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Relationship between Infertility Stigma and Coping Mechanisms on the Fertility Quality of Life of Infertile Females.

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ABSTRACT
Every human being has a right to the enjoyment of the highest attainable standard of physical and mental health. Women should have the right to decide the number, timing and spacing of her children. Disparities in access to fertility care may adversely impact the life of infertile females in particular. Women are at a greater risk of violence, divorce, stigma, emotional stress, depression, anxiety and low self-esteem. ("Infertility," 2019) The objective was to study the relationship between Infertility Stigma, coping strategies and the fertility quality of life among females. 50 females from a reproductive health nursing home who were diagnosed infertile and undergoing infertility treatment were taken for the study. They were assessed using FertiQoL Questionnaire, Brief COPE and Infertility Stigma scale. The data was statistically analyzed using SPSS statistics version 28. Pearson Correlation indicated a positive relationship between Fertility Quality of Life and Brief Cope scale. However, a negative correlation was seen between Fertility Quality of Life and Infertility Stigma scale. Findings suggest that Females with better coping strategies will respond positively to the infertility treatment thereby experiencing a better quality of life despite the stigma associated with Infertility.

Keywords: Quality of life, coping strategies, infertility Stigma, Female Infertility, Fertility.

INTRODUCTION

Infertility is a global health issue affecting millions of people of reproductive age worldwide. Available data suggests that between 48 million couples and 186 million individuals have infertility globally. ("Infertility," 2019). Infertility is a condition where in spite regular sexual intercourse without any birth control for more than twelve months, that one partner cannot contribute to conception, or that a woman cannot take a pregnancy to a full term. Psychologically Infertility causes a woman incapable to fulfill her deemed role which may lead her to psychological distress. The treatment process may cause a gamut of emotions such as reduced self-esteem, loss of personal control, ultimately making one helpless and hopeless. Around 8% to 10% of couples suffer with infertility. Worldwide figures indicate 60 to 80 million and probably 15 to 20 million which makes around 25% are seen in India. (Katole &Saoji,2019) The affect that Infertility has on the Quality of life is observable through various studies that have been published and our own experiences of the interaction among those silently suffering in our families and communities. The multidimensional effect that Infertility can have on an adult diagnosed as infertile can alter his/her quality of life in many ways. A negative relationship between psychological distress and total mean scores on the FertiQoL questionnaire was found in the previous studies. (Chi et al., 2016) Infertility can be considered as a difficult situation to adapt to since it is associated with serious loss experience and stigma that is associated with it. They face the failure to meet their personal expectations and fear hopelessness for the future, which they have to reshape and rebuild. In such a situation, the success of further progression is not only contributed by the psychological well-being of the individual, but also by the adaptive coping strategy of the situation. The problem-solving coping mechanisms actively change or eliminate the circumstances that directly trigger stress, while emotion-centered coping mechanisms control the emotions provoked by the stressful life situations. Coping strategies refer to the individual's cognitive ability to control and manage a stressful life event. The goal of coping can be altering the problem (problem-focused coping) or reducing the emotional disturbance (emotion-focused coping). Infertility stigma and its related social pressures influence all the dimensions of women's lives and well-being.Although women of the 21

st century are considered self reliant and independent ,there still exists a shade of stigma which can psychologically hinder the quality of their lives .

METHOD

Sample: Participants were females attending a specialist infertility centre for their appointment during August 2021 and September 2021 selected through purposive sampling method. 50 females completed the study.

Criteria for inclusion

- Women with primary infertility.
- Factor of infertility can be male factor, female factor, contributing factors from both partners, and no identified cause or unexplained factors.
- Involuntary childless woman.

Exclusion Criteria

- Woman who are above the age of 45.
- Woman who are not interested in being a part of the study
- Women who have reached menopause.
- Woman or her partner who has not taken any infertility treatment.
- Woman who is affected with severe psychiatric or physical ailments and bedridden.
- Women who is a widow at the time of study.

Tools

FertiQoL (Cardiff University, 2015)

