"A STUDY TO EVALUATE THE EFFECTIVENESS OF STRUCTURED TEACHING PROGRAMME ON KNOWLEDGE REGARDING HEALTHY PREGNANCY AMONG ANTENATAL MOTHERS AT SELECTED RURAL AREAS OF AHMEDABAD, GUJARAT."

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ABSTRACT

Background

Pregnancy is considered a normal physiological phenomenon, and often hospital check-ups are only done when a medical issue is being faced by the women. This behaviour can sometimes be dangerous for both the mother and baby. Therefore, adopting a comprehensive or holistic approach to maternal health policy making and care provision can facilitate sustainable improvements in health outcomes for mothers and their babies.

Aims

This study aims to evaluate the effectiveness of structured teaching programme on knowledge regarding healthy pregnancy among antenatal mothers of selected rural areas of Ahmedabad, Gujarat.

Objectives of the study were

1. To assess the pre-test knowledge score regarding healthy pregnancy among antenatal mothers at selected areas of Ahmedabad, Gujarat.

2. To assess the post-test knowledge score regarding healthy pregnancy among antenatal mothers at selected rural areas of Ahmedabad, Gujarat.

3. To evaluate the effectiveness of structured teaching programme regarding healthy pregnancy among antenatal mothers at selected rural areas of Ahmedabad, Gujarat.

4. To find out the association with the pre test knowledge score regarding healthy pregnancy among antenatal mothers at selected rural areas of Ahmedabad with their selected demographic variables.

Methods

A Quantitative research approach was used with one group pre-test post-test design. The investigator used Non Probability Purposive sampling technique for selecting 60 samples. The investigator developed structured knowledge questionnaire for evaluation of pre- test and post- test effect of Structured Teaching Programme on knowledge regarding healthy pregnancy among antenatal mothers. The reliability of the tool was determined by using test and retest method of "Karl Pearson's formula". The reliability of the structured knowledge questionnaire is 0.83.

Result

Present study identified that, comparison of pre-test and post-test knowledge scores shows that pre-test mean score was 8.73, while the post-test mean score was 19.50. The mean difference between pre and post-test was 10.76, representing a 35.9% increase. The standard deviation (SD) for the pre-test was 2.99, and for the post-test, it's 3.65. The paired 't' test value was 40.137 and the table value was 2.000 with a p-value less than 0.05, indicating a statistically significant improvement from pre to post-test. The degrees of freedom (df) for the analysis were 59. This suggests a substantial increase in knowledge levels after the intervention. Hence the null hypothesis H_{01} was rejected and H_1 is accepted. **This indicates that the structured teaching programme was effective in increasing the knowledge regarding healthy pregnancy among antenatal mothers at selected rural areas of Ahmedabad.**

Conclusion

There was significant increase in knowledge regarding healthy pregnancy among antenatal mothers after administration of structured teaching programme. Hence we conclude that **structured teaching programme is effective among antenatal mothers at selected rural areas of Ahmedabad, Gujarat.**

Key words

Evaluate, Structured teaching programme, knowledge, Healthy pregnancy, antenatal mothers, rural areas.

INTRODUCTION

Since the implementation of National Rural Health Mission (NRHM) in 2005, Maternal Mortality Ratio has significantly declined in India through a noticeable improvement in maternal health care services. However, India did not succeed to achieve the target of millennium development goal to reduced maternal mortality ratio by 2015. Also, there is substantial inequality exist at the regional, geographic, economic, and social level, and various socioeconomic factors contribute to the significantly large share in inequality in utilization of maternal health care in India.

According to WHO every day in 2020, approximately 800 women died from preventable causes related to pregnancy and childbirth - meaning that a woman dies around every two minutes. In 2020, about 70% of all maternal deaths were in sub-Saharan Africa. In nine countries facing severe humanitarian crises, maternal mortality rates were more than double the world average (551 maternal deaths per 100 000 live births, compared to 223 globally).The maternal mortality rate for 2021-22 was 32.9 deaths per 100,000 live births, compared with a rate of 23.8 in 2020 and 20.1 in 2019 in United States. In India the MMR(Maternal mortality rate)in 2023 is reduced from 103 per 100,000 live births in 2017-19 to 97 per 100,000 live births in 2018-20, Bharati Pravin Pawar Minister of state in the Union Ministry of Health and Family welfare told the Rajya Sabha.

