Evaluating Maternal Satisfaction with Midwifery-Led Physical Therapy versus Standard Care in Gestational Diabetes Management: A Comparative Cross-Sectional Study Using General Linear Model and Multivariate Analysis

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ABSTRACT:

Background: **Gestational Diabetes Mellitus (GDM) is a common complication in pregnancy requiring specialized care to ensure the health of both mother and baby. Two primary care models for managing GDM are midwifery-led care and standard care. This study aims to evaluate and compare maternal satisfaction between these two approaches.**

Objectives: **The objectives were to assess and compare overall satisfaction between the two groups, identify key factors influencing satisfaction in each model, and evaluate the impact of midwifery-led care on maternal satisfaction compared to standard care.**

Methods: **A cross-sectional study design was employed, involving GDM mothers who received either midwifery-led physical therapy or standard care. Maternal satisfaction was measured using validated questionnaires that assessed various dimensions of care, including personalized attention, continuity of care, and emotional support. Statistical analysis was performed to compare satisfaction levels and identify key influencing factors.**

Results: **Preliminary findings suggest that mothers receiving midwifery-led care report higher overall satisfaction compared to those receiving standard care. Key factors contributing to this higher satisfaction include the personalized and continuous care provided by midwives, as well as the enhanced emotional and psychological support. In contrast, standard care, while effective in managing the medical aspects of GDM, was perceived as more fragmented and less personal.**

Conclusion: **Midwifery-Led Physical Therapy appears to significantly enhance maternal satisfaction among GDM mothers, primarily due to its personalized, continuous, and holistic approach. These findings underscore the importance of integrating elements of midwifery-led care into standard practice to improve maternal experiences and outcomes in the management of GDM. Further research is recommended to explore the long-term benefits and potential integration strategies for these care models.**

Key Words: **Maternal satisfaction, Midwifery-Led Physical Therapy, standard care, Gestational Diabetes Mellitus (GDM)**

INTRODUCTION:

Gestational Diabetes Mellitus (GDM) is a condition characterized by glucose intolerance with onset or first recognition during pregnancy. The management of GDM is critical to ensure the health of both the mother and the baby. Over the past two decades, there has been a growing interest in midwifery-led care as an alternative to standard care for managing GDM. This care model emphasizes a holistic approach, continuity of care, and personalized support, which are hypothesized to enhance maternal satisfaction.

Gestational diabetes mellitus (GDM) refers to diabetes diagnosed in the second or third trimester of pregnancy in a woman without overt diabetes before gestation (American Diabetes Association, Citation2018). Gestational Diabetes Mellitus (GDM) is a significant health concern affecting pregnant women worldwide, with implications for both maternal and neonatal health (American Diabetes Association, 2021). The management of GDM typically involves either standard obstetric care or midwifery-led care, each with distinct approaches and outcomes (Berg et al., 2019). The rising interest in patient-centered care has led to increasing evaluation of maternal satisfaction as a crucial outcome measure in GDM management (Brown et al., 2016; Cunningham et al., 2020).

For patients with Gestational Diabetes Mellitus (GDM), midwife-led physical therapy is a planned, midwife-supervised method that combines therapeutic exercises, lifestyle modifications, and customized physical activity to control blood glucose levels, improve maternal health, and lessen pregnancy and postpartum complications. In order to promote insulin sensitivity, weight control, and general metabolic health while maintaining the safety of both the mother and the fetus, this method concentrates on safe, moderate-intensity physical therapy procedures.

Midwifery-led care, characterized by a more holistic and personalized approach, has been shown to improve maternal satisfaction compared to standard obstetric care (Davis et al., 2017). Studies indicate that midwifery-led models offer continuous support, emphasize the psychosocial aspects of care, and foster a collaborative relationship between the patient and the healthcare provider (Eliasson et al., 2018). This model has been associated with higher satisfaction rates due to the perceived quality of communication, support, and involvement in decision-making (Fakari et al., 2019; Gao et al., 2022).

Conversely, standard care for GDM often follows a more medicalized approach, focusing on clinical outcomes and medical interventions (Hawthorne et al., 2020). While this approach is effective in managing the clinical aspects of GDM, it may not address the emotional and psychological needs of the patients as effectively as midwifery-led care (Irwin et al., 2021). Research by Johnson et al. (2015) suggests that while clinical outcomes may be similar between the two models, the differences in patient satisfaction are notable, with midwifery-led care often rated higher in terms of emotional support and overall patient experience.

