Effectiveness of Respectful Maternity Care on Labour Pain Perception Among Parturient Women in Public Health Facilities: A Quasi-Experimental Study

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ABSTRACT

Background: Labour pain is influenced by physiological and psychological factors, including fear, anxiety, and the quality of intrapartum support. Respectful Maternity Care (RMC), which emphasizes dignity, privacy, informed choice, effective communication, and continuous emotional support, may help women cope with labour pain and promote a positive childbirth experience.

Objective: To evaluate the effectiveness of Respectful Maternity Care in reducing labour pain perception among parturient women in selected public health facilities in Erode, Tamil Nadu, India.

Methods: A quantitative evaluative approach using a quasi-experimental research design was adopted. The study included 150 primiparous women, comprising 75 in the experimental group and 75 in the control group, selected through purposive sampling from two public maternity centres in Erode. The experimental group received a structured RMC intervention, including antenatal education, follow-up support, respectful communication, maintenance of privacy, informed consent, and continuous intrapartum support. The control group received routine maternity care. Labour pain perception was assessed during the latent, active, transition, and second stages of labour using a 10-point Visual Analogue Scale. Data were analysed using descriptive and inferential statistics, including independent-samples *t*-tests and chi-square tests.

Results: Women who received RMC reported lower mean pain perception scores than those receiving routine care across all stages of labour. The mean scores in the experimental and control groups were 3.03 and 5.71 during the latent phase, 3.16 and 5.35 during the active phase, 4.39 and 6.28 during the transition stage, and 4.88 and 6.72 during the second stage, respectively. The differences between groups were statistically significant across all stages ($p < 0.001$). The largest mean difference was observed during the latent phase (2.68 points), followed by the active phase (2.19), transition stage (1.89), and second stage (1.84). In the experimental group, age, place of residence, and socioeconomic status were reported to be significantly associated with pain perception, whereas no significant associations were reported for the selected demographic variables in the control group.

Conclusion: Respectful Maternity Care was associated with significantly lower labour pain perception across all four stages of labour compared with routine maternity care. Integrating respectful communication, informed decision-making, privacy, dignity, and continuous emotional support into routine intrapartum services may improve women's childbirth experiences. Further multicentre studies are recommended to strengthen the generalisability of these findings.

Keywords: Respectful maternity care, labour pain, pain perception, parturient women, quasi-experimental study, intrapartum care, childbirth experience.

INTRODUCTION

Labour pain is one of the most intense forms of pain experienced by women and is influenced by physiological, psychological, emotional, sociocultural, and environmental factors. Although labour is a normal physiological

process, inadequate support during childbirth may increase maternal anxiety, fear, stress, and dissatisfaction with the birth experience, thereby affecting maternal and neonatal outcomes. Contemporary maternity care therefore emphasizes not only the clinical management of labour but also the provision of respectful, compassionate, and woman-centred care throughout childbirth **(1)**.

Respectful Maternity Care (RMC) is recognized as an essential component of quality maternal healthcare. It encompasses care that maintains women's dignity, privacy, confidentiality, informed choice, and freedom from harm, while ensuring effective communication and continuous emotional support during labour and childbirth. The World Health Organization recommends respectful maternity care as a key intervention for achieving a positive childbirth experience and improving maternal well-being **(1,2)**.

Despite considerable progress in increasing institutional deliveries worldwide, disrespect and abuse during childbirth continue to be reported in many healthcare settings, particularly in low- and middle-income countries. Women have described experiences such as verbal abuse, neglect, discrimination, lack of informed consent, denial of birth companionship, breaches of confidentiality, and failure to maintain privacy. Such practices negatively influence women's satisfaction with childbirth, reduce trust in healthcare providers, and discourage future utilization of health facilities **(3,4)**.

Evidence suggests that respectful maternity care improves women's childbirth experiences by reducing fear, anxiety, and stress while promoting confidence, emotional well-being, and maternal satisfaction. Continuous emotional support, effective communication, reassurance, respect for women's preferences, and preservation of dignity enable women to cope more effectively with labour pain. These non-pharmacological supportive measures complement routine obstetric care and contribute to positive birth experiences **(1,4,5)**.

Labour pain is a multidimensional phenomenon influenced by uterine contractions, cervical dilatation, fetal descent, previous childbirth experiences, psychological status, and the quality of caregiver support. Although pharmacological pain relief methods are effective, they may not always be readily available or acceptable in public health facilities. Consequently, low-cost, evidence-based, non-pharmacological interventions such as respectful maternity care have gained increasing attention for improving women's labour experiences without additional financial burden **(1,5)**.

Despite significant improvements in institutional childbirth services in India, gaps remain in ensuring the provision of respectful, woman-centred maternity care during labour and childbirth. Existing studies have primarily focused on assessing the prevalence of disrespectful maternity care, maternal satisfaction, and perceptions of childbirth experiences. However, limited evidence is available regarding the effectiveness of structured respectful maternity care interventions in reducing labour pain perception and improving childbirth-related outcomes, particularly in public health facility settings.