ESHRE, ASRM and Merck-Serono S.A. joined forces in June 2002 to develop the first internationally validated quality of life tool for people with fertility problems. FertiQoL assesses the influences of fertility problems in diverse life areas, for example, on general health, self-perceptions, emotions, partnership, family and social relationships, work life and future life plans. Additionally the optional FertiQoL Treatment module assesses the environment and tolerability of fertility treatment.The questionnaire takes 13 to 15 mins to complete. The questionnaire includes 36 items and is divided into 4 domains. (overall,personal,interpersonal & healthcare)and 9 dimensions(emotional psychological,physical,values,partner relationship,social network,occupational,work,medical and psychoeducational)Mean and standard deviation for Indian Population was 53.7 & 0.96.Internal reliability in a study indicated 0.92. **Overall physical health** and **quality of life satisfaction:** Two single items capture an overall evaluation of physical health ("How would you rate your health") and satisfaction with quality of life ("Are you satisfied with your quality of life"). These two items provide the background health and life satisfaction context for the evaluation of fertility quality of life. The remaining 34 items are structured as a core section related to personal and interpersonal quality of life ("**Core FertiQol**") and an optional section related to treatment quality of life ("**Treatment FertiQol**")The **Core FertiQoL** is the fertility quality of life across the **Emotional**, **Mind-Body**, **Relational** and **Social subscales**. The **Treatment FertiQoL** is the quality of life across the **Treatment Environment** and **Treatment Tolerability.** The **Total FertiQoL** score is the quality of life for the **Core** and **Treatment FertiQoL** combined**.**

Brief Cope scale

Coping orientation to problems experienced Inventory is a 28 item, self-report questionnaire with a 4 point Likert scale designed to measure effective and ineffective ways to cope with a stressful life event. he scale can determine someone's primary coping styles with scores on the following three subscale:

- Problem-Focussed Coping
- Emotion-Focussed Coping
- Avoidant Coping.

In addition, the following facets of coping are reported: Self-distraction, Denial, Substance Use, Behavioural disengagement, Emotional Support, Venting, Humour, Acceptance, Self-Blame, Religion, Active Coping, Use of Instrumental Support, Positive Reframing, and Planning. The Brief-Cope was developed as a short version of the original 60-item COPE scale (Carver et al., 1989) was initially validated on a 168 participant community sample who had been impacted by a hurricane (Carver, 1997). Poulus et al. (2020) validated the scale among 316 esports athletes and found the following means and standard deviations for each subscale. ("Brief-COPE," n.d.)

- Problem focussed – 2.47 (0.63)
- Emotional focussed – 2.23 (0.49)
- Avoidant coping – 1.64 (0.45)

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Infertility Stigma Scale
The scale was developed by Bing Fu et.al, 2014, developed and validated on Chinese women. It is a 27 item ISS with 4 factors (self-devaluation, social withdrawal, public stigma and family stigma).The Cronbach's alpha, split half coefficient, and test retest correlation coefficient for the whole scale was 0.94,0.90,and 0.91 respectively. The content validity Index (CVI)was 0.92.The questionnaire contains items that a woman might experience when receiving treatment for infertility. The patient is asked to judge and score each item on a five point Likert scale to the extent she agrees or disagrees to the statement. Total scores on each subscale is calculated.

Procedure
Ethical Clearance was obtained from the Institution's Ethics committee. A written informed consent was taken . 50 women who were undergoing treatment for Primary Infertility living in Mumbai and consented to participate in the study were assessed using the FertiQol questionnaire, Brief Cope scale and Infertility Stigma scale. Prior to the assessment, the patient was explained the aim, objective and the benefits of conducting this study. A good rapport was built in the process between the researcher and the patient during the process of administering the tools. The patient was made to feel at ease before administering the questionnaire. The patient answered all the three questionnaires at one go in the waiting room. The questionnaires were administered individually to each patient as they were awaiting their appointment with the Infertility Specialist.

Data Analysis
Descriptive statistics such as Mean & Standard Deviation for socio demographic variables,Independent and Dependant variables were derived.Pearson's product Moment Correlation was used to measure the relationship between the Fertility Quality of life,Brief Cope scale and Infertility Stigma.

Results
The results show a positive correlation between Fertility quality of life and Coping strategies among infertile females.On the other hand there is a negative correlation between Infertility stigma and the Quality Of life of Infertile females.
Descriptive statistics indicated a mean and standard deviation on Total FertiQoL of 86.4 and 5.07 respectively .Mean and Standard Deviation scores for Brief Cope scale were 69.7 and 3.72 respectively.The Mean and Standard Deviation for Infertility Stigma scale indicated 75.56 and 3.60 respectively.

