



A Quasi Experimental Study To Assess The Effectiveness Of A Participatory Group Counseling Model On Antenatal Health Literacy And Self-Care Practice Among Pregnant Women In A Selected Rural Setting Of Karnataka.

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Abstract

Background:

Maternal health literacy plays a crucial role in ensuring safe pregnancy and improving maternal and fetal outcomes. Adequate knowledge regarding antenatal care helps pregnant women adopt appropriate self-care practices such as proper nutrition, personal hygiene, regular antenatal checkups, and recognition of danger signs during pregnancy. However, in many rural areas of India, pregnant women have limited access to reliable health information, which often results in poor self-care behaviors and delayed health-seeking practices. Participatory group counseling has been recognized as an effective educational strategy that promotes interaction, peer learning, and behavioral change among participants.

Aim:

To assess the effectiveness of a participatory group counseling model on antenatal health literacy and self-care practices among pregnant women in a selected rural setting of Karnataka.

Methods:

A quasi-experimental non-randomized control group design was adopted for the study. The research was conducted among pregnant women attending antenatal clinics in selected rural areas of Karnataka. **The sample size consisted of 100 pregnant women, divided into 50 in the experimental group and 50 in the control group.** The experimental group received **participatory group counseling sessions focusing on antenatal health literacy and self-care practices**, while the control group received routine antenatal care. Data were collected using a **structured antenatal health literacy questionnaire and self-care practice checklist**. Pre-test and post-test assessments were conducted. Data were analyzed using descriptive and inferential statistics including paired and unpaired t-tests.

Results:

The findings indicated that the **mean post-test antenatal health literacy score and self-care practice score of the experimental group were significantly higher than the pre-test scores and the control group ($p < 0.05$).** Participatory group counseling significantly improved knowledge regarding nutrition, antenatal visits, personal hygiene, recognition of danger signs, and healthy lifestyle practices during pregnancy.

Conclusion:

The participatory group counseling model was effective in improving antenatal health literacy and self-care practices among pregnant women in rural communities. Incorporating participatory educational approaches into antenatal services can strengthen maternal health awareness and promote safe motherhood practices.

Keywords:

Antenatal health literacy, self-care practice, participatory group counseling, maternal health education, rural pregnant women.

Introduction

Pregnancy is a critical period in a woman's life that requires appropriate health knowledge and adequate self-care practices to ensure the well-being of both mother and fetus. Antenatal health literacy refers to the ability of pregnant women to obtain, understand, and apply health information related to pregnancy, childbirth, and maternal care. Adequate health literacy helps women recognize danger signs during pregnancy, seek timely medical care, and adopt healthy lifestyle practices.

Despite improvements in maternal health services, many rural communities still face challenges related to limited awareness and inadequate antenatal care practices. According to global maternal

health reports, maternal morbidity and mortality remain significant public health concerns, especially in low-resource settings where access to education and healthcare services is limited.

In rural areas of India, pregnant women often rely on traditional beliefs and informal sources of information, which may not always provide accurate health guidance. Poor antenatal health literacy may result in inadequate nutrition, irregular antenatal visits, delayed recognition of complications, and poor self-care practices. Therefore, empowering women with accurate health information and supportive counseling is essential.

Participatory group counseling is an educational strategy that actively involves participants in discussions, problem solving, and shared learning experiences. Unlike traditional didactic teaching methods, participatory approaches encourage interaction, peer learning, and collective decision-making. Such methods have been found effective in improving health knowledge and behavioral change in community settings.

Group counseling sessions conducted during antenatal care visits provide opportunities for pregnant women to share experiences, clarify doubts, and learn practical self-care strategies. Topics such as nutrition, hygiene, physical activity, recognition of danger signs, and birth preparedness can be effectively addressed through participatory discussions.

Therefore, this study was undertaken to assess the effectiveness of a participatory group counseling model on antenatal health literacy and self-care practices among pregnant women in rural Karnataka.