Furthermore, most available studies are descriptive or cross-sectional in nature, with limited quasi-experimental evidence evaluating whether implementation of respectful maternity care practices can produce measurable improvements among parturient women. The influence of such interventions on pain perception during different stages of labour remains inadequately explored, especially within the Indian healthcare context.

Therefore, this quasi-experimental study was undertaken to evaluate the impact of respectful maternity care on pain perception among parturient women in selected public health facilities, addressing the existing evidence gap and contributing to the development of evidence-based, compassionate maternity care practices.

General Objective

To evaluate the effectiveness of Respectful Maternity Care in reducing labour pain perception among parturient women in selected public health facilities at Erode.

Specific Objectives

1. To compare the baseline characteristics of the experimental and control groups among Parturient Women
2. To compare labour pain perception between the experimental and control groups among Parturient Women

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3. To evaluate the effectiveness of Respectful Maternity Care in reducing labour pain perception among Parturient Women
4. To associate the socio-demographic variables on labour pain perception between the experimental and control groups among Parturient Women

Hypotheses

H_1: Parturient women who receive Respectful Maternity Care will have significantly lower labour pain perception compared with those receiving routine maternity care.

H_2: There is a significant association between selected socio-demographic and labour pain perception among parturient women.

METHODOLOGY

Research Approach

Quantitative evaluative approach

Research Design

Quasi Experimental Research Design

Setting

This quasi-experimental study was conducted in two public maternity corporation centres in Erode, Tamil Nadu, India. Parturient women in the experimental group were recruited from P. S. Park Maternity Corporation Centre, whereas those in the control group were recruited from Karungalpalayam Maternity Corporation Centre. These facilities provide routine maternity services, including labour and delivery care, and serve women from diverse socioeconomic backgrounds.

Variables

Independent Variable –Respectful Maternity Care is an independent variable.

Dependent Variable –Pain Perception is the dependent variable.

Target Population

The target population for the present study comprised all parturient women admitted for labour and childbirth in selected public health facilities at Erode. The study findings are intended to be generalized to women experiencing normal labour in similar public healthcare settings.

Accessible Population

The accessible population consisted of parturient women admitted in the active phase of labour who fulfilled the inclusion criteria during the period of data collection. The experimental group was selected from **P.S. Park Maternity Corporation Centre, Erode**, where the Respectful Maternity Care (RMC) intervention was implemented. The control group was selected from **Maternity Corporation Centre, Karungalpalayam, Erode**, where routine intrapartum care was provided. A total of **150 parturient women** participated in the study, comprising **75 women in the experimental group** and **75 women in the control group**

Sample

The samples of the study were parturient women who fulfilled the inclusion criteria in selected public health facility at Erode.

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Sample Size

The sample consisted of **150 parturient women**, with **75 participants in the experimental group** and **75 participants in the control group**. The sample size was determined to provide sufficient statistical power to detect a significant difference in pain perception between the intervention and control groups following the implementation of the Respectful Maternity Care intervention at a 5% level of significance.

Sample size was calculated using power analysis as follows

The power analysis calculation was based on cankaya et al study, the average standard deviation of pain perception among parturient women was 1.0. Required sample size was 70 women to demonstrate 0.55 mean difference score between and control and experiment (9.3 to 8.2) with a power of the study 90% (type II error $\beta = 10\%$) and 95% confidence of result (type 1 error $\alpha = 5\%$). After adding 5% dropout rate final sample size will be 75 women per group.

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

$\sigma = 1.0$

α = 1.96 (95% confidence level)

β = 1.28 (90% power of the study)

d = 0.55 pain score difference (experiment and control difference after intervention)

$$n = \frac{2(1.0)^2 (1.96 + 1.28)^2}{0.55^2}$$

= 70 women in each group

With 5% dropout rate 70X5/100= 3.5=5

Final sample size was 70+5=75 parturient women per group

Sampling Technique

A **purposive sampling technique** was used to recruit eligible parturient women who met the inclusion criteria from the selected public health facilities. Parturient women admitted to **P.S. Park Maternity Corporation Centre, Erode**, were enrolled into the **experimental group**, where the Respectful Maternity Care (RMC) intervention was implemented. Parturient women admitted to **Maternity Corporation Centre, Karungalpalayam, Erode**, were enrolled into the **control group**, where routine intrapartum care was provided. A total of **150 participants** were selected, with **75 women in the experimental group** and **75 women in the control group**.

Inclusion Criteria

The study included primiparous women who:

- Were aged 21–35 years.
- Had a singleton pregnancy with cephalic presentation.
- Had a gestational age of 37–42 completed weeks.
- Were admitted in the active phase of labour and planned to undergo normal vaginal delivery in the selected public health facility.
- Were willing to receive intrapartum care and complete delivery in the same institution.
- Were able to understand and communicate in Tamil or English.

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- Were willing to participate in the study and provided written informed consent.