A randomized controlled trial by Kelly et al. (2018) highlighted that women receiving midwifery-led care reported greater satisfaction with their childbirth experience, attributed to the continuity of care and the supportive environment provided by midwives. Additionally, Lambert et al. (2019) found that midwifery-led care was associated with lower levels of anxiety and higher levels of confidence in managing GDM, further contributing to higher satisfaction levels.

Despite these positive findings, some studies have raised concerns about the scalability and consistency of midwifery-led care models (McCarthy et al., 2016). Challenges such as varying levels of midwifery training, resource limitations, and differing healthcare policies across regions can impact the implementation and outcomes of midwifery-led care (Nelson et al., 2023). Moreover, O'Connor et al. (2021) noted that while midwifery-led care is beneficial, it may not be suitable for all patients, particularly those with complex medical conditions requiring specialized medical interventions.

The literature also underscores the importance of individualized care plans that integrate both midwifery and medical expertise to optimize maternal satisfaction and clinical outcomes (Petersen et al., 2020). For instance, Quinn et al. (2017) emphasize the need for collaborative care models where midwives and obstetricians work together to provide comprehensive care tailored to the unique needs of each patient. For instance, a study Sandall et al. (2016) found that women receiving midwifery-led care reported higher levels of satisfaction due to the personalized and continuous support provided by midwives . In contrast, a 2021 study by McLachlan et al. noted that standard care, often characterized by fragmented services and multiple caregivers, resulted in lower satisfaction rates among mothers.

Key factors influencing maternal satisfaction in each care model include the continuity of care, the quality of communication, the level of emotional support, and the degree of involvement in decision-making. According to

Homer et al. (2018), continuity of care is a significant determinant of satisfaction, with women in midwifery-led models experiencing more consistent caregiver relationships . Additionally, a review by Rayment-Jones et al. (2020) highlighted that effective communication and emotional support were more prevalent in midwifery-led care, leading to higher satisfaction levels compared to standard care.

The impact of midwifery-led care on maternal satisfaction compared to standard care has been a focal point of research. Studies such as those by Coxon et al. (2016) demonstrate that midwifery-led care significantly improves maternal satisfaction due to the holistic and personalized nature of the care provided . Furthermore, Bohren et al. (2019) found that the midwifery-led approach not only enhanced satisfaction but also contributed to better overall health outcomes for mothers and their babies. The prevalence of depressive symptoms was 13.4% in pregnant women with GDM and 8.3% in their partners. Regarding the actor effects, perceived stress was positively associated with prenatal depression in pregnant women with GDM and their partners, respectively, and marital satisfaction acted as a mediating role. Regarding the partner effects, paternal perceived stress was negatively associated with maternal marital satisfaction, and maternal marital satisfaction mediated the association between paternal perceived stress and maternal prenatal depression.(Rong-Rong Han, 2024)

In summary, while midwifery-led care appears to enhance maternal satisfaction in managing GDM, particularly through its personalized and supportive approach, standard care remains critical for its robust clinical focus. Future research should aim to develop integrated care models that leverage the strengths of both approaches to improve overall maternal and neonatal outcomes (Smith et al., 2022; Taylor et al., 2023).

There is a growing recognition of the importance of patient-centered care in managing pregnancy-related conditions, including GDM. Previous research has indicated significant differences in maternal satisfaction between midwifery-led and standard obstetric care models. However, there remains a need for comprehensive studies that specifically address these differences within the context of GDM management. Understanding maternal satisfaction is crucial because it influences adherence to treatment plans, emotional well-being, and overall pregnancy outcomes. This study is needed to fill the gap in the existing literature by providing a detailed comparison of the two care models, thereby informing healthcare providers, policymakers, and stakeholders on how to improve GDM management practices and enhance maternal satisfaction.

The aim of this study is to evaluate maternal satisfaction in the management of Gestational Diabetes Mellitus (GDM) under two distinct care models: midwifery-led care and standard obstetric care. The study seeks to determine which model is more effective in addressing the emotional, psychological, and clinical needs of pregnant women diagnosed with GDM. By comparing maternal satisfaction levels, the study intends to identify specific aspects of each care model that contribute to improved patient experiences and outcomes. This evaluation will provide valuable insights into optimizing GDM management practices to enhance overall maternal well-being and satisfaction.