In a representative survey of trends in maternity mortality in India over 2 decades (2021) concludes that about 1.3million maternal death occurred between 1997 and 2020. In 2020, 23,800 maternal deaths occurred. The leading cause of maternal deaths were obstetric haemorrhage, pregnancy related infection and hypertensive disorders of pregnancy. The maternal deaths were highest in rural areas. Thus, in remote areas antenatal mothers have inadequate knowledge regarding antenatal care or healthy pregnancy.

Healthy pregnancy means taking care of yourself, developing healthy habits and getting good medical help, and to ensure that pregnant woman and the baby are in best possible health. Maternal health is an essential aspect of public health that focuses on the well-being of women during pregnancy, childbirth, and the postpartum period. The health of a mother during these critical phases is essential not only for the woman herself but also for the health and survival of her child.

Objectives of the study were

1. To assess the pre-test knowledge score regarding healthy pregnancy among antenatal mothers at selected areas of Ahmedabad, Gujarat.

2. To assess the post-test knowledge score regarding healthy pregnancy among antenatal mothers at selected rural areas of Ahmedabad, Gujarat.

3. To evaluate the effectiveness of structured teaching programme regarding healthy pregnancy among antenatal mothers at selected rural areas of Ahmedabad, Gujarat.

4. To find out the association with the pre test knowledge score regarding healthy pregnancy among antenatal mothers at selected rural areas of Ahmedabad with

Methodology for research

A Quantitative research approach was used with one group pre-test post-test design. The investigator used Non Probability Purposive sampling technique for selecting 60 samples.The investigator developed structured knowledge questionnaire for evaluation of pre- test and post- test effect of Structured Teaching Programme on knowledge regarding healthy pregnancy among antenatal mothers. Pre-test and structured teaching programme conducted on 1st day & after 7 days post-test conducted The reliability of the tool was determined by using test and retest method of "Karl Pearson's formula". The reliability of the structured knowledge questionnaire is 0.83.

RESULT

This is a pre- experimental study and it follows the hypothesis. Hence, it is essential to test Null Hypothesis. Statistical tests were used to test the hypothesis. For testing Null hypothesis 't' test was used. If the calculated 't' value is greater than table 't' valve then the null hypothesis is rejected and research hypothesis is accepted. 't' test ia applied for finding the significance between pre- test and post- test knowledge regarding healthy pregnancy among antenatal mothers. In 't' test, the degree of freedom is the number of observation minus one (n-1). In this study, the total samples were 60, so degree of freedom(dF) was (60-1=59).

Present study identified that, comparison of pre-test and post-test knowledge scores shows that pre-test mean score was 8.73, while the post-test mean score was 19.50. The mean difference between pre and post-test was 10.76, representing a 35.9% increase. The standard deviation (SD) for the pre-test was 2.99, and for the post-test, it's 3.65. The paired 't' test value was 40.137 and the table value was 2.000 with a p-value less than 0.05, indicating a statistically significant improvement from pre to post-test. The degrees of freedom (df) for the analysis were 59. This suggests a substantial increase in knowledge levels after the intervention. Hence the null hypothesis H_{01} was rejected and H_1 is accepted.

All the analysis and interpretation are presented under following sections and heading: The obtained data are organized and presented in the following sections:

1. Analysis and interpretation of the demographic variables of the samples

2. Analysis and interpretation of data related to pre-test and post-test knowledge score of the samples

3. Analysis and interpretation of data related to effectiveness of structured teaching program regarding Healthy pregnancy among antenatal mothers

4. Analysis and interpretation of data related to association between pre-test knowledge score with selected demographic variables

Table 1. Frequency and percentage wise distribution of samples based on demographic variables.

[N=60]

Sr. No	Demographic variables	Variables	Frequency (f)	Percentage (%)
1	Age in years	20 – 30 years	52	86.7
		31 - 40 years	7	11.7
		> 40 years	1	1.7
2	Type of family	Nuclear family	6	10.0
		Joint family	53	88.3
		Extended family	1	1.7
3	Education of mother	Educated	51	85.0
		No formal education	9	15.0
4	Monthly family income	< 5000	8	13.3
		Rs.10000	19	31.7
		Rs.15000	25	41.7
		>15000	8	13.3
5	Diet	Vegetarian	53	88.3
		Non vegetarian	4	6.7
		Mixed	3	5.0
6	Occupation of mother	Employed	11	18.3
		Unemployed	49	81.7
7	Bad Habit	Alcohol	1	1.7
		Smoking	1	1.7
		Tobacco chewing	3	5.0
		Non bad habits	55	91.7
8	Gravida	Primi gravid	60	100.00
		Multigravida	0	0.00
9	Gestational age	First trimester	11	18.3
		Second trimester	38	63.3
		Third trimester	11	18.3
10	Pregnancy	Planned	32	53.3
		Unplanned	28	46.7

Table 4.1 shows the demographic characteristics of samples in the study.

