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Effectiveness of labor support on pain and progress of labor among primigravida mothers during first stage of labor admitted in labor room.

[1]Raveena, *[2]Sanjenbam Emon Chanu, [1]Kanchan Bala, [3]Sanchita Pugazhendi

[1]Obstetrics & Gynecological Nursing Department, Himalayan College of Nursing, Swami Rama Himalayan University, Jolly Grant, Dehradun.

*[2]Associate Professor, Child Health Nursing Department, Himalayan College of Nursing, Swami Rama Himalayan University, Jolly Grant, Dehradun.

[3]Professor, Community Health Nursing, Himalayan College of Nursing, Swami Rama Himalayan University, Jolly Grant, Dehradun.

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Abstract

This study aims to evaluate the impact of labor support on pain and labor progression in primigravida mothers during the initial stage of labor. The primary objective assesses the effectiveness of labor support on pain and labor progression, while the secondary goal involves understanding mothers' perspectives on this support.

Methodology: *A quasi-experimental study using a time series design was conducted at Himalayan Hospital in Dehradun, Uttarakhand, from January to February 2023. Sixty primigravida mothers were selected by purposive sampling technique. The intervention involved administering back massages and diaphragmatic breathing for 15 minutes, repeated every 2 hours up to 5 times until delivery. Data were collected using the Visual Analog Scale for pain and a Labor Progress Sheet. Additionally, an opinion questionnaire was utilized to gauge mothers' satisfaction with the labor support.*

Results: *The findings demonstrated a statistically significant reduction in pain and improvement in labor progression following the administration of labor support ($p<0.05$). Regarding opinions, the majority of mothers strongly agreed that they felt satisfied and emotionally supported during the intervention. They also expressed willingness to recommend this intervention to others.*

Conclusion*: This study concludes that providing labor support, including back massages and diaphragmatic breathing, to primigravida mothers effectively reduced pain and accelerated labor progression.*

Keywords: *Labor support, Back massage, Diaphragmatic breathing, Pain, progress of labor, Opinions of mothers.*

Introduction:

Labor is defined by the presence of uterine contractions that are frequent, prolonged, and sufficiently intense to facilitate the dilation and effacement of the cervix[1]. This process involves a sequence of hormonal, metabolic, and cellular activities[2]. The advent of childbirth signifies a profound transformation in a woman's life, heralding

the onset of parenthood. Various social and environmental elements are linked to the psychological and physiological well-being of the mother throughout the childbirth process[3].

Labor pain is often considered one of the most challenging and distressing experiences a woman may encounter in her life. Ranked among the most intense types of pain, it arises from myometrial contractions that lead to cervical effacement and dilation[4]. This unavoidable process precedes childbirth for every pregnant woman. The intensity of pain varies based on individual pain thresholds, and its severity can have significant adverse effects on both pregnant women and fetuses[5].

The global rate of caesarean deliveries, as per the World Health Organization (WHO), has surpassed 21%, with expectations of a continual rise in the coming decade. Projections suggest that by 2030, nearly 29% of new-borns will be delivered via caesarean section. This escalating trend is significantly attributed to the fear and anxiety surrounding labor pain, particularly the discomfort stemming from uterine contractions[6,7].

Numerous reviews indicate that several non-pharmacological pain management techniques have been deemed effective interventions without any associated side effects, altering or redirecting a woman's experience of pain. Among the widely accepted methods for alleviating labor pain is the application of warmth or massage. According to the gate control theory, administering massage triggers a response in the spinal cord that closes the pain pathway and elevates pain tolerance. Additionally, it leads to an increase in serotonin and dopamine levels while reducing cortisol and norepinephrine levels. [9]

Diaphragmatic breathing triggers the parasympathetic nervous system, prompting the release of endorphins. This physiological response helps lower the heart rate, particularly in cases of tachycardia induced by contractions, and promotes a sense of tranquillity. Amid labor, nurses are committed to assisting mothers by encouraging the practice of diaphragmatic breathing. This technique aims to redirect the woman's focus onto her breathing pattern instead of fixating on contractions and pain. It enables active participation in the birthing process and fosters a deeper understanding of her body. [11]

Literature Review:

1. **Effect of Continuous Support on Labor Outcomes:**

   Numerous studies have demonstrated the positive impact of continuous labor support on maternal and neonatal outcomes. A systematic review by Hodnett et al. (2013) analyzed 22 trials involving over 15,000 women and found that continuous support during labor was associated with a significant reduction in the likelihood of cesarean delivery, instrumental delivery, and use of analgesia. Furthermore, women who received continuous support reported higher rates of spontaneous vaginal delivery and greater satisfaction with their birth experience.[18]

