
b. When not able to avoid
c. Never entertain

SA-Do you feel comfortable when you are take part in social activities?

a. Always
b. Some times
c. Never

Social variable proforma of infertile women

a. IS- Instrumental support
b. Do you have access to health advice
c. Do you read health magazine
d. Do you watch health programme

SF-Emotional support from significance others

a. Always
b. Sometimes
c. Never

SH-Support from husband

a. Always
b. Sometimes
c. Never

ML-Maternal and in law's support

a. Always
b. Sometimes
c. Never

WJS-Work support (House hold OR Job support)

a. Always
b. Sometimes
c. Never

APPENDIX -XIX

MASTER CODE SHEET- INFERTILE WOMEN

MASTER CODE SHEET

INFERTILE WOMEN

CONTROL GROUP																													
	DEMOGRAPHIC VARIABLES										CLINICAL VARIABLE											PS VARIABLES							
SN	AG	MG	ES	RG	OC	TO	IN	TO	DF	ES	AA	MH	HH	SH	MY	CI	PT	Y	N	TT	IUI	SG	GT	SA	IS	ES	SF	ML	JW
1	3	2	4	2	2	2	4	2	2	1	2	1	3	3	1	6	1	Y	N	2	5	1	1	1	2	3	1	2	3
2	2	1	4	1	2	1	4	2	1	1	2	2	2	3	1	1	2	-	-	-	5	1	1	1	3	3	2	2	3
3	3	1	4	1	1	2	4	2	2	1	2	2	2	2	2	1	1	Y	N	2	4	2	2	2	3	3	2	2	1
4	2	1	4	1	2	1	3	2	1	1	2	2	3	3	1	6	1	Y	N	2	3	1	1	1	3	3	2	2	3
5	3	1	1	1	1	1	2	2	2	1	2	1	3	3	1	5	1	Y	N	2	4	3	3	2	3	3	2	2	1
6	3	1	4	1	1	1	4	2	2	1	2	1	3	3	2	5	1	Y	N	2	1	3	2	2	2	3	2	2	1
7	3	1	1	1	1	1	3	2	2	1	2	1	3	3	2	6	1	Y	N	2	3	2	2	2	3	3	2	2	1
8	2	1	4	1	1	1	4	2	1	1	2	2	3	2	1	1	2	-	-	2	1	3	2	2	3	3	2	2	1
9	2	1	4	1	2	2	4	2	1	1	2	1	3	3	1	6	1	Y	N	2	2	1	3	1	3	3	2	2	3
10	2	1	4	1	1	2	4	2	1	1	2	2	3	3	1	1	1	Y	N	2	1	1	1	1	3	3	2	2	1
11	2	1	4	1	1	1	4	2	1	1	2	1	2	3	1	6	2	-	-	-	5	1	1	1	3	3	2	2	1
12	2	1	4	1	1	2	4	2	1	1	2	1	3	3	1	6	2	-	-	-	5	1	1	1	3	3	2	2	1
13	2	1	4	1	1	2	4	2	1	1	2	1	3	3	1	1	2	-	-	-	5	1	1	1	3	3	2	2	1
14	2	1	4	1	1	1	4	2	1	1	2	2	3	3	1	1	1	Y	N	2	4	1	1	1	3	3	2	2	1
15	2	1	4	1	2	1	4	2	1	1	2	1	3	3	1	6	2	-	-	-	5	1	1	1	3	3	2	2	1
16	2	1	4	1	1	2	4	2	1	1	2	1	3	3	1	5	1		-	2	4	1	1	1	3	3	2	2	1
17	3	1	4	3	1	2	2	2	2	1	2	2	3	3	1	5	2	-	-	-	5	1	1	1	3	3	2	2	
18	3	1	4	1	1	1	4	2	1	1	2	1	3	3	1	6	2	-	-	-	5	1	1	1	3	3	2	2	11
19	3	1	4	1	1	1	4	2	2	1	2	1	3	3	1	5	1	Y	N	2	4	2	2	2	3	3	2	2	1
20	2	1	4	1	1	2	4	1	1	1	2	2	3	2	1	1	1	Y	N	2	3	1	1	1	3	3	2	2	1
21	2	1	5	2	2	2	4	2	1	1	2	2	2	2	1	1	1	Y	N	2	1	1	1	1	3	3	2	2	3
22	2	1	4	1	2	2	4	1	1	1	2	1	3	3	1	5	1	Y	N	2	3	1	1	1	3	3	2	2	3
23	2	1	4	1	1	1	4	2	1	1	2	1	3	3	2	6	1	Y	N	2	1	1	1	1	3	3	2	2	1
24	2	1	4	1	2	2	4	2	1	1	2	2	2	3	1	1	1	Y	N	2	1	1	1	1	3	3	2	2	1
25	2	1	4	1	1	1	4	2	1	1	2	1	3	3	1	5	1	Y	N	2	1	1	1	1	3	3	2	2	1
26	2	1	4	1	1	2	4	1	1	1	2	2	2	2	1	1	1	Y	N	2	1	1	1	1	3	3	2	2	1
27	3	1	4	1	1	2	4	1	1	1	2	1	3	3	1	6	1	Y	N	2	3	1	1	1	3	3	2	2	1
28	2	1	4	1	1	1	4	2	1	1	2	1	3	3	1	5	1	y	N	2	1	1	1	1	3	3	2	2	1
29	3	1	4	1	2	1	4	2	1	1	2	1	2	2	1	1	1	Y	N	2	5	1	1	1	3	3	2	2	1
30	2	1	1	1	1	1	2	1	1	1	2	1	2	2	1	5	1	y	N	2	5	1	1	1	3	3	2	2	1