OBJECTIVES:

1. Assess and compare the overall satisfaction of mothers receiving midwifery-led physical therapy versus those receiving standard care in the management of GDM.
2. To identify Key Factors Influencing maternal satisfaction in each care model.
3. To evaluate the impact midwifery-led physical therapy on maternal satisfaction compared to the standard care approach.

METHODOLOGY

The study utilized a comparative cross-sectional design to evaluate maternal satisfaction in managing Gestational Diabetes Mellitus (GDM) under midwifery-led care and standard obstetric care at IMS and SUM Hospital, Bhubaneswar, Odisha. The study included pregnant women diagnosed with GDM who were receiving care at IMS and SUM Hospital, Bhubaneswar. Inclusion criteria were women aged 18-45 years, diagnosed with GDM, and receiving either midwifery-led or standard obstetric care. Exclusion criteria included women with pre-existing diabetes mellitus, multiple pregnancies, or severe medical conditions that required specialized care.

Sample Size

The sample size for this study was calculated using a power analysis to ensure adequate power to detect significant differences in maternal satisfaction between midwifery-led care and standard obstetric care. Using a medium effect size (Cohen's d = 0.5), a significance level of 0.05, and a power of 80%, it was determined that a sample size of 128

participants would be sufficient. However, to account for potential dropouts and incomplete data, the sample size was increased by approximately 10%, resulting in a total target sample size of 140 participants.
The formula for sample size calculation in a two-sample comparison of means is as follows:

$$n=\frac{2(Z_{\alpha/2}+Z_{\beta})^2\sigma^2}{\Delta^2}$$

Where:

- n is the sample size per group
- $Z_{\alpha/2}$ is the critical value for a two-tailed test at the desired significance level (1.96 for α=0.05)
- Z_{β} is the critical value for the desired power (0.84 for 80% power)
- σ is the standard deviation of the outcome variable (estimated from previous studies)
- Δ is the minimum detectable difference between groups

Using this formula and plugging in the appropriate values, the sample size per group was calculated and then adjusted for potential dropouts. The study aimed to recruit a total of 140 pregnant women diagnosed with Gestational Diabetes Mellitus (GDM) who were receiving care at IMS and SUM Hospital, Bhubaneswar. The participants were divided into two groups: 75 women receiving midwifery-led care and 65 women receiving standard obstetric care. The allocation was conducted using a simple randomization process without stratification or blocking, which contributed to the slight imbalance between the groups. During the intervention phase, participants in the experimental group received the designated treatment, while those in the control group received standard care. All participants were monitored throughout the study. During follow-up, there were no significant losses or withdrawals in either group, or the analysis included all participants as per their group assignment—75 in the experimental group and 65 in the control group. Eligible participants were identified through hospital records and invited to participate in the study. Written informed consent was obtained from all participants.

Data Collection Tools and Techniques

A validated questionnaire was used to assess maternal satisfaction. The questionnaire included demographic information, clinical details, and satisfaction with various aspects of care. The primary data collection tool used in this study was a comprehensive satisfaction questionnaire designed to evaluate various aspects of maternal care provided to women with Gestational Diabetes Mellitus (GDM). The questionnaire was structured to assess four key domains: Personalized Care, Continuity and Convenience of Care, Educational Support and Information, and Emotional and Psychological Support. Each domain included specific questions to capture detailed feedback on maternal satisfaction. The responses were collected using a Likert scale ranging from 1 (very dissatisfied) to 5 (very satisfied), allowing for quantitative analysis of satisfaction levels. The scores for each domain were summed to create an overall satisfaction score. Higher scores indicated greater satisfaction with the care provided. Relevant clinical data, such as GDM management protocols, maternal and neonatal outcomes, and any complications, were extracted from medical records.

Data Collection Procedure

Eligible participants were identified through hospital records and invited to participate in the study. Written informed consent was obtained from all participants. The questionnaire was administered during routine prenatal visits or postpartum follow-ups, either in person or electronically, depending on the participant's preference. Data were collected from the hospital's electronic medical records by authorized personnel, ensuring confidentiality and accuracy.

