

A Study to Evaluate the Impact of a Self-instructional Module on Knowledge Enhancement Regarding the Management of Common Pregnancy Discomforts Among Primigravida Mothers in Selected Hospitals of Mysuru

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Abstract

Gestation is a time of physical, emotional and hormonal changes in a woman. It is one of the important phases in a woman's life from the time of be. It is accompanied by discomforts that are generally known as minor ailments. These common discomforts occur generally among primigravida mothers. Symptoms of discomfort due to gestation vary from woman to woman; they are nausea and vomiting, fatigue, backache, heartburn and indigestion, swollen nodes, frequency of urination, constipation, edema of legs, dizziness etc. Understanding these common discomforts and taking acceptable probative and preventative measures is a high responsibility of every pregnant woman in order to avoid the complications. Hence, we planned to conduct the present study that may serve salutary to the primi mothers especially. The study aimed to evaluate the current knowledge of primigravida mothers regarding the management of common discomforts during pregnancy, assess the effectiveness of a self-instructional module (SIM) on improving this knowledge, and examine the relationship between pretest knowledge scores and selected demographic variables. A quantitative evaluative research study with a pre-experimental one-group pre-test post-test design was conducted using convenient sampling (N=60). Data were collected through a structured interview, followed by the administration of the self-instructional module. Descriptive and inferential statistics were used to analyze the data. The results revealed that the mean pre-test score was 15.3, and the mean post-test score was 25.75, with a mean difference of 10.42. The computed paired 't' value of 16.63 was statistically significant at the 5% level, indicating that the self-instructional module was effective. As a result, the research hypothesis (H1) was accepted, showing a significant difference between the mean pre-test and post-test knowledge scores. The calculated chi-square values showed no significant association between the socio-demographic data of the respondents and their pre-test knowledge scores. In conclusion, the study

found a knowledge deficit regarding the management of common discomforts during pregnancy among primigravida mothers prior to the administration of the SIM. The results demonstrated that the SIM was effective in increasing knowledge.

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INTRODUCTION

“Maternity is a glorious thing, since all mankind has been conceived, born, and nourished of women.”

—Martin Luther

Pregnancy is a transitional phase involving dynamic physiological changes to accommodate the needs of the developing fetus, childbirth, and lactation. While some changes during this time may be enjoyable and exciting for the mother, others can cause discomfort. The female body typically adapts to these changes as the pregnancy progresses. Many women face minor discomforts during pregnancy, which should be recognized and properly addressed to prevent them from escalating into serious health issues. These discomforts can arise from hormonal, metabolic, accommodation, and postural changes, affecting various bodily systems. It is essential for the mother to have the knowledge to manage these pregnancy-related discomforts effectively [1].

The anatomical, physiological, and psychological adjustments during pregnancy are significant. These changes start at conception and persist throughout the pregnancy, triggered by the physiological and hormonal changes related to the development of the fetus and placenta. These adjustments are often referred to as minor ailments or discomforts of pregnancy. These minor ailments can be greatly alleviated by providing clear explanations and offering simple treatments. Most minor disorders can escalate into a more serious complication of pregnancy. Mothers should be encouraged to seek medical advice if at any time they feel unwell or the signs exceeded in causing distress in women. The mother can be assured that her pregnancy is likely to proceed smoothly and without complication. It adds to her security if she knows clearly when she should seek the help of a professional [2].

The common discomforts during pregnancy that are more frequently experienced by primigravida mothers include lower back pain, leg cramps, constipation, fatigue, nausea and vomiting, sleep disturbances, heartburn, and increased urinary frequency. Care of these symptoms requires proper remedies and the capability to distinguish cure. Knowledge of a variety of treatment options, thus, allows interpreters to consider the treatment with their cases in opting the suitable remedial approach for the specific problem [3].

NEED FOR THE STUDY

Minor complaints are just less as important as they are not life-threatening. A minor disorder may accelerate and turn in to a serious complication of gestation. The function of the midwife is to always warn to any evolving complications and relate correctly. She must as always educate, when changes of gestation are understood they are easier to tolerate and gratuitous anxiety is mitigated [2]. Gestation related physical symptoms cause negative effect on pregnant women's quality of life. Still, pregnant women avoid taking specifics from the fear that the drug they use may have a dangerous effect on the fetus. Thus, they exercise non-pharmacological styles to help them manage their gestation-related physical symptoms [3]. A study was conducted among prenatal mothers attending prenatal OPD at medical centers of Dadra and Nagar Haveli. Using a structured questionnaire, the data was collected from 40 prenatal mothers. The results of the study showed that 2.5% of prenatal moms had poor knowledge (0–50), 75% had average knowledge (50–75) and 22.5% had good knowledge (75–100) regarding the minor ailments [4]. The musculoskeletal symptoms complained by pregnant women were: 64.6% had calf muscle cramps, 37.1% had foot pain, and 33.7% experienced low back pain, especially in their third trimester. Musculoskeletal dysfunctions and general discomforts were very commonly occurring and affecting the daily living activities of pregnant women [5].