Exclusion Criteria

The study excluded primiparous women who:

- Had an elective & emergency caesarean section.
- Required instrumental vaginal delivery (forceps or vacuum extraction).
- Had a high-risk pregnancy, such as pre-eclampsia, eclampsia, placenta previa, gestational diabetes requiring intensive management, or other significant medical or obstetric complications.
- Developed obstetric emergencies or complications during labour requiring immediate intervention.
- Received epidural analgesia or other advanced pharmacological pain relief before assessment of pain perception.
- Had hearing, visual, cognitive, or communication impairments that could interfere with data collection.

Respectful Maternity Care (Intervention)

Respectful maternity care refers to empowering strategies and comforting pregnant women throughout their antenatal and intra-natal period. (It was provided from 36 weeks to till delivery). In this study it includes

- Provision of Privacy
- Informed Choices
- Informed Consent
- Continuous Labour support from 3Cm cervical dilatation to delivery of Placenta (assisting the mother for ambulation and providing massage on the back during 1st stage, giving perineal support during delivery of head, Assisting the mother for initiation of breast feeding)
- Avoidance of Physical abuse
- Avoidance of Verbal abuse
- Avoidance of Stigma and discrimination
- Professional standards of care (Friendly and dignified care)
- Rapport between women and providers - effective communication

The Respectful maternity care was administered through following steps

Step 1: Self-dramatized video was taught by the investigator to the group of antenatal women with 36 weeks of gestational age for the duration of 40 – 50 minutes

Step 2: Self-dramatized video was sent to the women through social media and Follow-up session is conducted on weekly basis through telephone mode till women admitted for labor.

Step 3: Investigator provided respectful maternity care to the parturient women from 3 cm cervical dilation to till delivery of placenta.

Validity of the Study Instruments

The validity of the study instruments was established through content validity. The tools were reviewed by a panel of experts comprising specialists in Obstetric and Gynecological Nursing, an Obstetrician, a Nursing Research expert, and a Statistician. The experts evaluated the instruments for relevance, clarity, comprehensiveness, and appropriateness in measuring respectful maternity care, pain perception, labour outcomes, and women's childbirth experiences. Based on their recommendations, minor modifications were made to improve the clarity and relevance of several items. After incorporating these suggestions, the expert panel agreed that the instruments possessed satisfactory content validity and were appropriate for assessing the impact of Respectful Maternity Care on pain perception, labour outcomes, and the lived experiences of parturient women in selected public health facilities.

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Reliability of the Tool

Following the pilot study, the reliability of the study instruments was established using the inter-rater reliability method and Cronbach's alpha coefficient. The pain perception assessment tool demonstrated excellent inter-rater reliability, with a correlation coefficient of 0.93, indicating a high level of agreement between raters. Internal consistency of the questionnaire was also assessed using Cronbach's alpha, which demonstrated acceptable reliability. The obtained reliability coefficients indicated that the study instruments were highly reliable and suitable for assessing the impact of Respectful Maternity Care on pain perception among parturient women in selected public health facilities.

Ethical Clearance

Ethical approval for this study was obtained from the Institutional Ethics Committee, before the commencement of data collection. Administrative permission to conduct the study was obtained from the Medical Officer of the selected public health facility. All eligible participants received a detailed explanation of the study objectives, procedures, potential benefits, and their rights as research participants. Written informed consent was obtained from each participant before enrolment. Participation was entirely voluntary, and participants were informed of their right to withdraw from the study at any stage without any consequences to the care they received. Confidentiality and anonymity were strictly maintained throughout the study by assigning unique identification codes and securely storing the research data. The study was conducted in accordance with the ethical principles outlined in the Declaration of Helsinki for research involving human participants.

Results

SECTION A

It consists of demographic characteristics of parturient women, i.e.

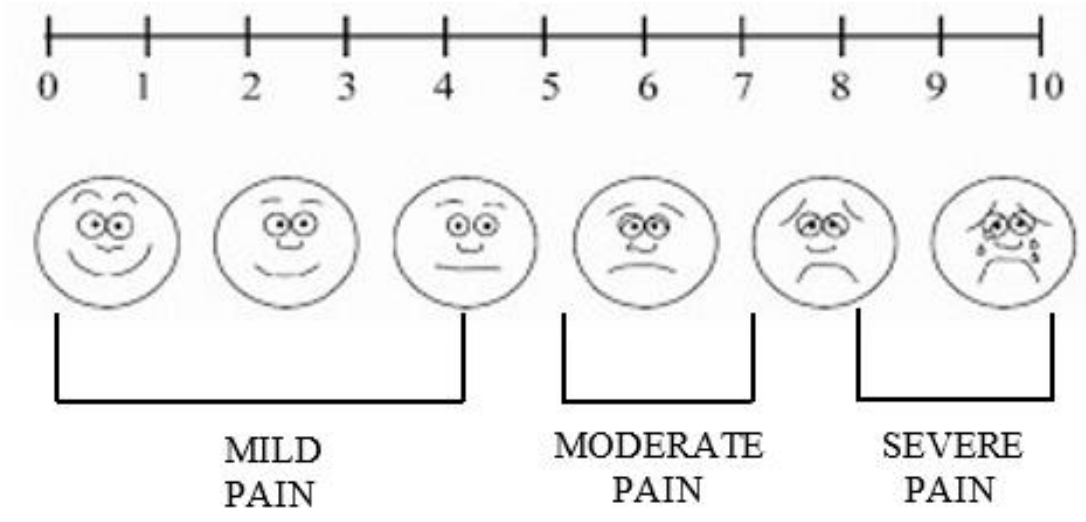
Age, Education, Occupation, Family Income, Religion, Type of family, Dietary Pattern & Habitant.