Age in Years: The majority of the mothers in the study (86.7%) were between 20 and 30 years of age. A smaller proportion, 11.7%, were between 31 and 40 years, while only 1.7% of the participants were above 40 years.

Type of Family: Most of the participants (88.3%) belonged to joint families. A smaller percentage, 10%, lived in nuclear families, while only 1.7% were part of extended families.

Education of Mother: A significant majority of the mothers (85%) were educated, whereas 15% had no formal education. This indicates that most of the participants had access to education.

Monthly Family Income: The financial status of the families varied, with 41.7% earning Rs. 15,000 per month. About 31.7% of the families had a monthly income of Rs. 10,000, while 13.3% earned less than Rs. 5,000. Similarly, another 13.3% had a monthly income of more than Rs. 15,000.

Diet: The majority of the participants (88.3%) followed a vegetarian diet. A smaller proportion, 6.7%, were non-vegetarian, while 5% had a mixed diet, which included both vegetarian and non-vegetarian foods.

Occupation of Mother: Most of the mothers (81.7%) were unemployed, while only 18.3% were employed. This suggests that a large proportion of participants were homemakers.

Bad Habits: A significant majority (91.7%) of the participants reported having no bad habits. However, 5% of them were tobacco users, while 1.7% consumed alcohol, and another 1.7% were smokers.

Gravida: All the participants (100%) were primi gravida, meaning they were experiencing pregnancy for the first time. There were no multigravida mothers in the study.

Gestational Age: Most of the participants (63.3%) were in their second trimester. Equal proportions of mothers (18.3%) were in their first and third trimesters at the time of the study.

