A Quasi-Experimental Study to Assess the Effectiveness of Guided Imagery Therapy on Infertility Related Stress and Quality of Life among Infertile Women

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Abstract

Introduction and Background: According to WHO infertility is failure to achieve a pregnancy after 12 months or more than or without use of any contraception method, it is a reproductive system disease.Infertility can cause increase level of stress and create negative thought. So this study is aimed to find out effectiveness of guided imagery technique on stress and quality of life of infertile women. **Methodology:** The research approach used was quantitative approach. Quasi experimental: nonequivalent control group, Pre-test post-test design was used. 66 infertile women were selected for both the group was selected 33 subjects in each group. Pre assessment for stress level & quality of life was done for both experimental and control group. The tool of data collection included a socio-demographic Performa, Perceived stress scale (PSM- 10) and FertiQol scale assessment tool. Guided imagery provided to experimental group. The intervention was given to infertile women is recorded 15 minutes audio tract. Participants had listened the infertile specific GI recording once in a day for 7 consecutive days. In control group, the GI therapy did not provided. **Result:** The data was analyzed by using descriptive and inferential statistics. The study result shows that effect of GI intervention on stress intensity and on QoL are effective and P value for stress was <0.001 and for QoL p value was <0.001. **Conclusion:** The study concluded that Guided imagery technique is effective in reducing stress level and improve quality of life.

Key words*: Effectiveness, Guided imagery therapy, stress associated with infertility, living standard, infertile female.*

Background of the Study

According to WHO infertility is inability to get a pregnancy later than twelve months or more than or without use of any contraception method, it is a reproductive system disease.

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Infertility divided into two types**:** Primary infertility: Means that the couple has never conceived because of inability to become pregnant in that those mothers also include who have a miscarriages, that may result in still birth or ever having a live birth**.** Secondary infertility: Means that couple has experience of pregnancy before and later failed to conceive due to the some reproduction problem like impaired sperm production, fallopian tube damage or other abnormal uterine condition in women.

There are many causes for the infertility like endocrine disorder, physical disorder, ovarian disorder, defectiveness in ovum and sperm etc. But, sometime psychological problem like stressful life is also cause for infertility. There are many laboratory investigation are used for detection of the infertility cause, and many surgical and medical intervention use to treat the infertility like hormonal drug therapy, IUI & IVF.

Infertility related QoL includes an impression of infertile patient's life status during their fruitless period from a wide perspective. Countless examinations uncovered that fertile ladies experienced less fortunate QoL during the time of infertility.

Infertility is major problem in the India; in 2015, 27.5 million couples affected from the infertility in India according to Ernst and Young report. 40-50% of cases are registered due to female factor and 30-40% of cases are registered due to male factor.

Infertility is a significant general medical problem with authentic social outcome. The physical and mental effect of infertility can be pulverizing to the infertile ladies and to their partner.Infertility often brings about irritation, hopelessness, nervousness, and sentiments of worthlessness. There be a numerous psychological and social problem in the infertile women.

Infertility has many psychological effects on the women which are associated with stress and it is a more stressful event in their life. Stress reduction is possible through two methods; using pharmacological methods and complementary medicine.There is a different type of pharmacological and non- pharmacological treatment for the infertility. Previous research suggests that there are many non- pharmacological treatment use of reducing the psychological problem of infertile women. In that the guided imagery is non-pharmacological treatment which has no any side effect.[6] Guided descriptions is a useful during stress managing process for many reasons. It can provide relax to mind and help to reduce stress.

Infertility has been a neglected area of research when compared to research on fertility. Globally between 50 to 80 million couple at some point their reproductive lives suffer from infertility problems and also related psychological disturbance So this study aimed is to diminish the infertility related anxiety and get better the excellence of life through guided imagery intervention because the stress is the physiological or psychological tension that may lead to disturbance in physical, emotional and psychological well being of women and it affect the reproductive outcome. So guided imagery intervention is reduce the stress and get better value of life of infertile female.

