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A STUDY TO ASSESS THE KNOWLEDGE REGARDING ASSISTED REPRODUCTIVE TECHNOLOGY AMONG COUPLES AT SELECTED COMMUNITY AREA, KOLLAM

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ABSTRACT

Introduction: Assisted reproductive technology (ART) is a global term used to describe the myriad of advanced infertility treatment options available to help couples with infertility to achieve pregnancy. Assisted reproductive technology (ART) includes medical procedures used primarily to address infertility. This subject involves procedures such as in-vitro fertilization (IVF), intra cytoplasmic sperm injection (ICSI), cryopreservation of gametes or embryos, and or the use of fertility medication. When used to address infertility, ART may also be referred to as fertility treatment. ART mainly belongs to the field of reproductive endocrinology and infertility. Some forms of ART may be used with regard to fertile couples for genetic purpose. **Materials and Methods**: Quantitative research approach with non-experimental research design was used in this study. The study was conducted at Pallithottam community area, Kollam, Kerala. The target population were couples at selected community area. Non probability convenience sampling technique was used to collect data. Formal permission was taken by Institutional Ethics Committee and consent from the couples and data were collected through structured knowledge questionnaire. The tool used consisted of demographic pro forma and knowledge of participants related to assisted reproductive technology. The collected data were analyzed using descriptive and inferential statistics. **Result:** The finding of the present study revealed that out of 100 samples, 67% had inadequate knowledge, 32% had moderate and only 1% had adequate knowledge regarding ART. The study also revealed that there was significant association between knowledge regarding ART with selected demographic variables such as age, education and occupation at 0.05% level of significance and no significant association with gender, religion, duration of marriage, number of children, age of children, family history of infertility and infertility treatments taken. **Conclusion:** Research Trusted Source also indicates that worldwide, 8–12% of couples experience fertility problems, and 40–50% of cases stem from factors that affect males. The finding of the present study revealed that out of 100 samples, 67% had inadequate knowledge, 32% had moderate and only 1% had adequate knowledge regarding ART.

KEYWORDS: Assess, Knowledge, Structured knowledge questionnaire, Assisted Reproductive Technology.

INTRODUCTION

Assisted reproductive technology (ART) refers to fertility treatments and procedures that can help with difficulties or an inability to conceive children. ART techniques involve the manipulation of eggs, sperm, or embryos to increase the likelihood of a successful pregnancy. Difficulty with conception is a common reason for young couples to present to their primary care physician. Fertility assistance, whether minimal or high level, aims to optimize the chances of having a singleton pregnancy and the birth of a healthy baby. Recent advances in assisted reproductive technology, particularly at a genetic level, have helped us to better understand the causes of infertility, and also to offer techniques that maximize the safety and efficiency of treatment and therefore the chance of a successful outcome. ART can alleviate the burden of infertility on individuals and families, but it can also present challenges to public health as evidenced by the high rates of multiple delivery, preterm delivery, and low birth weight delivery experienced with ART.

OBJECTIVES

- To assess the knowledge regarding assisted reproductive technology among couples at selected community area, Kollam.
- To find the association between knowledge regarding assisted reproductive technology with selected demographic variables (Age, Sex, Education, Occupation, Religion, Duration of

marriage, Number of children, Age of children, Family history of infertility, Infertility treatments taken) among couples at selected community area, Kollam.

MATERIALS AND METHODS

Approach: Quantitative research approach
Design: Non experimental research design
Population: Couples of selected community area, Pallithottam
Sample: 100 couples from selected community area, Kollam
Sampling technique: Non probability convenience sampling technique
Setting: Pallithottam community area
Data collection method: Structured knowledge questionnaire

Inclusion criteria

- Couples who are married.
- Couples who are living at selected community area, Kollam.

Exclusion criteria

- Couples who are not available at the time of data collection.
- Couples who are on temporary or permanent family planning.
- Couples living at different places.
- Couples with previous exposure to knowledge regarding assisted reproductive technology.

Data collection process

We communicated the purpose and significance of the study with the participants through direct communication. Data were collected through structured knowledge questionnaire.

Ethical approval and informed consent

Ethical clearance and approval was obtained from the institutional ethics committee of Bishop Benziger College of Nursing, Kollam. Informed consent was obtained from participants. The respondents were assured the anonymity and confidentiality of the information provided by them. The privacy of the research participants was maintained. The ethical principles in research which included beneficence, non-maleficence, justice, honesty, confidentiality and non-discrimination were strictly followed in the study. The participants were given the right to withdraw from the research study at any time.