A study was conducted at AIMS, Jodhpur, among 368 pregnant mothers using convenient sampling technique. A self-structured knowledge questionnaire and a checklist for practice were used for data collection. The study found that the most common health issues reported by pregnant women were frequent urination and fatigue. Approximately 61% of mothers had an average level of knowledge. The majority of antenatal mothers used various home remedies to relieve their symptoms. 86.6% ate small and frequent meals followed by 74.3% avoided strong odors to prevent nausea and vomiting [6]. A cross-sectional study was conducted at a civil hospital in Hamirpur among 70 antenatal women after 34 completed weeks of gestation; using pre-structured questionnaire, the data was collected. The study results showed that 94.2% of women experienced nausea and vomiting, with a higher incidence in

primigravida. Additionally, 32.8% of women reported pica, and 12 women each had varicosities and hemorrhoids. Leg cramps were reported by 77% of women, while 44.2% experienced heartburn [7]. A comparative and descriptive study was conducted on pregnant women attending obstetrics and gynecology outpatient clinics at hospitals in Erzurum, Turkey. The study found that the most common discomforts during the first trimester were nausea and vomiting (87.8%), fatigue (77.9%), and breast pain/tenderness (76.2%) [8]. In the second and third trimesters, the most frequent discomforts reported were polyuria (79.9%), fatigue (75.6%), and heartburn (71.3%) [9]. First time mothers need to know about these problems so that they can handle the problems and seek medical attention if necessity arises and be reassured of their safe delivery. Hence the researcher planned to conduct the present study [10].

RESEARCH METHODOLOGY

Research Approach

A quantitative evaluative research approach was considered as an appropriate one for the present study.

Research Design

The study used a pre-experimental design with a one-group pre-test and post-test research approach. In this design, pre-test is conducted followed by administering self-instructional module and then post-test conducted for the same group after 7 days (Table 1).

Setting of the Study

The study was conducted in Seit Mohandas Thulasidas Hospital and PHC, Nazarbad, Mysuru.

Target Population

The target population of the present study is primigravida antenatal mothers.

SAMPLE AND SAMPLING TECHNIQUES

Sample

In this study, the sample is primigravida antenatal mothers attending the antenatal OPD of Seit Mohandas Thulasidas Hospital and PHC, Nazarbad, Mysuru.

Sample Size

60 primigravida antenatal mothers.

Sampling Technique

Non-Probability Convenient Sampling Technique.

Criteria for Selection of Sample

Inclusion Criteria

1. Primigravida mothers irrespective of their gestational age.
2. Mothers who are available and willing to participate in the study [11].

Exclusion Criteria

1. Primigravida mothers who are diagnosed as high risk pregnancy.
2. Mothers who are in the early stage of labor [12].

Data Collection Instruments

The data was collected using a structured interview schedule.

Table 1. Research approach.

Group	Pre test	Intervention	Post test
S	O ₁	X	O ₂

S=Single group, O₁=Pre test, X= Intervention, O₂=Post test.

DEVELOPMENT OF THE TOOL

The development of the questionnaire was based on the following sources [13]:

1. Review of literature.
2. Discussion and suggestions from experts
3. Referring standard questionnaire regarding management of common discomforts during pregnancy

Steps Taken to Prepare Tool

Step 1: Lesson Plan

A lesson plan was prepared regarding management of common discomforts during pregnancy to provide information to the samples of the study.

Step 2: Blue Print

A blue print was prepared prior to the construction of structured knowledge questionnaire, based on which the items were developed.

Step 3: Formation of Questionnaire

Questionnaire was prepared on the basis of lesson plan and blueprint. Structured knowledge questionnaire was based on different areas regarding management of common discomforts during pregnancy among primigravida mothers [14].

Description of the Tool

The tool consists of two parts:

Part I: Socio Demographic data

Socio demographic variables consists of 8 items, which includes Age, Month of current pregnancy, religion, Education, occupation, Type of family, previous knowledge and Source of information regarding management of common discomforts during pregnancy.

Part II: Structured Knowledge Questionnaire

Part II consist 30 items. It is based on introduction related to common discomforts during pregnancy, its major causes, and the management aspects related to the common discomforts during pregnancy among primigravida mothers [15].

