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Research Article

A Quasi-Experimental Study to Assess the Effect of Benson's Relaxation on Pre-Operative Anxiety among Primigravida Women Undergoing Caesarean Section in a Selected Hospital of Amritsar, Punjab

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I N F O

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A B S T R A C T

Background: Preoperative anxiety is a challenge in most surgical interventions that needs to be taken into consideration. Benson's Relaxation is highly effective and beneficial for pre-operative anxiety among primigravida women undergoing caesarean section as it helps to reduce anxiety.

Aim: The aim of the present study was to assess the effect of Benson's Relaxation on pre-operative anxiety among primigravida women undergoing caesarean section in order to alleviate pre-operative anxiety.

Methodology: A quasi-experimental research design was selected for the study. A total of 60 participants were selected using purposive sampling technique. The tool used in this study was a socio-demographic profile to assess the personal information of the study subjects and the Modified State-Trait Anxiety Inventory was used to assess the level of pre-operative anxiety.

Results: The mean difference between pre-test and post-test levels of anxiety was found to be statistically significant in the experimental group at $p < 0.05$ with t (11.28) and inversely significant in the control group with t (4.49) at $p < 0.05$. However, no significant association with the selected socio-demographic variables was found at $p < 0.05$ level of significance.

Conclusion: Benson's Relaxation has proved to be useful in reducing pre-operative anxiety among primigravida women undergoing caesarean section.

Keywords: Benson's Relaxation, Pre-Operative Anxiety, Primigravida Women, Caesarean Section

Introduction

Childbirth is a moment of joy, at the same time, it is a time of pain, stress and anxiety. Caesarean section as a life event is characterised by tremendous psychological changes that require major behavioural adjustment in a short period.[1] When a mother is admitted to the maternity hospital, her anxiety and nervousness increase.[2]

Pre-operative anxiety is an unpleasant subjective feeling of uneasiness or dread that affects patients who undergo anaesthesia, hospitalisation, surgery and the feeling of imminent death.[3] Apart from conventional medical treatment, other approaches, such as the relaxation response, education and music therapy can be used to manage the pre-operative distress and anxiety in patients who are listed for surgical procedures.[4]

Benson's relaxation technique is one of the most popular methods of relaxation which was first introduced in 1975 by Dr Herbert Benson, a Harvard physician. He denoted that then technique could bring about a relaxation response by reducing the activity of the autonomic nervous system. In his book, The Relaxation Response, he mentioned that we cannot easily change the nature of modern life, perhaps better prevention and therapy of hypertension and other diseases related to fight and flight response might be achieved by actively bringing forth the Relaxation Response.[5] It can efficiently decrease emotional distress during the period of diagnostic uncertainty in women who underwent percutaneous breast biopsy. In addition to its simplicity, this technique is an inexpensive, efficacious and practical method to reduce pain, anxiety and medication during invasive procedures such as femoral angiography.[6]

Need For The Study

The incidence of caesarean section has steadily risen from roughly 25% to around 40%, from 2005–06 to 2015–16. During the last decade, there has been a two to three-fold rise in the incidence from the initial rate of 10% in 2012. The National Family Health Surveys of 2015 and 2019 found that the caesarean section rate in India (17.2%) was higher than the set WHO limit, which is not more than 10%.[7]

The global pooled prevalence of pre-operative anxiety among surgical patients was 48% (approximately 50%). Studies conducted in India revealed that the prevalence of pre-operative anxiety varied from 47% to 70.3%.[8]

One of the researchers, during her clinical posting, came across the incidence of pre-operative anxiety among primigravida women undergoing caesarean section. There were quite a few of them; the accurate number cannot be defined. The researchers felt the need for the management of pre-operative anxiety through Benson's relaxation therapy which could help minimise pre-operative anxiety. This therapy was easily accessible and affordable as there are videos available on social media platforms (YouTube) free of cost which one can easily view, follow, practice and implement. These videos can be viewed at any time, any place and by any person who wishes to do so. Moreover, people who can read can buy the book 'The Relaxation Response', which is available at a budget-friendly price.[9] Also, there are limited Indian studies that have focused on Benson's relaxation therapy, especially by nurse researchers.