TOOL

Section A

Demographic proforma

Section A consisted of information regarding demographic variables such as age, sex, education, occupation, religion, duration of marriage, number of children, age of children, family history of infertility and infertility treatments taken.

Section B

Structured knowledge questionnaire

Reliability

After obtaining legal permission from medical officer of Pallithottam community health center, Kollam, the tool was administered to 100 couples who belonged to that community. Reliability coefficient of the tool was found to be 0.70. This indicates that tool was reliable.

ANALYSIS

Descriptive analysis

1. Percentage distribution of sample as per demographic variables
2. Description of knowledge regarding assisted reproductive technology among couples at selected community area.

Inferential analysis

Association between knowledge regarding assisted reproductive technology and selected demographic variables using chi square test.

RESULT

The finding of the present study revealed that out of 100 sample, 67% had inadequate knowledge, 32% had moderate and only 1% had adequate knowledge regarding ART. The study also revealed that there was significant association between knowledge regarding ART with selected demographic variables such as age, education and occupation, there was no significant association between knowledge regarding ART with selected demographic variables such as gender, religion, duration of marriage, no. of children, age of children, family history of infertility and infertility treatments taken at 0.05 level of significance.

Percentage distribution of the sample

AGE **N=100**

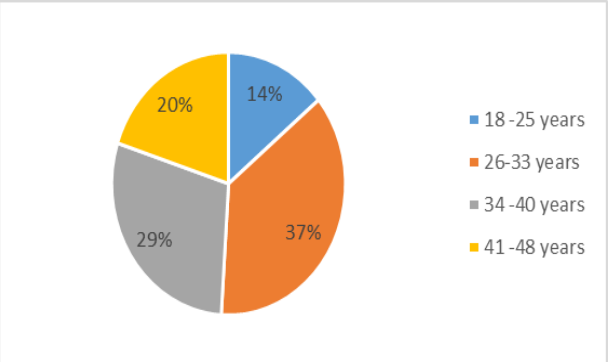

Figure 1: Percentage wise distribution of the sample according to age.

The data presented in fig 1 shows that out of 100 sample, 14% were in the age group of 18-25years and 37% were in the age group of 26-33years and 29% were in the age group of 34-40years and 20% were in the age group of 41-48years.

GENDER **N=100**

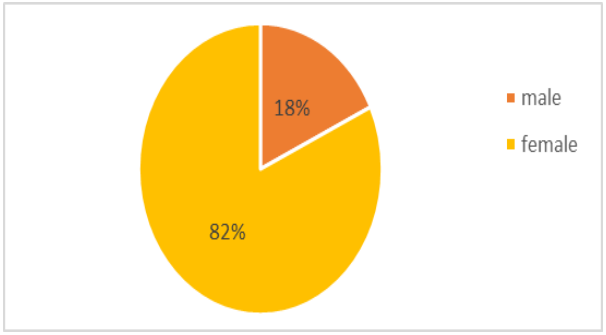

Figure 2: Percentage wise distribution of sample according to gender.

The data in the fig 2 shows that out of 100 sample, 82%were females and 18% were males.

EDUCATION **N=100**

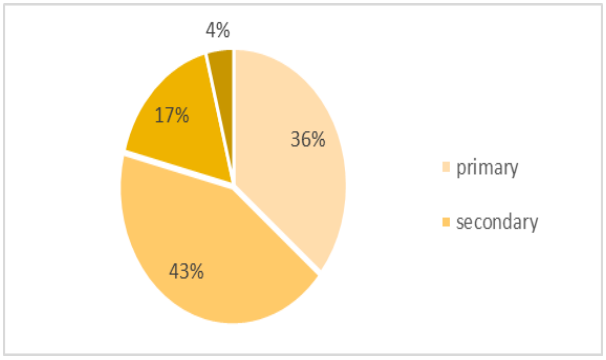

Figure 3: Percentage wise distribution of the sample according to education.

The data in Fig 3 shows that 36% had primary education 43% had secondary education 17% were graduates and 4% were post graduates.

