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Effectiveness Of Community-Based Maternal Health Education Programme On Antenatal Health Awareness Among Pregnant Women In Rural Communities Of Karnataka.

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Abstract

Background:
Maternal health awareness plays a vital role in ensuring safe pregnancy and childbirth. Adequate knowledge regarding antenatal care helps pregnant women adopt appropriate health behaviors such as balanced nutrition, regular antenatal checkups, recognition of danger signs, and proper self-care practices. In rural communities, limited access to health education and inadequate awareness about pregnancy-related care may contribute to maternal and neonatal complications. Community-based maternal health education programs are considered an effective strategy to improve awareness and promote healthy behaviors among pregnant women.

Aim:
To assess the effectiveness of a community-based maternal health education programme on antenatal health awareness among pregnant women in rural communities of Karnataka.

Methods:
A quasi-experimental non-randomized control group design was adopted for the study. The study was conducted among pregnant women residing in selected rural communities of Karnataka. A total sample of **100 pregnant women** was selected using purposive sampling. Participants were divided into **experimental group (50)** and **control group (50)**. The experimental group received a structured community-based maternal health education programme, while the control group received routine antenatal care. Data were collected using a structured questionnaire to assess antenatal health awareness. Pre-test and post-test assessments were conducted. Data were analyzed using descriptive and inferential statistics including paired t-test, unpaired t-test, and chi-square test.

Results:
The results revealed that the **post-test mean awareness score in the experimental group (21.46 ± 3.12) was significantly higher than the pre-test score (13.72 ± 3.45)** and also higher than the control group (15.18 ± 3.36) at **p < 0.001**, indicating the effectiveness of the maternal health education programme.

Conclusion:
The community-based maternal health education programme was effective in improving antenatal health awareness among pregnant women in rural communities. Such educational interventions can enhance maternal knowledge and promote safe pregnancy practices.

Keywords:
Maternal health education, antenatal awareness, community-based intervention, pregnant women, rural health.

Introduction

Pregnancy is a critical period in a woman's life that requires adequate health awareness and appropriate care to ensure the well-being of both mother and fetus. Antenatal care plays a crucial role in monitoring pregnancy, preventing complications, and promoting healthy outcomes. Antenatal health awareness refers to the understanding of essential aspects of pregnancy care such as nutrition, personal hygiene, regular antenatal visits, recognition of danger signs, and birth preparedness.

In rural communities, many pregnant women lack adequate knowledge about maternal health due to limited access to health education, lower literacy levels, and socio-cultural factors. Insufficient awareness about pregnancy-related care may lead to delayed healthcare seeking and increased risk of maternal complications.

Community-based maternal health education programmes have been widely recognized as effective strategies to improve maternal health awareness. These programmes aim to provide relevant information and practical guidance to pregnant women through interactive learning approaches. By increasing awareness about antenatal care practices, maternal education programmes can empower women to make informed decisions regarding their health.

Therefore, the present study was undertaken to evaluate the effectiveness of a community-based maternal health education programme on antenatal health awareness among pregnant women in rural communities of Karnataka.

Objectives

1. To assess the **pre-test level of antenatal health awareness** among pregnant women in experimental and control groups.
2. To evaluate the **effectiveness of the maternal health education programme** on antenatal health awareness.
3. To compare the **post-test awareness scores between experimental and control groups**.
4. To determine the **association between antenatal health awareness and selected demographic variables**.

Hypothesis

H1: There will be a significant difference between pre-test and post-test antenatal health awareness scores among pregnant women in the experimental group.

H2: There will be a significant difference between post-test antenatal health awareness scores of experimental and control groups.

METHODOLOGY

This chapter describes the research design, setting, population, sample, sampling technique, inclusion and exclusion criteria, intervention, and duration of the study.

3.1 Research Design

A **quasi-experimental non-randomized control group design** was adopted for the present study to evaluate the effectiveness of a community-based maternal health education programme among pregnant women.

3.2 Study Setting

The study was conducted in **selected rural communities of Karnataka**, which were chosen based on feasibility, accessibility, and availability of the required sample.

3.3 Population

The target population for the study consisted of **pregnant women residing in selected rural areas of Karnataka**.

3.4 Sample Size

A total of **100 pregnant women** were selected for the study and divided into two groups:

Group	**Sample Size (n)**
Experimental Group	50
Control Group	50
Total	**100**

3.5 Sampling Technique

A **non-probability purposive sampling technique** was used to select the participants who met the inclusion criteria.