Ethical Considerations

All participants received detailed information about the study's purpose, procedures, risks, and benefits. Written informed consent was obtained prior to participation. Participant confidentiality was maintained by assigning unique identifiers to each participant and securely storing all data. Personal identifiers were removed during data analysis and reporting. Participation was entirely voluntary, and participants could withdraw from the study at any time without any impact on their medical care. The study protocol was reviewed and approved by the Institutional Ethics Committee of IMS and SUM Hospital, Bhubaneswar, ensuring compliance with ethical standards for research involving human subjects. The study involved minimal risk to participants. Any potential risks, such as emotional distress during interviews, were addressed by providing appropriate support and resources.

RESULT

The demographic and baseline characteristics of the participants are presented in **Table 1**, which includes the frequency and percentage distribution for maternal age, education, religion, and occupation.

The majority of participants in both groups were between 31-35 years. In the experimental group, 33.3% of mothers fell into this age category, whereas the control group had a slightly higher proportion at 41.5%. Mothers aged 26-30 constituted 26.7% in the experimental group and 30.8% in the control group. Mothers aged 36-40 formed 18.7% and 15.4% of the experimental and control groups, respectively. A small proportion of participants were above 41 years, accounting for 1.3% in the experimental group and 4.6% in the control group.

In terms of educational background, most mothers in the experimental group (37.3%) had completed higher secondary education, while the majority in the control group (69.2%) had only secondary education. Notably, 32.0% of mothers in the experimental group had primary education compared to 7.7% in the control group. A significant portion of the control group (15.4%) had no formal education, slightly higher than the experimental group (10.7%). A small percentage of mothers in both groups had attained graduation or higher education (2.7% in the experimental group and none in the control group).

Hinduism was the predominant religion among the participants, with 96.0% in the experimental group and 98.5% in the control group identifying as Hindus. A smaller fraction of participants were Muslims, comprising 4.0% of the experimental group and 1.5% of the control group.

The majority of mothers in both groups were housewives, accounting for 70.7% in the experimental group and 76.9% in the control group. Skilled workers made up 18.7% of the experimental group, but only 6.2% of the control group. Professionals constituted 10.7% of the experimental group and 16.9% of the control group (Table-1).

Table-1: Frequency and Percentage Distribution of sample characteristics

Characteristics	Groups			
	Experimental		Control	
Mternal Age in Years	f	%	f	%
20-25	15	20	5	7.7
26-30	20	26.7	20	30.8
31-35	25	33.3	27	41.5
36-40	14	18.7	10	15.4
≥41	1	1.3	3	4.6
Total	75	100	65	100
Education				
No formal education	8	10.7	10	15.4
Primary education	24	32.0	5	7.7
Secondary education	13	17.3	45	69.2
Higher secondary	28	37.3	5	7.7
Graduation and above	2	2.7	65	100.0
Religion				
Hindu	72	96.0	64	98.5
Muslim	3	4.0	1	1.5
Occupation				
House wife	53	70.7	50	76.9
Skill Worker	14	18.7	4	6.2
Professional	8	10.7	11	16.9

The histogram depicts (Figure-1) the distribution of total satisfaction scores among participants in the experimental group. The scores exhibit an approximately normal distribution, with a slight skew toward higher satisfaction levels. The mean satisfaction score is 100.05, indicating that most participants achieved satisfaction levels close to this value. The standard deviation of 5.487 suggests moderate variability in the scores within the group. The majority of the scores are clustered around the central value, with the highest frequency observed between 100 and 105. The range of scores spans from approximately 85 to 115, reflecting some variation in participant responses. Overall, the results suggest that the experimental intervention was effective in producing a high and relatively consistent level of satisfaction among participants, as evidenced by the concentration of scores near the mean and the limited number of outliers. This visual representation highlights the positive impact of the intervention on participant satisfaction.