Development of Self Instructional Module

The steps adopted for the development of self-instructional module are:

The initial draft of the self-instructional module on managing common discomforts during pregnancy was created based on the objectives, a thorough literature review, and input from the guide and personal experience. Key factors such as the participants' level of understanding, the teaching method to be used, simplicity of language, effective use of teaching aids, and the attention span of the subjects were also taken into account [16].

Preparation of the Final Draft of the Self-instructional Module

The Self Instructional Module comprised of the following headings;

- Enlists the common discomforts during pregnancy.
- Explains about management of common discomforts like nausea and vomiting, constipation, tiredness, sleeping and breathing difficulty, frequency of urination, breast tenderness, edema, varicose veins, numbness, muscle cramps and tingling sensation during pregnancy [17].

Content Validation of Tool Along with Self-instructional Module

The content of tool along with self-instructional module was given to seven OBG Nursing Experts, one statistician and two obstetricians for the validation against the criteria checklist. Modifications and suggestions from the experts were considered and the final draft was prepared (Table 2).

Table 2. Scoring Key for the knowledge level of knowledge scores.

Level of knowledge	Score
Inadequate	<50%
Moderately Adequate	50–75%
Adequate	>75%

Pilot Study

The pilot study was conducted on 21/06/2023 to 27/06/23 by selecting 10% of the sample size/subjects (antenatal mothers) and they were excluded in main study. After explaining the study's purpose, the knowledge of antenatal mothers was evaluated using a structured interview schedule that included socio-demographic variables. Following the pre-test, the self-instructional module was provided. A post-test was conducted 1 week later using the same tool to assess the module's effectiveness. The data from both the pre-test and post-test were numerically coded and organized in tables. A brief analysis was performed using statistical methods [18].

Reliability of the Tool

The reliability of the tool was computed by Spearman-Brown Prophecy Formula:

$(r_1=2r_{1/2}/1+r_{1/2})$ and was found to be 0.74.

Data Collection Procedure

After obtaining the permission from authorities and informed consent from the samples, the investigator collected the base line demographic data. The investigator conducted the main study from 1st July 2023 to 31st July 2023.

Level 1

Pre-test was conducted for primigravida mothers to assess existing knowledge regarding management of common discomforts during pregnancy.

Level 2

Self-instructional module was administered for primigravida mothers to assess existing knowledge regarding management of common discomforts during pregnancy.

Level 3

After 7 days of the teaching program, post-test was conducted to assess the level of knowledge of primigravida mothers to assess existing knowledge regarding management of common discomforts during pregnancy. About 20 min were taken by each subject to complete the questionnaire.

Plan of Data Analysis

The collected data were analyzed in accordance with the study's objectives and hypotheses, utilizing both descriptive and inferential statistics [19].

Descriptive Statistics

Frequency and percentage were employed to analyze the demographic data, while mean and standard deviation were used to determine the level of scores.

Inferential Statistics

The Chi-square test was applied to examine the association between the pre-test knowledge score and the selected demographic variables. Paired 't'-test was used to examine the effectiveness of self-instructional module [20].

RESULTS

Organization of the Findings

The analysis of the data were organized and presented as follows:

- *Section A:* Description of demographic variables.
- *Section B:* Knowledge of primigravida mothers regarding management of common discomforts during pregnancy.
- *Section C:* Effectiveness of self-instructional module regarding management of common discomforts during pregnancy.
- *Section D:* The association between pretest knowledge score and selected demographic variables.

Section A: Description of Demographic Variables

The majority of the subjects (38.3%) were in the age group of 18–22 years. Majority of the participants' (48.3%) month of current pregnancy was between 0–3 months. Majority (63.3%) of their religion is Hindu. Majority (28.3%) of the subjects completed primary education. Most of the participants' (53.3%) occupation is House wives (Table 3).

Table 3. Distribution of frequency and percentage analysis of demographic variables (N=60).

S.N.	Characteristics	Category	Respondents	
			Number	Frequency %
1	Age	18–22 years	23	38.3
		23–27 years	21	35.0
		28–32 years	14	23.3
		>33 years	2	3.3
2	Month of current pregnancy	0–3 months	29	48.3
		4–7 months	20	33.3
		8–9 months	11	18.3
		>9 months	00	00
3	Religion	Hindu	38	63.3
		Christian	12	20.0
		Muslim	10	16.7
		Others	00	00
4	Educational status	Primary education	17	28.3
		Higher secondary	13	21.7
		Graduate	14	23.3
		Post graduate	16	26.7
5	Occupation	Private employee	23	38.3
		Government employee	5	8.3
		Housewife	32	53.3
		Others	00	00
6	Type of Family	Joint family	39	65.0
		Nuclear family	21	35.0
7	Previous Knowledge	Yes	28	46.7
		No	32	53.3
8	Source of Information	Mass media	00	00
		Health personnel	9	15.0
		Friends	5	8.3
		Family members	14	23.3

Majority of the participants (65.0%) belong to Joint Family. About 46.7% of the subjects had previous knowledge regarding management of common discomforts during pregnancy and majority (23.3%) of the subjects obtained the source of information from the family members (Figures 1–8).

