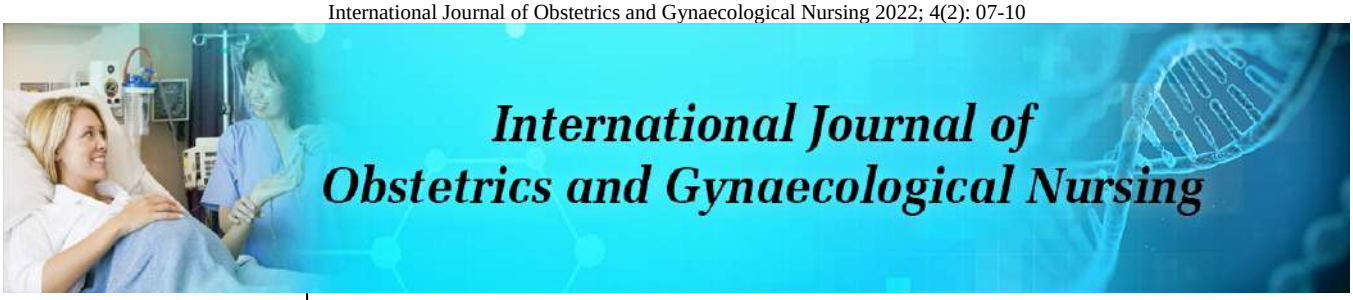

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A study to assess the level of stress among women with infertility at selected infertility centres of Dehradun, Uttarakhand

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Abstract
Background and Objectives: Infertility is a global health issues. Inability to have a child is stressful and affects all aspects of couple's lives. The aim of the study was to assess the level of stress among women with infertility.
Materials and Methods: A non-experimental, uni-variant descriptive survey design was used which included 200 infertile women in two infertility centres of Dehradun. The self-developed Likert stress scale was administered to all the participants.
Result: The descriptive and inferential statistics were used in this study. In this study according to their age, 82% were in the age group of (25-34) years. Out of 200 respondents, majority of women, 144 (72%) had severe stress followed by 56 (28%) had moderate stress. The levels of stress had significant association with type of family and span of infertility.
Conclusion: Relationship between stress and infertility has been debated for years. Women with infertility report elevated levels of anxiety and depression, so it is clear that infertility causes stress.

Keywords: Infertility, Infertile women, stress

Introduction
Most exquisite thing of God gifted life is wellbeing. Wellbeing is a state where man/woman feels just not only satisfied but also happy in all aspects of his/ her life. Achievement also mostly depends on well-being and quality of life. As well as men and women are biggest part of society, so advancement and welfare of any society also depending on prosperity of women. A woman who is the state of cheerfulness in all aspects can bear of healthy future. Infertility was the life crisis throughout the world. Reproduction is known as an essential human desire so that infertility may cause a psychosocial impairment (Khodakorami and Hashemy, 2009) [1]. Infertility is characterized by the failure to achieve a clinical pregnancy inspite of 12 months of regular unprotected sex (Vendor Borght M and Wync, 2018) [2]. Infertility is a life crisis. More over infertile women experience a tremendous amount of emotional turmoil as a result of their diagnosis (Rooney and Domar, 2018) [3]. Globally, infertility affects 15% of couples of reproductive age (UCLA Health, 2020). About 9% male and 10% women aged 15-44 reported infertility problems in the US (CDC, 2013 and office on women's Health, 2019) [5]. One in four couple in developing countries is affected by infertility and about 48.5 million couple experience infertility worldwide (WHO, 2004) [6]. According to WHO (2016) prevalence of primary infertility in India is between (3.9-16.8%). One in eight couple (12%) of married women have trouble getting pregnant or sustaining a pregnancy (2006-2010, National survey of family growth, CDC) [7]. World Bank estimate, the drop infertility started at least 10 years ago in India with a steady 17% decline from the year 2000 (Times of India).Women experienced their infertility more strongly than men. Women also showed more intensive desire to have a baby than men (Thorn and Thorn, 2010).
In Indian states prevalence of infertility varies from States to States such as 3.7% in U.P, H.P, and Maharashtra to 5% and 15% in Kashmir (National Health portal, T.O.I, 2016). Stress has been ranked as one of the great stressors in life with psychological, social, and cultural consequences (Maroufizadeh *et al*., 2017). Infertility was the life crisis throughout the world. Reproduction is known as an essential human desire so that infertility may cause a psychosocial impairment (Khodakorami *et al*., 2009 [1]. Thus, considering this into account this study was assessing the level of stress among women with infertility.

Material and Methods

A quantitative survey approach was used and was a non-experimental, uni-variant descriptive survey design was used. Two infertility centres were selected in Dehradun city in fulfilling the purpose of the study during one month duration. A total of 200 participants included in the study who attended the OPD of selected infertility clinics of Dehradun were recruited. A purposive sampling technique was used and selected 200 women with infertility (15-44 years) attending OPD of infertility clinics. As per inclusion criteria, women who had failed to conceived after 12 months of unprotected regular intercourse, in the reproductive age groups, included both primary and secondary infertility, those who had not adopted any family planning methods, able to understand Hindi or English and living with their spouse were included in the study.

