A Study to Assess the Effectiveness of a Planned Teaching Programme on Knowledge regarding Herbert Benson's Relaxation Technique for Reducing Stress among Antenatal Mothers in Selected Rural and Urban Areas Using a Quasi-Experimental Research Design

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Abstract: <u>*Background*</u>: ***Pregnancy is a significant life event often associated with psychological stress. Non-pharmacological interventions such as relaxation techniques can help reduce stress among antenatal mothers. A structured educational approach may improve mothers' knowledge regarding stress reduction methods.*** <u>*Objectives*</u>: ***1) To assess the effectiveness of a planned teaching programme on knowledge regarding Benson's Relaxation Technique for reducing stress among antenatal mothers in selected rural and urban areas. 2) To assess the existing knowledge of antenatal mothers regarding Benson's Relaxation Technique. 3) To determine the association between post-test knowledge scores and selected demographic variables.*** <u>*Methods*</u>: ***A quantitative research approach with a quasi-experimental pre-test and post-test design was adopted. The study was conducted among 40 antenatal mothers selected using non-probability convenient sampling from selected rural and urban areas. Data were collected using a structured knowledge questionnaire consisting of 30 items. Pre-test knowledge was assessed, followed by implementation of a planned teaching programme on Herbert Benson's Relaxation Technique. Post-test assessment was conducted after the intervention. Data were analyzed using descriptive and inferential statistics, including mean, standard deviation, and paired t-test.*** <u>*Results*</u>: ***In the pre-test, 75% of antenatal mothers had good knowledge, 20% had fair knowledge, and 5% had very good knowledge. The mean pre-test score was 14.50 ± 2.48 (48.33%). In the post-test, 55% had excellent knowledge and 45% had very good knowledge. The mean post-test score increased to 24.27 ± 1.89 (80.91%). The calculated paired t-value (20.55) was significantly higher than the tabulated value at 5% level of significance, and the p-value (0.0001) was less than 0.05, indicating a statistically significant improvement in knowledge after the teaching programme. Age and educational status showed significant association with post-test knowledge scores, whereas occupation and duration of marriage did not show significant association.*** <u>*Conclusion*</u>: ***The planned teaching programme was highly effective in improving knowledge regarding Benson's Relaxation Technique for reducing stress among antenatal mothers in selected rural and urban areas. The study supports the implementation of structured health education programmes during antenatal care to promote stress management practices.***

Keywords: Antenatal mothers, Benson's Relaxation Technique, Stress reduction, Planned teaching programme, Knowledge, Quasi-experimental study

1. Introduction

Pregnancy is a crucial period in a woman's life characterized by significant physical, emotional, and psychological changes. Although it is a natural process, many antenatal mothers experience varying levels of stress due to hormonal changes, health concerns, family responsibilities, and socioeconomic factors. Unmanaged stress during pregnancy can negatively affect both maternal and fetal well-being. Therefore, promoting effective stress management strategies during the antenatal period is essential.[1]

Non-pharmacological approaches such as relaxation techniques are safe, simple, and cost-effective methods for reducing stress. Among these, the relaxation technique developed by Herbert Benson is widely recognized. Benson's Relaxation Technique helps elicit the relaxation response, which counteracts the physiological effects of stress and promotes mental calmness and physical well-being.[2]

2. Background of the Study

Antenatal mothers, particularly in rural and low-resource settings, may have limited awareness regarding stress management techniques. Lack of knowledge, lower educational levels, and socioeconomic challenges may further increase vulnerability to stress during pregnancy. Structured health education programmes can play a vital role in improving knowledge and encouraging the adoption of healthy coping strategies.[3]

Benson's Relaxation Technique is simple to practice, requires no special equipment, and can be easily taught during routine antenatal visits. However, knowledge regarding this technique among antenatal mothers remains inadequate in many communities.[4]

Hence, this study was undertaken to assess the effectiveness of a planned teaching programme on knowledge regarding

Benson's Relaxation Technique for reducing stress among antenatal mothers in selected rural and urban areas.

