

IMPACT OF SELECTED NURSING INTERVENTIONS ON PSYCHOLOGICAL VARIABLES AMONG INFERTILE WOMEN

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Abstract

INTRODUCTION: Women fight an invisible war against infertility. Women who experience infertility speak of feeling down, anxious, lonely, and out of control. Negative psychological, social, and physical health difficulties are also more prevalent in relationships where there is dissatisfaction. The management of infertility and its effects can greatly benefit from the expertise of nurses. **AIM:** To evaluate the effectiveness of nursing interventions on psychological factors among infertile women. **METHODS:** This was a true experimental design involving 85 samples each in experimental and control group of infertility women attending infertility clinic at government hospital Dindugul who were selected using a convenient sampling technique. Fertility problem inventory scale and coping scale were used to collect data from the patients. Twin heart meditation and positive reinforcement strategies are given as a nursing intervention. **RESULTS:** In the experimental group, F-test analysis reveals a statistically significant difference between the mean overall stress score at pre-test and post-test II ($F = 911.81$ $P \leq 0.001$). The results of the F-test reveal a statistically significant difference between the mean overall coping score between the pre-test and post-test-II ($F = 996.82$, $P \leq 0.001$). We can therefore draw the conclusion that a nursing intervention lowers the psychological coping score of infertile women by a significant amount. Among the infertile women in the experimental group, there was a somewhat negative correlation between the post-test Stress and post-test Coping scores ($r = -0.46$ $P \leq 0.001$). **CONCLUSION:** The psychological symptoms may affect fertility, treatment tolerance, and pregnancy outcomes. The likelihood of conception may increase with reduced psychological distress. The capacity for coping is improved through a variety of stress reduction techniques. As a result, nurses need to focus more on the mental health of infertile women. Healthcare professionals should incorporate psychological therapy into the treatment of patients who are struggling with infertility.

Keywords: Infertility, Stress, Coping, Psychological Therapy.

INTRODUCTION

Infertility the life tragedy affects women from all over the world. People who are infertile have a great deal of emotional distress because of their illness. For those who are infertile, there is a serious risk of despair, anxiety, and discomfort.[1]

Women who encounter infertility go through a lot of stress. Even if the cause is attributed to their spouse, some who seek therapy engage in physically exhausting and emotionally draining medical treatments in an effort to become pregnant. [2]The diagnosis and treatment of couple infertility have made tremendous strides in recent years, enabling the use of complex forms of therapy and, thanks to the development

of new genetic testing, the accurate diagnosis of disease predispositions or problematic genotype traits.[3]

Infertility is a global health issue affecting millions of people of reproductive age worldwide between **48.5 million couples and 192 million** individuals.[4] The Indian infertility diagnosis and treatment market is pegged to grow at a compound annual rate of just **12.5% between 2022** and 2028 [5]

The term "assisted reproduction technology" (ART) is frequently used to refer to medical procedures that raise the likelihood of conception. It is challenging to compare the treatment withdrawal rates between centres and countries due to the variability in expenses, access to infertility treatment options, reimbursement rules, etc. [6] Also, the majority of fertility specialists prefer to overlook or ignore the "invisible patients" who stop receiving treatment in favour of reporting successful results and success rates.[7]

Twin heart meditation cleanses the energy body of pollutants, which aids in the physical body's recovery. The inward illumination is made possible by the crown opening and the expanded flow of divine energy. You can connect to your higher self or soul by keeping your attention on the space between the OMs and being perfectly still. True introspection requires repetition, prolonged stillness, and communion with your spirit.[8]

Positive reappraisal, a form of meaning-based coping, is the adaptive process by which stressful situations are re-constructed as benign, helpful, or useful. Better health outcomes have been related to the capacity to benefit from stress.[9]