MASTER CODE SHEET

INFERTILE WOMEN

EXPERIMENTAL GROUP																														
	DEMOGRAPHIC VARIABLES										CLINICAL VARIABLE												PSYCHOSOCIAL VARIABLES							
SN	AG	MG	ES	RG	OC	TO	IN	TO	DF	ES	AA	MH	HH	SH	MY	CI	PT	Y	N	TT	IUI	SG	GT	SA	IS	ES	SF	ML	JW
1	2	1	4	1	1	2	4	2	2	1	2	2	2	3	1	6	1	Y	-	2	1	1	1	1	2	3	1	2	3
2	2	1	4	1	1	1	4	2	2	1	2	1	2	3	1	1	1	Y	-	2	1	1	1	1	3	3	2	2	3
3	3	1	4	2	2	2	4	2	2	1	2	1	3	2	2	1	1	Y	-	2	2	2	2	2	3	3	2	2	1
4	3	1	4	1	1	2	4	2	2	1	2	1	3	3	1	6	2	-	N	-	5	1	1	1	3	3	2	2	3
5	2	1	4	1	1	1	4	2	2	1	2	1	3	3	1	5	2	-	N	-	5	3	3	2	3	3	2	2	1
6	2	1	4	1	2	1	4	2	1	1	2	1	3	3	2	5	2	-	N	-	5	3	2	2	2	3	2	2	1
7	2	1	1	1	1	1	1	2	2	1	2	2	2	3	2	6	2	-	N	-	5	2	2	2	3	3	2	2	1
8	2	1	5	1	1	1	4	2	3	1	2	1	3	2	1	1	2	-	N	-	3	3	2	2	3	3	2	2	1
9	3	1	4	1	1	2	4	2	3	1	2	1	3	3	1	6	1	Y	-	2	3	1	3	1	3	3	2	2	3
10	3	1	5	1	2	2	4	2	2	1	2	1	3	3	1	1	1	Y	-	2	4	1	1	1	3	3	2	2	1
11	3	1	5	1	2	1	4	2	3	1	2	1	3	3	1	6	1	Y	-	2	3	1	1	1	3	3	2	2	1
12	2	1	4	1	1	2	4	2	1	1	2	1	2	3	1	6	1	Y	-	2	5	1	1	1	3	3	2	2	1
13	2	1	5	2	2	2	4	2	2	1	2	1	3	3	1	1	1	Y	-	2	4	1	1	1	3	3	2	2	1
14	3	1	5	1	2	2	4	2	1	1	2	1	2	3	1	1	1	Y	-	2	1	1	1	1	3	3	2	2	1
15	3	1	4	1	2	1	2	2	4	1	2	2	3	3	1	6	1	Y	-	2	3	1	1	1	3	3	2	2	1
16	3	1	1	1	1	2	4	2	4	1	2	1	3	3	1	5	1	Y	-	2	5	1	1	1	3	3	2	2	1
17	2	1	5	1	2	1	4	2	2	1	2	2	2	3	1	5	1	Y	-	2	1	1	1	1	3	3	2	2	1
18	3	1	4	1	1	1	4	2	2	1	2	2	2	3	1	6	1	Y	-	2	1	1	1	1	3	3	2	2	1
19	2	1	4	1	1	2	4	1	2	1	2	1	3	3	1	5	1	Y	-	2	5	2	2	2	3	3	2	2	1
20	2	1	4	1	2	2	4	2	2	1	2	1	3	2	1	1	1	Y	-	2	5	1	1	1	3	3	2	2	1
21	2	1	4	1	2	2	4	2	2	1	2	2	2	2	1	1	1	Y	-	2	1	1	1	1	3	3	2	2	3
22	2	1	4	1	1	1	4	2	2	1	2	1	2	3	1	5	2	-	N	-	5	1	1	1	3	3	2	2	3
23	3	1	4	1	1	1	4	2	3	1	2	1	3	3	2	6	1	Y	-	2	1	1	1	1	3	3	2	2	1
24	2	1	4	1	1	2	4	2	2	1	2	2	2	3	1	1	1	Y	-	2	5	1	1	1	3	3	2	2	1
25	2	1	4	1	1	2	4	1	2	1	2	2	2	3	1	5	1	Y	-	2	1	1	1	1	3	3	2	2	1
26	2	1	4	1	1	1	4	2	2	1	2	1	3	2	1	1	2	-	N	-	5	1	1	1	3	3	2	2	1
27	3	1	4	1	2	2	4	2	3	1	2	2	2	3	1	6	1	Y	-	2	1	1	1	1	3	3	2	2	1
28	2	1	4	1	1	2	4	2	1	1	2	1	3	3	1	5	2	-	N	-	5	1	1	1	3	3	2	2	1
29	2	1	4	1	1	2	4	2	1	1	2	2	2	2	1	1	2	-	N	-	1	1	1	1	3	3	2	2	1
30	3	1	3	1	1	2	4	2	2	1	2	2	3	2	1	5	1	Y	-	2	1	1	1	1	3	3	2	2	1