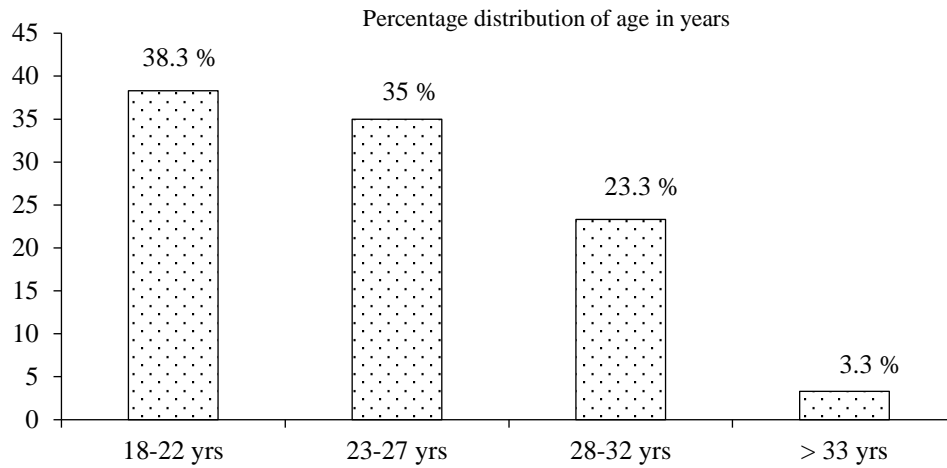


Figure 1. Classification of respondents by age group.

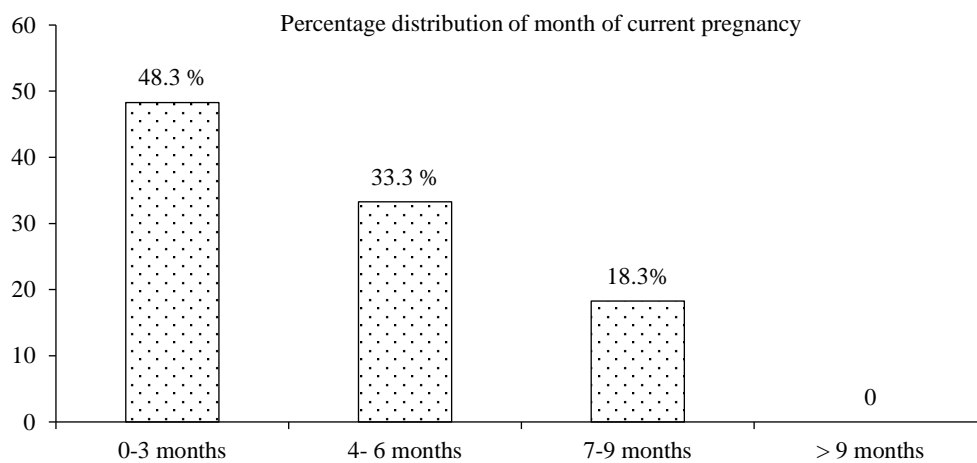


Figure 2. Classification of respondents by month of current pregnancy.

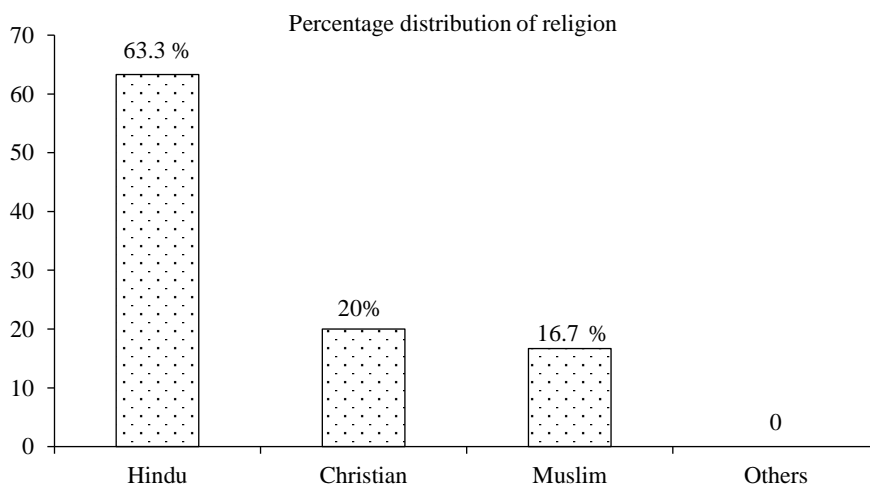


Figure 3. Classification of respondents by religion.