In contrast to cognitive behavioural techniques, which would desire to concentrate on changing unhelpful thought patterns, psychodynamic approaches might look at how the loss sentiments sparked by infertility bring up memories of earlier losses. The majority of counsellors would concur that helping the patient attain a higher quality of life is the ultimate purpose of counselling, notwithstanding theoretical and methodological variations. Patients will get individual, couple, or group counselling depending on their needs, the source(s) of their suffering, and the clinic's resources.[10]

The potential impact of psychological variables on infertility rates is one of the most contentious topics in reproductive medicine. The prevalent assumption in old wives' tales that stress inhibits pregnancy has proven difficult to prove. Numerous research have looked at the connection between psychiatric symptoms before and during ART cycles and future conception rates, with varying degrees of success.[11] Numerous research have revealed that the lower the conceiving rates, the more disturbed women were before and throughout therapy.

MATERIALS AND METHODS

A true experimental research design was utilised for this study. Data collection was done among 85 infertile women in both experimental and control group selected using convenience sampling techniques. The research was conducted in the infertility clinic at government medical college hospital, Dindigul. The prerequisites were as follows: a) women diagnosed for infertility for the first time and on treatment for more than three months; b) the ability to understand and speak Tamil; c) age group of 20-35 years are

included and those with comorbidities and other psychiatric illness are excluded from study.

DATA COLLECTION PROCEDURE

Data was collected from the participants after obtaining the proper permissions from the authorities of the institution. Permission from the ethics committee obtained vide ref no: -VMMC/NURS/2021/77 prior the study process. The study's methodology and instrument were approved by professionals in the disciplines of medicine, obstetrics, and nursing.

The data collection included a standardised demographic and research questionnaire, fertility problem inventory scale and coping scale. Approximately 15-20 minutes were spent on each participant to collect data using the chosen instrument.

RESULTS & DISCUSSION

Among 85 participants in total, 44% were between 20 – 25 years, 80% belongs to Hindu religion, and 48% of them had their secondary school level examination. 76% of them are house wives, 60% belongs to middle income group of family basis. Most of the participants (56%) lives in rural area, 69 % belongs to nuclear family and 62 % of them received economical support for their treatment from their family. considering their research variables under study, 72% of them got married at the age group of 21-25 years. 65% of the married life span was between 4-6 yrs. 84% of them had a regular menstrual cycle and 75% participants were between 1-3 years of infertility treatment.

The mean overall stress score is statistically different between the pre-test and post-test-II in the experimental group, according to repeated measures analysis of variance F-test analysis (F = 911.81 P≤ 0.001).

Table 1 : Comparison Of Mean Stress Score During Pre test, Post test-I And Post test-II Among Experimental And Control Group

	<i>Pre-test</i>		<i>Post test-I</i>		<i>Post test-II</i>		Mean difference	One way Repeated measures ANOVA F-test
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>		
Experimental	194.66	5.10	171.14	5.21	143.63	10.69	51.03	F=911.81 p=0.001*** (S)
Control	193.69	5.57	192.28	6.86	191.78	7.57	1.91	F=2.11 p=0.13 (NS)

Therefore, we can draw the conclusion that a nursing intervention considerably lowers the psychological stress level among women struggling with infertility. Similar to the experimental group, the control group's Repeated Measures Analysis of Variance F-test analysis reveals that there is no statistically significant difference between the mean total stress score at pre-test and post-test II (F = 2.11, p ≤ 0.05). Therefore, we can draw the conclusion that routine care does not significantly lower stress scores in older infertility women.