MASTER CODE SHEET

NURSES

CONTROL GROUP															EXPERIMENTAL GROUP													
SN	PRACTICE				SATISFACTION							OUTCOME			PRACTICE				SATISFACTION							OUTCOME		
	AS	PR	SC	%	HP	SC	BP	AF	FU	SC	%	S	F	C	AS	PR	SC	%	HP	SC	BP	AF	FU	SC	%	S	C	F
1	35	33	68	57	7	19	8	6	3	43	45	N	Y	-	54	42	96	80	10	35	13	14	8	80	83	Y	N	-
2	27	20	47	39	5	18	8	7	3	41	43	N	Y	-	67	42	109	91	12	22	14	14	8	70	73	N	Y	-
3	23	17	40	33	5	17	6	6	3	37	39	Y	N	-	67	48	115	96	12	38	18	15	7	90	94	Y	N	-
4	25	18	43	36	6	19	7	6	3	41	43	Y	N	-	62	49	111	93	11	41	19	15	7	93	97	Y	N	-
5	28	24	52	43	6	16	7	7	3	39	41	Y	N	-	66	49	115	96	12	38	15	14	8	87	91	Y	N	-
6	29	22	51	43	6	22	7	8	3	46	48	Y	N	-	64	48	112	93	10	42	15	15	8	90	94	N	Y	-
7	33	18	51	43	6	13	7	8	4	38	40	N	Y	-	62	45	107	89	12	37	13	16	8	86	89	Y	N	-
8	28	19	47	39	6	18	7	9	3	43	45	N	Y	-	68	47	115	96	10	27	15	15	7	75	78	Y	N	-
9	28	24	52	43	6	20	7	10	3	46	48	Y	N	-	66	48	114	95	12	34	16	13	8	83	86	Y	N	-
10	23	18	41	34	5	18	8	9	4	44	46	Y	N	-	68	48	116	97	12	42	14	14	8	90	94	Y	N	-
11	31	20	51	43	5	17	7	9	4	42	44	N	Y	-	65	46	111	93	10	36	14	12	8	80	83	N	Y	-
12	32	20	52	43	5	19	7	7	3	41	43	N	Y	-	65	46	111	93	11	38	14	13	7	83	86	Y	N	-
13	31	23	54	45	5	14	7	7	4	37	39	Y	N	-	65	46	111	93	11	36	15	16	7	85	89	Y	N	-
14	31	18	49	41	6	20	6	7	3	42	44	Y	N	-	68	43	111	93	11	28	15	16	7	77	80	N	Y	-
15	32	16	48	40	5	21	6	6	3	41	43	N	Y	-	65	44	109	91	12	35	14	14	8	83	86	Y	N	-
16	29	19	48	40	5	17	5	6	4	37	39	N	Y	-	62	43	105	88	14	38	12	15	7	86	89	N	Y	-