Pregnancy: More than half of the pregnancies (53.3%) were planned, while 46.7% of the pregnancies were unplanned. This indicates that a substantial proportion of mothers had unexpected pregnancies.
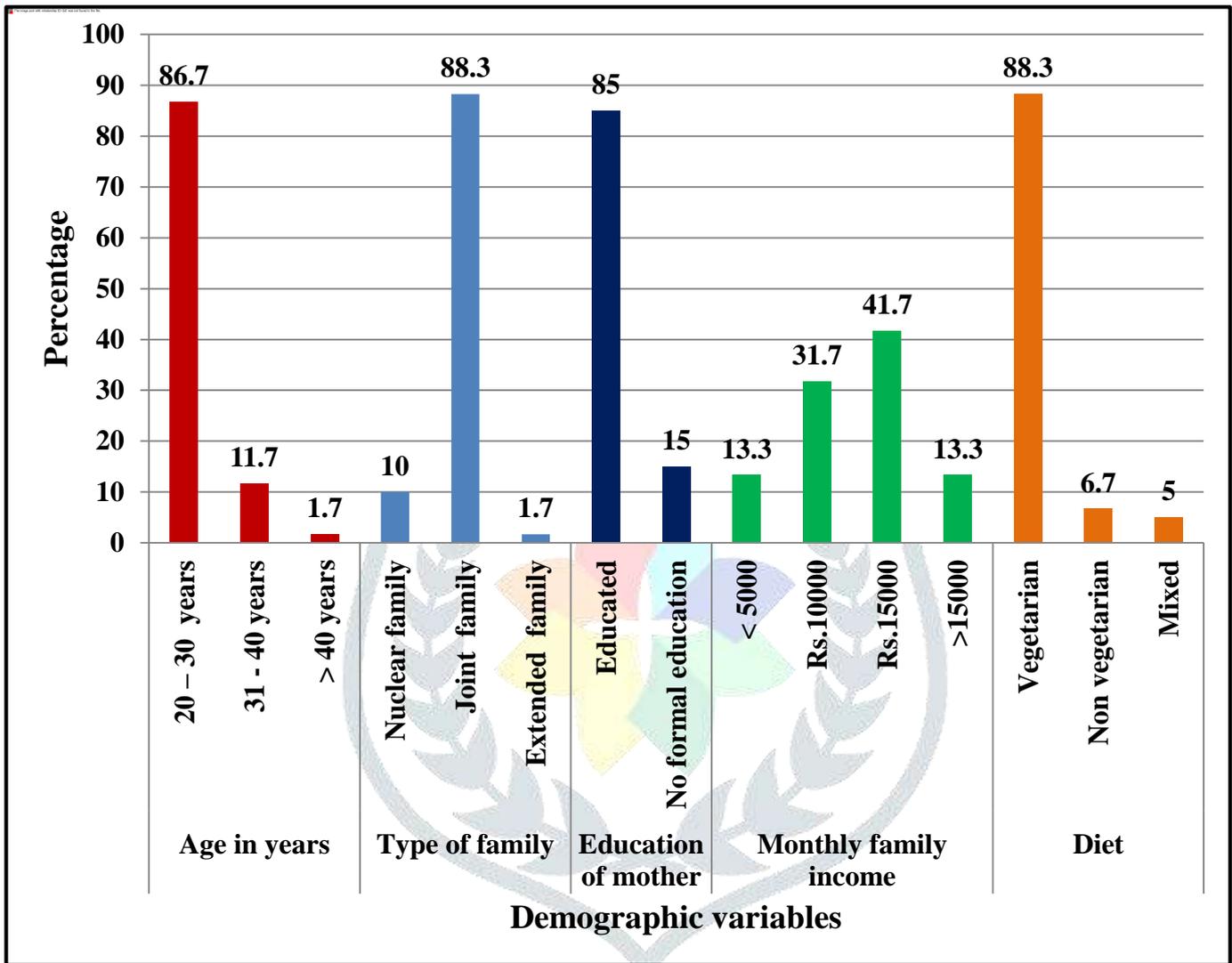
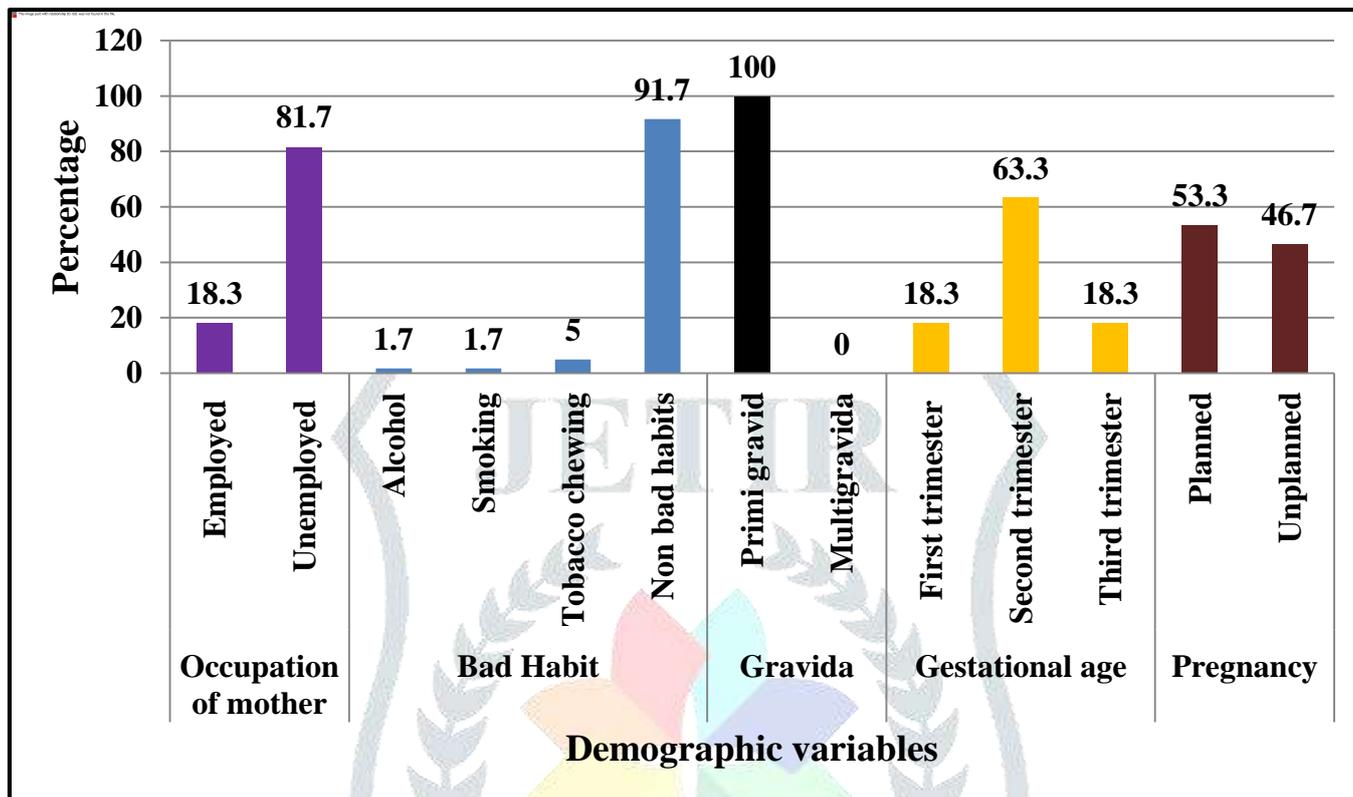**Figure 1: Percentage wise distribution of samples based on demographic variables.**