Problem Statement

A quasi-experimental study to assess the effect of Benson's Relaxation on pre-operative anxiety among primigravida women undergoing caesarean section in a selected hospital in Amritsar, Punjab

Objectives

1. To assess the pre-test level of anxiety among primigravida women undergoing caesarean section in experimental and control groups
2. To assess the post-test level of anxiety among primigravida women undergoing caesarean section in experimental and control groups
3. To compare the pre-test and post-test levels of anxiety among primigravida women undergoing caesarean section in experimental and control groups
4. To determine the association of post-test level of anxiety among primigravida women undergoing caesarean section with their selected socio-demographic variables

Review of Literature

A semi-experimental study was conducted to assess the effect of foot reflexology massage and Benson relaxation techniques on anxiety and physiological indexes of patients undergoing Coronary Heart Angiography. The results revealed that after using foot reflexology massage and Benson relaxation, anxiety decreased significantly in the massage and relaxation groups, in contrast with the control group ($p < 0.001$).[10]

A study was conducted to assess the effect of Benson relaxation therapy on anxiety and the quality of sleep among pre-eclamptic women from El-Shatby Maternity University Hospital Faculty of Medicine, Alexandria, Egpyt. The study results related to level of anxiety revealed that before intervention participants had experienced high anxiety. However, high anxiety decreased from 87.5% to 0.0% after the intervention among the experimental group. Furthermore, the study results related to the quality of sleep showed poor sleep before the intervention, while after the intervention, none of the study subjects reported poor quality of sleep.[11]

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Materials and Method

The research approach was quantitative and pre-test/ post-test control group design (quasi-experimental research design) was adopted to assess the effect of Benson's Relaxation on pre-operative anxiety among primigravida women undergoing caesarean section in Guru Nanak Dev Hospital (Bebe Nanki Mother and Child Care Centre) of Amritsar, Punjab. This study was conducted from October 25, 2021 to May 25, 2022. Purposive sampling technique was used to select the sample (N = 60). Inclusion and exclusion criteria were set where as per the inclusion criteria, women who were undergoing elective caesarean section and were available at the time of data collection, were chosen. Similarly, as per exclusion criteria, those who had profound and severe anxiety and those who were unwilling to participate in the study were excluded. Socio-demographic variables were age, education, occupation, family income, weeks of gestation, indication for caesarean section and any previous surgery. Also, Modified Spielberger's State-Trait Anxiety Inventory tool was available as Open Educational Resources, which was used to monitor the effect of the intervention taken. The validity and reliability of the tool were determined by nursing experts and the value was computed to be 0.86. The procedure basically initiated with communication and rapport building followed by written consent for participation. Then, a pre-test was conducted to assess the baseline data. Secondly, the intervention was demonstrated and participants were asked for re-demonstration followed by practising the intervention twice before the c-section. In the end, a post-test was conducted to evaluate the effectiveness of the relaxation response.

Ethical Considerations

Keeping in mind the legal rights of the study participants, only those study participants who were willing to participate were included in the study. Permission from the concerned authorities of the hospital was taken. Verbal instructions and a demonstration of the technique were given to the selected study participants. Written informed consent was obtained from all participants.

The anonymity of the study participants and confidentiality of information was maintained throughout the data collection. Analysis of the data was done using descriptive and inferential statistics.

Procedure

The relaxation therapy was demonstrated by the researchers through the steps mentioned in the thesis and book 'The Relaxation Response'. Also, a particular room was selected in the area for the demonstration. The standardisation of the procedure was made by maintaining a quiet environment for the women. The researchers' vast knowledge and practice of the technique (gained from the book and YouTube videos of Dr Benson, along with the training done and certification obtained from a Reiki Centre) helped a lot in the process.

Steps to Elicit the Relaxation Response

Benson's Relaxation is a generic technique that the researchers had taught to various women and had been used by the researchers themselves too. It involves the following steps:

1. Pick a focus word, short phrase, or prayer that is firmly rooted in your belief system.
2. Sit quietly in a comfortable position.
3. Close your eyes.
4. Relax your muscles, progressing from your feet to your calves, thighs, abdomen, shoulders, head and neck.
5. Breathe slowly and naturally, and as you do, say your focus word ("Waheguru", "Om", "Alleluia" or "Allah"), phrase, or prayer silently to yourself as you exhale.
6. Assume a passive attitude. Don't worry about how well you are doing. When other thoughts come to mind, simply say to yourself, "All ok", and gently return to your repetition.
7. Continue for 15 minutes.
8. Do not stand immediately. Continue sitting quietly for a minute or so. Then open your eyes and sit for another minute before rising.
9. Practice the technique twice daily. In the present study, the time interval between the first and second intervention was 2 hours. A post-test was conducted half an hour after the second intervention i.e. 1 hour prior to caesarean section.
10. Good times to do so are before breakfast and before dinner. In the present study, women were nil per oral (NPO) as they were meant to undergo a caesarean section.