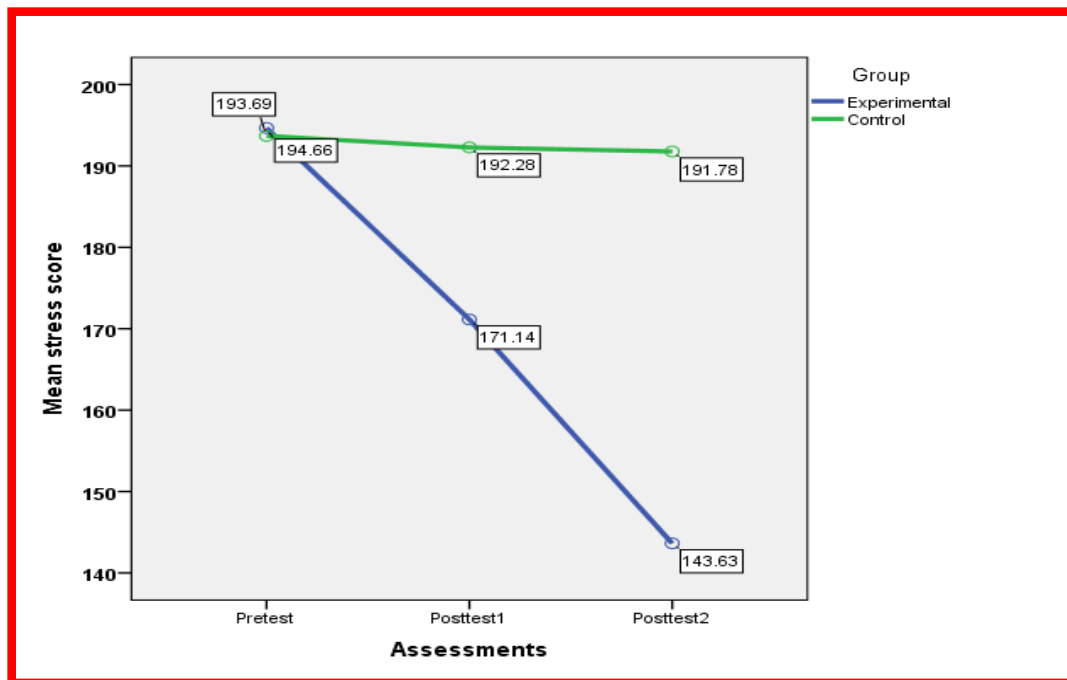


Figure 1: Comparison Of Mean Stress Score During Pre test, Post test-I And Post test-II Among Experimental And Control Group

92.71% of infertile women whose stress ratings were examined had extremely high levels of stress [12]. Another study found that 75% of infertile women experienced severe stress, while the remaining 25% experienced moderate stress.[13] A self-administered cognitive coping and relaxation intervention (CCRI) was tested in randomized controlled prospective research involving 166 first-time IVF patients. The results showed that patients who used the CCRI showed better quality of life, more positive reappraisal coping, and less anxiety. [1]

The mean total coping score differs statistically significant between the pre-test and post-test-II in the experimental group, according to repeated measures analysis of variance F-test analysis ($F = 996.82, P \leq 0.001$). We can therefore draw the conclusion that a nursing intervention lowers the psychological coping score of infertile women by a significant amount. Similar to the experimental group, the control group's Repeated Measures Analysis of Variance F-test analysis reveals that there is no statistically significant difference in the mean overall coping score between the pre-test and post-test-II ($F = 2.29, p \leq 0.05$). We can therefore draw the conclusion that routine treatment does not significantly lower coping score among older infertile women.

Table 2: Comparison Of Mean Coping Score During Pre test, Post test-I And Post test-II Among Experimental And Control Group

	<i>Pre-test</i>		<i>Post test-I</i>		<i>Post test-II</i>		Mean difference	One way Repeated measures ANOVA F-test
	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>	<i>Mean</i>	<i>SD</i>		
Experimental	162.16	7.38	133.94	6.81	109.00	7.39	53.16	F=996.82 p=0.001*** (S)
Control	161.17	7.97	159.73	8.06	159.63	7.81	1.54	F=2.29 p=0.10(NS)

Similar studies support the findings of the current analysis, which demonstrate that 24% of respondents report insufficient coping, 23% report enough coping, and 53% of respondents express intermediate coping.[15] The majority of people use coping mechanisms like self-control, hopeful reassessment, and seeking out social support.[16] These findings show that infertile women experience this at very high levels of anxiety and use a range of adaptive coping mechanisms.[17] Similar findings show that, prior to nursing intervention, there were no statistically significant differences in the PSS-10 ($t = 1.18$, $P = 0.23$) and GSES ($t = 0.40$, $P = 0.689$) scores between the two groups. However, following nursing intervention, there was a significant difference: the PSS score decreased ($t = 8.91$, $P = 0.000$), and the GSES score increased ($t = 5.25$, $P = 0.000$, with 95% confidence interval (CI)).[18] Among the infertile women in the experimental group, there was a somewhat negative association between the post-test Stress and post-test Coping scores ($r = -0.46$, $P \leq 0.001$).