Figure 1: Percentage wise distribution of samples based on demographic variables.

2. Frequency and percentage distribution of pre test and post test level of Knowledge regarding Healthy pregnancy, among antenatal mothers shows that that in pre-test, majority of the participants, 31 (51.7%) samples had average knowledge level, 24 (40%) samples had poor knowledge level and only 5 (8.3%) had poor knowledge level. Whereas in post test, majority 35 (58.3%) samples had good knowledge level, 19 (31.7%) samples had very good knowledge level, 6 (10%) samples had average level and none of the samples had poor knowledge level. This shows the shifting of knowledge from poor and average to good and very good in post test.
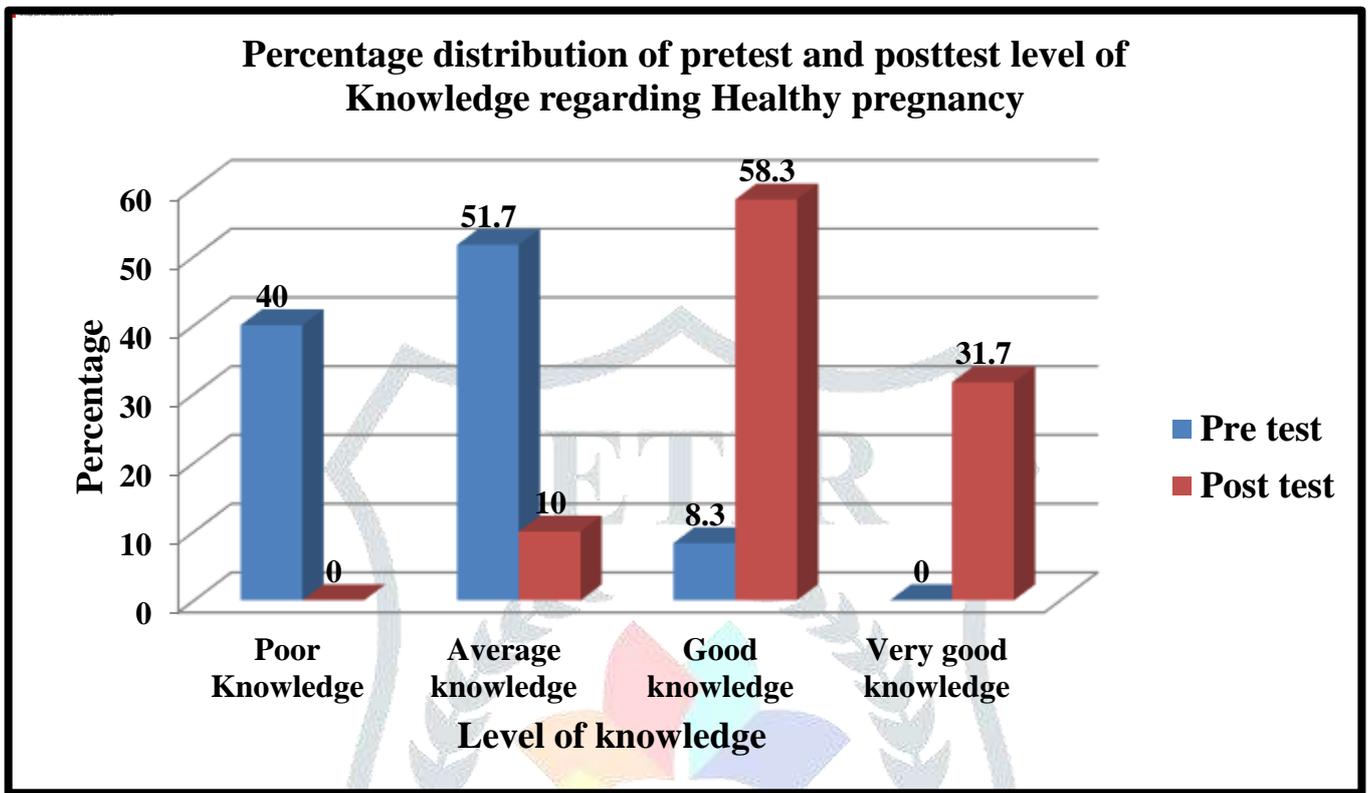
Figure 2 : **Bar graph showing the Percentage wise distribution of Sample according to the level of knowledge in Pre-test and Post-test on Healthy pregnancy**