Results & Discussion

Table 1 reveals the frequency and percentage distribution of sample characteristics of 60 (experimental and control groups: 30 participants each) primigravida women undergoing caesarean section. In order to assess the compatibility of both groups, the chi-square value was computed which was found statistically non-significant at $p < 0.05$ for all socio-demographic variables and it was concluded that both groups are homogenous.

Objective 1: To assess the pre-test level of anxiety among primigravida women undergoing caesarean section in experimental and control groups

The analysis of data regarding the pre-test level of anxiety in the experimental group among primigravida women undergoing caesarean section revealed that the mean score of anxiety was 45.93 ± 5.63, on the other hand, in the control group, the mean score was 45.57 ± 7.32 (Table 2).

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The findings of the present study are congruent with the results of Tahmasbi and Hasani who conducted a randomised clinical trial to evaluate the effect of Benson's relaxation technique on the anxiety of patients undergoing coronary angiography. The sample size was 70 patients, divided into two groups of intervention (n = 35) and control (n = 35), who were candidates for coronary angiography at the Mazandaran Heart Centre in Sari, Iran. The study results indicated that in the experimental group, the mean anxiety score was 46.09 ± 2.442 and in the control group, the mean score was 47.79 ± 4.42.[12]

Objective 2: To assess the post-test level of anxiety among primigravida women undergoing caesarean section in experimental and control groups

The analysis of data regarding the post-test level of anxiety in the experimental group among primigravida women undergoing caesarean section revealed that the mean anxiety score was 36.80 ± 6.32, on the other hand, in the control group, the mean score was 48.13 ± 6.32 (Table 3).

The findings of the present study are congruent with the results of Barabady et al. who conducted a randomised clinical study to assess the effect of Benson's relaxation therapy on pre-operative anxiety and the induction and maintenance dose of propofol during cataract surgery. The sample size was 72 which were randomly divided into experimental (n = 36) and control groups (n = 36). The study results showed that a significant difference in the mean score of post-test level of anxiety in the experimental group was (35.23 ± 9.21) compared to the control group (41.71 ± 9.54).[13]

Objective 3: To compare the pre-test and post-test levels of anxiety among primigravida women undergoing caesarean section in experimental and control groups

The analysis of data regarding comparison revealed that the mean difference between pre-test and post-test levels of anxiety in the experimental group was found to be statistically significant at $p < 0.05$ with a 't' value of 11.28 and in the control group also, it was found to be statistically significant at $p < 0.05$ with a 't' value of -4.49. The mean difference in the post-test level of anxiety in both groups was statistically significant at $p < 0.05$ with a 't' value of 6.94 and df = 58 (Table 4).

Table 1.Frequency and Percentage Distribution of Primigravida Women Undergoing Caesarean Section in Experimental Group and Control Group According to Socio-Demographic Variables

Demographic Variables	Experimental Group (N = 30)		Control Group (N = 30)		df	X^2
	n	%	n	%		
Age (in years)						
< 20	5	16.7	4	13.3	3	2.35^{NS}
21–25	10	33.3	13	43.3		
26–30	11	36.7	12	40		
> 30	4	13.3	1	3.3		
Educational status						
No formal education	-	-	-	-	3	1.72^{NS}
Primary	6	20	4	13.3		
Matriculation	5	16.7	9	30		
Secondary	15	50	14	46.7		
Graduation/ above	4	13.3	3	10		
Occupational status						
Self-employed	9	30	2	6.7	2	5.47^{NS}
Employed	2	6.7	3	10		
Homemaker	19	63.3	25	83.3		
Monthly income (INR)						
< 5,000	2	6.7	-	-	3	6.00^{NS}
5,001–10,000	12	40	20	66.7		
10,001–15,000	12	40	6	20		
15,001–20,000	4	13.3	4	13.3		