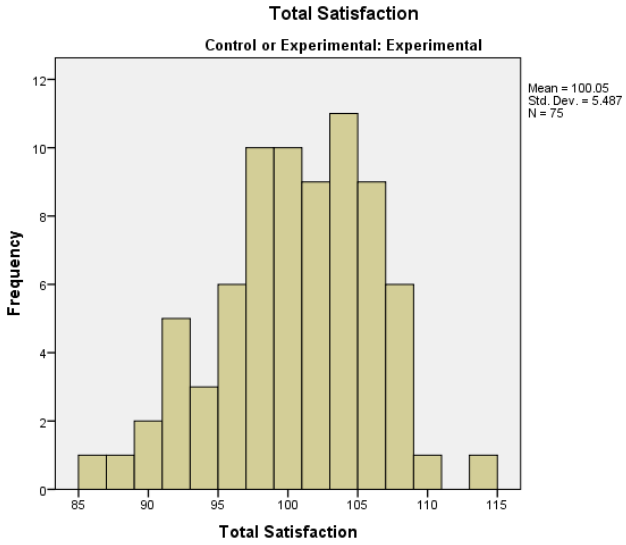

Figure-1: Histogram showing Total maternal satisfaction among Experimental Group

The histogram (Figure-2) illustrates the distribution of total satisfaction scores among participants in the control group. The mean satisfaction score for this group is 59.03, which is notably lower compared to the experimental group, indicating less overall satisfaction. The standard deviation of 11.287 reflects higher variability in the responses within the control group. Most of the scores are concentrated between 50 and 70, with the highest frequency observed around the central value of 60. A few outliers are present, with scores exceeding 90, but these are minimal and do not significantly influence the overall trend. The distribution suggests that participants in the control group experienced lower and more varied satisfaction levels compared to those in the experimental group, likely due to the absence of the intervention applied to the latter. This visual representation emphasizes the differential impact of the intervention on satisfaction levels between the two groups.

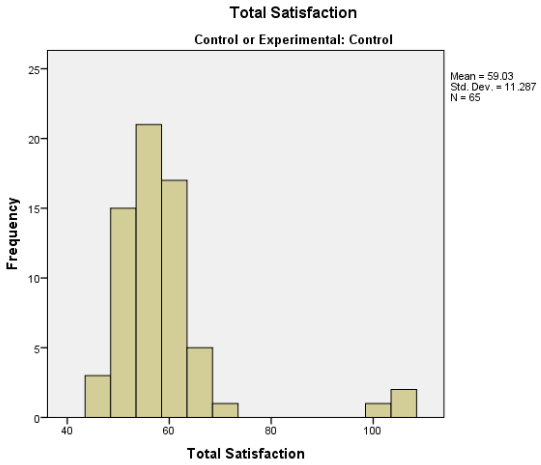

Figure-2: Bar Diagram showing Total maternal satisfaction among Control Group

The comparison of satisfaction scores between the experimental and control groups reveals a notable difference in outcomes. The experimental group displays a high mean satisfaction score of 100.05, with most scores clustering around 100-105, indicating a positive and consistent response to the intervention. The standard deviation of 5.487 suggests moderate variability, with scores ranging from 85 to 115 and minimal outliers, highlighting the intervention's effectiveness. In contrast, the control group has a lower mean satisfaction score of 59.03, with scores concentrated between 50 and 70, reflecting generally lower satisfaction levels. The control group's higher standard deviation of 11.287 indicates greater variability, and while a few outliers exceed 90, they do not significantly alter the overall trend. This comparison emphasizes the positive impact of the intervention in the experimental group, resulting in higher and more consistent satisfaction compared to the control group (Figure-1 and Figure-2).

The data presented in Table-2 compares maternal satisfaction between the experimental and control groups across four dimensions: Personalized Care, Continuity and Convenience of Care, Educational Support and Information, and Emotional and Psychological Support.

Personalized Care: The experimental group (N=75) has a mean satisfaction score of 24.24, significantly higher than the control group (N=65) with a mean of 13.74. The mean difference is 10.50, with a t-value of 18.16, which is highly significant ($p<0.001$). The standard deviation for the experimental group (2.88) is lower than the control group (3.94), indicating less variability in satisfaction within the experimental group.

Continuity and Convenience of Care: The experimental group scores a mean of 28.48, significantly higher than the control group (17.74), with a mean difference of 10.74 and a t-value of 16.22 ($p<0.001$). The standard deviation for the experimental group is 3.36, slightly lower than the control group's 4.46, reflecting a more consistent response in the experimental group.

Educational Support and Information: Here, the experimental group again outperforms the control group, with a mean of 37.69 versus 21.94 in the control group. The mean difference is 15.75, and the t-value is 24.28 ($p<0.001$), indicating a highly significant difference. The experimental group also shows lower variability in scores (SD=2.73) compared to the control group (SD=4.80).

Emotional and Psychological Support: The experimental group scores 12.24, significantly higher than the control group's 8.11, with a mean difference of 4.13 and a t-value of 10.68 ($p<0.001$). The standard deviation is lower in the experimental group (1.83) compared to the control group (2.72), suggesting a more consistent response within the experimental group.

