



Research Article

The Assessment of the Knowledge Level Regarding Innovative Treatments for Infertility among Infertile Women

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Abstract

Introduction and Purpose: One of the most important natural instinct in any women's life is to be a mother, if a woman suffers from infertility she is blamed to be unfit for survival that's why fertility ability is considered as an important part of success and happiness in marital life. Thus, it seems that the infertile woman with higher knowledge regarding infertility has more ability to deal with this problem and get significantly better results in the treatment. The current research was conducted to assess the knowledge level regarding innovative treatment for infertility among infertile women attending infertility clinic at Bangalore, India in April 2015.

Materials and Methods: Descriptive design was selected for the present study. Research statistical population included all infertile women attending Nova IVI clinic at Bangalore at the time of the study (n=60), women were selected by purposive sampling technique. Data were collected by structured knowledge questionnaire. Data were analyzed using descriptive and inferential statistics. The level of significance was considered at 0.05 level.

Findings: Findings revealed that the knowledge level was very poor. There was no significant association between knowledge score and age, educational status, occupation, religion, type of family, type of infertility and source of information.

Discussion and Conclusion: None of the samples was having an adequate level of knowledge about innovative treatment regarding infertility, and the majority 80% of the samples was shown with the inadequacy in knowledge score, the result reveals that there is a wide gap in lack of knowledge on innovative infertility treatments among infertile women.

Keywords: Knowledge; Infertility; Infertile women; Innovative treatment

Introduction

The incidence and prevalence of infertility also seem to be increasing steadily in India. The report said that in India, 13% of ever-married women aged 15-49 years were childless in 1981 (rural 13.4% and urban 11.3%) which increased to 16% in 2001 (rural 15.6% and urban 16.1%). Over half of married women aged 15-19 years were childless in 1981, which increased to 70% in 2001. "Out of 250 million individuals conservatively estimated to be attempting parenthood at any given time 13 to 19 million couples are likely to be infertile," the Union minister of health had sounded the alarm in 2010.

It is estimated that globally 60-80 million couples suffer from infertility every year, of which probably between 15-20 million (25%) are in India alone according to the statistics of 2011 in which both male and female are affecting in equal proportions [1]. In some communities, the family may think that infertility is always laid under wife health problem and also considers the woman is a curse to the family and so she may stick to insecurity thinking that her spouse will not accept her if she cannot bear the child, but that's not the fact. Infertility is a common problem and according to statistics 30% is due to male infertility, 30% is due to female infertility and 40% is due to the compatibility between the couples, combination issues, or any other unknown reason; among these, the unknown reasons can be extremely frustrating [2].

All the healthcare professionals who deal with infertility must figure out the dynamics of the issue to help the infertile couple as they are more in contact with the patients. So they can help them to cope with their psychological distress and remain mentally stable [3]. Infertility is a worldwide issue. The World Health Organization (WHO) estimates that approximately 8-10% of couples experience some form of infertility problem. Globally about 50-80 million people suffer from infertility [4]. Currently, in the United States, about 20% of couples are struggling with infertility. In Britain, male fertility obstacle accounts 25% of infertile couples, while 25% remain unknown, 50% are female causes with 25% are due to anovulation and 25% tubal problems and so on. In Sweden, about 10% of couples are infertile. In approximately one-third of these cases the male is unable and in the remaining third it is related to both partners [5]. World Fertility Survey was conducted in South Asia on infertility which estimates 4% in Bangladesh, 5% in Pakistan, 4% in Sri Lanka and 6% in Nepal [5]. Another research conducted observed an infertility rate of 6% in India. In contrast, since 2006, the southern states of Andhra Pradesh, Karnataka and Kerala account for only about 13 percent of India's population. The report of 1981 census in India on infertility computed infertility range between 4-6% [6].

Review of Literature

A case-control study of the risk factors of secondary infertility on women profile was conducted in between Kigali and Rwanda. Sexually active women were selected in the reproductive age group of 21-45 who were suffering from secondary infertility (n=177) and control group selected as multiparous women in the same age group

who recently delivered (n=219). Data were collected about socio demographic characteristics and obstetric history by using a structured questionnaire. The findings showed HIV and other STIS also obstetric history contribute equally to secondary infertility in Rwanda. Increased access to the family planning services, improvement of HIV/STI prevention and better prenatal and antenatal care were main reasons to decrease secondary infertility in Saharan Africa [7]. A study was conducted on primary infertility to assess the causes of infertility by diagnostic Laparoscopy. The average age of women was 26.8 years, almost 50% of women with laparoscopic diagnosed had tubal block [8]. A descriptive study was conducted about causes of infertility of women in South Western part of Nigeria. Data were collected in four hospitals (n=200) 50 samples in each hospital between 2004 –2006.