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Weeks of gestation						
28–32	-	-	-	-	1	1.09^{NS}
33–37	11	36.7	15	50		
38–42	19	63.3	15	50		
Indication for caesarean section						
Pre-eclampsia	21	70	22	73.3	4	1.37^{NS}
Eclampsia	4	13.3	3	10		
Gestational hypertension	2	6.7	3	10		
Cephalo-pelvic disproportion	2	6.7	2	6.7		
Oligo-hydramnios	1	3.3	-	-		
Previous surgical history						
Yes	2	6.7	-	-	1	2.07^{NS}
No	28	93.3	30	100		

NS: Not significant

Table 2.Frequency, Percentage and Mean Distribution of Primigravida Women Undergoing Caesarean Section in Experimental Group and Control Group According to Pre-Test Level of Anxiety

N = 60

Level of Anxiety	Experimental Group (N = 30)				Control Group (N = 30)			
	n	%	Mean	SD	n	%	Mean	SD
No anxiety (1–20)	-	-	45.93	5.638	-	-	45.57	7.323
Mild anxiety (21–40)	4	13.30			6	20		
Moderate anxiety (41–60)	26	86.70			24	80		
Severe anxiety (61–80)	-	-			-	-		

Maximum score = 80
Minimum score = 20

Table 3.Frequency, Percentage and Mean Distribution of Primigravida Women Undergoing Caesarean Section in Experimental Group and Control Group According to Post-Test Level of Anxiety

N = 60

Level of Anxiety	Experimental Group (N = 30)				Control Group (N = 30)			
	n	%	Mean	SD	n	%	Mean	SD
No anxiety (0–20)	-	-	36.8	6.321	-	-	48.13	6.323
Mild anxiety (21–40)	25	83.3			2	6.7		
Moderate anxiety (41–60)	5	16.7			28	93.3		
Severe anxiety (61–80)	-	-			-	-		

Maximum score = 80
Minimum score = 20

Table 4.Comparison of Pre-Test and Post-Test Level of Anxiety among Primigravida Women Undergoing Caesarean Section in Experimental Group and Control Group

N = 60

Score	Experimental Group (N = 30)		Control Group (N = 30)		df	t
	Mean	SD	Mean	SD		
Pre-test	45.93	5.638	45.57	7.323	58	0.22
Post-test	36.80	6.321	48.13	6.323	58	6.94*

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-	df	t	df	t	-
	29	11.29*	29	4.5*	

*Significant at $p < 0.05$
Maximum score = 80
Minimum score = 20

The findings of the present study are congruent with the results of Salmanzadeh et al. who conducted a randomised clinical trial to assess the effect of Benson relaxation on anxiety before caesarean section in nulliparous women in Imam Hossein Hospital in Tehran. The results showed that the mean difference between the pre-test and post-test levels of anxiety in the experimental group was statistically significant at $p < 0.001$ with a 't' value of 11.10 and in the control group, it was found to be statistically non-significant at $p < 0.001$ with a 't' value of 0.74. The mean difference in the post-test level of anxiety in both groups was statistically significant at $p < 0.001$ with a 't' value of 6.30 and df = 58.[14]

Objective 4: To determine the association of post-test level of anxiety among primigravida women undergoing caesarean section with their selected socio-demographic variables

Using the chi-square test, it was revealed that there was no significant association of selected socio-demographic variables with the post-test level of anxiety among primigravida women undergoing caesarean section. The socio-demographic variables are used to categorise the groups and also to rule out the factors that influence the research findings. The variables are mentioned in the research methodology. Variables like family support and the presence of the husband were not taken into consideration.

The findings of the present study are congruent with the results of a randomised clinical trial conducted by Mohammad and Paradin to assess the effect of Benson's relaxation technique on the multidimensional pain and negative psychological symptoms of pregnant women referred to Imam Reza and Motazedi Hospitals in Kermanshah, Iran. The results showed that the mean score was 28.18 ± 3.38 in the experimental group and 28.63 ± 3.14 in the control group ($p < 0.05$). Also, there was no significant difference in comparison of socio-demographic variables.[15]

Conclusion

The study concluded that Benson's Relaxation has a significant effect on pre-operative anxiety among primigravida women undergoing caesarean section. So, it is important to use the technique pre-operatively to alleviate anxiety and promote comfort to women as well as babies.