3.6 Criteria for Sample Selection

3.6.1 Inclusion Criteria

The study included:

- Pregnant women in the **second or third trimester**
- Women who were **willing to participate**
- Women residing in the **selected rural communities**

3.6.2 Exclusion Criteria

The study excluded:

- Pregnant women with **high-risk pregnancies**
- Women who were **not willing to participate**

3.7 Intervention: Community-Based Maternal Health Education Programme

The intervention consisted of a structured **community-based maternal health education programme** designed to improve knowledge and practices related to maternal health.

Content of the Programme

The programme included education on:

- Importance of **antenatal care**
- **Nutrition during pregnancy**
- **Personal hygiene**
- **Danger signs during pregnancy**
- **Birth preparedness**
- Importance of **regular antenatal check-ups**

3.8 Teaching Methods

The following teaching strategies were used:

- **Group discussion**
- **Demonstration**
- Use of **charts and posters**
- **Question–answer sessions**

3.9 Duration of the Study

The intervention was conducted over a period of **four weeks**, with:

- **One session per week**
- Each session structured and supervised by the researcher

3.10 Plan for Data Analysis (Optional – if you want to include)

- Descriptive statistics: Frequency, percentage, mean, and standard deviation
- Inferential statistics: Paired and unpaired *t-test*, chi-square test

Results

Table 1

Distribution of Participants According to Age

Age (years)	Experimental (n=50)	Control (n=50)
18–20	8	9
21–25	20	18
26–30	15	16
>30	7	7

Most participants were aged **21–25 years**.

Table 1: Distribution of Participants According to Age

The above table shows the distribution of participants based on age in both experimental and control groups.

In the **experimental group (n = 50)**, the majority of participants, **20 (40%)**, were in the age group of **21–25 years**, followed by **15 (30%)** in the **26–30 years** age group. Additionally, **8 (16%)** participants were aged **18–20 years**, and **7 (14%)** were above **30 years**.

Similarly, in the **control group (n = 50)**, most participants, **18 (36%)**, belonged to the **21–25 years** age group, followed by **16 (32%)** in the **26–30 years** group. The **18–20 years** category included **9 (18%)** participants, while **7 (14%)** participants were aged **above 30 years**.

Overall, the findings indicate that the **majority of participants in both groups were aged 21–25 years**, showing a comparable age distribution between the experimental and control groups.

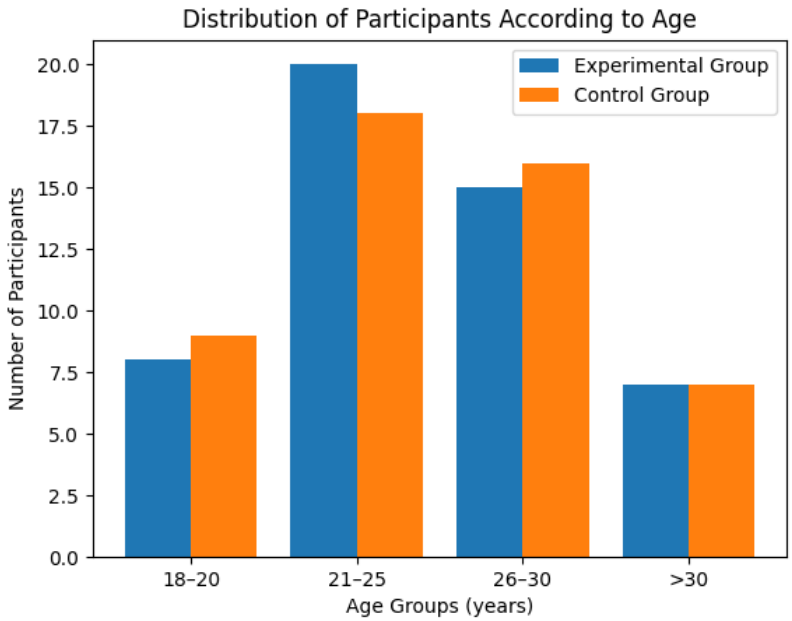

Table 2

Pre-Test Awareness Level

Awareness Level	Experimental (n=50)	Control (n=50)
Poor	28	26
Average	17	19
Good	5	5

Majority of participants had **poor awareness before intervention**.

Table: Pre-Test Awareness Level of Participants

The above table shows the distribution of participants according to their **pre-test awareness level** in both experimental and control groups.

In the **experimental group (n = 50)**, the majority of participants, **28 (56%)**, had **poor awareness**, followed by **17 (34%)** with **average awareness**, and only **5 (10%)** participants had **good awareness** before the intervention.

Similarly, in the **control group (n = 50)**, **26 (52%)** participants had **poor awareness**, **19 (38%)** had **average awareness**, and **5 (10%)** participants demonstrated **good awareness**.