Ethical Approved

This study was approved by Research and Ethics committee of HNB Medical Education University, Dehradun. Oral and written informed consent was taken from all the participants before data collection.

Data Collection

After explaining, the informed consent form was obtained from each participant and they were requested to complete questionnaires with strictest confidentiality of information and anonymity of the participants were maintained. They were interviewed by using a special structured questionnaires designed for the purpose of the study. It included information on personal data (age, education, occupation, income, and type of family, substance use and subjection to stress, t span of infertility). A total of 8 items were there. The major stress level was assessed by self developed likert scale which consisted of 30 items. Each item had 5 options such as never, rarely, sometimes and often. The scoring for each item Never-0, rarely-1, sometimes-2, often-3, almost-4. For positive items scoring was reversed such as Never-4, Rarely-3, sometimes-2, often-1, Almost-0. Total score was 0-120. Score was interpreted as below: Score 0 was considered as no stress, 1-39 as mild stress, 40-80 moderate stress and 81-120 as severe stress.

Statistical analysis

The data was analysed by using statistical descriptive and inferential statistics. Quantitative data were expressed by using frequency percentage, mean and SD. Chi-square test (X^2) or Fisher's exact test was used to detect association between variables. A p value <0.05 was considered statistically significant.

Result

The summarized result was provided in the Table No.1 showed that 82% were in the age group of (25-34) years. With regard to their educational status highest 34.5% had secondary education. As per their occupation 72% were home maker, 23.5% were private employees. As per their income the highest 51% had income more than Rs.10, 000, surprisingly nobody had the income ≤ Rs.5, 000. If we consider the type of family highest 61.5% belongs to nuclear where as 38.5% were joint family. With regard to substance use 98% were not using any substance. In contrast to the subjection of stress reduction therapy maximum 99% women were not subjecting any stress reduction therapy. About their span of infertility 48.5% had 2-5 years, 36.5% had 6-9 years and 15% had more than 10 years. The mean and SD was 85.86± 10.91.Table- 2 depicted the level of stress, their significance with selected demographic variables. Highest percentage of women with infertility 115(57.5%) had severe stress belongs to the age (25-44) years. According to their level of education 48 (24%) had severe stress belongs to secondary education and 16 (8%) participants of informal education had severe stress As per their occupation, homemakers 109 (54.5%) had severe stress. With regard to their income highest 71 (35.5%) had severe stress and their income per month more than Rs.10,000. As compare to the type of family highest percentage 97 (48.5%) had severe stress level belongs to nuclear family. With regard to the substance use maximum no 140 (70%) had severe stress without using any substance. Only the least no 4 (2%) using the substance and had severe stress. Among all the participants only 2(1%) had exposure to stress reduction therapy and had severe stress. Among all maximum no 142 (71%) had severe stress not using any stress reduction technique. As per their span of infertility (2-5 years), maximum participants 67(33.5%) had severe stress in comparison to other age group. The level of significance was tested at the level of $p<0.05$.The level of stress had significant association with the type of family and span of infertility.

Table 1: Frequency and percentage distribution of women with infertility on the basis of their selected demographic variables. (N=200)

Variables		Frequency (N)	Percentage (%)
Age in years	25-34	164	82.0
	35-44	36	18.0
Education	Informal	23	11.5
	Primary	16	8.0
	Secondary	69	34.5
	Diploma	39	19.5
	Degree and Above	53	26.5
Occupation	Home maker	144	72.0
	Private	47	23.5
	Government	09	4.5
Income/ month	≤5,000	0	0.0
	5001-7,500	31	15.5
	7,501-10,000	67	33.5
	>10,000	102	51
Type of family	Nuclear	123	61.5
	Joint	77	38.5
Substance use	Yes	4	2.0
	No	196	98.0
Subjection to stress reducing therapy	Yes	2	1.0

	No	198	99.0
Span of infertility (in years)	2-5	97	48.5
	6-9	73	36.5
	10-14	30	15

Table 2: Levels of stress among women with infertility. (N=200)

S. No.	Levels of stress	Frequency	Percentage	Mean ± SD of stress score
1.	No stress	00	00%	85.86 10.91
2.	Mild stress	00	00%	
3.	Moderate stress	56	28%	
4.	Severe stress	144	72%	