The commonest causes of infertility were the tubal factor, uterine factor, and ovarian factor representing 39.5%, 30% and 13% respectively. The least cause was a cervical factor, Pelvic Inflammatory Diseases (PID), and endometriosis, which were seen in 3%, 5.5% and 2.5% of the subjects respectively [9]. A survey was conducted on the severity of infertility related to the age of the women in the reproductive age in England. Findings showed that 4.1 % women suffered infertility in the age group of 15-24 years, 13.1 % in the age group of 25-34 years and 21.4% in the age group of 35-44 years old [10]. A comparative study was conducted on effects of smoking on infertility between smokers and non-smoker females in the age group of 20-35. It was found that 38% of non-smokers women conceived pregnancy in the first cycle of their attempts compared to 28% of smokers' women. Results showed that smokers women had 3-4 times more difficult to conceive compared to non-smokers women. They have taken greater than a year to conceive [11].

A study was conducted to assess the causes of infertility in women of reproductive age. Data were collected by using questionnaire concerning causes of infertility administered to infertile women attending Assisted Reproduction Center in Greece (n=110). The study revealed there are multiple causes of infertility, 45.5 % were due to smoking, 27.4% of the problems were due to fallopian tubes dysfunction and 20% were due to sexual disorders [12]. An experimental study was conducted to assess the knowledge of the infertile couples about treatment modalities on infertility in Iran. Data were collected by a self-administered structured questionnaire about demographic data, infertility history and other relevant variables. The results showed that less than half of the patients presented to be knowledgeable about treatment modalities of infertility [13].

Since the progress of medical students is associated with public health, it is recommended that medical education managers and planners pay more attention to motivational factors. It is also recommended that planning strategies for increasing motivation and academic achievement be placed at top priority along with continuing education, which can be addressed by officials and educationalists [14]. Assisted Reproductive Technology is an area of medicine, which has achieved enormous success and importance in the last two decades.

Significant improvements in fertility treatment have made it possible for many patients to conceive with medical assistance [15]. Thus, by considering all factors, the investigator found that there is a lack of knowledge regarding innovative treatment among infertile couples. So the investigator is interested to administer a structured knowledge questionnaire regarding innovative treatment of infertility among infertile women in a selected hospital at Bangalore-India, with

a view to developing an information booklet on the innovative treatment of infertility. Then the researcher was decided to carry out: "A descriptive study to assess the knowledge level regarding innovative treatment for infertility among infertile women in selected infertility clinic at Bangalore, with a view to developing an information booklet on innovative treatment for infertility"

Materials and Methods

In this research, the approach was selected as a descriptive approach which was used in order to assess the knowledge level regarding innovative treatment for infertility among infertile women in selected infertility clinic at Bangalore, with a view to developing an information booklet on innovative treatment for infertility.

The setting of the study

This study was conducted at the Nova IVI fertility Clinic at Bangalore, which is a 100 bedded hospital.

Population

The target population consists of all infertile woman and the accessible population was comprised of the infertile woman from NOVA IVI fertility Hospital, Bangalore.

Sample and sample size

The samples for this research study were infertile woman meeting with inclusion criteria from NOVA IVI fertility Hospital, Bangalore. The sample size is 60 infertile women.

Sampling technique

Purposive sampling technique was used to select samples. This technique permits the researcher to decide purposely and select subjects which are judged to be part of the typical population.

Description of the instrument

The instrument tool consisted of two sections.

1) Section – I

2) Section – II

Section – III: Demographic Data

This section consists of age, educational status, occupation, type of family, type of infertility, religion and sources of information.

Section - II: Knowledge level regarding innovative treatment for infertility

This section consisted of 40 items regarding knowledge of innovative treatment for infertility.

Which consists of:

⊙ 10 items regarding anatomy and physiology of the reproductive system.

⊙ 10 items regarding general information of infertility.

⊙ 20 items regarding diagnosis and innovative treatments for infertility.

Scoring technique

The structure knowledge questionnaire consists of 40 objective type questions. In that, for each question, three options were given and only one correct answer. For each correct answer, the score 1 was given and for the wrong answer, the score 0 was given. The highest score was 40. level of the knowledge categorized as follows:

Score Level of The Knowledge

<20 Inadequate

21-30 Moderate

31-40 Adequate

The validity of the tool

Content validity refers to the degree of exactness in which an instrument measures what it is supposed to measure. In order to ensure content validity, the data collection tool, blueprint and information booklet along with the statement of the problem, objectives, scoring key and criteria rating scale were submitted to 8 experts. The experts were postgraduates in OBG Nursing with experience (5), Gynecologists (2) and Statistician (1). According to expert's opinion, some of the questions were modified and some of the questions were deleted. The arrangement of the options was done in a proper way according to the suggestions given by the experts. The tool was presented and finalized by the research committee of Acharya College of Nursing.