2. **Labor Support and Pain Management:**

   The provision of continuous support during labor has been shown to alleviate pain and enhance women's coping mechanisms. A study by Azeem et al. (2019) investigated the effects of doula support on pain perception among primigravida women during the first stage of labor. The findings revealed that women who received doula support reported lower pain scores, decreased use of pharmacological pain relief, and greater satisfaction with their pain management compared to those without support.[19]

3. **Influence of Labor Support on Labor Progress:**

   Several studies have explored the influence of labor support on the progress of labor, particularly in

terms of cervical dilation and duration of labor. A randomized controlled trial conducted by Bohren et al. (2017) evaluated the impact of continuous support on labor outcomes across multiple settings and found that supported women had shorter labors, reduced need for oxytocin augmentation, and lower rates of cesarean delivery compared to unsupported women. These findings suggest that labor support may facilitate the physiological process of labor and contribute to more efficient progress.[20]

4. **Role of Different Support Providers:**

The effectiveness of labor support may vary depending on the type of support provider and their qualifications. A comparative study by darvishi (2019) compared the outcomes of labor support provided by doulas, midwives, and partners among primigravida women. While all types of support were associated with positive outcomes, doulas were found to offer the highest level of continuous support and were most effective in promoting spontaneous vaginal delivery and maternal satisfaction.[21]

Material and Methods:

This study used a quantitative research approach employing a Quasi-experimental time series design. All primigravida mothers in active labor, with cervical dilation of at least 4cm and undergoing normal vaginal delivery, were included. However, mothers opting for elective LSCS or receiving analgesics during the first stage of labor were excluded. Conducted at the labor room of Himalayan Hospital, Jolly Grant, Dehradun, Uttarakhand. Participants received labor support through back massages and diaphragmatic breathing sessions every 2 hours for 15 minutes, up to 5 times until delivery. Data collection involved using the Visual Analog Scale to assess pain levels, a Labor Progress Sheet to monitor labor progression, and an opinion questionnaire to gauge mothers' satisfaction and feedback. Statistical analysis assessed the impact of labor support on pain reduction and labor progression, with significance set at $p<0.05$. Ethical considerations were prioritized, ensuring informed consent, confidentiality, and voluntary participation, with institutional ethical approval obtained prior to commencement.

Results:

Table 1: Frequency & percentage distribution of sociodemographic data of mothers.

(n=60)

S. No.	Socio-demographic Variables	f	%
1.	**Age (in Years)**		
	a. 19-24	23	38.3
	b. 25-30	30	50.0
	c. 31-35	07	11.7
2.	**Educational status of mother**		
	a. No formal education	01	1.7
	b. Secondary education	07	11.7
	c. Higher Secondary Education	11	18.3
	d. Graduation & above	41	68.3

3.	**Occupation of mother**		
	a. Private employee	10	16.7
	b. Homemaker	50	83.3
4.	**Educational status of Spouse**		
	a. Primary Education	02	3.3
	b. Secondary education	09	15
	c. Higher Secondary Education	05	8.3
	d. Graduation & above	44	73.3
5.	**Occupation of Spouse**		
	a. Working	60	100
6.	**Monthly income of Spouse (in Rs.)**		
	a. 5000-25000	43	71.7
	b. 25001-45000	09	15.0
	c. 45001-65000	06	10.0
	d. 65001-85000	01	1.7
	e. 85001-1,00,000	01	1.7
7.	**Type of Family**		
	a. Joint	47	78.3
	b. Nuclear	11	18.3
	c. Extended	02	3.3
8.	**Earning members in Family**		
	a. 1-2	45	75.0
	b. 3-4	15	25.0
9.	**Monthly income of Family (in Rs.)**		
	a. 10000-30000	35	58.3
	b. 30001-50000	10	16.7
	c. 50001-70000	05	8.3
	d. 70001-90000	08	13.3
	e. 90001-150000		

		02	3.3
10.	**Area of living**		
	a. Rural	25	41.7
	b. Urban	35	58.3

Table No. 1. demonstrates that a significant portion (50%) of the study participants fell within the 25-30 age bracket, predominantly with a graduation level of education (68.3%) and engaged in homemaking as their occupation (83.3%). Most spouses had attained a graduate education (73.3%) and were employed, with monthly incomes ranging between Rs. 5000-25000. The majority of mothers (78.3%) belonged to joint families, with 75% having 1-2 earners in the family and monthly incomes ranging between Rs. 10000-30000. Additionally, the majority (58.3%) of mothers resided in urban areas.

Table. 2. Frequency and percentage distribution of obstetrical data of mothers.