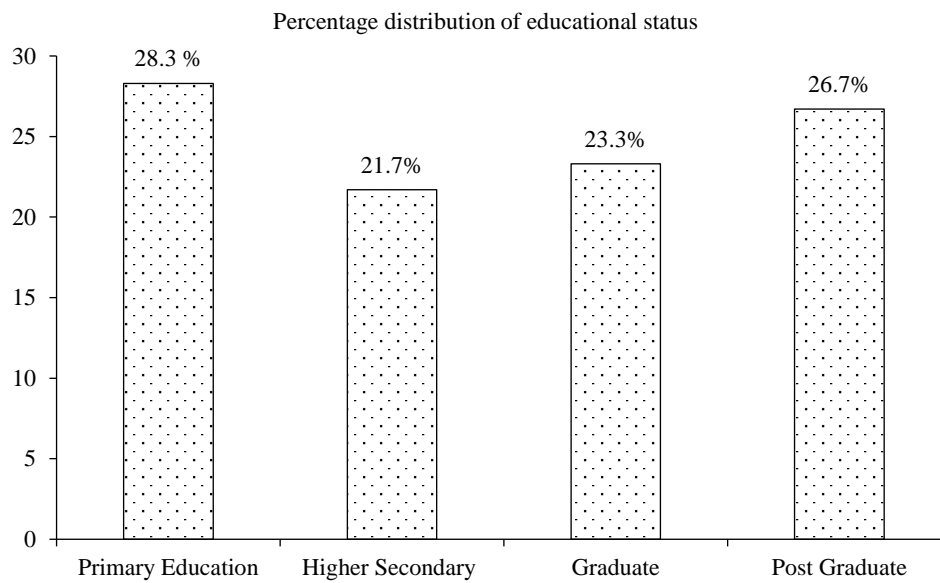


Figure 4. Classification of respondents by educational status.

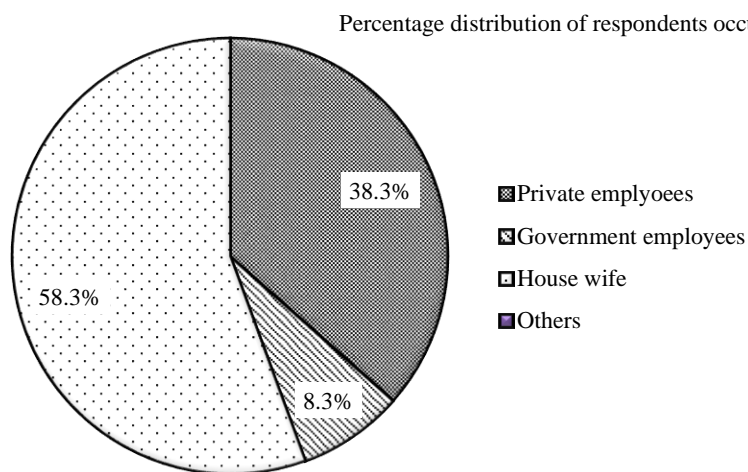


Figure 5. Classification of respondents by Occupation.

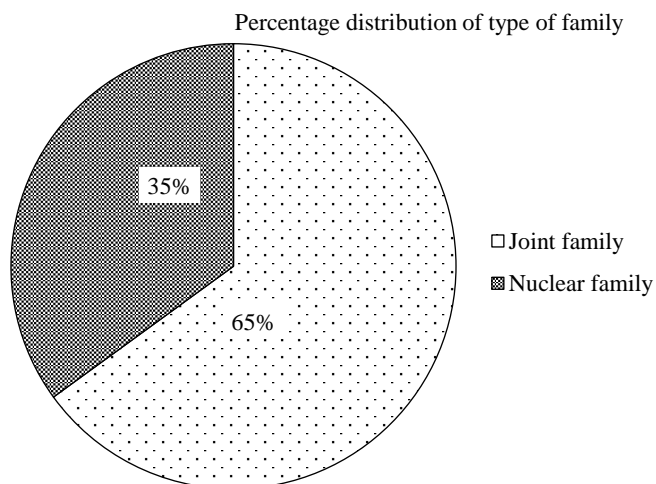


Figure 6. Classification of respondents by type of family.