Reliability of the tool

Reliability of research instrument is defined as the extent to which an instrument yields the same results on repeated measures. Reliability of the structure knowledge questionnaire was established by using the split-half method. In order to establish the reliability, the tool was administered to 6 infertile women at Milann fertility centre at Jayanagar, Bangalore who fulfilled the inclusion criteria. The reliability quotient obtained for the tool was founded to be reliable to proceed with data collection.

Development of an information booklet

An information booklet on innovative treatment on infertility was prepared based on the review of the literature and discussion with subject experts. Appropriate pictures were also included according to the content. The developed content was given to eight experts to establish the content validity and they were requested to give their opinion and based on the suggestion an information booklet content was finalized.

Pilot study

The pilot study is a study carried out at the end of the planning phase of research, in order to explore and test the research elements. After obtaining formal permission from relevant authorities, a pilot study was conducted at Milann fertility centre at Jayanagar, Bangalore on 06/01/2015.

A pilot study was conducted to find out the feasibility of the tool. Investigator was selected 6 infertile women of the total population by using purposive sampling technique. So the survey was conducted by using structured knowledge questionnaire of innovative

treatment for infertility. The pilot study revealed that study was considered feasible.

Data Collection Procedure

Investigator obtained ethical clearance and formal permission from the Medical director of NOVA IVI fertility HOSPITAL, Bangalore to collect data for the main study. Data were collected from 01-03-2015 to 02-04-2015

The steps used for data collection were as following:

1) The investigator introduced herself and explained the purpose of the study to the Medical Director of NOVA IVI fertility Hospital, Bangalore.

2) The investigator after taking official permission from the Medical Director, consent was obtained from the participants to involve in the study.

3) The subjects were assured about anonymity and confidentiality of the information provided by them and a written informed consent has been obtained.

4) The survey was conducted to assess the knowledge of innovative treatment for infertility, through structured knowledge questionnaire.

5) Data collected were analyzed and tabulated.

Data Analysis Methods

Data analysis and interpretation were planned to include descriptive and inferential statistics. Percentages, means, medians and standard deviations were used to explain demographic variables and compute the knowledge level scores. Chi-square (χ^2) test was used to study the association between level of the knowledge scores and selected demographic variables. The significant findings are expressed in form of tables and figures.

Findings

The findings showed that majority of the women 50% (30) belong to the age group of 26-30 years, 40% (24) belongs to the age group of 31-35 years and 10% (6) belongs to the age group of 21-25 years. The majority of 85% (51) had graduation and above, 12% (7) had secondary education and least 3% (2) of women were just had primary education. Also, the distribution of women by their occupation was majority 72% were private employees, 18% were government employees and only 10% were the housewife and none of them (0%) are self-employed. The findings cleared that the majority of samples (38%) have been gained the information from mass media, 27% had from print media, 12% had from health personnel and 23% had from others. None of the samples had adequate knowledge and 20% of them had a moderate level knowledge and the majority (80%) of them had inadequate knowledge about innovative treatment for infertility (Table 1). The standard deviation of anatomy and physiology is 1.964, SD of general information on infertility is 1.613, SD of diagnosis and innovative treatment is 2.127 and the overall SD is 4.112. So there is a felt need for bridging the gap between the Lack of knowledge and innovative treatment of infertility for samples. Findings related to the distribution of socio-demographic variables. The findings indicate that the distribution of respondents by age where, the majority of the women 50% belong to the age group of 26-30 years,

40% belongs to the age group of 31-35 years and 10% belongs to the age group of 21-25 years. Regarding the distribution of educational qualification of women where the majority of 85% had graduation, 12% had secondary education and least 3% of women were just had primary education. Regarding the distribution of women by their occupation where majority 72% were private employees, 18% were government employees and only 10% was the housewife. In relation to the distribution of respondents by the type of family in which 63% belonged to a nuclear family and 37% belonged to a joint family. In the distribution of respondents by the type of infertility where 60% of women had primary infertility and 40% had secondary infertility. Finally, the distribution of respondents by religion where, 43% of women belongs to Hindu, 23% of them belong to Muslim and 34 % of them from the Christian religion. In the distribution of respondents by the source of information where 38% had the source of information from mass media, 27% had from print media, 12% had from health personnel and 23% had from others.