(n=60)

S. No.	Characteristics	f	%
1.	**Gestational Weeks**		
	a. 37-39	44	73.3
	b. 40-41	16	26.6
2.	**Any medical complications during pregnancy**		
	a. Yes	17	28.3
	b. No	43	71.7
2a.	**Complications during pregnancy (n=17)**		
	a. Hypothyroidism	08	47.05
	b. Hypertension	05	29.41
	c. Hyperemesis gravidarum	01	5.89
	d. Pre-eclampsia	02	11.76
	e. Rh Negative Pregnancy	01	5.89
3.	**Number of antenatal visits**		
	a. 4-14	45	75
	b. 15-25	15	25
4.	**Blood group of mothers**		
	a. A+	16	26.7
	b. B+	13	21.7

	c. AB+	11	18.3
	d. O+	16	26.7
	e. A-	03	5.0
	f. O-	01	1.7
5.	**Immunization of T.T vaccine**		
	a. Yes	60	100
6.	**Any information related to antenatal care**		
	a. Yes	49	81.7
	b. No	11	18.3
7.	**Any antenatal exercise during pregnancy**		
	a. Yes	29	48.3
	b. No	31	51.7
8.	**Any stressful event during pregnancy**		
	a. Yes	11	18.3
	b. No	49	81.7
8a.	**Stressful events (n=11)**		
	a. Vomiting till 6 months	02	18.19
	b. Headache till 7 months	01	9.09
	c. Constipation throughout pregnancy	01	9.09
	d. Irritation and mood swings	05	45.45
	e. Leg cramps and Edema	01	9.09
	f. Death of family member in fifth month	01	9.09
9.	**Received family support during pregnancy**		
	a. Yes	60	100

Table No. 2 depicts that the majority of mothers (73.3%) had a gestational age between 37-39 weeks, with 28.3% experiencing medical complications during pregnancy. Most mothers (75%) attended 4-14 antenatal visits. A small percentage had negative blood groups A- and O- (5.0%, 1.7% respectively), yet all received TT immunization. Around 81.7% were informed about antenatal care, with 51.7% practicing antenatal exercises. A subset (18.19%) encountered stressful events during pregnancy, while all received family support throughout this period.

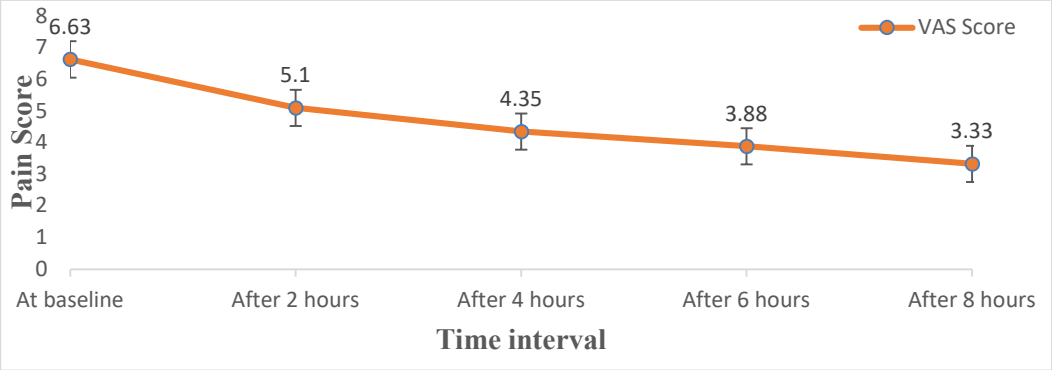

Fig. 1. Average score of labor pain among primigravida mothers following the intervention

Fig. 1. shows a notable decrease in the average score of labor pain among primigravida mothers following the intervention. Statistical analysis utilizing the Friedman test yielded a significant value of 190.273 ($p<0.001$), indicating a substantial reduction in pain scores after the intervention was administered.