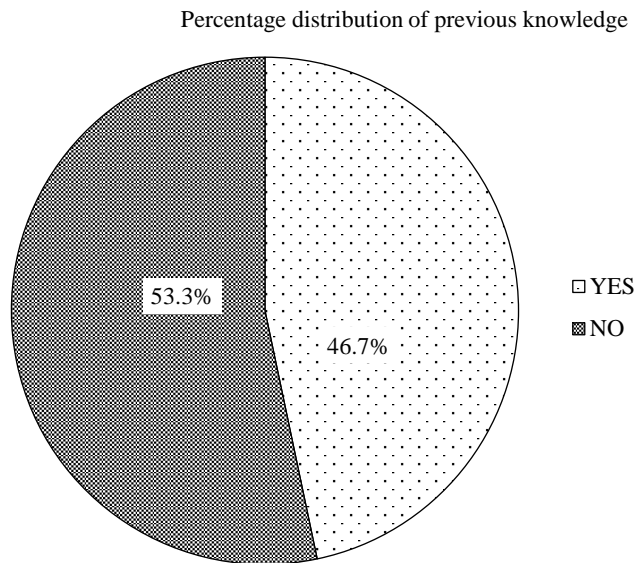


Figure 7. Classification of respondents by previous knowledge.

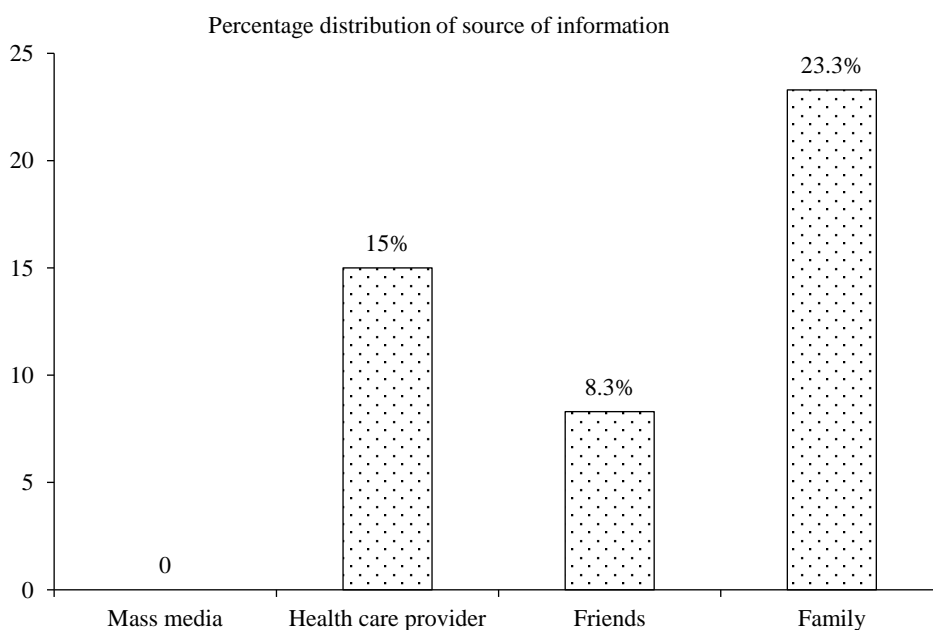


Figure 8. Classification of respondents by source of information.

Section B: Knowledge of Primigravida Mothers Regarding Management of Common Discomforts During Pregnancy

Table 4 presents the classification of respondents based on their pre-test and post-test knowledge levels regarding the management of common discomforts during pregnancy. The pre-test results indicate that the majority, 36 (60%), had moderate knowledge, 24 (40%) had inadequate knowledge, and none had adequate knowledge. In contrast, the post-test results show that the majority, 45 (75%), had adequate knowledge, while 15 (25%) had a moderate level of knowledge (Figure 9).

The data from the (Figure 9) depicts that in pre-test 24 (40%) participants had inadequate knowledge, 36 (60%) participants had moderate knowledge regarding management of common discomforts during pregnancy. In post-test, 15(25%) participants had moderate knowledge, 45 (75%) participants had adequate regarding management of common discomforts during pregnancy.

Table 4. Classification of respondents based on their pre-test and post- test knowledge level of regarding management of common discomforts during pregnancy.

Knowledge level	Category	Pre test Respondents		Post test Respondents	
		Number	Percentage	Number	Percentage
Inadequate	≤50%	24	40%	-	-
Moderate	51–75%	36	60%	15	25%
Adequate	>75%	-	-	45	75%
Total		60	100%	60	100%