OCCUPATION **N=100**

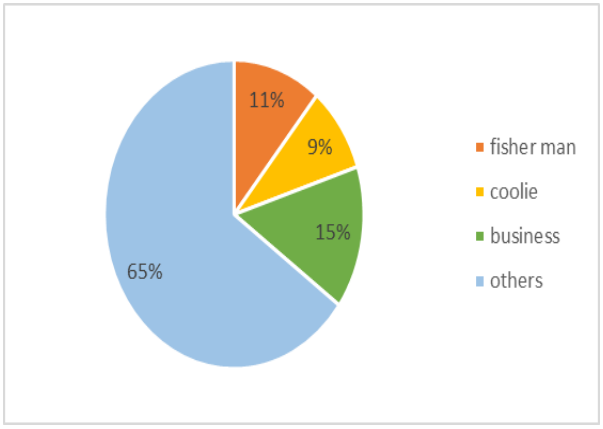

Figure 4: Percentage wise distribution of the sample according to occupation.

The data presented in fig 4 shows that 11% of were fishermen and 9% were coolie and 15% were business men and 65% were engaged in other occupations.

RELIGION **N=100**

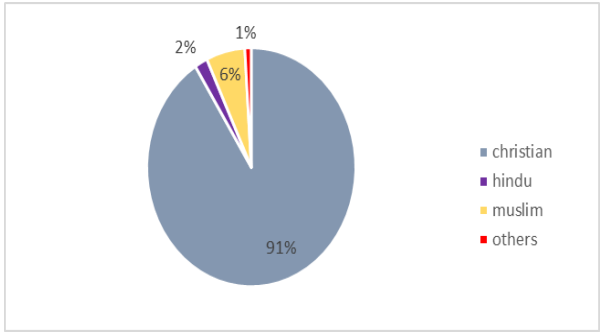

Figure 5: Percentage wise distribution of the sample according to religion.

The data in the fig 5 shows that 91% of couples were Christians and 6% of couples were Hindu 2% were Muslims and 1% were others.

DURATION OF MARRIAGE **N=100**

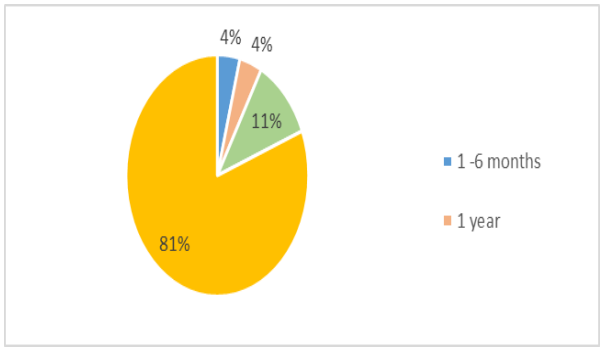

Figure 6: percentage wise distribution of the sample according to duration of marriage.

The data in the fig 6 shows that 4% of couples married recently (1 – 6 months) and 4% of couples married 1 year ago (7months - 1 year) and 11% couples had 1 – 2 years of marital life and 81% couples had more than 2 years of marital life.

NUMBER OF CHILDREN **N=100**

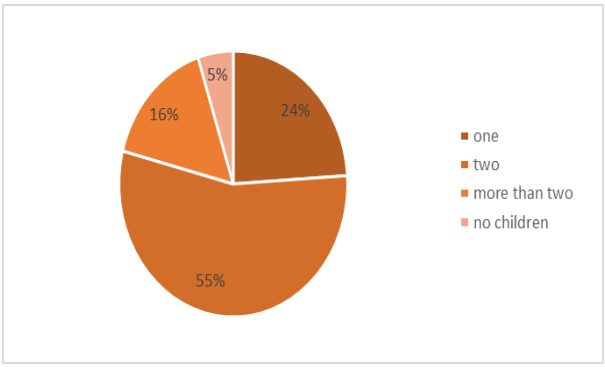

Figure 7: percentage wise distribution of the sample according to number of children. The data in the fig 7shows that 24% couples had one child and 55 % couples had two children and 16% couples had more than two children and 5 % couples were without children.

AGE OF CHILDREN N=100

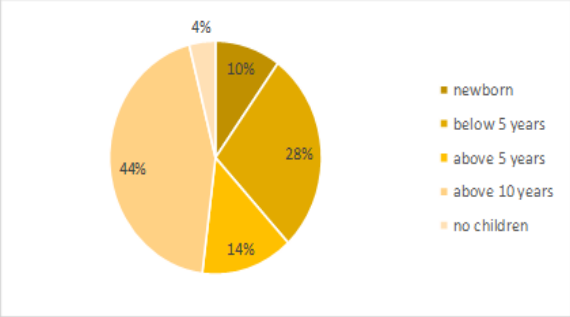

Figure 8: percentage wise distribution of the sample according to age of children.