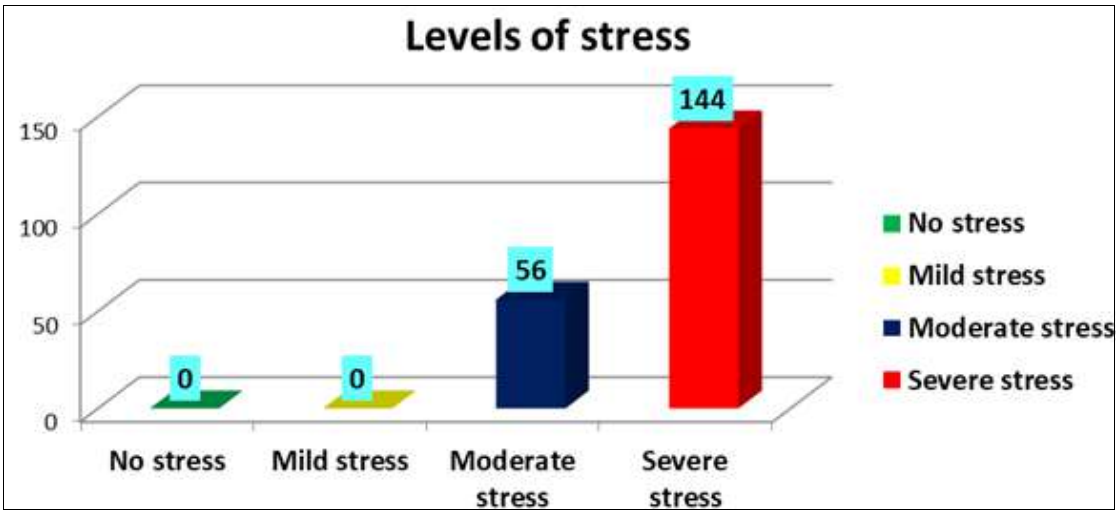

Fig 1: Levels of stress among the women with infertility.

Table 3: Association between levels of stress among women with infertility on the basis of their selected demographic variables. (N=200)

Variables	Sub-variables	Moderate stress	Severe stress	Chi-square/Fisher's	df	p-value
Age	25-34	49	115	1.594	1	0.207
	35-44	7	29			
Education	Informal	7	16	1.060	4	0.901
	Primary	3	13			
	Secondary	21	48			
	Diploma	10	29			
	Degree and Above	15	39			
Occupation	Home maker	35	109	4.540	2	0.094
	Private	19	28			
	Government	2	7			
Income	≤5,000	0	0	0.593	2	0.743
	5001-7,500	8	23			
	7,501-10,000	17	50			
	>10,000	31	71			
Type of family	Nuclear	30	47	7.496	1	0.006*
	Joint	26	97			
Substance Use	Yes	0	4	1.579	1	0.209
	No	56	140			
Subjection to stress reduction technique	Yes	0	2	1.322	1	0.375
	No	56	142			
Span of infertility	2-5	30	67	9.097	2	0.011*
	6-9	24	49			
	10-14	2	28			

*statistically significant the value of $p<0.05$

Discussion

Infertility manifests itself as life crisis. This study revealed that women with infertility experienced highest level of stress belongs to age group of 25-34 years among all women with the infertility who attended the infertility clinics during that period. The highest no of women belongs to secondary level of education had severe stress. Majority women suffered severe stress belongs to home maker. Majority women had severe stress belongs to income per month more than Rs.10, 000/ and were nuclear family. Most of the women with infertility were not using any substance but had severe stress. Majority women with infertility were not exposing stress reduction technique and had the severe stress. The highest no of women had span of infertility 2-5

years and had severe stress. The study showed that stress was more common among women with infertility who were homemaker, had secondary education, higher income group as well as no use of substance and no exposure of stress reduction technique. There is a significant association between level of stress along with type of family and span of infertility.

In the early years of infertility, women or couple may be hopeful about the success of medical intervention, where as with increase in duration of infertility such hope may decrease, particularly with the repeated failure of attempt and in the absence of support from the partner and other family members. In Eastern societies, particularly Islamic ones, having a child as a crucial factor for family stabilization. Infertile women experiences negative social and marital consequences such as divorce, abuse, being threaten by their husbands with another marriage and consequently become psychologically upset (Ramezanzadeh *et al*., 2004) [14]. In agreement of other studies (Al-Homaidan, 2011; Pinar and Zeyneloglu, 2012; Ozkan and Baysal, 2006 and Noorbala *et al*., 2007) [15, 16, 17, 18].

Conclusion

A diagnosis of infertility can be a tremendous burden for women. The pain and suffering of women with infertility is a major problem. The experience of infertility is stressful for women. It seems that more clarity, diverse research, and social acknowledgement of the phenomena will continue to advance this important women's health issue. So the women with infertility need assessment and intervention as part of their medical treatment process.

Limitation

One limitation of this study was that the studied women were those who attended the two infertility clinics of Dehradun during that period. Therefore the results cannot be generalized to all women with infertility in the general population.

Conflict of interest

The investigators declare there was no conflict of interest related to the subject matter or materials discussed in the article.

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