17	31	22	53	44	5	18	6	7	4	40	42	Y	N	-	70	45	115	96	11	42	16	14	7	90	94	Y	N	-
18	30	18	48	40	6	19	9	8	3	45	47	N	Y	-	59	46	105	88	11	50	13	13	8	95	99	Y	N	-
19	31	20	51	43	5	20	7	9	3	44	46	Y	N	-	68	50	118	98	11	38	15	14	7	85	89	N	Y	-
20	33	20	53	44	5	20	7	7	3	42	44	N	Y	-	56	44	100	83	10	40	13	15	8	86	89	Y	N	-
21	33	18	51	43	5	22	7	7	4	45	47	N	Y	-	62	44	106	88	10	37	13	16	7	83	86	Y	N	-
22	31	22	53	44	5	21	7	7	3	43	45	N	Y	-	60	44	104	87	11	37	14	14	8	84	86	N	Y	-
23	33	19	52	43	5	19	6	7	3	40	42	Y	N	-	63	45	108	90	11	39	14	13	8	85	89	Y	N	-
24	31	22	53	44	5	20	8	6	3	42	44	N	Y	-	62	47	109	91	12	37	15	15	8	87	91	N	Y	-
25	28	18	46	38	5	17	7	6	4	39	41	Y	N	-	61	45	106	88	12	34	14	15	7	82	85	Y	N	-
26	31	17	48	40	5	20	7	6	3	41	43	N	Y	-	61	45	106	88	10	38	15	15	7	85	89	Y	N	-
27	31	22	53	44	7	12	7	7	3	36	38	Y	N	-	61	44	105	88	11	39	15	14	8	87	91	N	Y	-
28	26	24	50	47	5	19	7	6	2	39	41	Y	N	-	63	45	108	90	11	39	14	14	7	85	89	Y	N	-
29	29	17	46	38	5	18	7	7	2	39	41	Y	N	-	65	44	109	91	11	38	13	14	7	83	86	Y	N	-
30	28	19	47	39	5	27	7	8	3	50	52	Y	N	-	63	44	107	89	10	40	15	14	7	86	89	Y	N	-

DEMOGRAPHIC VARIABLE									**PRT**		**PST**		**PRETEST**					**POST TEST**				
AG	RN	ES	MS	TR	YR	IN	CP	SC	SC	%	SC	%	CP	DE	OL	MD	PO	CP	DE	OL	MD	PO
2	1	1	1	1	1	2	2	-	17	68	24	96	0	5	2	5	5	4	5	5	5	5
2	1	1	1	1	1	2	2	-	14	56	23	92	0	3	3	3	5	3	5	5	5	5
3	1	2	1	1	1	3	2	-	13	52	21	84	0	2	3	4	5	2	5	4	5	5
3	2	2	2	1	1	3	2	-	13	52	22	88	1	1	3	4	4	3	5	5	5	5

APPENDIX - XX

DATA COLLECTION PHOTO GALLERY