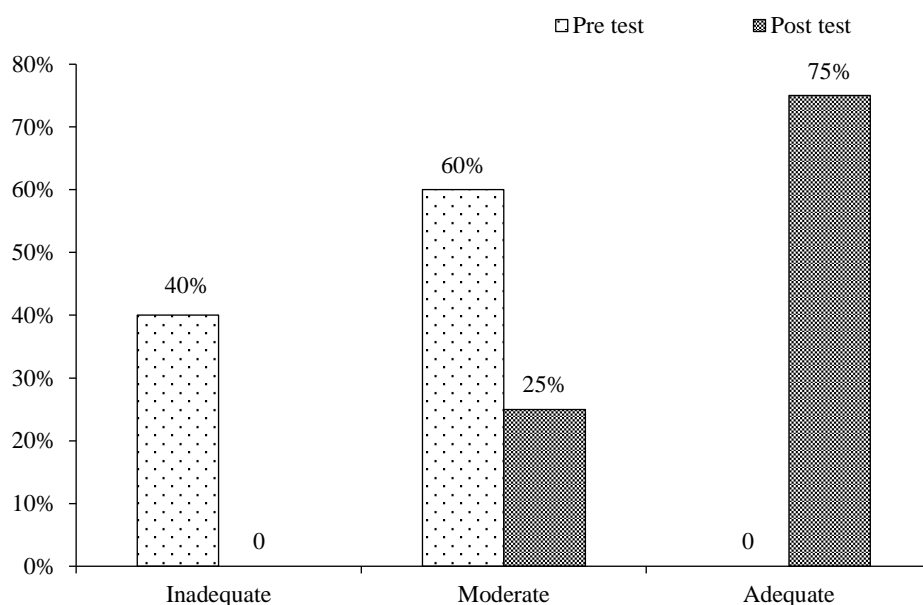


Figure 9. Distribution of Primigravida mothers’ pre-test and post-test level of knowledge score on management of common discomforts during pregnancy.

Table 5. The impact of the self-instructional module on improving knowledge about managing common discomforts during pregnancy (N=60).

Aspects	Max. Score	Participants Knowledge				
		Mean	SD	Mean%	SD%	Paired 't' test
Pre-test	30	15.3	5.12	51	17.06	16.63
Post-test	30	25.75	2.38	85.8	7.96	
Enhancement	30	10.42	4.9	34.8	9.13	
Significance at 5% level		t' (0.05, 59df)=1.96				

Section C: Effectiveness of Self-instructional Module Regarding Management of Common Discomforts During Pregnancy

The paired 't' value was calculated to assess the effectiveness of the self-instructional module on managing common discomforts during pregnancy.

- H_1 : A significant difference was found between the pre-test and post-test knowledge scores.

The data in Table 5 shows that the mean post-test knowledge score (25.75) was higher than the mean pre-test knowledge score (15.3), with a mean difference of 10.42. The paired 't' test result was $t=16.6$, which is statistically significant at the 0.05% level. Therefore, the research hypothesis H_1 was accepted. This indicates that the self-instructional module (SIM) was effective in enhancing knowledge about the management of common discomforts during pregnancy (Figure 10).

Section D: The Association Between Pre-test Knowledge Scores and Selected Demographic Variables

Table 6 clearly shows that the association between the pre-test knowledge score and factors such as age ($\chi^2=0.063$), month of current pregnancy ($\chi^2=0.160$), religion ($\chi^2=0.485$), educational status ($\chi^2=0.083$), occupation ($\chi^2=0.577$), type of family ($\chi^2=0.151$), previous information ($\chi^2=5.4$), and source of information ($\chi^2=6.09$) was not statistically significant.

Table 6. Association between pre-test knowledge scores and selected demographic variable.

Demographic variables	Pre-test knowledge score			Chi square value	Df	Table value	Remarks
	Inadequate	Moderate	Adequate				
<i>Age (years)</i>				0.063	3	P<0.05	NA
18-22	05	18	00				
23-27	10	11	00				
28-33	7	07	00				
Above 33	2	00	00				
<i>Month of current pregnancy</i>				0.160	2	P<0.05	NA
0-3 months	8	21	00				
4-6 months	10	10	00				
7-9 months	6	05	00				
Above 9 months	00	00	00				
<i>Religion</i>				0.485	2	P<0.05	NA
Hindu	13	25	00				
Christian	06	06	00				
Muslim	05	05	00				
Others	00	00	00				
<i>Educational status</i>				0.083	3	P<0.05	NA
Primary education	03	14	00				
Secondary education	08	05	00				
Graduate	07	07	00				
Post graduate	06	10	00				
<i>Occupation</i>				0.577	2	P<0.05	NA
Private employee	08	15	00				
Govt. employee	03	02	00				
Housewife	13	19	00				
Others	00	00	00				
<i>Type of the family</i>				0.151	1	P<0.05	NA
Joint Family	13	26	00				
Nuclear Family	11	11	00				
<i>Previous Knowledge</i>				0.916	1	P<0.05	NA
Yes	11	17	00				
No	13	19	00				
<i>Source of information</i>				0.643	3	P<0.05	NA
Mass media	00	19	00				
Health care provider	05	04	00				
Family	02	03	00				
Friends	04	10	00				