Need of the Study

Maternal health remains one of the most important indicators of the overall health status of a community. Pregnancy is a critical period in a woman's life that requires appropriate health knowledge, timely healthcare utilization, and adoption of healthy self-care practices. Adequate antenatal care helps in early detection and management of complications, thereby reducing maternal and neonatal morbidity and mortality. However, despite significant improvements in maternal healthcare services in India, many pregnant women, especially in rural areas, still lack sufficient knowledge and awareness regarding proper antenatal care, nutrition, hygiene, and danger signs during pregnancy.

Health literacy plays a vital role in enabling pregnant women to understand and apply health information related to pregnancy. Antenatal health literacy refers to the ability of pregnant women to obtain, process, and utilize information necessary for making appropriate health decisions during pregnancy. Women with adequate antenatal health literacy are more likely to attend regular antenatal

checkups, maintain balanced nutrition, practice personal hygiene, recognize warning signs of complications, and seek timely medical care. Conversely, low levels of health literacy may lead to poor self-care practices, delayed treatment seeking, and increased risk of maternal complications.

According to global maternal health reports, maternal mortality continues to be a significant public health challenge. Although considerable progress has been made in reducing maternal mortality in recent decades, many deaths still occur due to preventable causes such as hemorrhage, hypertensive disorders, infections, and anemia. These complications are often associated with lack of awareness, delayed recognition of symptoms, and inadequate antenatal care. Therefore, improving maternal health literacy and promoting appropriate self-care behaviors among pregnant women is essential for ensuring safe motherhood.

In rural communities, pregnant women often depend on traditional beliefs, family advice, and informal sources of information for pregnancy-related guidance. Limited access to health education programs, low educational status, and socio-cultural barriers further contribute to inadequate knowledge regarding antenatal health practices. As a result, many women fail to follow recommended antenatal care guidelines such as regular antenatal visits, balanced dietary intake, iron and folic acid supplementation, adequate rest, and avoidance of harmful practices.

Self-care practices during pregnancy play a crucial role in maintaining maternal and fetal well-being. These practices include maintaining personal hygiene, consuming nutritious food, taking prescribed supplements, attending antenatal clinics regularly, performing appropriate physical activity, and identifying danger signs of pregnancy such as severe headache, bleeding, swelling of feet, or reduced fetal movements. When pregnant women are well informed about these practices, they are more likely to take responsibility for their own health and contribute to positive pregnancy outcomes.

Educational interventions have been recognized as an effective approach to improving maternal knowledge and health behaviors. However, traditional health education methods often rely on one-way communication, where healthcare providers deliver information without actively engaging participants. Such approaches may not always lead to meaningful learning or behavioral change.

Participatory group counseling is an innovative and interactive educational strategy that encourages active involvement of participants in the learning process. In this method, pregnant women are engaged in group discussions, sharing experiences, asking questions, and learning from one another under the guidance of healthcare professionals. This approach promotes better understanding, increases confidence, and motivates women to adopt healthy behaviors. Participatory counseling also

creates a supportive environment where women can openly discuss their concerns and receive practical guidance regarding pregnancy care.

Group-based counseling has additional advantages in rural settings where resources and healthcare personnel may be limited. It allows healthcare workers to reach multiple participants simultaneously while fostering peer support and collective learning. Women attending group counseling sessions can share their personal experiences, learn from others, and gain practical insights into pregnancy care and self-management.

Objectives of the Study

1. To assess the **existing level of antenatal health literacy** among pregnant women in experimental and control groups.
2. To assess the **self-care practices among pregnant women** during pregnancy.
3. To evaluate the **effectiveness of participatory group counseling on antenatal health literacy** among pregnant women.
4. To determine the **effectiveness of participatory group counseling on self-care practices** among pregnant women.
5. To find the **association between antenatal health literacy and selected demographic variables**.

Hypotheses

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

H2: There will be a significant difference between pre-test and post-test self-care practice scores among pregnant women in the experimental group.

H3: There will be a significant association between antenatal health literacy and selected demographic variables.

Methodology

Research Design

The present study will adopt a **quasi-experimental non-randomized control group design** to assess the effectiveness of a participatory group counseling model on antenatal health literacy and self-care

practices among pregnant women. This design allows the researcher to compare the outcomes between an experimental group receiving the intervention and a control group receiving routine antenatal care.

