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A study to identify the risk factors associated with infertility among women attending infertility clinic at Indra IVF Centre, Jammu

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Abstract
Introduction: Reproduction is the gift of God to all living creations. God created this world for all his living creations to reproduce and fill and flourish it. Fertility plays a vital role in a woman's life. In our tradition fertility is the most important part of marital life. Loss of this precious aspect, indeed results in stress. Infertility is the inability to become pregnant even after one year of unprotected sex.
Aim of the Study: The study is carried to identify the risk factors contributing to infertility and to associate the risk factors with infertility.
Methodology: Quantitative research approach with descriptive survey design was used. The study was conducted on 100 women attending the infertility clinic were selected as the samples by convenient sampling technique. The tool used for the study was Structured Interview Schedule and Document Schedule.
Results: The result study revealed that majority of the subjects (75%) had attained menarche at the ages between 13 to 15 years. Majority of the clients (75%) had experienced marital conflicts. Women with irregular menstrual cycle were at a risk for developing infertility. Majority of women (52%) had an irregular menstrual cycle of more than 45 days cycle. Most of the women (56%) had a diagnosis of polycystic ovarian disease. It is estimated that women with PCOD were at a risk of developing infertility.
Conclusion: The study concluded that irregular menstrual cycle, marital and familial conflicts, overweight, more of non vegetarian foods, lack of exercise etc were some common risk factors associated with infertility.

Keywords: Infertility, reproduction, risk factors

Introduction
Reproduction is the gift of God to all living creations. God created this world for all his living creations to reproduce and fill and flourish it. Each human, on his birth is gifted a life. And each new day is added to his life not only to live but to bring out offspring's of him and double the happiness of him. Fertility plays a vital role in a woman's life. In our tradition fertility is the most important part of marital life. The feeling of being conceived is wonderful, and the mother is bound with joy on the first kick of her child inutero. Infertility is becoming more and more a social issue in today's world. Being a problem which exist from the past, its magnitude is increasing day by day. The impact of this problem contributes a lot to the disharmony among young couples.

Infertility is a disease of the male or female reproductive system defined by the failure to achieve a pregnancy after 12 months or more of regular unprotected sexual intercourse. Infertility affects millions of people – and has an impact on their families and communities. Estimates suggest that approximately one in every six people of reproductive age worldwide experience infertility in their lifetime.

Research Statement
A study to identify the risk factors associated with infertility among women attending infertility clinic at Indra IVF Centre, Jammu.

Objectives
1. To assess the risk factors contributing to infertility among women

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2. To find out the association of risk factors with infertility.
3. To find out the association between risk factors and selected socio demographical variables.
4. To prepare and disseminate a self-instructional module on prevention of modifiable factors based on study findings.

Materials and Methods
A Quantitative research approach was used to accomplish the objectives of study. A descriptive survey research design was used. The study was conducted among 100 women attending the infertility clinic and selected as the samples by convenient sampling technique. The tool used for the study was Structured Interview Schedule and Document Schedule.

Data Collection Procedure
- The data has been collected in the month of January for a period of 4 weeks
- Permission for research study was taken from hospital administrative staff.
- Respondents were selected from the infertility clinic who were present at the time of data collection.
- Each respondent were first enquired for their willingness. A brief introduction was first given about self and purpose of the study by the investigator.
- Apart from this written informed consent was obtained from the each respondent according to their willingness to participate.
- Confidentiality and anonymity of the study subject was being taken care of.
- Structured interview schedule was used for data collection.

Result

Table 1: Distribution of women with infertility according to baseline data n=100

Demographic Data		Numbers	Percentage
Age	20	13	13%
	21 – 30	75	75%
	31 -40	12	12%
Education	Secondary	87	87%
	Collegiate/ Professional	13	13%
Occupation	Home maker	24	24%
	Professional	76	76%
Type of Family	Joint	25	25%
	Nuclear	75	75%
Monthly Income	10,001-30,000	22	22%
	More than 31,000	78	78%
Breadwinner	Husband	65	65%
	Both	35	35%
Religion	Hindu	65	65%
	Christian	15	15%
	Muslim	20	20%
Place of residence	Urban	59	59%
	Urban slum	19	19%
	Suburban	7	7%
	Rural	15	15%

The above table depicts that the a higher proportion of women with infertility (75 %) were within the age group of 21 – 30 years of age, more than half (87 %) of them had a secondary education, and majority (76%) of them were professionals.