Primary Objective
- To assess the effectiveness of a planned teaching programme on knowledge regarding Benson's Relaxation Technique for reducing stress among antenatal mothers in selected rural and urban areas.

Secondary Objectives
- To assess the existing knowledge regarding Benson's Relaxation Technique for reducing stress among antenatal mothers.
- To find the association between post-test knowledge scores and selected demographic variables.

Research Approach
The present study aimed to assess the effect of a planned health teaching programme on knowledge regarding Benson's Relaxation Technique for reducing stress among antenatal mothers. A **quantitative research approach** was adopted for this study.

Research Design
The research design used for the present study was a **quasi-experimental quantitative non-equivalent group design**. This design is structured similarly to a pre-test and post-test experimental design.

Antenatal mothers were recruited for the study using a **non-probability convenient sampling technique** and were allotted to the experimental group. The intervention was administered only to the experimental group.

This design was found appropriate to evaluate the effect of a planned teaching programme on knowledge regarding Benson's Relaxation Technique for reducing stress among antenatal mothers in selected rural and urban areas.

Table 1: Research Design

Group	Pre-Test	Treatment	Post-Test
G1 (Antenatal Mothers)	O_1	X	O_2

Key:
- O_1- Pre-test knowledge of antenatal mothers (experimental group) regarding Benson's Relaxation Technique
- X- Planned health teaching programme regarding Benson's Relaxation Technique for reducing stress
- O_2- Post-test knowledge of antenatal mothers (experimental group)

Hypothesis
- **H$_0$ (Null Hypothesis):** There will be no significant difference in the knowledge scores regarding Benson's Relaxation Technique for reducing stress among antenatal mothers between pre-test and post-test after the planned teaching programme.
- **H$_1$ (Research Hypothesis):** There will be a significant difference in the knowledge scores regarding Benson's Relaxation Technique for reducing stress among antenatal mothers between pre-test and post-test after the planned teaching programme.

Description of the Tool
The tool consists of two sections:

Section A: Demographic Variables
A questionnaire consisting of the following variables:
- Age
- Education
- Occupation
- Duration of marriage
- Religion
- Area of residence
- Family income

No scores were assigned for these variables.

Section B: Structured Knowledge Questionnaire
This section consists of 30 structured multiple-choice questions regarding Benson's Relaxation Technique for reducing stress.

3. Results and Analysis

Section A

Table 3: Percentage Distribution of Antenatal Mothers According to Demographic Characteristics (n = 40)

Variable	Category	n	%
1.Age (yrs)	18–21	12	30
	22–25	26	65
	26–29	2	5
2.Education	Illiterate	4	10
	Primary School	31	77.5
	≥ High School	5	12.5
3.Occupation	Employed	15	37.5
	Unemployed	25	62.5
4.Duration of Marriage	1–5 yrs	27	67.5
	≥6 yrs	13	32.5
5.Religion	Hindu	18	45
	Muslim	20	50
	Christian	2	5
6.Area of Residence	Rural	20	50
	Urban	20	50
7.Type of Family	Nuclear	13	32.5
	Joint	27	67.5
Monthly Income (Rs)	<5000	9	22.5
	5001–10000	25	62.5
	≥10001	6	15

The majority of antenatal mothers (65%) were aged 22–25 years. Most participants (77.5%) had only primary education and 62.5% were unemployed. A higher proportion (67.5%) were married for 1–5 years and belonged to joint families (67.5%). Equal representation from rural and urban areas (50% each) ensured comparability. Most families (62.5%) had a monthly income between Rs 5001–10000.

Section B
Pre-Test Knowledge Level

Table 4: Pre-Test Knowledge Score (n = 40)

Level	n	%
Fair	8	20
Good	30	75
Very Good	2	5

Mean ± SD: 14.50 ± 2.48
Mean %: 48.33 ± 8.26

Before the intervention, most antenatal mothers (75%) had good knowledge, while 20% had fair knowledge. The mean score (48.33%) indicates moderate baseline knowledge regarding Benson's Relaxation Technique.