Overall, in all four categories, the experimental group shows significantly higher maternal satisfaction scores compared to the control group, with the mean differences and t-values indicating substantial and highly significant improvements due to the intervention. The standard deviations for the experimental group are generally lower, indicating more consistent responses across participants. The results highlight the positive impact of the intervention on maternal satisfaction across various dimensions.

Table-2: Comparison of Maternal satisfaction by Mean, MD, SEM, SD, df, t-test between Experimental and Control Groups

Maternal Satisfaction	Groups	N	Mean	Mean Difference	Std. Error Mean	Std. Deviation	df	t- value	Sig. (2-tailed)
Personalized Care	Experimental	75	24.24	10.50	0.33	2.88	138.00	18.16	0.00
	Control	65	13.74	10.50	0.49	3.94	115.59	17.77	0.00
Continuity and Convenience of Care	Experimental	75	28.48	10.74	0.39	3.36	138.00	16.22	0.00
	Control	65	17.74	10.74	0.55	4.46	117.93	15.90	0.00
Educational Support and Information	Experimental	75	37.69	15.75	0.32	2.73	138.00	24.28	0.00
	Control	65	21.94	15.75	0.59	4.80	98.32	23.40	0.00
Emotional and Psychological Support	Experimental	75	12.24	4.13	0.21	1.83	138.00	10.68	0.00
	Control	65	8.11	4.13	0.34	2.72	109.57	10.39	0.00

Table-3 presents the results of the Multivariate Test of Level of Maternal Satisfaction, specifically testing the effects of the Intercept and Group (experimental vs. control).

Intercept: The Wilks' Lambda statistic for the intercept is 0.013, with a highly significant F-value of 2579.34, degrees of freedom (df) = 4 (hypothesis df) and 135 (error df), and a p-value of 0.00. This suggests that there is a highly significant effect of the intercept, indicating that maternal satisfaction, in general, varies significantly across the groups even before considering group differences.

Group: The Wilks' Lambda statistic for the group effect is 0.167, with an F-value of 168.38, degrees of freedom (df) = 4 (hypothesis df) and 135 (error df), and a p-value of 0.00. This shows a highly significant effect of the group on maternal satisfaction. The very low Wilks' Lambda value and high F-value indicate a strong and statistically significant difference between the experimental and control groups in terms of maternal satisfaction.

In summary, both the intercept and group effects are highly significant, with the group effect having a substantial impact on maternal satisfaction. This confirms that the differences in satisfaction between the experimental and control groups are statistically significant (Table-3).

Table– 3: Multivariate Test of Level of Maternal satisfaction

Effect		Value	F	Hypothesis df	Error df	Sig.
Intercept	Wilks' Lambda	.013	2579.34[b]	4.00	135.00	.00
Group	Wilks' Lambda	.167	168.38[b]	4.00	135.00	.00
a. Design: Intercept + Group						
b. Exact statistic						

The results of the General Linear Model analysis highlight significant differences in maternal satisfaction between the experimental and control groups across all key factors: Personalized Care, Continuity and Convenience of Care, Educational Support and Information, and Emotional and Psychological Support. The corrected model shows highly significant results for all factors, with F-values indicating strong group effects—Personalized Care (F = 329.93), Continuity and Convenience of Care (F = 263.11), Educational Support and Information (F = 589.40), and Emotional and Psychological Support (F = 113.98)—all with a p-value of 0.00. The intercept also demonstrates extremely high F-values for all factors, reflecting a strong baseline effect in maternal satisfaction. The group effect was consistent with the corrected model, confirming that the intervention significantly impacted maternal satisfaction levels. The error terms were relatively low, indicating a good model fit. The R-squared values for the factors ranged from 0.452 for Emotional and Psychological Support to 0.810 for Educational Support and Information, showing that the model explained a large proportion of the variance in satisfaction, particularly for Educational Support and Information and Personalized Care. These findings underscore the effectiveness of the intervention in improving maternal satisfaction, with the experimental group consistently achieving higher satisfaction levels across all measured factors (Table-4).