3. Area wise comparison of knowledge score in pre-test and post-test shows that in the area of healthy pregnancy, the maximum score was 11. The pre-test mean score was 3.30, with a mean percentage of 30% and a standard deviation (SD) of 1.99. After the intervention, the post-test mean score increased to 5.43, with a mean percentage of 49.36% and an SD of 2.07. The percentage of knowledge gain in this area was 19.36%.

For minor disorders of pregnancy and their management, the maximum score was 19. The pre-test mean score was 7.93, with a mean percentage of 41.74% and an SD of 1.59. In the post-test, the mean score improved to 11.57, with a mean percentage of 60.89% and an SD of 2.92. The knowledge gain in this area was 19.15%.

Overall, considering both areas, the maximum possible score was 30. The pre-test mean score was 8.73, with a mean percentage of 29.1% and an SD of 2.99. After the intervention, the post-test mean score significantly increased to 19.50, with a mean percentage of 65% and an SD of 3.65. The overall percentage of knowledge gain was 35.9%.

These findings suggest that there was a considerable improvement in knowledge levels among participants after the intervention, highlighting the effectiveness of the educational program.
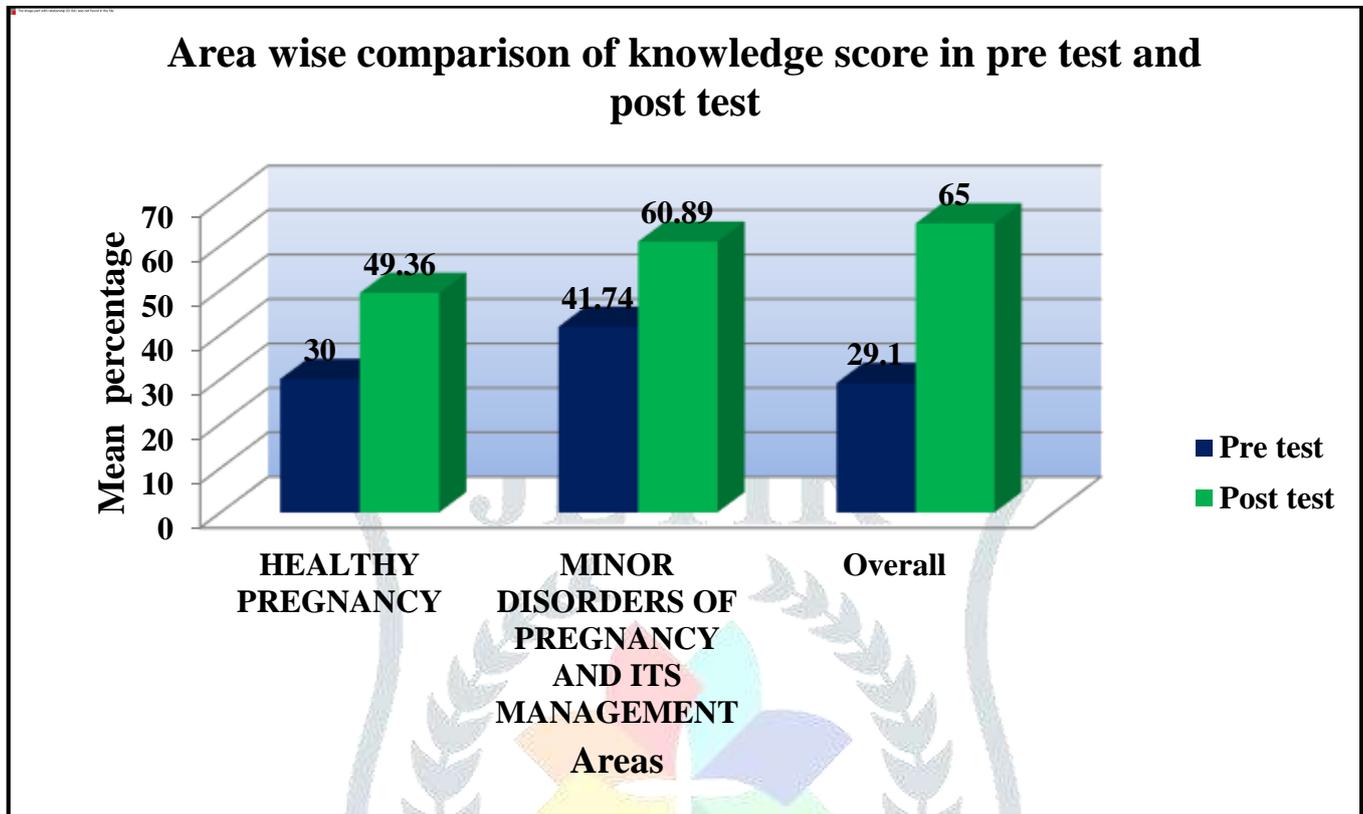
Figure 3: Area wise comparison of knowledge score in pre test and post test