Study Setting

The study will be conducted in **selected rural communities of Karnataka** among pregnant women attending antenatal clinics at primary health centers and sub-centers. Rural settings are selected to assess the impact of participatory group counseling in communities where access to health education is often limited.

Population

The population for the study will consist of **pregnant women residing in selected rural areas of Karnataka** and attending antenatal clinics during the data collection period.

Sample Size

The **total sample size will be 100 pregnant women.**

Group	Sample Size
Experimental Group	50
Control Group	50
Total	100

Sampling Technique

A **purposive sampling technique** will be used to select eligible pregnant women who meet the inclusion criteria. Participants will then be allocated to experimental and control groups.

Inclusion Criteria

The study will include pregnant women who:

- Are in the **second or third trimester of pregnancy**
- Are **willing to participate** in the study
- Are **residing in the selected rural communities**
- Are **able to understand the local language**

Exclusion Criteria

The study will exclude pregnant women who:

- Have **severe pregnancy complications or high-risk pregnancy conditions** requiring specialized medical care
- Are **not willing to participate** in the study
- Are **unable to attend the counseling sessions regularly**

Intervention: Participatory Group Counseling Model

The intervention will consist of **structured participatory group counseling sessions** designed to improve antenatal health literacy and promote healthy self-care practices among pregnant women.

Participatory group counseling encourages active involvement of participants through group discussions, shared experiences, and interactive learning. The sessions will be conducted by the researcher or trained health professionals.

Counseling Topics

The counseling sessions will cover the following important aspects of antenatal care:

- Importance of **regular antenatal check-ups**
- **Nutrition during pregnancy** and balanced diet
- **Personal hygiene and sanitation** during pregnancy
- **Physical activity and adequate rest**
- Identification of **danger signs in pregnancy**
- **Birth preparedness and complication readiness**
- **Emotional and psychological support** during pregnancy

Methods of Teaching

The following participatory teaching methods will be used during counseling sessions:

- **Group discussion**
- **Demonstration** of appropriate practices
- **Interactive learning activities**
- Use of **visual aids, charts, and posters**
- **Question and answer sessions**

These methods will help enhance understanding and encourage pregnant women to actively participate in the learning process.

Duration of Intervention

The participatory counseling sessions will be conducted **once a week for four weeks**, with each session lasting approximately **45–60 minutes**.

Data Collection Tools

The data will be collected using a structured tool consisting of three sections.

Section A: Demographic Variables

This section will include information related to participants such as:

- Age
- Education
- Occupation
- Monthly family income
- Parity
- Gestational age
- Type of family
- Previous antenatal history

Section B: Antenatal Health Literacy Questionnaire

A **structured questionnaire** will be used to assess the level of antenatal health literacy among pregnant women. The questionnaire will include items related to:

- Knowledge about antenatal care
- Nutritional requirements during pregnancy
- Importance of antenatal visits
- Awareness of pregnancy danger signs
- Health practices during pregnancy

Section C: Self-Care Practice Checklist

A **self-care practice checklist** will be used to assess the pregnancy-related self-care practices followed by pregnant women, including:

- Nutritional habits
- Personal hygiene practices
- Regular antenatal visits
- Medication and supplement adherence
- Physical activity and rest patterns

Data Collection Procedure

Initially, a **pre-test** will be conducted in both experimental and control groups to assess baseline antenatal health literacy and self-care practices. After the pre-test, the experimental group will receive the participatory group counseling sessions, while the control group will continue to receive routine antenatal care. Following completion of the intervention, a **post-test** will be conducted in both groups to evaluate the effectiveness of the counseling model.

Data Analysis Plan

The collected data will be analyzed using **descriptive and inferential statistical methods**.

Statistical Method	Purpose
Frequency and Percentage	Analysis of demographic variables
Mean and Standard Deviation	Assessment of health literacy and practice scores
Paired t-test	Comparison of pre-test and post-test scores within the experimental group
Unpaired t-test	Comparison between experimental and control groups
Chi-square test	Association between demographic variables and knowledge/practice scores

Results

1. Distribution of Pregnant Women According to Demographic Variables

The demographic characteristics of the participants were analyzed using frequency and percentage. The results revealed that the majority of pregnant women belonged to the **21–25 years age group**,

most had **secondary level education**, and a large proportion were **homemakers**. Most participants belonged to **nuclear families** and were in their **second trimester of pregnancy**. Both experimental and control groups were comparable in terms of demographic characteristics, indicating homogeneity between the groups before the intervention.