SECTION B – VISUAL ANOLOG SCALE

Visual Analogue Scale (VAS) was used to measure the level of pain perception experienced by parturient women during labour process. It consists of 1-10 scores. Scoring procedure based on the percentage of scores. The levels of pain perception were graded into three categories, they are Mild, Moderate, Severe.

Pain perceptions were assessed during early, active, transition and second stage of labour.

Fig 1. Visual Analogue Scale



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Scoring procedure

Based on the percentage of scores the levels of pain perception were graded into three categories, they are Mild, Moderate and Severe.

Level of pain perception	Actual scores	Percentage of scores
Mild	**1-4**	**0-40%**
Moderate	**5-7**	**41-70%**
Severe	**8-10**	**>70**

Table 1- Demographic Variables

N=150

Demographic variables		Group				Chi square test
		Experimental group(n=75)		Control group(n=75)		
		n	%	n	%	
Age in years	19-23 years	21	28.00%	25	33.33%	$\chi2$= 0.75 p=0.69(NS) DF=2
	24-29years	51	68.00%	46	61.33%	
	30-35years	3	4.00%	4	5.34%	
	>35 years	0	0.00%	0	0.00%	
Education	Illiterate	14	18.67%	16	21.33%	$\chi2$= 1.69 p=0.64(NS) DF=3
	Primary	34	45.33%	38	50.67%	
	Secondary	24	32.00%	17	22.67%	
	Undergraduate	3	4.00%	4	5.33%	
	Postgraduate	0	0.00%	0	0.00%	
Occupation	House wife	59	78.67%	38	50.67%	$\chi2$= 1.22 p=0.26(NS) DF=1
	Private employee	16	21.33%	37	49.33%	
	Government employee	0	0.00%	0	0.00%	
Religion	Hindu	54	72.00%	49	65.33%	$\chi2$= 0.00 p=1.00(NS) DF=2
	Christin	13	17.33%	15	20.00%	
	Muslim	8	10.67%	11	14.67%	
Habitant	Urban	24	32.00%	35	46.67%	$\chi2$= 0.60 p=0.44(NS) DF=1
	Rural	51	68.00%	40	53.33%	
Type of family	Nuclear family	56	74.67%	53	70.67%	$\chi2$= 0.30 p=0.58(NS) DF=1
	Joint family	19	25.33%	22	29.33%	
Socio Economic Status	Low class	31	41.33%	39	52.00%	$\chi2$= 1.71 p=0.19(NS) DF=1
	Middle class	44	58.67%	36	48.00%	
	High class	0	0.00%	0	0.00%	
Diet pattern	Vegetarian	13	17.33%	21	28.00%	$\chi2$= 2.43 p=0.12(NS) DF=1
	Non vegetarian	62	82.67%	54	72.00%	

Above table shows the demographic information of parturient women

Similarity of demographic distribution between experimental and control group was assessed using chi square test.

In experimental group the highest percentage (68%) of parturient women were in the age group of 24-29 years, 45.33% of parturient women had primary education, 78.67% of parturient women were Housewife, 72% of

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parturient women were Hindus, 68% of women were from rural area, 74.67% of women were living in nuclear family, 58.67% of women were from middle class family, 82.67 %of women were non –vegetarian.

In control group, the highest percentage (61.33%) of parturient women were in the age group of 24-29 years, 50.67% of parturient women had primary education, 50.67% of parturient women were Housewife, 65.33% of parturient women were Hindus, 53.33% of women were from rural area, 70.67% of women were living in nuclear family, 52% of women were from low class family, 72%of women were non –vegetarian.

Table 2: Distribution of Level of pain Perception score among experimental and control (N 75+75=150)

Assessment	**Level of pain Perception score**	**Group**				**Chi-square value**	**P value**
		Experimental Group **(n=75)**		Control Group **(n=75)**			
		No.	**%**	**No.**	**%**		
Latent phase	Mild	58	77.33%	20	26.67%	41.46	**0.001*** (S) DF=2**
	Moderate	17	22.67%	44	58.67%		
	Severe	0	0.00%	11	14.66%		
	Total	75	100.00%	75	100.00%		
Active phase	Mild	52	69.33%	30	40.00%	19.02	**0.001*** (S) DF=1**
	Moderate	23	30.67%	34	45.33%		
	Severe	0	0.00%	11	14.67%		
	Total	75	100.00%	75	100.00%		
Transition stage	Mild	18	24.00%	0	0.00%	29.36	**0.001*** (S) DF=2**
	Moderate	34	45.33%	25	33.33%		
	Severe	23	30.67%	50	66.67%		
	TOTAL	75	100.00%	75	100.00%		
II stage	Mild	0	0.00%	0	0.00%	34.71	**0.001*** (S) DF=2**
	Moderate	53	70.67%	17	22.67%		
	Severe	22	29.33%	58	77.33%		
	TOTAL	75	100.00%	75	100.00%		

DF = Degrees of freedom; χ^2 = Chi-square value; S = Statistically significant; $p < .001$ indicates statistical significance.