Post-Test Knowledge Level

Table 5: Post-Test Knowledge Score (n = 40)

Level	n	%
Very Good	18	45
Excellent	22	55

Mean ± SD: 24.27 ± 1.89
Mean %: 80.91 ± 6.31

After the planned teaching programme, 55% of antenatal mothers achieved excellent knowledge and 45% had very good knowledge. The mean score increased to 80.91%, indicating marked improvement.

Section C

Effectiveness of Planned Teaching Programme

Table 6: Comparison of Pre-Test and Post-Test Knowledge Scores (n = 40)

Test	Mean	SD	t-value	p-value
Pre-Test	14.50	2.48	20.55	0.0001*
Post-Test	24.27	1.89		

Significant at p < 0.05

The calculated t-value (20.55) was significantly higher than the tabulated value (2.02). The p-value (0.0001) was less than 0.05, indicating a statistically significant improvement in knowledge after the teaching programme. Hence, the planned teaching programme was effective, and H_1 was accepted.

Table: Association of Post-Test Knowledge Score Regarding Benson's Relaxation Technique with Selected Demographic Variables (n = 40)

Variable	Category	n	Mean ± SD	Test Value	p-value
Religion	Hindu	18	23.72 ± 1.87	χ^2 = 1.62	0.21
	Christian	2	25.50 ± 0.70		
	Muslim	20	24.65 ± 1.89		
Residence	Rural	30	24.30 ± 1.91	t = 0.14	0.88
	Urban	10	24.20 ± 1.93		
Monthly Income (Rs)	<5000	9	24.33 ± 1.87	t = 1.21	0.30
	5001–10000	25	24.00 ± 1.91		
	≥10001	6	25.33 ± 1.75		

NS – Not Significant at p > 0.05

The above table shows the association between post-test knowledge scores regarding Benson's Relaxation Technique and selected demographic variables.

Religion did not show a statistically significant association with post-test knowledge (χ^2 = 1.62, p = 0.21). Although Christian mothers had slightly higher mean scores (25.50 ± 0.70), the difference was not statistically significant.

Similarly, area of residence showed no significant association (t = 0.14, p = 0.88). Both rural (24.30 ± 1.91) and urban mothers (24.20 ± 1.93) demonstrated comparable knowledge levels after the intervention.

Monthly family income also did not show significant association with post-test knowledge (t = 1.21, p = 0.30). Knowledge improvement was consistent across different income groups.

These findings indicate that the planned teaching programme on Herbert Benson's Relaxation Technique was equally effective irrespective of religion, residence, or income status of antenatal mothers.

4. Discussion

The present study found a significant improvement in antenatal mothers' knowledge regarding Benson's Relaxation Technique after the planned teaching programme. The mean post-test score (24.27 ± 1.89) was substantially higher than the mean pre-test score (14.50 ± 2.48), indicating that the intervention effectively enhanced understanding of stress-reduction techniques. This finding is consistent with published research showing that structured educational programmes significantly improve knowledge and awareness of stress management practices among pregnant women. Studies have reported that relaxation training, including Benson's technique, increases psychological well-being and reduces prenatal stress, supporting the importance of health education in antenatal care.

In this study, demographic factors such as religion, residence, and monthly family income did not show a significant association with post-test knowledge scores. However, age and educational status were associated with knowledge levels, suggesting that younger and more educated mothers may benefit more from teaching interventions. Similar trends have been noted in previous research, where maternal education positively influenced the acquisition of health-related information.[5]

Overall, the findings highlight that planned teaching programmes are effective in increasing knowledge regarding non-pharmacological stress management techniques and can be integrated into routine antenatal care to support maternal mental health.

5. Conclusion

The findings of the study revealed that the planned teaching programme was highly effective in improving knowledge regarding Benson's Relaxation Technique among antenatal mothers in selected rural and urban areas. A significant increase was observed in post-test knowledge scores compared to pre-test scores (p < 0.05), indicating the effectiveness of the intervention.

The improvement in knowledge was independent of religion, residence, and monthly family income, while age and educational status showed significant association with post-test scores.

Thus, the study concludes that a structured teaching programme on Herbert Benson's Relaxation Technique is an

effective and practical strategy to enhance knowledge regarding stress reduction among antenatal mothers.

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