Objective of the study were

- To evaluate effectiveness of GI therapy on infertility related stress amongst infertile women.
- To evaluate effectiveness of GI therapy on quality of life amongst infertile women.
- To find out the association between pre-intervention levels of infertility related stress and quality of life amongst infertile women with selected socio-demographical variable.

Material and Methods

Quantitative approach was obtained by investigator for assess the efficiency of GI therapy on the infertility related stress & improve value of well-being. Research design of the study wasnonequivalent control group, Pre-test post-test design

Variable of the study:

Dependent variable: stress level and QoL of infertile female.

Independent variable: Guided imagery therapy

Socio demographic variable: socio-demographic variable included Age, height, weight, type of diet, education status, age at marriage, age at menarche, duration of marriage, living pattern, type of family, social support system, occupation, monthly family income, place of residence, duration of diagnosed infertility, use of contraception, received infertility treatment, treatment duration, causes of infertility, body mass index(BMI).

Research setting:

It is the area where the research study is conducted.

- Morpheus Usha fertility center, Anand
- Spring IVF center, Ahmedabad
- Cigna IVF center, Ahmedabad
- Ansh women hospital, Ahmedabad

Population:

Target population: primary infertility.

Accessible population: primary infertile female who be fulfilled the inclusion criteria of study

Sample: it was estimated 66 totals for each group, 33 samples were for experimental group and 33 samples were control group. Sample size be calculated on the basis of $\mathbf{N = 2(\sigma/\Delta)\ 2 * Z\ \alpha + Z\ \beta\text{-}1}$ formula.

Sampling technique: Non-probability convenient sampling technique

Inclusive criteria: An infertile woman

- Who is in age group 18-35 years
- Who had diagnosed with primary infertility.
- Who is agreeable to contribute in the study.
- Who can capable to read and write down English or Gujarati.

Exclusive criteria: An infertile woman

- Who is having any mental/psychological disturbance.
- Who is having any medical or surgical condition with infertility.
- Who is having secondary infertility.

Tool was used for research study: To get the baseline data socio-demographic variable structured questionnaire was used. To analyze the stress level researchers had used perceived stress scale-10 and to analyze the QOL (Quality of life) FertiQol scale used.

Procedure for data collection: Ethical approval was obtained by IEC-HR, CHARUSAT. For the data collection method first the Researcher had introduce herself to the participants and inform consent was taken after explaining the purpose of study. Evaluation of effectiveness of Guided imagery therapy on stress and Quality of life among infertile women, first the investigator has assess the stress level in infertile women by using perceived stress scale tool and QOL of infertile females assess by FertiQol scale in both experimental (33) and control group (33). For experimental group the investigator has administered the Guided imagery therapy. The intervention is recorded audio tract for 15 minutes was given to infertile women. Participants had listened the infertile specific guided imagery recording once in a day for 7 consecutive days. In control group, the guided imagery therapy was not being given. In experimental group the investigator has assess the stress level by using the PSM-10 scale & assess the Quality of life by using FertiQol scale after the last intervention. In control group, the stress level & Quality of life was assessed by using the same tool without administering the Guided imagery therapy. If after the intervention stress level still persist then investigator will be referred the participants to counselor.

Result and Discussion

Table 1: Findings related to socio-demographic variable of infertile women of both experimental and control group.

Sr. no	Demographic Variable	Experimental group N=33		Control group N=33	
		Frequency (f)	Percentage (%)	Frequency (f)	Percentage (%)
1.	Age				
	20-25 years	3	9.1	9	27.3
	26-30 years	21	63.6	14	42.4
	31-35 years	9	27.3	10	30.3
	36-40 years	0	0.0	0	0.0
2.	Height				
	<140 cm	0	0.0	5	15.2
	141cm -150 cm	24	72.7	20	60.6
	151cm-160 cm	9	27.3	8	24.2
	> 161 cm	0	0.0	0	0.0
3.	Weight				
	35kg-50kg	6	18.2	4	12.1
	51 kg-60 kg	17	51.5	20	60.6
	61 kg-70kg	10	30.3	8	24.2
	71kg-80 kg	0	0.0	1	3.0
	≥81 kg	0	0.0	0	0.0
4.	Type of diet				
	Vegetarian	27	81.8	26	78.8
	Non vegetarian/Mixed	6	18.2	7	21.2
5.	Education status				
	No formal education	0	0.0	0	0.0
	Primary education	12	36.4	9	27.3
	Secondary and/or higher secondary education	17	51.5	23	69.7
	Graduation and/or above	4	12.1	1	3.0
6.	Age at marriage				
	18 years to 22 years	14	42.4	26	78.8