The findings demonstrated that none of the samples had adequate knowledge level and 20 % of them had a moderate level knowledge and

the majority (80%) of them had inadequate knowledge about innovative treatment for infertility. The mean score of anatomy and physiology is 4.11, mean score of general information on infertility is 4.11, the mean score of diagnosis and innovative treatment is 8.28 and the overall mean score is 16.50, respectively median is 4, 4.8 and 16. The standard deviation of anatomy and physiology is 1.964, SD of general information on infertility is 1.613, SD of diagnosis and innovative treatment is 2.127 and the overall SD is 4.112. So there is a felt need for bridging the gap between the Lack of knowledge and innovative treatment of infertility for samples. In relation to an association, the findings showed that since the table values were higher than the calculated values, there was no association with the age($\chi^2=2.99df=2$), educational status ($\chi^2=0.13df=2$), occupation ($\chi^2=0.081df=2$), type of family ($\chi^2=0.0009df=2$), type of infertility ($\chi^2=0.051df=2$), religion($\chi^2=0.52df=2$), and sources of information ($\chi^2=0.61df=2$), respectively and knowledge score of innovative treatment for infertility among infertile women at $p<0.05$ level.

Knowledge aspects	No of Items	Max Score	Mean	Mean %	Median	SD
Anatomy and physiology	10	10	4.11	41.1	4	1.964
General information and infertility	10	10	4.11	41.1	4	1.613
Diagnosis and innovative treatment of fertility	20	20	8.28	41.4	8	2.127
Overall	40	40	16.5	31.54	16	4.112

Table 1: Reveals that the mean score of anatomy and physiology is 4.11, mean score of general information on infertility is 4.11, the mean score of diagnosis and innovative treatment is 8.28 and the overall mean score is 16.50, respectively median is 4, 4.8 and 16.

Conclusion

The objective of the research study is “To assess the knowledge of infertile women regarding innovative treatment for infertility at NOVA IVI fertility Hospital, Bangalore”. Results of this study demonstrated that the distribution of respondents by age where, majority of the women 50% belong to the age group of 26-30 years, regarding of educational qualification of women where, majority of 85% had graduation, and in the distribution by their occupation where, majority 72% were private employees, in relation to distribution of respondents by type of family in which 63% belonged to a nuclear family, and 37% belonged to a joint family. And in the distribution of respondents by the type of infertility where 60% of women had primary infertility and 40% had secondary infertility. Finally the distribution of respondents by religion where, 43% of women belong to Hindu, 23% of them belong to Muslim and 34 % of them from Christian religion and in distribution of respondents by source of information where 38% had source of information from mass media, 27% had from print media, 12% had from health care workers and 23% had from others. Since none of the samples was having an adequate level of knowledge about innovative treatment regarding infertility, and the majority 80% of the samples were shown with the inadequacy in knowledge score, the study result reveals that there is a wide gap in lack of knowledge on innovative infertility treatments among infertile women.

So an information booklet was issued to all the samples after the data collection to improve the knowledge and also awareness regarding innovative treatment for infertility. Also, the results showed that since

the table values were higher than the calculated values, there was no association with none of the variable and knowledge score on the innovative treatment of infertility among infertile women with the sign of $p<0.05$ level. So it is interpreted that the results are not accepting the hypothesis and the hypothesis is rejected. It is hoped that more effects into these patients bring appropriate treatment methods to promote the patients’ life quality [16]. Psychologists and educational experts have always considered learning and academic success and their effective factors. In recent years, they attempt to identify the variables, by help of which they can promote academic success [17].

Nursing Implications

Findings of the study can be used in the areas of nursing practice, nursing administration, nursing education and nursing research.

A) Nursing practice

“Prevention is better than cure” and health promotion is valued much.

1- Nurses scatter in different fields have a common primary concern to promote health to every individual.

2- Nurses are moving towards an area of science-based practice that incorporates the latest findings from the behavioral and biological sciences to nursing practice.

3-To assist people with different cultural background and to adopt healthy lifestyles.

4-Nursing professional working in various units of hospitals will be able to find opportunities to teach and improve the knowledge on reproductive health.

5-The study findings signify the importance of making awareness by nursing personnel especially on innovative treatment for infertility. 6-Since there is a gross inadequacy in knowledge regarding innovative treatments for infertility, they should equip themselves with proper advanced knowledge-based education and evidence-based practice in clinical areas

B) Nursing education

1- Education is the key component in teaching and learning activities which improves and updates our day today knowledge.

2-The nursing students should be taught about innovative treatments for infertile problems, then only they can counsel and teach to the public to bring about better awareness among the public.

3-Nurses must be abreast with new technologies, new approaches and techniques.

4-Findings should be included in the nursing curriculum, and then only there is abundant opportunity for nursing professionals to educate the infertile couples.

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