Table 2 presents the distribution of pain perception levels among women in the experimental and control groups during the four stages of labour. During the latent phase, most women in the experimental group experienced mild pain (77.3%), whereas the majority of those in the control group reported moderate (58.7%) or severe pain (14.7%). The difference in pain perception between the groups was statistically significant ($\chi^2 = 41.46$, $p < .001$).

During the active phase, 69.3% of women in the experimental group reported mild pain compared with 40.0% in the control group. Severe pain was observed only in the control group (14.7%). The difference between the groups remained statistically significant ($\chi^2 = 19.02$, $p < .001$).

In the transition stage, women in the experimental group were less likely to report severe pain (30.7%) than those in the control group (66.7%), while mild pain was reported only in the experimental group (24.0%). This difference was also statistically significant ($\chi^2 = 29.36$, $p < .001$).

Similarly, during the second stage of labour, the majority of women in the experimental group experienced moderate pain (70.7%), whereas most women in the control group experienced severe pain (77.3%). The difference in pain perception between the groups was statistically significant ($\chi^2 = 34.71$, $p < .001$).

Overall, the findings demonstrate that women who received the respectful maternity care intervention experienced significantly lower levels of labour pain across all stages of labour compared with those receiving routine care.

Table 3- Comparison of pain perception score during Latent phase, Active phase, Transition stage and II stage

	Group				Mean difference	Student independent t-test
	Experimental		Control			
	Mean	SD	Mean	SD		
Latent phase	3.03	1.40	5.71	1.73	2.68	t=10.41 p=0.001***(S)
Active phase	3.16	1.49	5.35	1.93	2.19	t=7.76 p=0.001***(S)
Transition stage	4.39	2.25	6.28	.97	1.89	t=6.69 p=0.001***(S)
II stage	4.88	1.11	6.72	.97	1.84	t=10.80 p=0.001***(S)

Table 3 compares the mean pain perception scores between the experimental and control groups across the four stages of labour. During the latent phase, the experimental group had a significantly lower mean pain perception score than the control group (3.03 ± 1.40 vs. 5.71 ± 1.73; mean difference = 2.68; $t = 10.41$, $p < .001$). Similarly, during the active phase, the experimental group reported significantly lower pain perception scores than the control group (3.16 ± 1.49 vs. 5.35 ± 1.93; mean difference = 2.19; $t = 7.76$, $p < .001$).

During the transition stage, the mean pain perception score remained significantly lower in the experimental group compared with the control group (4.39 ± 2.25 vs. 6.28 ± 0.97; mean difference = 1.89; $t = 6.69$, $p < .001$). Likewise, in the second stage of labour, women in the experimental group experienced significantly lower pain perception scores than those in the control group (4.88 ± 1.11 vs. 6.72 ± 0.97; mean difference = 1.84; $t = 10.80$, $p < .001$).

Overall, the findings indicate that women who received the respectful maternity care intervention reported significantly lower pain perception throughout all stages of labour than women who received routine maternity care, demonstrating the effectiveness of the intervention in reducing labour pain.

Table 4: Effectiveness Of Respectful Maternity Care on Pain Perception

Table 4. Comparison of Pain Perception Scores Between Experimental and Control Groups During Different Phases of Labour

Phase of labour	Maximum score	Experimental mean	Experimental (%)	Control mean	Control (%)	Difference in mean scores	Difference (%)
Latent phase	10	3.03	30.30	5.71	57.10	2.68	26.80
Active phase	10	3.16	31.60	5.35	53.50	2.19	21.90
Transition phase	10	4.39	43.90	6.28	62.80	1.89	18.90
Second stage	10	4.88	48.80	6.72	67.20	1.84	18.40

Note: Difference in mean scores = Control means − Experimental mean. Difference (%) = Difference in mean scores ÷ maximum score × 100.

Interpretation

The experimental group had lower mean pain perception scores than the control group across all four phases of labour. The largest difference was observed in the latent phase (2.68 points; 26.80 percentage points), followed

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by the active phase (2.19 points; 21.90 percentage points), transition phase (1.89 points; 18.90 percentage points), and second stage (1.84 points; 18.40 percentage points).

These findings indicate lower reported pain perception in the experimental group.