Cont... **Table 1: Findings related to socio-demographic variable of infertile women of both experimental and control group.**

	23 years to 27 years	19	57.6	7	21.2
	28 years to 32 years	0	0.0	0	0.0
	>32 years	0	0.0	0	0.0
7.	Age at menarche				
	12 years to 15 years	33	100.0	33	100.0
	16 years to 19 years	0	0.0	0	0.0
	Above 19 years	0	0.0	0	0.0
8.	Duration of marriage				
	1-5 years	25	75.8	30	90.9
	6-10 years	6	18.2	1	3.0
	>10 years	2	6.1	2	6.1
9.	Living pattern				
	Living together	5	15.1	15	45.5
	Temporary away from each other Due to occupation	28	84.9	18	54.5
10.	Type of family				
	Nuclear family	13	39.4	8	24.2
	Joint family	20	60.6	25	75.8
11.	Social support system				
	Available	24	72.7	25	75.8
	Not Available	9	27.3	8	24.2
12.	Occupation				
	Housewife	20	60.6	15	45.5
	Related to medical profession	6	18.2	8	24.2
	Related to Non medical profession	7	21.2	10	30.3
13.	Monthly family income				
	Up to Rs 5000	0	0.0	0	0.0
	Rs 5001-Rs 15000	8	24.2	6	18.2
	Rs 15001-Rs 25000	19	57.6	17	51.5
	Rs >25000	6	18.2	10	30.3
14.	Place of residence				
	Rural area	3	9.1	6	18.2

Cont... **Table 1: Findings related to socio-demographic variable of infertile women of both experimental and control group.**

	Urban area	30	90.9	27	81.8
15.	A duration of diagnosed infertility[years]				
	<3	28	84.8	29	87.9
	3-5	5	15.2	4	12.1
	>5	0	0.0	0	0.0
16.	Use of contraception				
	Yes	1	3.0	0	0.0
	No	32	97.0	33	100.0
17.	Received infertility treatment				
	Semen insemination(IUI)	0	0.0	0	0.0
	Stimulate ovulation & IUI	4	12.1	8	24.2
	In vitro fertilization(IVF)	1	3.0	4	12.1
	Hormonal therapy	28	84.8	21	63.6
18.	Treatment duration [years]				
	1	33	100.0	33	100.0
	2	0	0.0	0	0.0
	>3	0	0.0	0	0.0
19.	Causes of infertility				
	Female factor	33	100.0	33	100.0
	Male factor	0	0.0	0	0.0
	Reason not given	0	0.0	0	0.0
	Cause of male & female factor	0	0.0	0	0.0
20.	Body mass index(BMI)(kg/m2)				
	Low weight (below 18.5)	0	0.0	0	0.0
	Normal(18.5-24.9)	13	39.4	11	33.3
	Overweight(25.0-29.9)	19	57.6	19	57.6
	Obese (30.0-above)	1	3.0	3	9.1

As per the Table 1 Findings regarding age were Majority of the infertile women 21(63.6%) were from the 26-30 years of age group in the Ex. group andIn the control group greater part of female were from 26 to 30 years of age group which is 14(42.4%) of age group.Most participants in experimental 27(81.8) and control group 26(78.8) are vegetarian.Majority of participants in both the group have occupation related to Housewife 20(60.6%) in experimental group & 15(45.5%) in control group. In both the group causes of infertility is female factor.