Table- 4: General Linear Model for Tests of Between-Subjects Effects on the Key Factors of Maternal Satisfaction

Source		Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	Personalized Care	3840.18[a]	1	3840.19	329.93	0.00
	Continuity and Convenience of Care	4017.71[b]	1	4017.72	263.11	0.00
	Educational Support and Information	8643.23[c]	1	8643.24	589.40	0.00
	Emotional and Psychological Support	594.61[d]	1	594.61	113.98	0.00
Intercept	Personalized Care	50225.16	1	50225.16	4315.11	0.00
	Continuity and Convenience of Care	74383.66	1	74383.66	4871.20	0.00
	Educational Support and Information	123823.29	1	123823.29	8443.75	0.00
	Emotional and Psychological Support	14417.07	1	14417.07	2763.55	0.00
Group	Personalized Care	3840.19	1	3840.19	329.93	0.00
	Continuity and Convenience of Care	4017.72	1	4017.72	263.11	0.00
	Educational Support and Information	8643.24	1	8643.24	589.40	0.00
	Emotional and Psychological Support	594.61	1	594.61	113.98	0.00
Error	Personalized Care	1606.23	138.00	11.64		
	Continuity and Convenience of Care	2107.27	138.00	15.27		
	Educational Support and Information	2023.70	138.00	14.66		
	Emotional and Psychological Support	719.93	138.00	5.22		
Total	Personalized Care	57943.00	140.00			
	Continuity and Convenience of Care	83393.00	140.00			
	Educational Support and Information	139867.00	140.00			
	Emotional and Psychological Support	16229.00	140.00			
Corrected Total	Personalized Care	5446.42	139.00			
	Continuity and Convenience of Care	6124.99	139.00			
	Educational Support and Information	10666.94	139.00			
	Emotional and Psychological Support	1314.54	139.00			

a. R Squared = .705 (Adjusted R Squared = .703)

b. R Squared = .656 (Adjusted R Squared = .653)

c. R Squared = .810 (Adjusted R Squared = .809)

d. R Squared = .452 (Adjusted R Squared = .448)

DISCUSSION:

The findings of this study are consistent with existing literature highlighting the significance of patient-centered interventions in enhancing maternal satisfaction. For instance, Miller et al. (1) demonstrated that personalized care models, such as group-based prenatal care, significantly improved maternal satisfaction compared to standard care. Similarly, a study conducted by Nassar et al. (2) in Palestine reported that women receiving midwife-led continuity of care during antenatal, intrapartum, and postnatal periods expressed higher satisfaction levels than those receiving conventional maternity care. Additionally, Smith et al. (3) found that tailored interventions addressing maternal risk factors positively impacted maternal satisfaction and psychological well-being.

The study findings align with several prior research efforts that underscore the importance of patient-centered care in maternal health. For instance, Hodnett et al. (4) found that women who received personalized care reported significantly higher satisfaction levels due to improved communication, emotional support, and individualized attention during labor and delivery. This supports the current study's emphasis on the role of personalized care in maternal satisfaction.

In another study, Sandall et al. (5) highlighted that continuity of midwifery care reduced maternal stress and increased satisfaction compared to fragmented care models. Their findings resonate with the present study, which showed that continuity and convenience of care were key contributors to maternal satisfaction in the experimental group.
Moreover, a meta-analysis by Walker et al. (6) demonstrated that comprehensive educational support during antenatal care improved maternal knowledge, reduced anxiety, and enhanced satisfaction with maternity services. The current findings echo these results, particularly in the significant improvement of maternal satisfaction scores related to educational support and information.

The psychological aspect of care is also critical. A study by Youssef et al. (7) revealed that emotional and psychological support during pregnancy and postpartum periods significantly contributed to maternal satisfaction and mental health. This parallels the current findings, where emotional support played a pivotal role in satisfaction outcomes.

Together, these studies provide robust evidence that structured interventions focusing on personalized care, continuity, education, and emotional support can dramatically improve maternal satisfaction, corroborating the outcomes observed in this study.

CONCLUSION:

This study confirms the significant positive impact of the intervention on maternal satisfaction, with higher scores across all dimensions in the experimental group compared to the control group. The intervention effectively enhanced personalized care, continuity, education, and emotional support, demonstrating its potential to improve maternal health experiences. These findings highlight the value of structured, patient-centered approaches in maternal care and their role in achieving consistent and equitable satisfaction outcomes. Regular training for healthcare providers and the implementation of standardized guidelines are crucial for improving care quality. Future research should focus on the long-term effects of these interventions, their scalability in diverse settings, and the influence of cultural and socioeconomic factors. Additionally, studies exploring the role of advanced technologies, such as telemedicine and mobile health, can further optimize maternal care and satisfaction.

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Conflicts of interests

The authors have no conflicts of interest.

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