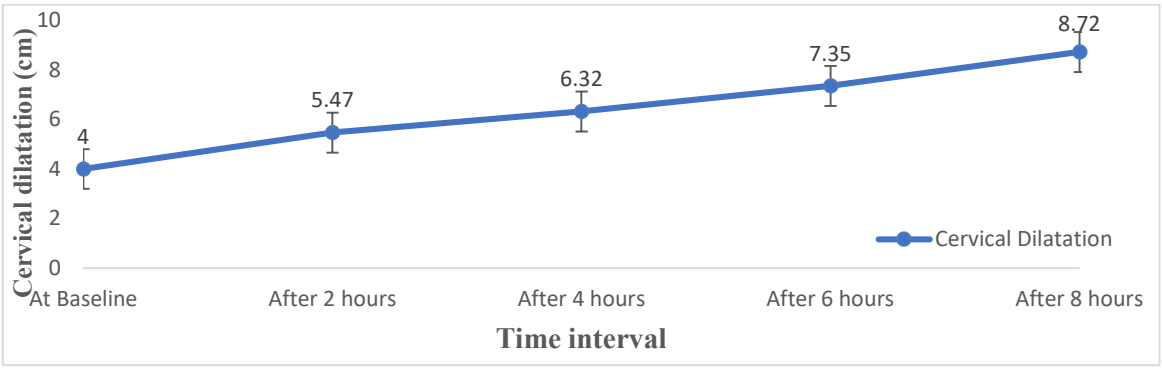

Fig. 2. Average score of cervical dilatations among primigravida mothers subsequent to the intervention.

Fig. 2. illustrates a considerable increase in the average score of cervical dilatations among primigravida mothers subsequent to the intervention. Employing the Friedman test to evaluate this variation yielded a statistically significant value of 235.018 ($p<0.001$), indicating a notable increase in cervical dilatation scores following the administration of the intervention.

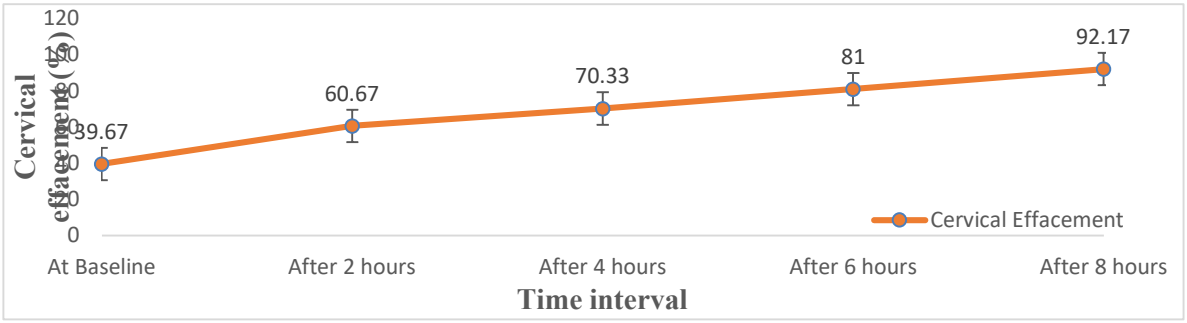

Fig. 3. Average score of cervical effacement among primigravida mothers subsequent to the intervention.

Fig. 3. portrays a substantial increase in the average score of cervical effacement among primigravida mothers subsequent to the intervention. Employing the Friedman test to assess this variation resulted in a statistically significant value of 234.40 ($p<0.001$), signifying a notable rise in cervical effacement scores following the administration of the intervention**.**

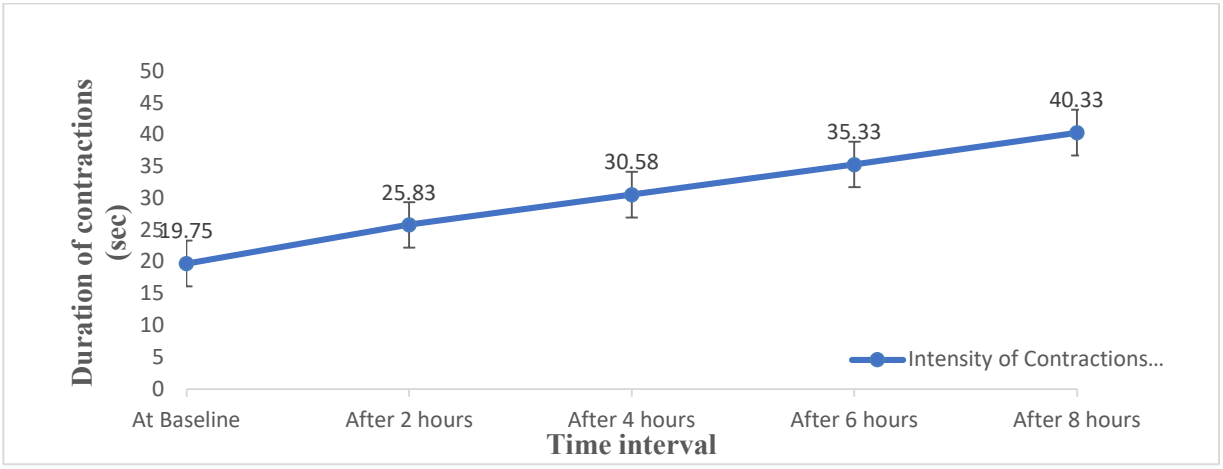

Fig. 4. Average score of the duration of uterine contractions among primigravida mothers subsequent to the intervention.