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References

1. Poorolajal J, Ashtarani F, Alimohammadi N. Effect of Benson relaxation technique on the preoperative anxiety and hemodynamic status: a single blind randomized clinical trial. Artery Res. 2017;17:33-8. [Google Scholar]
2. Preethi BJ, Reeta J, Jeyavantha SN. A study to assess the effectiveness of Benson Relaxation therapy on blood pressure and stress among women with pregnancy-induced hypertension in selected hospitals, Madurai. Asian J Nurs Educ Res. 2016;6(2):167-70. [Google Scholar]
3. Johns RF. The effect of a brief relaxation response intervention on physiologic markers of stress in patients hospitalized with coronary artery disease [dissertation]. Medical College of Georgia; 2009. 124 p. [Google Scholar]
4. Sigdel S. Perioperative anxiety: a short review. Glob Anesth Perioper Med. 2015;1(4):107-8. [Google Scholar]
5. Herbert B. Staying healthy in a stressful world. PBS: Body & Soul will Gail Harris. Vol. 5. Benson's Production; 1998. p. 56-60.
6. Rosiek A, Kornatowski T, Rosiek-Kryszewska A, Leksowski L, Leksowski K. Evaluation of stress intensity and anxiety level in preoperative period of cardiac patients. Biomed Res Int. 2016;2016:1248396. [PubMed] [Google Scholar]
7. Tripathy B, Jena A, Pandey AK, Mishra SS, Mishra C. Caesarean section delivery in India: a comparative assessment of geographical variability using nationally representative survey factsheet data. Natl J Community Med. 2023;14(4):260-6. [Google Scholar]
8. Hobson JA, Slade P, Wrench IJ, Power L. Preoperative anxiety and postoperative satisfaction in women

undergoing elective cesarean section. Int J Obstet Anesth. 2006;15(1):18-23. [PubMed] [Google Scholar]
9. Benson H, Kilpper MZ. Steps to elicit relaxation response. In: The relaxation response. William Morrow Paperbacks; 1976. p. 162-3.
10. Torabi M, Salavati M, Sarabi AR. Effect of foot reflexology massage and Benson relaxation techniques on anxiety and physiological indexes of patients undergoing coronary heart angiography. Avicenna J Nurs Midwifery Care. 2012;20(1):63-73. [Google Scholar]
11. Roma NZ, Alam TH, Hables RM, El Nakeb ME. The effect of Benson relaxation therapy on anxiety and the quality of sleep among preeclamptic women. Int J Res Health Sci Nurs. 2020;6(6):1-16.
12. Tahmasbi H, Hasani S. Effect of Benson's relaxation technique on the anxiety of patients undergoing coronary angiography: a randomized control trial. J Nurs Midwifery Sci. 2016;3(1):8-14. [Google Scholar]
13. Barabady A, Baghdassarians A, Memary E, Yazdani A, Barabady A, Sayadi S. Effect of Benson's relaxation technique on propofol consumption and preoperative anxiety of patients undergoing cataract surgery. Anesth Pain Med [Internet]. 2020 [cited 2023 Dec 11];10(3):e100703. Available from: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7472786/ [PubMed] [Google Scholar]
14. Salmanzadeh A, Rahgoi A, Fallahi-Khoshknab M, Mohammadi-Shahbelaghi F, Rahgozar M. The effect of Benson's relaxation on pre-operative anxiety in cesarean section in nulliparus women. J Adv Pharm Educ Res [Internet]. 2018 [cited 2023 Dec 10];8(S2):194-200. Available from: https://japer.in/storage/models/article/Wr3d4dToPzV5lHArsTWMfVibv9UArmrVYeo31hsoO734H6O8rB6XyTT9P5dt/the-effect-of-bensons-relaxation-on-pre-operative-anxiety-in-cesarean-section-in-nulliparus-women.pdf [Google Scholar]
15. Mohammad MM, Paradin S. Effect of the combination of Benson's relaxation technique and brief psychoeducational intervention on multidimensional pain and negative psychological symptoms of pregnant women: a randomized controlled trial. J Educ Health Promot. 2019 May 14:8(1):91. [PubMed] [Google Scholar]

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