The mean and Standard Deviation on the domains of Infertility Stigma were
Self Deficiency 19.2 (2.02),Public Stigma 20.82(2.63),Social Withdrawal 16.64 (1.49),Family Stigma 19.8 (1.87) The Relationship map shows greater degree of influence exists between coping strategies on the Infertility Sigma.Stronger relationships are seen between Fertility quality of life and Coping strategies

Figure 1

RESULTS

Population Descriptive Statistics

Demographic Variables	N	Mean	Std. Deviation	Variance
Age	50	30.580	3.715	13.804
Religion	50	2.000	1.095	1.200
Type of Source of Income	50	2.340	.863	.744
Ethnicity	50	1.000	.000	.000
Level of Education	50	2.720	.634	.402
Duration of Marriage	50	2.120	.816	.666
Siblings	50	1.000	.000	.000
Hobbies	50	1.120	.325	.106
Family Type	50	1.840	.367	.134
Valid N (listwise)	50			

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Figure 2

Sources of Income in the female infertile sample

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Employed Woman	13	25.5	26.0	26.0
	Self Employed	7	13.7	14.0	40.0
	Dependant	30	58.8	60.0	100.0
	Total	50	98.0	100.0	
Missing	System	1	2.0		
Total		51	100.0		

Figure 3

Correlation between Fertility Quality of Life and Infertility Sigma

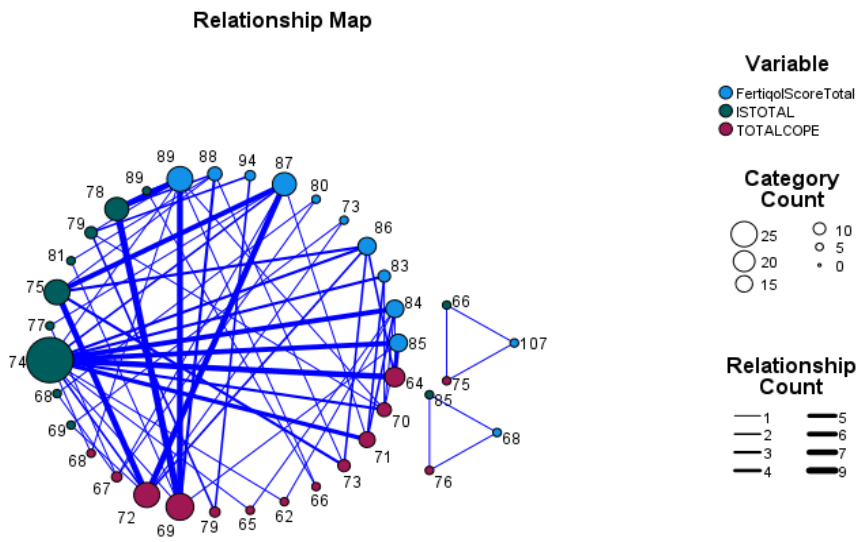
Variables		Total FertiQoL	ISTOTAL
FertiqolScoreTotal	Pearson Correlation	1	-.035
	Sig. (2-tailed)		.810
	N	50	50
ISTOTAL	Pearson Correlation	-.035	1
	Sig. (2-tailed)	.810	
	N	50	50

Figure 4

Correlation Between Fertility Quality of Life and Brief Cope Scale

Variables		Total FertiQoL	Brief Cope
FertiqolScoreTotal	Pearson Correlation	1	.178
	Sig. (2-tailed)		.216
	N	50	50
COPETOTAL	Pearson Correlation	.178	1
	Sig. (2-tailed)	.216	
	N	50	50

Figure 5



Note. The map indicates a strong relation between Infertility stigma and Coping Stategies.

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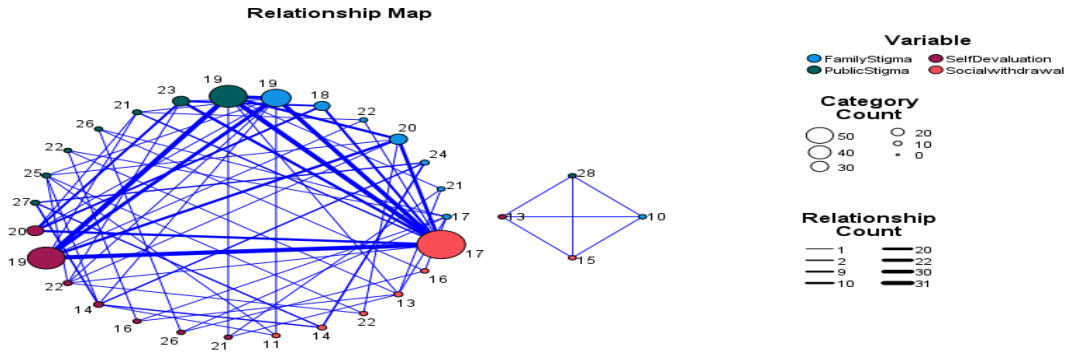
Figure 6



Note. The map shows large nodes indicated by Social Devaluation and Social withdrawal.The thicker interconnecting lines between public stigma,self devaluation and social withdraw indicate greater co-occurrence.