Table 2: Distribution of women with infertility according menstrual history. n=100

Menstrual Data		Numbers	Percentage
Age at Menarche	10 – 12yrs	15	15%
	13 – 15 yrs	75	75%
	>16yrs	10	10%
Menstrual cycle	0nce in 28 days	7	7%
	Once in 28 – 32 days	17	17%
	Once in 33 – 45 days	22	22%
	Once in > 45 days	54	54%
Menstrual flow days	< 2 Days	8	8%
	2 – 3 days	34	34%
	4 – 5 days	48	48%
	6 – 7 days	10	10%
Premenstrual symptoms	Always present	66	66%
	Rarely present	26	26%
	Not present	8	8%
Dysmennorhea	Always present	65	65%
	Rarely present	22	22%
	Not present	13	13%

The above table reveals that more than half of the women with infertility (75%) had attained menarche at the age of between 13 – 15 years, majority (54%)of them have a menstrual cycle of once in more than 45 days, and also that a higher proportion (65%) of them had dysmenorrheal associated with menstruation always

Table 3: Distribution of women with infertility according to marital history. n=100

Marital History		n	%
Age at marriage	<=20 yrs	I8	18%
	21 – 25 yrs	70	70%
	26 -30 yrs	12	12%
Type of marriage	Non Consanguineous	75	75%
	Consanguineous	25	25%
Years of Marital life	1-2 yrs	7	7%
	3– 5 yrs	61	61%
	6– 8 yrs	22	22%
	>8 yrs	10	10%

The above table reveals that more than half of the women with infertility (72%) had been married at the ages between 21-25 years, majority of them (75%) had a non-consanguineous marriage also that a higher proportion (61%) of them have a marital life for about 3-5 years.

Table 4: Distribution of women with infertility according to conflicts n=100

Marital conflicts		N	%
Experience of marital conflict	Yes	75	75.0%
	No	25	25.0%
Experience of family conflict	Yes	65	65.0%
	No	40	40.0%
Care of spouse	Yes	90	90.0%
	No	10	10.0%
Experience of job /social stress	yes	12	12%
	No	88	88%

The above table shows that majority of them experience marital conflicts (75%), and also experience familial conflicts (65%),also a higher proportion (90%) have reported that their spouse cares for them only at times.

Table 5: Distribution of women with infertility according to lifestyle practices n=100

Lifestyle Practices		N	%
Type of Food	Vegetarian	20	20.0%
	Non Vegetarian	80	80.0%
Frequency of Meals	Regularly 3 meals	22	22.0%
	Regularly 2 meals	60	60.0%
	Irregular meal timing	18	18.0%
Type of Exercise	Household works	100	100.0%
Frequency of Sexual Intercourse	Once a week	68	68.0%
	Twice a week	15	15.0%
	Occasionally	17	17.0%

The above table depicts that a higher proportion of women (80%) are non vegetarians, more than half them (60%) have a meal pattern of 2 meals, and almost all of them practice only household activities rather than exercises. It also shows that majority (68%) of them have a sexual activity once in a week.

Table 6: Document Schedule n=100

		n	%
Body Mass Index	Underweight	10	10.0%
	Normal weight	30	30.0%
	Overweight	40	40.0%
	Obesity	20	20.0%
Diagnosed Cause of Infertility	Polycystic ovarian disease	50	50.0%
	ovarian cysts/ tumors	12	12.0%
	Tubal blocks	20	20.0%
	Hormonal imbalances	12	12.0%
	Unexplained	6	6.0%
Hormonal Imbalance	TSH	4	4.0%
	Prolactin	8	8.0%
	Nil	88	88%

The above table interprets that majority (45%) of the women are overweight, and the diagnosed cause of most of them (56%) was Polycystic Ovarian Disease. Also among the women with hormonal imbalance most of them (8%) had an increased level of serum prolactin levels