Table 5: Association Between Level of Pain Score and Women Demographic Variable (Experimental)

Demographic variables		PAIN score						N	Chi square test
		Mild		Moderate		Severe			
		n	%	n	%	n	%		
Age in years	19-23 years	0	0.00%	11	52.38%	10	47.62%	21	**χ2= 7.73 p=0.05*(S) DF=2**
	24-29years	0	0.00%	41	80.39%	10	19.61%	51	
	30-35years	0	0.00%	1	33.67%	2	66.33%	3	
	>35 years	0	0.00%	0	0.00%	0	0.00%	0	
Education	Illiterate	0	0.00%	12	85.71%	2	14.29%	14	χ2= 4.35 p=0.22(NS) DF=2
	Primary	0	0.00%	22	64.71%	12	35.29%	34	
	Secondary	0	0.00%	18	75.00%	6	25.00%	24	
	Undergraduate	0	0.00%	1	33.33%	2	66.67%	3	
	Postgraduate	0	0.00%	0	0.00%	0	0.00%	0	
Occupation	House wife	0	0.00%	39	66.10%	20	33.90%	59	χ2= 2.78 p=0.10(NS) DF=1
	Private employee	0	0.00%	14	87.50%	2	12.50%	16	
	Government employee	0	0.00%	0	0.00%	0	0.00%	0	
Religion	Hindu	0	0.00%	40	74.07%	14	25.93%	54	χ2= 1.08 p=0.58(NS) DF=1
	Christin	0	0.00%	8	61.54%	5	38.46%	13	
	Muslim	0	0.00%	5	62.50%	3	37.50%	8	
Habitant	Urban	0	0.00%	13	54.17%	11	45.83%	24	**χ2= 4.63 p=0.05*(S) DF=1**
	Rural	0	0.00%	40	78.43%	11	21.57%	51	
Type of family	Nuclear family	0	0.00%	41	73.21%	15	26.79%	56	χ2= 0.69 p=0.40(NS) DF=1
	Joint family	0	0.00%	12	63.16%	7	36.84%	19	
Socio economic status	Low class	0	0.00%	18	58.06%	13	41.94%	31	**χ2= 4.05 p=0.05*(S) DF=1**
	Middle class	0	0.00%	35	79.55%	9	20.45%	44	
	High class	0	0.00%	0	0.00%	0	0.00%	0	
Dietary Pattern	Vegetarian	0	0.00%	9	69.23%	4	30.77%	13	χ2= 0.02 p=0.90(NS) DF=1
	Non-Vegetarian	0	0.00%	44	70.97%	18	29.03%	62	

Table 5 presents the association between the level of pain score and selected demographic characteristics among women in the experimental group following the intervention. The chi-square test demonstrated that **age** (χ^2 = 7.73, p = 0.05), **habitant (place of residence)** (χ^2 = 4.63, p = 0.05), and **socioeconomic status** (χ^2 = 4.05, p = 0.05) were significantly associated with pain scores. Women aged **24–29 years** had a higher proportion of **moderate pain** (80.39%) and a lower proportion of severe pain (19.61%) compared with other age groups. Similarly, **rural women** reported a greater proportion of moderate pain (78.43%) than urban women (54.17%), while **women from middle socioeconomic class** had a higher percentage of moderate pain (79.55%) compared with those from the low socioeconomic class (58.06%).

No statistically significant associations were observed between pain score and **educational status** (χ^2 = 4.35, p = 0.22), **occupation** (χ^2 = 2.78, p = 0.10), **religion** (χ^2 = 1.08, p = 0.58), **type of family** (χ^2 = 0.69, p = 0.40), or **dietary pattern** (χ^2 = 0.02, p = 0.90).

Overall, the findings suggest that **age, place of residence, and socioeconomic status** were significantly associated with the level of labour pain experienced among women in the experimental group, whereas the remaining demographic variables showed no significant association.

Table 6: Association Between Level of Pain Score and Women Demographic Variable (Control)

Demographic variables		PAIN score						N	Chi square test
		Mild		Moderate		Severe			
		n	%	n	%	n	%		
Age in years	19-23 years	0	0.00%	5	20.00%	20	80.00%	25	$\chi2$= 1.98 p=0.37(NS) DF=2
	24-29years	0	0.00%	9	19.57%	37	80.43%	46	
	30-35years	0	0.00%	3	75.00%	1	25.00%	4	
	>35 years	0	0.00%	0	0.00%	0	0.00%	0	
Education	Illiterate	0	0.00%	2	12.50%	14	87.50%	16	$\chi2$= 6.16 p=0.10(NS) DF=2
	Primary	0	0.00%	13	34.21%	25	65.79%	38	
	Secondary	0	0.00%	2	11.76%	15	88.24%	17	
	Undergraduate	0	0.00%	0	0.00%	4	100.00%	4	
	Postgraduate	0	0.00%	0	0.00%	0	0.00%	0	
Occupation	House wife	0	0.00%	11	22.00%	39	78.00%	38	$\chi2$= 0.04 p=0.85(NS) DF=1
	Private employee	0	0.00%	6	24.00%	19	76.00%	37	
	Government employee	0	0.00%	0	0.00%	0	0.00%	0	
Religion	Hindu	0	0.00%	10	20.41%	39	79.59%	49	$\chi2$= 0.41 p=0.81(NS) DF=1
	Christin	0	0.00%	4	26.67%	11	73.33%	15	
	Muslim	0	0.00%	3	27.27%	8	72.73%	11	
Habitant	Urban	0	0.00%	8	22.86%	27	77.14%	35	$\chi2$= 0.01 p=0.97(NS) DF=1
	Rural	0	0.00%	9	22.50%	31	77.50%	40	
Type of family	Nuclear family	0	0.00%	12	22.64%	41	77.36%	53	$\chi2$= 0.02 p=0.97(NS) DF=1
	Joint family	0	0.00%	5	22.73%	17	77.27%	22	
Socio economic status	Low class	0	0.00%	9	23.08%	30	76.92%	39	$\chi2$= 0.03 p=0.96(NS) DF=1
	Middle class	0	0.00%	8	22.22%	28	77.78%	36	
	High class	0	0.00%	0	0.00%	0	0.00%	0	
Dietary Pattern	Vegetarian	0	0.00%	2	9.52%	19	90.48%	21	$\chi2$= 2.87 p=0.09(NS) DF=1
	Non Vegetarian	0	0.00%	15	27.78%	39	72.22%	54	