Figure 7

Correlations among the subscales

		Emotional	Mindbody	Social	Relational
EmotionalSubscale	Pearson Correlation	1	.44**	.25	.29*
	Sig. (2-tailed)		.00	.09	.04
	N	50	50	50	50
Mind-BodySubscale	Pearson Correlation	.44**	1	.61**	-.09
	Sig. (2-tailed)	.00		<.001	.53
	N	50	50	50	50
SocialSubscale	Pearson Correlation	.25	.61**	1	-.14
	Sig. (2-tailed)	.09	<.001		.33
	N	50	50	50	50
RelationalSubscale	Pearson Correlation	.29*	-.09	-.14	1
	Sig. (2-tailed)	.04	.53	.33	
	N	50	50	50	50

**. Correlation is significant at the 0.01 level (2-tailed).
*. Correlation is significant at the 0.05 level (2-tailed).

Figure 8

Percentage of females who adopted Problem focussed coping strategy

		N	%
16.00		10	19.6%
19.00		1	2.0%
20.00		3	5.9%
21.00		1	2.0%
22.00		5	9.8%
23.00		4	7.8%
24.00		1	2.0%
25.00		1	2.0%
26.00		1	2.0%
27.00		20	39.2%
28.00		3	5.9%
Missing	System	1	2.0%

Figure 9

Percenatge of females who adopted Emotion focussed coping strategy

		N	%
27.00		8	15.7%
28.00		2	3.9%
29.00		5	9.8%
30.00		13	25.5%
31.00		4	7.8%
33.00		2	3.9%
34.00		2	3.9%
35.00		11	21.6%
36.00		2	3.9%
37.00		1	2.0%
Missing	System	1	2.0%

Figure 10

Percentage of females who adopted Avoidant coping strategy

		N	%
12.00		2	3.9%
14.00		13	25.5%
15.00		22	43.1%
16.00		2	3.9%
17.00		1	2.0%
18.00		10	19.6%
Missing	System	1	2.0%

DISCUSSION

The current study explores the relationship between the Fertility quality of life and the stigmas associated with Infertile females. The study also examines the relationship between coping strategies adopted by infertile females and its affect on the quality of life once diagnosed as infertile and undergoing treatment for the same.Results show a positive correlation between Fertiqol and Brief Cope scale.Women who have resorted to coping strategies have shown to have better Fertiqol scores compared to those who did not use any coping strategy.The period that lasts between the diagnosis and then advancing towards the required treatment is accompanied with various emotions.Infertility treatments last for longer periods causing stressors .Coping strategies have shown to be a good resort in balancing the quality of life of these women.Results have indicated a negative correlation between Infertility Stigma and Fertility Quality of life.Lower the stigma attached to one's life higher will be the quality of life and Low quality of life is associated with a higher Infertility Stigma.However we can also understand from the correlation results that there is a weak relationship between FertiQol and Infertility stigma.This is because during the pandemic infertile women had to consult online for general monitoring and only visit the clinic if instructed by the Doctor.There was very little chance to experience stigma.Reduced chances of human interaction has invariably reduced the feelings of stigmatization through verbal and non verbal interactions that usually occurred among friends and family. Hence this sample did not show signs of great statistical significance between the two variables.Considering social isolation in covid,infertile women face a double impact on their emotions.From the table Most women(30/50) in the sample were home makers or financial dependent on spouse.To maintain a positive mindset ,it became imperative that they hold on to some coping strategy.Among the three coping styles,sample in the population chose to adopt the Problem focused coping and avoidant coping style to the greatest extent compared to emotion focused coping.Most of the females were satisfied with the treatment procedures ,hence adopted a problem focused style of coping with stressors.Information related to their infertility is clearly explained by the Doctor and patients are able to understand the root cause of their problem.Patients no longer feel that they have to linger in the stressful situation,rather they become active participants in dealing with all the stressors that are in their control.A close and open communication system with the Doctor has helped the patient develop psychological strength to and look forward to a positive outcome each time she visits the Clinic.From the figure we also observe that patients have adopted the avoidant coping style.In this case women have engaged in hobbies that help them disengage from the stressors.Most women resorted to relaxation therapies online in the pandemic,a walk in a calm lonlier place etc.Most women turned their

weaknesses into a strength by using social isolation to their advantage.They preferred to be detached from the stressors and concentrate on their own inner self which has helped them build self confidence .

Limitations of the Study

The study is conducted during the covid pandemic, hence the sample is not exposed to usual situations that a typical woman undergoing treatment for infertility in a non-pandemic situation may experience. Hence similar studies could be conducted to check if the results would be same for non-pandemic like situations.

The sample is restricted to patients registered in one particular Clinic. The work climate may differ with the similar sample with respect to Staff patient interaction procedures .

In this sample we study the psychosocial impact on the quality of life of females only. However further studies could take the effect of male infertility and predict the changes in the coping styles of their female partners.

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