Fig. 4. depicts the increase in the average score of the duration of uterine contractions among primigravida mothers subsequent to the intervention. Analysis using the Friedman test to evaluate this change yielded a statistically significant value of 231.22 ($p<0.001$), indicating a substantial rise in the duration of uterine contractions following the administration of the intervention.

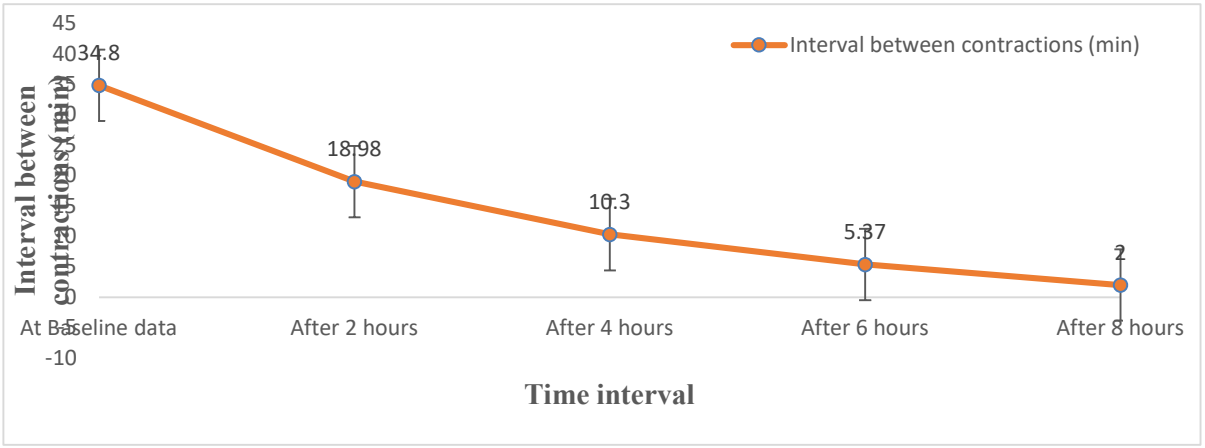

Fig. 5. Average score of intervals between contractions among primigravida mothers after the intervention.

Fig. 5. displays a notable decrease in the average score of intervals between contractions among primigravida mothers after the intervention. Statistical assessment using the Friedman test resulted in a statistically significant value of 239.80 ($p<0.001$), indicating a substantial reduction in the intervals between contractions following the administration of the intervention.

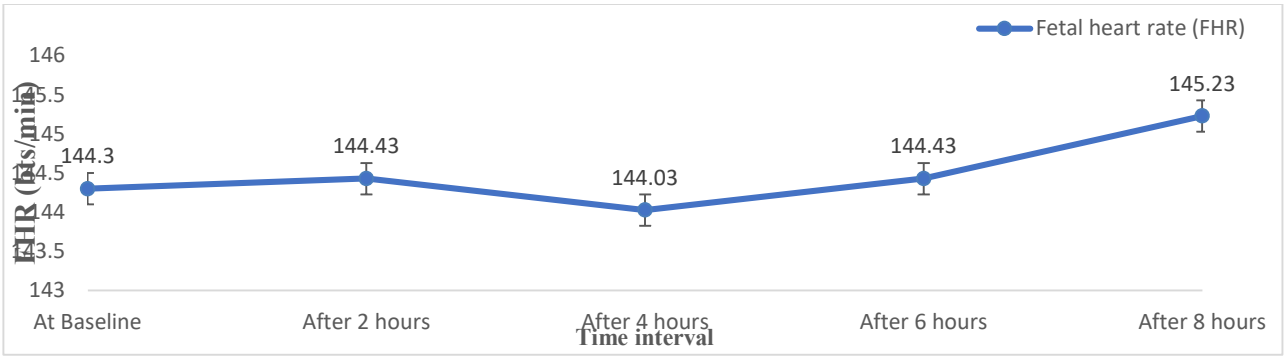

Fig. 6. illustrates that the mean score of fetal heart rate in primigravida mothers remained unaffected by the intervention.

Fig. 6. illustrates that the mean score of fetal heart rate in primigravida mothers remained unaffected by the intervention. The Friedman test, used to evaluate this variation, resulted in a statistically significant value of 20.81 at $p<0.001$.

Table. 3. Frequency and percentage distribution of labor progress in terms of bag of membranes.

(n=60)

	Bag of membranes			
	Intact (I)		**Ruptured (R)**	
	f	**%**	**f**	**%**
Baseline	55	91.6	5	8.3
After 2 hours	46	76.6	14	23.3
After 4 hours	17	28.3	42	70
After 6 hours	-	-	60	100
After 8 hours	-	-	60	100

Table No. 3 indicates that all (100%) primigravida mothers experienced the rupture of the bag of membranes within six hours following the intervention.