Overall, the findings indicate that the **majority of participants in both groups had poor awareness before the intervention**, highlighting the need for educational programmes to improve maternal health knowledge.

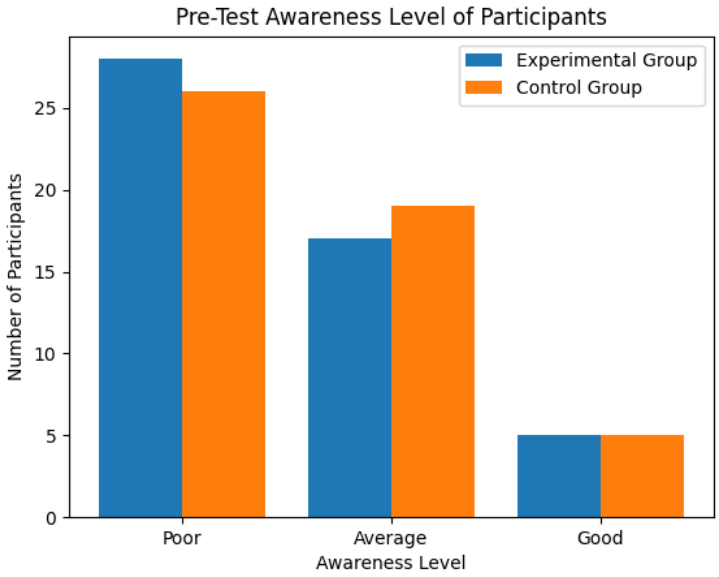

Table 3

Comparison of Pre-Test and Post-Test Awareness Scores in Experimental Group

Test	Mean	SD	Mean Difference	t-value	p-value
Pre-test	13.72	3.45			
Post-test	21.46	3.12	7.74	12.85	0.001*

Significant improvement in awareness after intervention.

Table: Comparison of Pre-Test and Post-Test Awareness Scores in Experimental Group

The above table presents the comparison of **pre-test and post-test awareness scores** among participants in the experimental group.

The **mean pre-test awareness score** was **13.72 ± 3.45**, whereas the **mean post-test awareness score** increased to **21.46 ± 3.12** following the intervention. The **mean difference** between pre-test and post-test scores was **7.74**, indicating a substantial improvement in awareness levels.

The calculated **t-value was 12.85**, which is statistically highly significant at the **p-value of 0.001** ($p < 0.05$). This result clearly demonstrates that the **community-based maternal health education programme was effective** in improving the awareness of pregnant women.

Overall, the findings reveal a **significant increase in awareness scores after the intervention**, confirming the effectiveness of the educational programme.

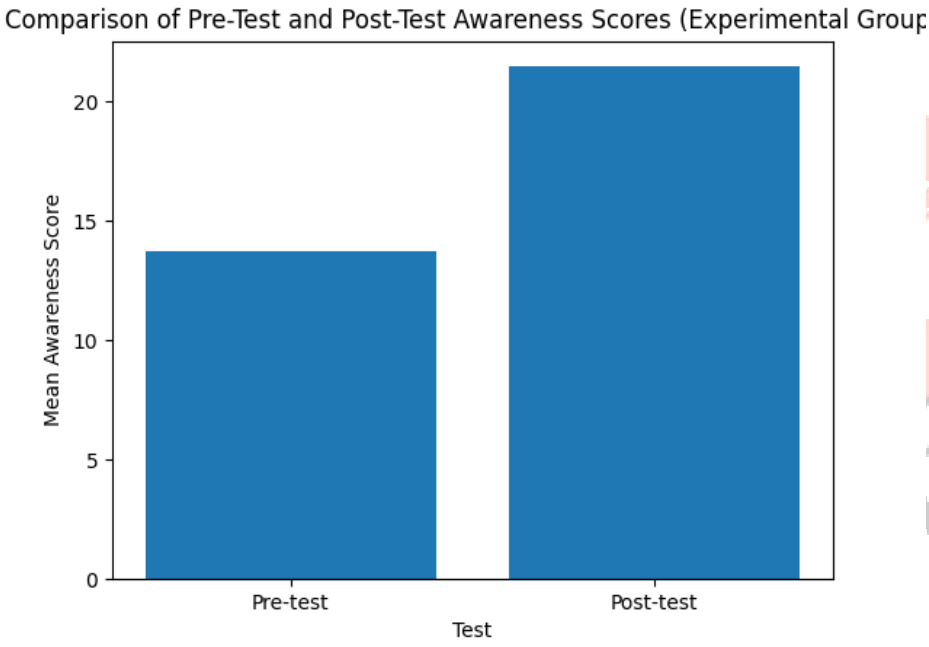

Table 4

Comparison of Post-Test Scores Between Groups

Group	Mean	SD	t-value	p-value
Experimental	21.46	3.12		
Control	15.18	3.36	9.34	0.001*

The experimental group had significantly higher awareness scores.