The data in the fig 8 shows that 10% couples had new born babies and 28% couples had children under 5 years of age and 14% couples had children above 5 years old and 44% couples had children above 10 years old and 4% had no children.

FAMILY HISTORY OF INFERTILITY N=100

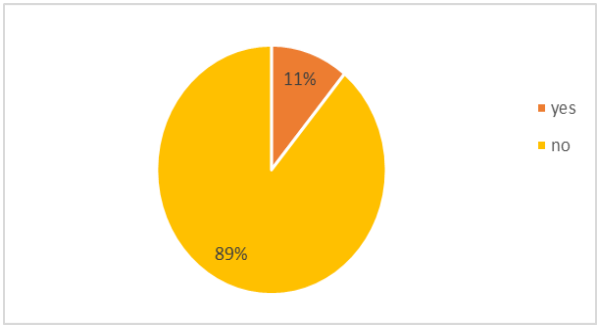

Figure 9: percentage wise distribution of the sample according to family history of infertility.

The data in the fig 9 shows that 11% couples had family history of infertility and 89% couples not had any family history of infertility.

INFERTILITY TREATMENTS TAKEN N=100

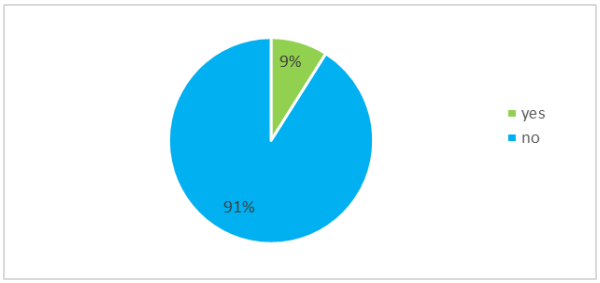

Figure 10: Percentage wise distribution of the sample according to infertility treatments taken.

The data in the fig 10 shows that 9% couples had taken infertility treatments and 91% couples had not taken infertility treatments.

DATA ANALYSIS AND INTERPRETATION

Description of knowledge regarding assisted reproductive technology among couples

N=100

Score Range	Knowledge regarding ART	Frequency	Percentage
15-20	Adequate Knowledge	1	1%
9-14	Moderate Knowledge	32	32%
<9	Inadequate Knowledge	67	67%

Table 1: Shows that 1% of Couples Had Adequate Knowledge Regarding Assisted Reproductive Technology, 32% Had Moderate Knowledge and 67% of Couples Had Inadequate Knowledge Regarding ART.

Sl.no.	Variables	Adequate	Moderate	Inadequate	df	Chi Square Test	Table Value	Level of Significance
1.	Age 18-25yrs 26-33yrs 34-40yrs 41-48yrs	 1 0 0 0	 2 17 6 7	 11 20 23 13	6	13.728	12.592	S
2.	Gender Male Female Others	 0 1 0	 7 25 0	 11 56 0	4	0.663	9.488	NS
3.	Education Primary	 0	 11	 25	6	13.873	12.592	S

	Secondary Graduate Post-graduate	0 1 0	13 9 0	30 7 4				
4.	Occupation Fisherman Coolie Bussiness Others	 0 0 0 1	 3 4 6 19	 7 6 9 45	6	44.821	12.592	S
5.	Religion Christian Hindu Muslim Others	 1 0 0 0	 27 2 2 1	 63 4 0 0	6	6.721	12.592	NS
6.	Duration of marriage 1-6months 1 year 1-2 years Above 2 years	 0 0 0 1	 1 1 5 25	 3 3 6 55	6	11.490	12.592	NS
7.	Number of children One Two Above two No children	 1 0 0 0	 11 13 7 1	 12 42 9 4	6	8.681	12.592	NS
8.	Age of children Newborn Below 5 years Above 5 years Above 10 years	 1 0 0 0	 4 11 6 13	 7 15 9 34	6	8.948	12.592	NS
9.	Family history Yes No	 0 1	 4 28	 7 60	2	0.212	5.990	NS
10.	Infertility treatments taken Yes No	 0 1	 3 29	 6 61	2	0.11852	5.991	NS