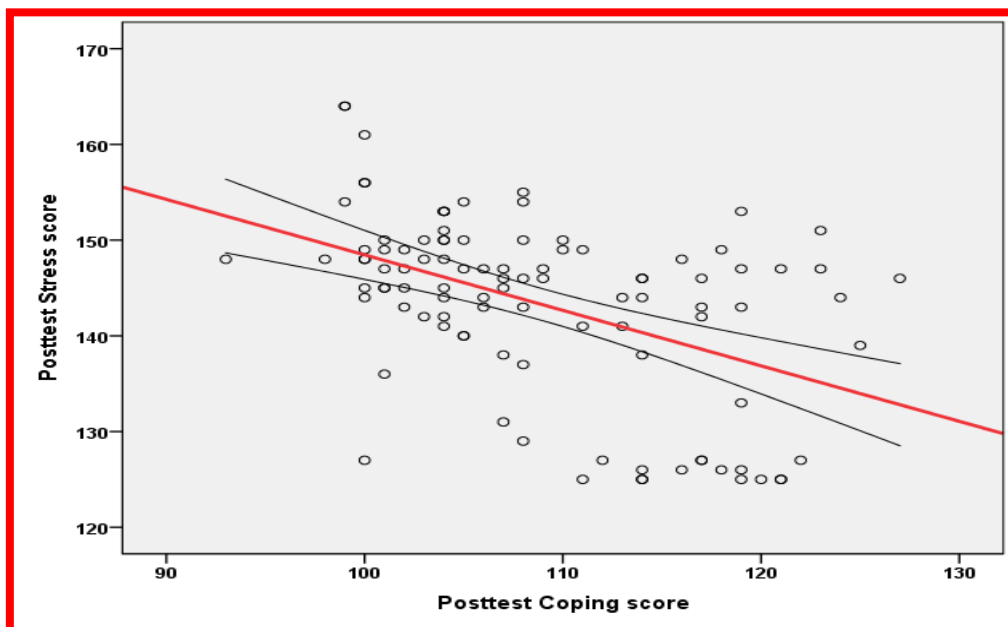


Figure 2: Correlation between Post Test Stress Score and Coping Score In Experimental Group

CONCLUSION

The effectiveness of psychological treatments in easing mental anguish and their connection to rising infertility. A group cognitive-behavioural strategy might be the most efficient way to achieve this. Given the level of suffering experienced by many infertile women, it is imperative to make these programs more accessible. Psychological assistance by primary healthcare practitioners is the main recommendation for couples facing any sort of infertility. Counselling is highly recommended before anyone starts any medical procedure to cure their infertility.