2. Comparison of Pre-test and Post-test Antenatal Health Literacy Scores in the Experimental Group

The mean antenatal health literacy score of pregnant women in the experimental group increased significantly after the participatory group counseling intervention.

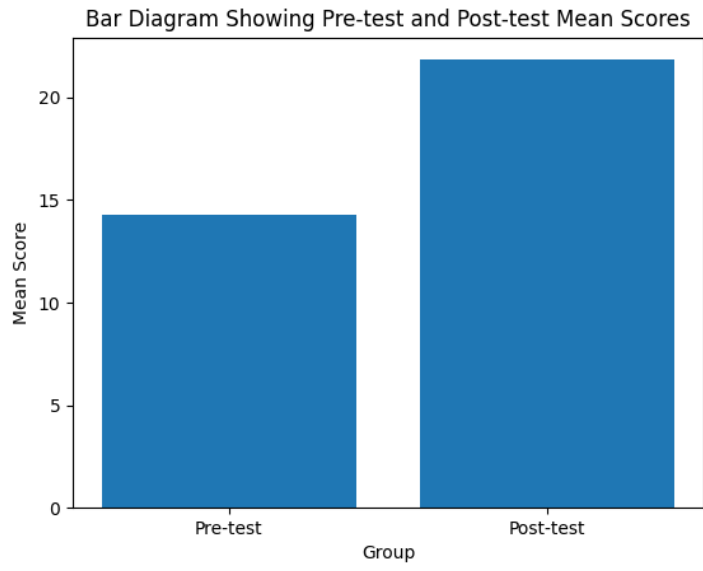
Group	Mean	SD	Mean Difference	t-value	p-value
Pre-test	14.26	3.41			
Post-test	21.84	3.08	7.58	12.64	0.001*

The findings indicate that the **post-test mean score was significantly higher than the pre-test score**, demonstrating that the participatory group counseling model effectively improved antenatal health literacy among pregnant women.

3. Comparison of Pre-test and Post-test Self-Care Practice Scores in the Experimental Group

A significant improvement was also observed in the self-care practices of pregnant women following the intervention.

Group	Mean	SD	Mean Difference	t-value	p-value
Pre-test	12.48	3.12			
Post-test	19.36	3.27	6.88	11.72	0.001*



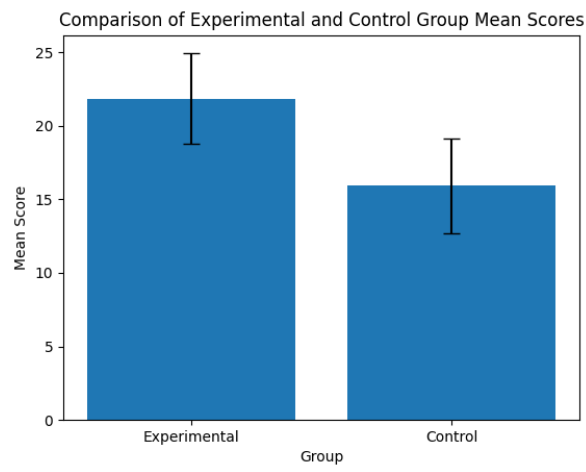
The results show that **participatory group counseling significantly improved self-care practices** among pregnant women.

4. Comparison of Post-test Scores Between Experimental and Control Groups

An unpaired t-test was used to compare the post-test scores between experimental and control groups.