S-significant **NS-non significant**

Table 2: The data in the table 2 shows that the calculated value for demographic variable Age, 13.728 is greater than table value 12.592 at 0.05 level of significance. So there was significant association between age and knowledge. Regarding gender the calculated value 0.663 is less than the table value 9.488 at 0.05 level of significance. So there was no significant association between gender and knowledge. Regarding education, the calculated value 13.873 is greater than the table value 12.592 at 0.05 level of significance. So there was significant association between education and knowledge. Regarding occupation, the calculated value 44.82 is greater than the table value 12.592 at 0.05 level of significance. So there was significant association between occupation and knowledge. Regarding religion, the calculated value 6.721 is less than the table value 12.592 at 0.05 level of significance. So there was no significant association between religion and knowledge. Regarding duration of marriage, calculated value is 11.490 is less than table value is 12.592 at 0.05 level of significance. So there was no significant association between duration of marriage and knowledge. Regarding number of children, the calculated value 8.681 is less than the table value 12.592 at 0.05 level of significance. So there was no significant association between number of children and knowledge. Regarding age of children, the calculated value 8.948 is less than the table value 12.592 at 0.05 level of significance. So there was no significant association between age of children and knowledge. Regarding family history of infertility, the calculated value 0.212 is less than the table value 5.991 at 0.05 level of significance. So there was no significant association between family history of infertility and knowledge. Regarding infertility treatments taken, the calculated value 0.118 is less than the table value 5.991 at 0.05 level of significance. So there was no significant association between infertility treatments taken and knowledge. In short there was significant association between knowledge regarding ART with selected demographic variables such as Age, Education and Occupation and there was no significant association between knowledge and the demographic

variables such as Gender, Religion, Duration of marriage, Number of children, Age of children, Family history, and Infertility treatments taken.

DISCUSSION

The present study was conducted to assess the knowledge regarding assisted reproductive technology among couples in selected community area Kollam. In order to achieve the objectives of the study non experimental design was adopted. The Sample were selected by the non-probability purposive sampling. The sample consisted of 100 couples, who were above 60 years of age. The findings of the study have been discussed in relation to objectives and other similar studies.

Discussion of the findings with other studies based on objectives

- To assess the knowledge regarding assisted reproductive technology among couples at selected community area, Kollam.

The present study revealed that 1% of couples had adequate knowledge, 67% couples had inadequate knowledge, 32% had moderate knowledge and regarding assisted reproductive technology.

The above findings are supported by a descriptive cross sectional study conducted at the infertility clinic of Vali-e- Asr research center in Tehran, Iran from March 2000. Data were collected with a self-administered structured questionnaire from 400 infertile patients (251 women and 149 men).Of 400 cases 167 patients (41.7%) were scaled to have a good knowledge and 233 patients (58.3%) had a poor knowledge about ART. Less than half of patients presented to be knowledgeable about ART.

- To find the association between the knowledge regarding assisted reproductive technology and selected demographic variables among couples at selected community area, Kollam.

The present study showed that there was significant association between knowledge regarding ART with selected Age, Education and Occupation (Table value were greater than calculated values at 0.05 level of significance) and there was no significant association between knowledge and the demographic variables such as Gender, Religion, Duration of marriage, Number of children , Age of children, Family history, Infertility treatments taken (Calculated values were greater than table value at 0.05 level of significance).

The above findings are supported by a convenient cross-sectional survey conducted to assess the knowledge regarding assisted reproductive technology among women in Lagos state, Nigeria. A convenient sampling method was used in selecting 330 women that participated in the study. Descriptive and inferential statistical methods were used for the presentation of results at a significant level of $p \leq 0.05$. Mean age of the respondents was 30.40±7.21 years, 75.8% were married, and 52.2% do not know ART while 68.0% had a negative perception towards ART. There was significant association between the age of respondents and their awareness of ART (p= 0.01). Also, there was significant association between the educational level of the respondents and their perception of ART (p= 0.01).

CONCLUSION

The present study was conducted to assess the knowledge regarding assisted reproductive technology among couples at selected community area, Kollam. Our study revealed that 1% of couples had adequate knowledge, 67% couples had inadequate knowledge, and 32% had moderate knowledge regarding assisted reproductive technology. There was significant association between knowledge regarding ART with selected Age, Education and Occupation and there was no significant association between knowledge and the demographic variables such as

Gender, Religion, Duration of marriage, Number of children, Age of children, Family history, Infertility treatments taken.

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Nil

Conflict of interest

There are no conflicts of interest

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