Table. 4. To assess the opinions of mothers regarding labor support.

(n=60)

S. No.	**Opinions**	**Strongly agree**		**Agree**		**Uncertain**		**Disagree**		**Strongly Disagree**	
		f	**%**	**f**	**%**	**f**	**%**	**f**	**%**	**f**	**%**
1.	I felt happy when I saw my baby after the successful delivery	48	80	50	20	-	-	-	-		
2.	I am assured to opt favourable position during the intervention	42	70	18	30	-	-	-	-		
3.	I felt pain is alleviated to some extent after receiving intervention	18	30	42	70	-	-	-	-		
4.	I felt emotionally supported during the intervention	38	63.3	22	36.7	-	-	-	-		
5.	I felt satisfied with the intervention	22	36.7	38	63.3	-	-	-	-		
6.	I felt safe and sound during the intervention	24	40	36	60	-	-	-	-		
7.	I felt the intervention was very helpful during the	22	36.7	36	60	2	3.3	-	-		

	delivery										
8.	I felt pleasant during the time of intervention	34	56.7	26	43.3	-	-	-	-		
9.	I felt worried during the intervention	-	-	-	-	-	-	35	59.3	25	41.7
10.	I would love to recommend this intervention to others	29	48.3	31	51.7	-	-	-	-		

Table. No. 4 depicts that the majority of primigravida mothers expressed satisfaction with the labor support they received during delivery. Merely 3.3% of the mothers were uncertain about the intervention's level of helpfulness during the delivery process.

Table. 5. Association of pain score with their selected sociodemographic and obstetrical data.

(n=60)

S.No.	Sociodemographic data	Pain level		χ^2	p-value
		Moderate (5-6)	Severe (7-8)		
1.	**Age (in years)**				
	a. 19-26	15	21	0.404	0.525
	b. 27-35	12	12		
2.	**Educational status of mother**				
	a. Educated	26	33	1.243#	0.265
	b. Not-educated	01	00		
3.	**Occupation of mother**				
	a. Homemaker	24	26	0.485≠	0.486
	b. working	03	07		
4.	**Educational status of spouse**				
	a. Graduation & above	19	26	0.561	0.454
	b. Primary- higher secondary	08	07		
5.	**Monthly income of family (in Rs.)**				
	a. Below 50,000	20	25	0.22	0.881
	b. Above 50,000	07	08		

6.	**Area of living** a. Rural b. Urban & semi-urban	 10 17	 15 18	0.433	0.511
7.	**Gestational weeks** a. 37-39 b. 40-41	 20 07	 22 11	0.388	0.533
8.	**Medical complications during pregnancy** **a.** Yes **b.** No	 09 18	 08 25	0.604	0.437
9.	**Any exercise during pregnancy** a. Yes b. No	 11 16	 18 15	1.133	0.287
10.	**Information related to antenatal care** a. Yes b. No	 22 05	 27 06	0.000	1
11.	**Any stressful event during pregnancy** a. Yes b. No	 01 26	 10 23	5.353≠	**0.021***

Chi Square, # Fisher exact test and ≠ Yates correction test

Table No. 5 indicates that the level of pain experienced by primigravida mothers wasn't significantly associated with most sociodemographic factors, except for a association found with experiencing a stressful event during pregnancy (p=0.021).

Table. 6. Association of labor progress according to cervical effacement with their selected sociodemographic and obstetric data.

(n=60)

S. No.	Sociodemographic data	Cervical effacement		χ^2	p-value
		Below median (<40)	At and above median (≥40)		

1.	**Age (in years)** a. 19-26 b. 27-35	 11 08	 25 16	0.51	0.821
2.	**Educational status of mother** a. No Formal Education b. Formal Education	 19 0	 40 01	0.471#	0.492
3.	**Occupation of mother** a. Homemaker b. working	 15 04	 35 06	0.062≠	0.804
4.	**Educational status of spouse** a. Graduation & above b. Primary- higher secondary	 13 06	 32 09	0.642	0.423
5.	**Monthly income of family (in Rs.)** a. Below 50,000 b. Above 50,000	 15 04	 30 11	0.026≠	0.873
6.	**Area of living** a. Rural b. Urban	 06 13	 19 22	1.164	0.281
7.	**Gestational weeks** a. 37-39 b. 40-41	 15 04	 27 14	0.528≠	0.467
8.	**Medical complications during pregnancy** a. Yes b. No	 06 13	 11 30	0.334	0.704
9.	**Any exercise during pregnancy** a. Yes b. No	 09	 20	0.045	0.919

		10	21		
10.	**Information related to antenatal care** a. Yes b. No	16 03	33 08	4.541≠	1
11.	**Any stressful event during pregnancy** a. Yes b. No	03 16	08 33	1.183≠	1

Chi-Square, # Fisher exact test, and ≠ Yates correction test

Table No. 6 demonstrates that there was no association between cervical effacement and the selected sociodemographic and obstetrical data.