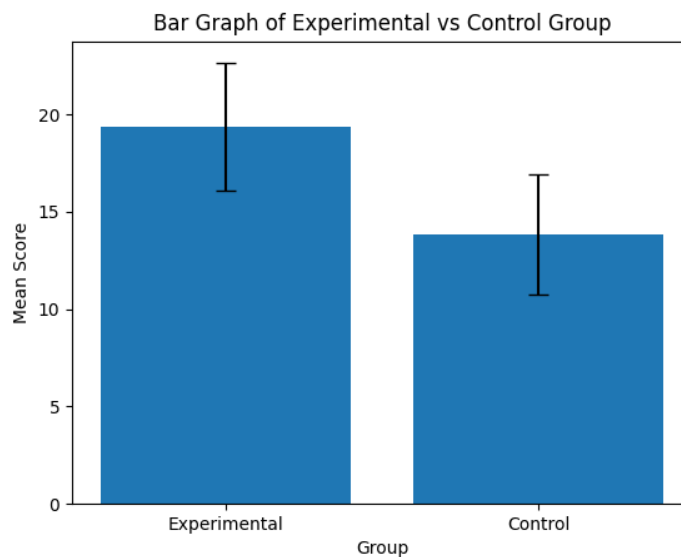
Antenatal Health Literacy

Group	Mean	SD	t-value	p-value
Experimental	21.84	3.08		
Control	15.92	3.21	8.94	0.001*



Self-Care Practices

Group	Mean	SD	t-value	p-value
Experimental	19.36	3.27		
Control	13.84	3.09	7.86	0.001*



The findings revealed that **pregnant women in the experimental group had significantly higher post-test scores compared to the control group**, indicating the effectiveness of the counseling intervention.

5. Association Between Antenatal Health Literacy and Selected Demographic Variables

Chi-square analysis was used to determine the association between antenatal health literacy scores and selected demographic variables.

The results indicated that **educational status and parity showed significant association with antenatal health literacy ($p < 0.05$)**, whereas variables such as age, occupation, and family type were not significantly associated.

Overall Findings

The overall results of the study demonstrated that the **participatory group counseling model significantly improved antenatal health literacy and self-care practices among pregnant women in rural communities**. The intervention proved to be an effective educational strategy for enhancing maternal knowledge and promoting healthy behaviors during pregnancy.

Discussion

The present study was conducted to assess the effectiveness of a participatory group counseling model on antenatal health literacy and self-care practices among pregnant women in a selected rural setting of Karnataka. The findings of the study indicated that participatory group counseling significantly improved both antenatal health literacy and self-care practices among the participants in the experimental group compared to the control group.

The results of the study showed that the pre-test level of antenatal health literacy among pregnant women was relatively low in both experimental and control groups. This finding reflects that many pregnant women in rural communities have limited knowledge regarding antenatal care, nutrition, hygiene, danger signs during pregnancy, and appropriate self-care practices. Lack of awareness and limited access to reliable health information may contribute to inadequate maternal health practices during pregnancy.

After the implementation of the participatory group counseling sessions, a significant improvement was observed in the post-test antenatal health literacy scores of the experimental group. The improvement may be attributed to the interactive nature of the counseling sessions, which encouraged active participation, discussion, and sharing of experiences among pregnant women. Participatory learning methods enable participants to understand health information more effectively compared to traditional lecture-based teaching methods.

Similarly, the study also found a significant improvement in the self-care practices of pregnant women in the experimental group after the intervention. The counseling sessions emphasized important aspects such as balanced nutrition, regular antenatal checkups, personal hygiene, recognition of danger signs, and adequate rest during pregnancy. Increased awareness and understanding of these practices may have motivated pregnant women to adopt healthier behaviors.

The comparison between experimental and control groups further demonstrated that pregnant women who received participatory group counseling had significantly higher post-test scores in both antenatal health literacy and self-care practices compared to those who received routine antenatal care. This finding suggests that participatory group counseling is more effective than conventional health education approaches in improving maternal health awareness and practices.

Another important finding of the study was the significant association between antenatal health literacy and certain demographic variables such as educational status and parity. Pregnant women with higher educational levels tended to have better health literacy scores, which may be due to their greater ability to understand and apply health-related information. Similarly, multiparous women may have

gained knowledge and experience from previous pregnancies, which could contribute to improved awareness of antenatal care practices.