4. Effectiveness of structured teaching program on knowledge regarding Current Healthy pregnancy among antenatal mothers shows that the pre-test mean score was 8.73, while the post-test mean score was 19.50. The mean difference between pre and post-test was 10.76, representing a 35.9% increase. The standard deviation (SD) for the pre-test was 2.99, and for the post-test, it's 3.65. The paired 't' test value was 40.137 and the table value was 2.000 with a p-value less than 0.05, indicating a statistically significant improvement from pre to post-test. The degrees of freedom (df) for the analysis were 59. This suggests a substantial increase in knowledge levels after the intervention. Hence the null hypothesis H_{01} was rejected and H_1 is accepted. This indicates that the structured teaching program was effective in increasing the knowledge of antenatal mothers regarding Healthy pregnancy.
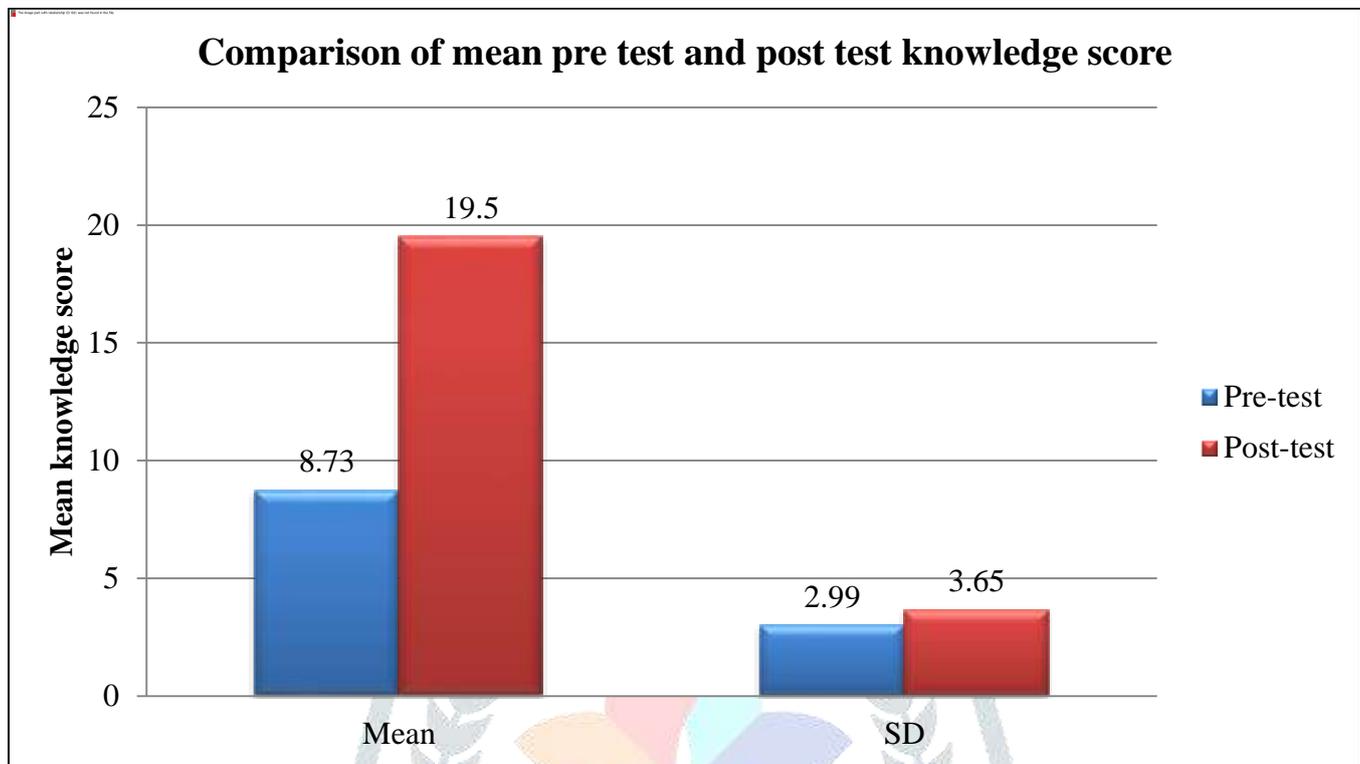
Figure 4: Comparison of mean and standard deviation of pre rest and post test knowledge score