Table. 7. Association of labor progress according to the duration of contractions with their selected socio-demographic and obstetric data. (n=60)

S.No.	Characteristics	Duration of contractions		χ^2	p-value
		Mild (>20sec)	Moderate (20-40sec)		
1.	**Age (in years)** a. 19-26 b. 27-35	25 20	11 4	0.833≠	0.361
2.	**Educational status of mother** a. Educated b. Not-educated	44 01	15 0	0.339#	0.560
3.	**Occupation of mother** a. Homemaker b. Working	37 8	13 02	0.000≠	1
4.	**Educational status of spouse** a. Graduation & above b. Primary, secondary & higher secondary	32 13	13 02	0.741≠	0.389

5.	**Monthly income of family (in Rs.)**				
	a. Below 50,000	34	11	0.000≠	1
	b. Above 50,000	11	04		
6.	**Area of living**				
	a. Rural	21	04	1.120≠	0.290
	b. Urban & semi-urban	24	11		
7.	**Gestational weeks**				
	a. 37-39	32	10	0.106	0.745
	b. 40-41	13	05		
8.	**Medical complications during pregnancy**				
	a. Yes	13	04	0.000≠	1
	b. No	32	11		
9.	**Any exercise during pregnancy**				
	a. Yes	39	10	1.818	0.178
	b. No	06	05		
10.	**Information related to antenatal care**				
	a. Yes	22	07	0.022	0.881
	b. No	23	08		
11.	**Any stressful event during pregnancy**				
	a. Yes	07	04	0.334≠	0.563
	b. No	38	11		

Chi Square, # Fisher exact test, and ≠ Yates correction test

Table No. 7 indicates that there is no observed association between the duration of uterine contractions in primigravida mothers and the selected sociodemographic and obstetrical data.

Table. 8. Association of labor progress according to the interval between contractions with their selected sociodemographic and obstetrical data. (n=60)

S.No.	Characteristics	Interval between contractions		χ^2	p-value
		Below median (<35)	At & above median (≥35)		
1.	**Age (in years)**				
	a. 19-26	19	17	2.200	0.138
	b. 27-35	8	16		
2.	**Educational status of mother**				
	a. Educated	26	33	1.243#	0.265
	b. Not-educated	1	0		
3.	**Occupation of mother**				
	a. Homemaker	24	26	0.485≠	0.486
	b. Working	3	7		
4.	**Educational status of spouse**				
	a. Graduation & above	22	23	1.100	0.294
	b. Primary, secondary & higher secondary	5	10		
5.	**Monthly income of family (in Rs.)**				
	a. Below 50,000	18	27	1.818	0.178
	b. Above 50,000	9	6		
6.	**Area of living**				
	a. Rural	11	14	0.17	0.895
	b. Urban & semi-urban	16	19		
7.	**Gestational weeks**				
	a. 37-39	15	27	0.4877	0.27
	b. 40-41	12	6		
8.	**Medical complications during pregnancy**				
	a. Yes	05	12	2.329	0.127

	b. No	22	21		
9.	**Any exercise during pregnancy**				
	a. Yes	24	25	0.946≠	0.331
	b. No	3	8		
10.	**Information related to antenatal care**				
	a. Yes	14	15	0.243	0.622
	b. No	13	18		
11.	**Any stressful event during pregnancy**				
	a. Yes	7	4	1.081≠	0.299
	b. No	20	29		

Chi Square, # Fisher exact test and ≠ Yates correction test

Table No. 8 demonstrates that there were no association between the interval of contractions and selected sociodemographic and obstetrical data.