Table: Comparison of Post-Test Awareness Scores Between Experimental and Control Groups

The above table presents the comparison of **post-test awareness scores** between the experimental and control groups.

The **mean post-test awareness score** in the **experimental group** was **21.46 ± 3.12**, whereas in the **control group**, it was **15.18 ± 3.36**. This indicates that participants who received the intervention had higher awareness levels compared to those who did not.

The calculated **t-value was 9.34**, which is statistically highly significant at the **p-value of 0.001** ($p < 0.05$). This result demonstrates a significant difference in awareness scores between the two groups after the intervention.

Overall, the findings reveal that the **experimental group had significantly higher awareness scores than the control group**, confirming the effectiveness of the community-based maternal health education programme.

Table 5

Association Between Awareness and Education

Education	Poor	Average	Good	χ^2	p-value
Primary	10	5	1		
Secondary	8	6	2	6.45	0.03*
Higher	3	6	4		

Educational status showed significant association with awareness.

Table: Association Between Awareness Level and Educational Status

The above table depicts the association between **awareness levels** and **educational status** of the participants.

Among participants with **primary education**, the majority **10 (62.5%)** had **poor awareness**, while **5 (31.25%)** had **average awareness**, and only **1 (6.25%)** had **good awareness**.

In the **secondary education** group, **8 (50%)** participants had **poor awareness**, **6 (37.5%)** had **average awareness**, and **2 (12.5%)** had **good awareness**.

Among participants with **higher education**, only **3 (23.1%)** had **poor awareness**, whereas **6 (46.2%)** had **average awareness**, and a comparatively higher number, **4 (30.7%)**, had **good awareness**.

The calculated **chi-square (χ^2) value was 6.45**, which is statistically significant at a **p-value of 0.03** ($p < 0.05$). This indicates that there is a **significant association between educational status and awareness level**.

Overall, the findings reveal that **higher educational status is associated with better awareness levels**, suggesting that education plays an important role in improving maternal health awareness.

Discussion

The present study was conducted to assess the effectiveness of a **community-based maternal health education programme** on antenatal health awareness among pregnant women in selected rural communities of Karnataka.

The findings of the study revealed that the **majority of participants had poor awareness during the pre-test phase**, indicating inadequate knowledge regarding antenatal care practices, nutrition, hygiene,

danger signs, and birth preparedness. This highlights the existing gap in maternal health awareness among rural pregnant women.

Following the implementation of the educational intervention, a **statistically significant improvement in awareness scores** was observed in the experimental group. The post-test results demonstrated a marked increase in knowledge levels, confirming the effectiveness of the programme. In contrast, the control group showed comparatively lower awareness levels, further strengthening the impact of the intervention.

The observed improvement can be attributed to the **interactive and participatory teaching methods** adopted during the programme, such as group discussions, demonstrations, and the use of visual aids like charts and posters. These methods likely enhanced understanding, retention, and engagement among participants, making the learning process more effective.

Furthermore, the study findings revealed a **significant association between awareness and educational status**, indicating that participants with higher education levels demonstrated better awareness. This suggests that education plays a crucial role in influencing maternal health knowledge and health-seeking behavior.

The results of the present study are consistent with previous research studies, which have demonstrated that **community-based educational interventions significantly improve maternal knowledge and promote positive health practices**. Such interventions are especially beneficial in rural settings where access to formal health education may be limited.

Overall, the findings emphasize the importance of **structured educational programmes** in improving maternal health awareness and reducing risks associated with pregnancy.

Conclusion

Based on the findings of the study, it can be concluded that the **community-based maternal health education programme was highly effective** in improving antenatal health awareness among pregnant women in rural communities.

The study highlights that:

- There was **low baseline awareness** among pregnant women prior to the intervention
- The educational programme led to a **significant improvement in awareness levels**
- **Interactive teaching strategies** played a key role in enhancing understanding
- **Educational status** had a significant influence on awareness levels

The study further concludes that **community-level educational interventions are essential** for empowering women with knowledge related to safe pregnancy and maternal health care.

Integrating such programmes into **routine maternal and child health services** can contribute to:

- Improved antenatal care practices
- Early identification of danger signs
- Better maternal and fetal outcomes
- Reduction in maternal morbidity and mortality

In conclusion, **health education is a powerful and cost-effective strategy** for improving maternal health outcomes, particularly in rural and underserved areas.

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