The study finding supported by study conducted by Jones A, Karla K, et al. (2017) regarding age were belongs to 26-30 years in experimental group 21(63.6%) and control group 19 (63%). Regarding type of diet, experimental group 27(81.8%) and control group 13(39.4%) were non-vegetarian. About occupation majority in group 20 (67%) and control group 20 (67%) were housewife. Majority of experimental group 20 (67%) and control group 20(67%) has causes of infertility is female factor.[11]

Table 2 Effectiveness of guided imagery therapy on level of stress in experimental and control group

N=33

Group		Mean	Std Deviation	t-test	P value
Experimental	Stress level before intervention	29.84	2.92	25.934	<0.001
	Stress level after intervention	13.33	2.74		
Control	Stress level at Day-1	29.30	2.13	1.294	0.205
	Stress levelat Day-7	29.70	2.74		

As per Table 2 findings related to effect of GI therapy on stress intensity there was statistically significant difference found in experimental Group Pre test mean score is 29.84 which reduced to become 13.33 on 7th day after intervention. In control group mean score on 1st day is 29.3 which are not reduced but it is increased to become 29.7 on 7th day. In experimental group p test was 25.934 with p value was <0.001 while in control group it was 1.294 with p value was 0.205.

This findings are predictable with Porat-katz a, paltlel O, Kahane A, et al. (2016) there is a noteworthy decrease of anxiety after the guided symbolism intercession in exploratory gathering the post test feeling of anxiety (M=164.30, SD=19.03) was not exactly the pretest feeling of anxiety (M=247.51, SD= 23.14) and the thing that matters was measurably critical at p< 0.001 level, in charge gathering, there was no factual contrast between the pretest (M= 246.65, SD=22.18) and posttest (M=247.06, SD=21.89) feelings of anxiety.[12]

This is also supported by study done by Dr. Rabin B (2019)the mean score in experimental group was 1.73+0.81 and the mean score in control group 3.13+2.16, The 't' value was 3.41 which is significant at P<0.05 level. Thus it becomes evident that GI was effective in lessening the stress level in experimental group.[13]

Hence $1H_{0:}$ There is no statistically significant effect of GI therapy on reduction of stress level of infertile female at 0.05 level of significant was rejected.

Table 3 Effectiveness of guided imagery therapy on quality of life among infertile women in experimental and control group N=33

Group		Mean	Std Deviation	t-test	P value
Experimental	QoL score before intervention	32.96	8.57	26.926	<0.001
	QoL score after intervention	85.00	6.25		
Control	QoL score at Day-1	22.63	4.96	1.67	0.105
	QoL score at Day-7	22.18	5.51		

As per Table 3 findings related to effect of GI on QoL there was statistically considerable variation found in experimental group pre test mean score is 32.96 which increased to become 85.00 on 7th day after intervention. In control group mean score is 22.63 which decreased minor 22.18. In experimental group p test was 26.926 with p value was <0.001 while in control group it was 1.67 with p value was 0.105.

A Study finding also supported study conducted by RahmaniFard T, Kalantarkousheh M, et al. (2016) Pre-test mean and SD of control group was 67.9 and 5.9617 and in study group was 68.4 and 6.688. In post test it's observed that mean and standard deviation of study group QoL level was found to be enhanced distinctly in 3 months, mean and standard deviation was 97.43 and 7.7446. Post test t value 16.5108 was originate to be considerable at $p<0.05$ intensity. Studies outcomes suggest the guided imagery program significantly improved quality of life of infertile women.[14]

Hence $2H_{0:}$ There is no statistically significant effect of GI therapy on QoL of infertile women at 0.05 point of significant was rejected.

Fisher's chi square test was used to find out the association between pre-intervention levels of infertility related stress & QOL among infertile female of both experimental & control group with selected socio-demographical variable. The all p value is more than 0.05 level of considerable, which suggest that there was no association found with selected socio-demographic variable with 7th day of stress level & quality of life score.

Conclusion

The present study was conducted that guided imagery technique is effective in reducing stress level and improves quality of life. So similar study can be performing on larger scale & also the intervention days can increase to make it generalized. If after the intervention stress level still persist then investigator will be referred the participants to counselor.

Ethical Clearance: Ethical consideration was taken from Institutional ethics Committee- IEC

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Conflict of Interest: Nil

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