DISCUSSION

The present study was conducted to the effect of planned teaching programme regarding knowledge on healthy pregnancy among antenatal mothers of selected rural areas of Ahmedabad city. The researcher has collected the samples by the Non-Probability Convenience Sampling Technique. The researcher has collected the data by using a structured knowledge questionnaire to evaluate the knowledge on healthy pregnancy among antenatal mothers of selected rural areas of Ahmedabad city. The researcher has used a pre-experimental, one group pre-test post-test design. The tool consists of demographic variables, structured knowledge questionnaire to evaluate the effect of planned teaching programme regarding knowledge on healthy pregnancy in selected rural areas of Ahmedabad City. After the selection of samples, the level of knowledge regarding knowledge on healthy pregnancy among antenatal mothers was assessed by using the structured knowledge questionnaire. The researcher has introduced herself to the participants and objectives were explained and informed consent was taken. The study group is selected and then a pre test conducted with the help of a structured knowledge questionnaire regarding knowledge on healthy pregnancy among antenatal mothers of selected rural areas. Structured teaching programme was administered regarding to healthy pregnancy. Then after 7th day of pre-test, post- test was conducted using the same structured knowledge questionnaire. The descriptive statistics (frequency, percentage, mean, standard deviation) and inferential statistics (t-test) were used to analyze the data and to test the study hypothesis. This study finding reveals that the pre-test mean score of structured knowledge questionnaire was 8.73 with standard deviation is 2.99 and post-test mean score of structured knowledge questionnaire was 19.05 with standard deviation is 3.65 and t test value of structure knowledge questionnaire was 40.137, (Table value 2.000). Hence the data proved that structured teaching programme was effective to improve the antenatal mothers' knowledge regarding healthy pregnancy.

CONCLUSION

The following conclusions could be drawn from the present study findings: Analysis and interpretation of data collected from 60 samples, before and after administration of a Strutured Teaching Programme in terms of knowledge regarding knowledge on healthy pregnancy among antenatal mothers in selected rural areas of Ahmedabad city. Descriptive and inferential statistical methods were used to analyze the data. The mean post-test knowledge score was higher than the mean pre-test knowledge score. The Significance of the difference between pre-test and post knowledge scores was statistically tested using 't' test and it was found significant. Hence, it was proved that the Planned Teaching programme was effective in increasing knowledge regarding healthy pregnancy among antenatal mothers at selected rural areas of Ahmedabad city.

Conflict of interest: The authors declare that they have no competing interests.

Ethics declarations

Ethics approval and consent to participate

Jila panchayat Ahmedabad ethic committee were reviewed this study and granted ethical approval. A consent form has been obtained from participants.

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