The findings of the present study highlight the importance of community-based educational interventions in improving maternal health outcomes. Participatory group counseling provides an opportunity for pregnant women to learn in a supportive environment where they can share experiences, ask questions, and gain practical knowledge about pregnancy care. Such interventions can play a significant role in empowering women with the knowledge and confidence required to manage their own health during pregnancy.

Overall, the study findings suggest that participatory group counseling is an effective strategy for enhancing antenatal health literacy and promoting healthy self-care practices among pregnant women in rural communities. Integrating such participatory educational approaches into routine antenatal care services may help improve maternal health awareness and contribute to better pregnancy outcomes.

Conclusion

The present study concluded that participatory group counseling is an effective educational intervention for improving antenatal health literacy and self-care practices among pregnant women in rural areas. The findings revealed that pregnant women who participated in the counseling sessions demonstrated significant improvement in their knowledge and understanding of antenatal care, as well as in their adoption of healthy self-care behaviors during pregnancy.

The interactive and participatory nature of group counseling encouraged pregnant women to actively engage in the learning process, share experiences, and clarify doubts regarding pregnancy care. This approach helped enhance their awareness of important aspects such as nutrition, hygiene, antenatal visits, recognition of danger signs, and birth preparedness.

The study also highlighted that improved antenatal health literacy can positively influence self-care practices among pregnant women. When women are well informed about pregnancy-related health issues, they are more likely to adopt appropriate health behaviors that promote maternal and fetal well-being.

Therefore, participatory group counseling can be considered a valuable strategy for strengthening maternal health education programs, particularly in rural settings where access to health information may be limited. Incorporating participatory counseling sessions into routine antenatal care services may help empower pregnant women with knowledge, improve self-care practices, and ultimately contribute to safer pregnancy outcomes.

The findings of this study provide important evidence for healthcare professionals, community health workers, and policymakers to promote participatory educational interventions as part of maternal health programs to enhance the quality of antenatal care and improve maternal health outcomes in rural communities.

Recommendations

Based on the findings of the present study, the following recommendations are suggested to improve antenatal health literacy and self-care practices among pregnant women:

1. Nursing Practice

- Participatory group counseling should be incorporated as a **routine component of antenatal care services** in primary health centers and community health settings.
- Nurses, midwives, and community health workers should actively conduct **regular health education sessions** for pregnant women focusing on antenatal care and self-care practices.
- Healthcare providers should encourage **interactive learning methods** such as group discussion, demonstration, and question–answer sessions to enhance understanding among pregnant women.

2. Nursing Education

- Nursing education programs should include **training on participatory counseling techniques** for students to effectively educate pregnant women in community settings.
- Student nurses should be encouraged to participate in **community-based maternal health education programs** during their clinical postings.
- Curriculum planners may incorporate **maternal health literacy promotion strategies** as part of nursing education to strengthen preventive healthcare skills.

3. Nursing Administration

- Hospital administrators and public health authorities should organize **regular antenatal education programs and counseling sessions** for pregnant women in rural communities.
- Training programs should be conducted for **healthcare professionals and community health workers** to improve their skills in delivering participatory group counseling.
- Adequate **educational materials such as posters, charts, and audiovisual aids** should be made available in antenatal clinics to support health education activities.

4. Nursing Research

- Similar studies can be conducted with a **larger sample size** to enhance the generalizability of the findings.
- Future research may be carried out in **different geographical areas and healthcare settings** to compare the effectiveness of participatory counseling in diverse populations.
- Comparative studies may be conducted to evaluate the effectiveness of **different educational strategies such as video-assisted teaching, digital education, and peer support programs** on maternal health literacy.
- Longitudinal studies may be undertaken to assess the **long-term impact of antenatal health literacy on maternal and neonatal outcomes**.

5. Community Health Programs

- Community-based maternal health programs should integrate **participatory counseling models to improve awareness among pregnant women**.
- Government and non-government organizations can collaborate to conduct **maternal health awareness campaigns in rural communities**.
- Strengthening community participation and family involvement may further support **healthy pregnancy practices and safe motherhood initiatives**.

Overall, implementing participatory group counseling as part of maternal health programs can significantly enhance antenatal health literacy and promote positive self-care behaviors among pregnant women, thereby contributing to improved maternal and neonatal health outcomes.

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