Table 7: Association between menstrual cycle and demographic variable n=100

		Menstrual cycle							Pearson chi-square Test
		Once in 28 days		Once in 29 -32 days		Irregular menstrual cycle.			
		N	%	N	%	N	%		
Type of family	Joint family	7	30.4%	4	17.4%	12	52.2%	23	χ^2=25.39 P=0.001*** DF=2 Significant
	Nuclear family	0	0%	15	19.5%	62	80.2%	77	

The above table depicts that the type of family is significantly associated with irregular menstrual cycle. Women in nuclear family have more irregular menstrual cycle as which are at a risk for infertility.

Discussions
According to objectives
Objectives 1: The first objective of the study was to identify the risk factors associated with infertility. The menstrual and marital history of the women which serve as some of the gynecological factors associated with infertility are interpreted in tables no: 2. It reveals that more than half of the women with infertility (75%) had attained menarche at the age of between 13 – 15 years, majority (54%) of them have a menstrual cycle of once in more than 45 days. Women who had an irregular menstrual cycle were always at a risk of developing infertility to a certain extent. Also a higher proportion (65%) of them had dysmenorrheal associated with menstruation always. It shows that a higher proportion of the women with infertility (72%)had been married at the ages between 21 – 25 years, majority of them (75%) had a non consanguineous marriage also that a higher proportion (61%) of them have a marital life for about years.

Objective 2: The second objective of the study was to associate each individual risk factor with infertility. The association of the risk factors with infertility were clearly projected from. It was observed that many factors were inter related with infertility. Commonly identified were that women with irregular menstrual cycle (52%), women who are overweight (45%) and women who are diagnosed with PCOD (52%), women with increased serum prolactin levels (8%) etc, were also having infertility. Early at menarche itself irregular menstrual cycle may be a problem, which usually stays unidentified and untreated. It may also be of multidimensional etiology. When a women with this problem is married and, if she is childless for a period of more than two years, only then this irregular menstrual issue is noted off for its importance in our culture. Obesity has always contributed to infertility from ages. One of the reason behind this is that excessive fat alters the normal hormonal levels need for the ovulation, thus ending in alterations in ovulation pattern. Ultimately infertility sets in. PCOD is not a problem which emerges just in the fertility period, it also has its development usually at early reproductive ages. But its presence is usually detected only during infertility treatment.

Objective 3: The third objective of the present study was to find the association between the risk factors and selected demographic variables. Inference of the association between the risk factors and selected demographic variables were made to figure. They show that women in nuclear family have more irregular menstrual cycle, which is at a risk for infertility. When in a nuclear family, most of them entertain themselves either in their job place, or television at home. There are no sources guiding them in proper activities to be done. Also the work performed by them is comparatively less than those in a joint family. There upon physical activity, needed for adequate balance of the hormones, and utilization of energy is affected, contributing to infertility.

The results have also shown that as the educational level increases the marital conflicts are more. This contribute towards stress and indirectly to infertility. Women who are employed involve in sexual activity lesser when in comparison with those at home. In course of time, they lose their interest in sexual life, ending in infertility. Also, the women tend to miss their fertile period from having sexual intercourse, which is the pivotal role for child. Women who are overweight are mostly in the younger age group. Young

women are the pillars for procreation. Due to many lifestyle practices, and other technical changes, they tend to gain a lot of weight. The obesity alters the total body systems including hormonal changes. This in turn contributes on its part to infertility.

Objective 4: The fourth objective of the present study was to Prepare a self-Instructional module on prevention of modifiable factors of Infertility based on the study findings. The investigator felt that there were many identified factors which were modifiable and with certain modifications those can be prevented. By creating more awareness on those factors, it was believed that infertility risk can be reduced at least to a certain degree.

Conclusion
Infertility is becoming more and more an increasing issue in current scenario. In our culture childlessness is greatly spoken off as a feminine problem. Hence nowadays it's become more a social issue than a medical one. And ultimately the society blames the couple, especially the women for this mishap. Since the magnitude of this problem is increasing day by day, in future, there may be young couples who only have children in their dreams.

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