χ^2 = Chi-square statistic; DF = degrees of freedom; NS = not statistically significant; statistical significance was set at $p < .05$.

Table 6 presents the association between women's demographic characteristics and pain scores in the control group. Chi-square analysis demonstrated that none of the selected demographic variables, including age, educational status, occupation, religion, place of residence, type of family, socioeconomic status, and dietary pattern, were significantly associated with pain scores ($p > .05$ for all comparisons). These findings indicate that pain perception in the control group was independent of the participants demographic characteristics.

DISCUSSION

The findings are discussed objective wise and presented below

1.To compare the baseline characteristics of the experimental and control groups among Parturient Women

In experimental group the highest percentage (68%) of parturient women were in the age group of 24-29 years, 45.33% of parturient women had primary education, 78.67% of parturient women were Housewife, 72% of parturient women were Hindus, 68% of women were from rural area, 74.67% of women were living in nuclear family, 58.67% of women were from middle class family, 82.67 %of women were non –vegetarian.

In control group, the highest percentage (61.33%) of parturient women were in the age group of 24-29 years, 50.67% of parturient women had primary education, 50.67% of parturient women were Housewife, 65.33% of parturient women were Hindus, 53.33% of women were from rural area, 70.67% of women were living in nuclear family, 52% of women were from low class family, 72%of women were non –vegetarian.

The chi square test reveals that no significant difference in the demographic variables between the control and experimental group. It proves the homogeneity to support the findings of the study.

2.To compare labour pain perception between the experimental and control groups among Parturient Women

In experimental group latent phase mean pain perception score 3.03 whereas in control group 5.71. In experimental active phase pain perception score is 3.16 whereas in control group 5.35. In experimental group transitional stage mean pain perception score 4.39 whereas in control group 6.28. In experimental group second stage mean pain perception score 4.88 whereas in control group 6.72. Statistically there is a significant difference between experimental and control group.

The current result agreed with another study (**Isha Seth, Sunayana, Savita Singhal, Aditya Seth et al ,2024)** stated that having a birth companion during labor significantly improves RMC, pain management, and labor outcomes.[6]

Another study **(Cankaya S, Can R,2021)** result also coincided with this current finding in that the participants in the intervention group receiving continuous intrapartum supportive care had less fear of birth and lower birth pain in the active and transitional stages of labor, their midwifery care perception increased, and the duration of labor was shorter ($P < 0.05$).[7]

3. To evaluate the effectiveness of Respectful Maternity Care in reducing labour pain perception among Parturient Women.

In experimental group, 18.50% pain reduction score whereas in control group only 10.10% pain reduction score, it shows the effectiveness of the study.

This study findings are supported by another study **(WHO recommendations)** stated that the postpartum reports of women who experienced severe labor pain were shown to be significantly impacted by the presence of companionship during labor and delivery, according to evidence with a moderate degree of certainty (4 trials, 2456 women, RR 1.00, 95% CI 0.83–1.21). [5]

Another study **(Hajizadeh, K., Vaezi, M., Meedya, S. et al ,2020)**agreed with these results stated that high respectful maternity care was associated with positive childbirth experience.[8]

This finding is consistent with recent evidence **(Rusnawati, Muhammad Syafar et al)** a quasi-experimental study evaluating Respectful Midwifery Care, which reported that women receiving RMC experienced significantly improved pain adaptation and favourable physiological responses, including changes in prostaglandin (PGE2) levels, compared with women receiving standard maternity care. These findings suggest that respectful, woman-centred care may reduce labour pain by alleviating maternal anxiety, fear, and stress while promoting psychological comfort and physiological adaptation during childbirth. Collectively, the evidence supports the integration of RMC into routine intrapartum care to enhance women's childbirth experiences and improve maternal outcomes.[10]

4. To associate the socio-demographic variables on labour pain perception between the experimental and control groups among Parturient Women

Association between level of pain score and women demographic variable. In this study, the findings suggest that **age, place of residence, and socioeconomic status** were significantly associated with the level of labour pain experienced among women in the experimental group, whereas the remaining demographic variables

showed no significant association. None of the selected demographic variables showed a statistically significant association with the level of pain score among women in the control group (all $p > 0.05$), as determined using the chi-square test.