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Bibliography

- 1) Domar AD, Gross J, Rooney K, Boivin J. Exploratory randomized trial on the effect of a brief psychological intervention on emotions, quality of life, discontinuation, and pregnancy rates in in vitro fertilization patients. *Fertil Steril*. 2015;104(2):440–451.e7
- 2) Bakhtiyar K, Beiranvand R, Ardalan A, et al. An investigation of the effects of infertility on Women's quality of life: a case-control study. *BMC Women's Health*. 2019: 114
- 3) Lakatos E, Szigeti JF, Ujma PP, Sexty R, Balog P. Anxiety and depression among infertile women: a cross-sectional survey from Hungary. *BMC Womens Health*. 2017;17(1):48
- 4) WHO. Fact Sheets. Infertility. 2023. Available at <https://www.who.int/news-room/fact-sheets/detail/infertility>
- 5) Norzom T. Across India, women are struggling to deal with the growing infertility problem, YourStory.com. 2022. Available at: <https://yourstory.com/herstory/2022/06/india-women-infertility-ivf-medical-treatment-clinics-doctor> (Accessed: 14 July 2023).
- 6) Ghorbani M, Hosseini FS, Yunesian M, et al. Dropout of infertility treatments and related factors among infertile couples. *Reprod Health*. 2020;192(17). <https://doi.org/10.1186/s12978-020-01048-w>
- 7) <https://www.sart.org/patients/a-patients-guide-to-assisted-reproductive-technology/general-information/preparing-for-ivf-emotional-considerations/>
- 8) Alisa W. Twin Heart Meditation: Meaning, Benefits, Procedure and More. 2020. Available at <https://fandbrepcipes.com/twin-heart-meditation/>
- 9) Garland E, Gaylord S, Park J. The role of mindfulness in positive reappraisal. *Explore (NY)*. 2009;5(1):37-44. doi:10.1016/j.explore.2008.10.001
- 10) Palomba S, Daolio J, Romeo S, Battaglia FA, Marci R, La Sala GB. Lifestyle and fertility: the influence of stress and quality of life on female fertility. *Reprod Biol Endocrinol*. 2018;16(1):113. doi:10.1186/s12958-018-0434-y
- 11) Szkodziak F, Krzyżanowski J, Szkodziak P. Psychological aspects of infertility. A systematic review. *Journal of International Medical Research*. 2020; 48(6). doi:10.1177/0300060520932403
- 12) Katole A, Saoji AV. Prevalence of Primary Infertility and its Associated Risk Factors in Urban Population of Central India: A Community-Based Cross-Sectional Study. *Indian J Community Med*. 2019;44(4):337-341. doi:10.4103/ijcm.IJCM_7_19
- 13) Teklemicheal AG, Kassa EM & Weldetensaye EK. Prevalence and correlates of infertility related psychological stress in women with infertility: a cross-sectional hospital based survey. *BMC Psychol*. 2022; 10: 91. <https://doi.org/10.1186/s40359-022-00804-w>
- 14) Prasad M, Venkatesh S, Kumar S, Pentakota A, Vijaylakshmi. Psychological correlates in women with infertility. *Nepal J Obstet Gynaecol [Internet]*. 2022 Jan. 1 [cited 2023 Feb. 20];16(2):33-9.
- 15) Smita. A Study to Assess the level of Stress and Adapted coping mechanism among Infertile women at selected Infertility clinic, Dehradun Uttarakhand In a view of developing an information booklet. *International Journal of Advances in Nursing Management*. 2021; 9(3):264-8. doi: 10.52711/2454-2652.2021.00060
- 16) Maduakolam IO, Umeh UA, Ndubuisi IF, Onyekachi-Chigbu AC. Coping strategies of infertility clients attending gynecological clinic in South-eastern Nigeria. *Niger J Med* 2021;30:40-6
- 17) Ghasemi M, Kordi M, Asgharipour N, Esmaeili H, Amirian M. The effect of a positive reappraisal coping intervention and problem-solving skills training on coping strategies during waiting period of IUI treatment: An RCT. *Int J Reprod Biomed*. 2017;15(11):687-696.
- 18) Zaidouni A, Ouasmani F, Benbella A, Kasouati J, & Bezaad R. The Effect of Nursing Consultation Based on Orem's Theory of Self-care and Bandura's Concept on Infertility Stress. *Journal of human reproductive sciences*. 2019; 12(3): 247–254. https://doi.org/10.4103/jhrs.JHRS_159_18
- 19) Kyei JM, Manu A, Dwomoh D, Kotoh AM, Agyabeng K, Ankomah A. Ways of coping among women with infertility undergoing assisted reproductive technologies in Ghana. *Pan Afr Med J*. 2022;41:29.