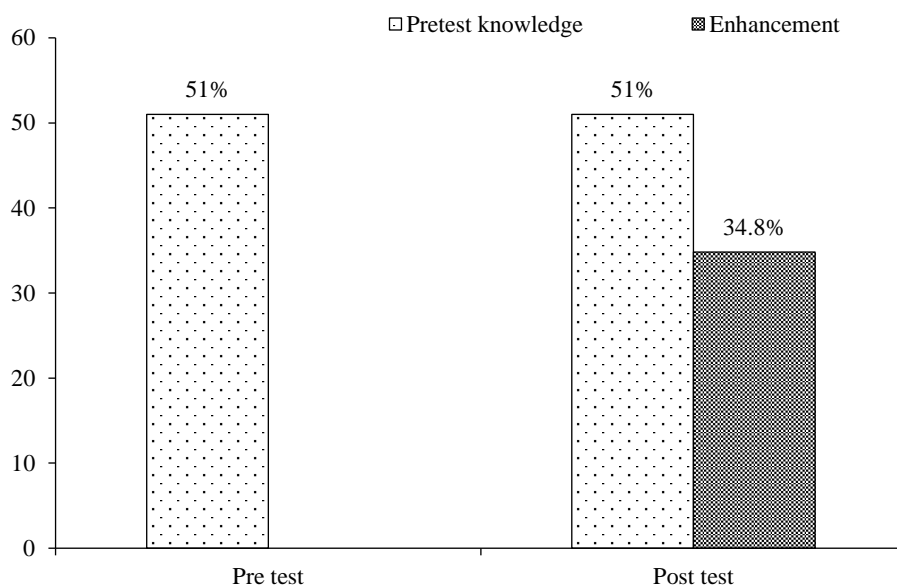


Figure 10. Overall pretest-posttest knowledge level regarding management of common discomforts during pregnancy.

CONCLUSION

The findings of the study made the following conclusions:

- The knowledge regarding the management of common discomforts during pregnancy among primigravida mothers was found to be insufficient in the pre-test, but there was a significant improvement in their knowledge by the post-test.
- The self-instructional module on managing common discomforts during pregnancy was effective for primigravida mothers. Analysis of the mean and standard deviation of the knowledge scores showed that the mean pre-test score was 15.33, while the post-test score increased to 25.75.
- The Paired ‘t’ test value of 16.63 showed that the knowledge level had a significant increase during post-test which indicated that video assisted teaching program was effective.
- This study showed that the association between the level of pre-test knowledge score with age, month of current pregnancy, religion, educational status, occupation, family type, previous knowledge and source of knowledge was statistically not significant.

NURSING IMPLICATIONS

The findings of the study have several implications for nursing service, nursing education, nursing administration and nursing research.

Nursing Service/Practice

- The findings of the study highlight the level of knowledge regarding the management of common discomforts during pregnancy.
- The study would help the mothers to enhance their knowledge regarding management of common discomforts during pregnancy.
- The study would help the mothers to enhance their practice regarding management of common discomforts during pregnancy.
- The study can help to train the nurses for identifying the common discomforts during pregnancy by proper assessment in antenatal visits.

Nursing Education

Current student nurses are future service holders. The topics related to management of common discomforts during pregnancy can be included in nursing curriculum by including wider aspects related

to care of pregnancy discomforts. Students will be able to apply this knowledge and skills in clinical practice.

Nursing Administration

1. Nurse administrators can organize and conduct in-service education for the nursing staff.
2. Nurse administrators can motivate the nursing personnel to identify quickly and plan effectively in case of a common discomfort during pregnancy.

Nursing Research

1. The study can be conducted with a larger sample using more improvised methods of training like CATP, VATP etc.
2. Further study can be conducted in future in the same aspect for the control group.

LIMITATIONS OF STUDY

The limitations the present study are:

1. The findings can only be generalized to primigravida mothers.
2. The study is limited only to 60 samples due to time constraints.
3. The study was limited to primigravida mothers attending antenatal OPD at Seit Mohandas Thulasidas Hospital and Primary Health Centre, Nazarbad, Mysuru.

RECOMMENDATIONS

On the basis of findings of the study, the following recommendations were made:

- A similar study may be replicated in different settings with large scale.
- The same study can be conducted as a comparative approach through structured teaching program among primigravida and multigravida mothers.
- A comparative study can be conducted between urban and rural areas mothers.
- A comparative study can be conducted between working and non-working mothers.
- A similar study can be conducted for mothers who are attending antenatal OPDs in different settings and their knowledge can be compared.

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