A different study **(Siyoum M, Mekonnen S,2019)** corroborated this conclusion, reporting that 104 mothers, or 25.7% of them, said they had only modest control over their discomfort during labor and delivery (scoring below the mean value for labor control). Only mothers between the ages of 19 and 24 (AOR = 5.85; 95% CI 2.14, 15.98) were linked to better control of labor pain on multivariate analysis as compared to those over the age of 30[9]

Clinical Implications

The findings of this study demonstrate that Respectful Maternity Care (RMC) is an effective, low-cost, and evidence-based nursing intervention that significantly reduces labour pain perception among parturient women.

Integrating RMC into routine intrapartum care can enhance women's childbirth experiences without requiring additional medical equipment or pharmacological interventions. Nurses and midwives should consistently provide respectful communication, maintain privacy and confidentiality, obtain informed consent before procedures, encourage women's participation in decision-making, and offer continuous emotional support throughout labour.

The results support the incorporation of Respectful Maternity Care principles into hospital labour room protocols, standard operating procedures, and quality improvement initiatives. Nurse managers and hospital administrators should ensure that all maternity care providers receive regular competency-based training on respectful, woman-centred care and effective communication skills. Monitoring compliance with RMC standards through clinical audits and patient feedback mechanisms may further improve the quality of maternity services.

From an educational perspective, undergraduate and postgraduate nursing and midwifery curricula should include structured training on Respectful Maternity Care to strengthen students' competencies in providing compassionate and evidence-based intrapartum care. Continuing professional development programmes should also reinforce these competencies among practising nurses and midwives.

At the policy level, the findings support national and institutional efforts to integrate Respectful Maternity Care into maternal health guidelines and quality assurance frameworks. Strengthening the implementation of RMC has the potential to improve maternal satisfaction, reduce fear and anxiety during childbirth, promote positive birth experiences, and increase women's confidence in utilizing institutional maternity services. Wider implementation of RMC may ultimately contribute to improved maternal health outcomes and support progress toward achieving Sustainable Development Goal 3, which aims to ensure healthy lives and promote well-being for all.

Strengths and Limitations

Strengths

This study has several important strengths.

- The quasi-experimental design enabled a rigorous comparison between women who received Respectful Maternity Care (RMC) and those who received routine maternity care, thereby providing evidence of the intervention's effectiveness in reducing labour pain perception.
- The study included an adequate sample size (N = 150), which enhanced the statistical power and reliability of the findings.
- Validated and reliable instruments were used to assess pain perception, with excellent inter-rater reliability (r = .93), ensuring the consistency and accuracy of the measurements.

- Pain perception was assessed across multiple phases of labour (latent, active, transition, and second stage), providing a comprehensive evaluation of the intervention throughout the childbirth process.
- The study addressed an important and underexplored aspect of maternity care by evaluating Respectful Maternity Care as a low-cost, non-pharmacological nursing intervention with direct relevance to clinical practice in resource-constrained public health settings.

Limitations

- The quasi-experimental design without random allocation may have introduced selection bias and limits the ability to establish causal relationships compared with a randomized controlled trial.
- Participants were recruited using purposive sampling from only two public maternity centres in a single district of Tamil Nadu, which may limit the generalizability of the findings to other healthcare settings or populations.
- Labour pain perception was measured using a self-reported visual analogue scale, which may have been influenced by individual pain tolerance, emotional state, and cultural perceptions of pain.
- Blinding of participants and care providers was not feasible because of the nature of the intervention, introducing the possibility of performance and observer bias.
- The study evaluated immediate outcomes during labour and did not assess postpartum psychological well-being. Future multicentre randomized controlled trials with larger and more diverse populations and extended follow-up periods are recommended to confirm these findings.

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Conflict of Interest Statement

The author declares that she has no known financial interests, personal relationships, or competing interests that could have appeared to influence the work reported in this article.

CONCLUSION

This quasi-experimental study demonstrated that **Respectful Maternity Care (RMC)** is an effective intervention for reducing labour pain perception among parturient women. Women in the experimental group who received respectful maternity care reported significantly lower pain perception during the different phases of labour compared with those in the control group receiving routine maternity care. The findings indicate that respectful, woman-centred care can positively influence women's labour experience by alleviating pain perception and promoting comfort and confidence during childbirth.

The study also found that selected demographic variables, namely **age, place of residence, and socioeconomic status**, were significantly associated with pain perception in the experimental group, whereas no significant associations were observed in the control group. These findings suggest that although certain demographic factors may influence pain perception, the implementation of respectful maternity care contributes substantially to improving women's childbirth experiences irrespective of most demographic characteristics.

Overall, the study highlights the importance of integrating respectful maternity care into routine intrapartum services in public health facilities. Ensuring respectful communication, maintaining privacy and dignity, providing emotional support, involving women in decision-making, and offering continuous companionship during labour can enhance maternal satisfaction and reduce perceived labour pain. Healthcare institutions should strengthen policies, training programmes, and monitoring mechanisms to promote the consistent implementation of respectful maternity care. Future research involving larger, multicentre studies and diverse populations is recommended to further validate these findings and examine the long-term effects of respectful maternity care on maternal and neonatal outcomes.

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