Table. 9. Association of labor progress according to Fetal heart rate with their selected sociodemographic and obstetrical data. (n=60)

S. No.	Characteristics	Fetal heart rate (FHR)		χ^2	p-value
		Below median (<144)	At & above median (≥144)		
1.	**Age (in years)**				
	a. 19-26	16	20	0.45	0.832
	b. 27-35	10	14		
2.	**Educational status of mother**				
	a. Educated	26	33	0.778#	0.378
	b. Not-educated	0	1		
3.	**Occupation of mother**				

	a. Homemaker	21	29	0.217	0.641
	b. Working	5	5		
4.	**Educational status of spouse**				
	a. Graduation & above	18	27		
	b. Primary, secondary & higher secondary	8	7	0.814	0.367
5.	**Monthly income of family (in Rs.)**				
	a. Below 50,000	21	24	0.814	0.367
	b. Above 50,000	5	10		
6.	**Area of living**				
	a. Rural	11	14	0.008	0.930
	b. Urban & semi-urban	15	20		
7.	**Gestational weeks**				
	a. 37-39	20	22	1.047	0.306
	b. 40-41	6	12		
8.	**Medical complications during pregnancy**				
	a. Yes	8	9	0.134	0.714
	b. No	18	25		
9.	**Any exercise during pregnancy**				
	a. Yes				
	b. No	21	28	0.000	1
		5	6		
10.	**Information related to antenatal care**				
	a. Yes	14	15	0.558	0.455
	b. No	12	19		
11.	**Any stressful event during pregnancy**				
	a. Yes	4	7	0.032≠	0.858
	b. No	22	27		

Chi Square, # Fisher exact test and ≠ Yates correction test

Table No. 9 illustrates that there were on any association between the fetal heart rate (FHR) and the selected sociodemographic and obstetrical data.

DISCUSSION:

- **Findings related to effectiveness of labor support on pain among primigravida mothers:**

Labor support effectively reduced pain among primigravida mothers, as evidenced by a significant decrease in pain scores over time (from baseline: 6.63 ± 0.780 to 3.33 ± 0.655 after 8 hours). This was supported by studies such as **Shahbazzadegan S** that found significant pain reduction during cervical dilatation. Additionally, **Sapna M** and P**awale MP** (2020) reported decreased pain scores in experimental groups compared to controls (post-test scores: 14.63 ± 2.79 vs. 14.7 ± 3.14 and 2.71 vs. 6.457, respectively, demonstrating the effectiveness of interventions like back massage in alleviating labor pain. Additionally, **Baljon K's research** (2022) reported a significant difference in the active stage of labor, noting 295 in the experimental group and 380 in the control group at $p < 0.001$[15], further substantiating the positive impact of labor support on improving labor progress among primigravida mothers.

- **Findings related to effectiveness of labor support on labor progress among primigravida mothers:**

Studies indicated varying impacts on labor duration due to interventions. **Shahbazzadegan S** found no significant difference in labor duration between control and massage groups ($p = 0.17$). Conversely, **Baljon K** reported a significantly shorter active labor period in the experimental group compared to the control (295 vs. 380, $p < 0.001$). **Ilknur Munevver Gönenç** noted differences in cervical dilatation time but without statistical significance ($p > .05$). **Haseli A** observed reduced active labor duration in massage and massage with breathing groups compared to the control ($p = 0.001$).

- **Findings related to assess the opinions of mother regarding labor support after delivery:**

In this study, the majority of mothers held positive opinions regarding labor support. This aligns with **Gönenç IM's** findings, where satisfaction rates were high: 96.8% in the massage-only group, 93.3% in the acupressure-only group, and 100% in the massage + acupressure group expressed contentment with the interventions and expressed intent to utilize them in future deliveries. Additionally, almost all participants across these intervention groups indicated a willingness to recommend these approaches to other pregnant women[16]. Similarly, **Erdogan SU's** study revealed notable differences in satisfaction scores about delivery, with mean scores of 8.8 ± 0.7 in the interventional group and 6.9 ± 0.8 in the routine care group ($p < 0.05$)[17], further supporting the positive perception of labor support among mothers.

- **Findings related to find association between level of pain of primigravida mothers with selected sociodemographic data & obstetrical data:**

The study identified no significant link between pain scores and various sociodemographic factors: age ($p= 0.525$), educational status (mother and spouse) ($p= 0.265$ and $p= 0.454$), occupation ($p= 0.486$), monthly income ($p= 0.881$), area of living (0.511), gestational weeks ($p= 0.533$), pregnancy-related complications ($p= 0.437$), exercise during pregnancy ($p= 0.287$), and information related to antenatal care ($p= 1$), except for experiencing any stressful event during pregnancy ($p= 0.021$). The findings were supported by the studies done by **Sapna M**,

Sethi D and **Joseph RM** also found no significant association between back massage and various demographic factors such as age, education, and occupation in pregnant women experiencing labor pain.

Conclusion:

The study's findings highlight the effectiveness of employing back massage and diaphragmatic breathing as labor support methods for primigravida mothers during the first stage of labor. These interventions notably reduced pain levels experienced by mothers and significantly enhanced the progress of labor. The use of non-pharmacological approaches, such as back massage and diaphragmatic breathing, emerged as valuable strategies in alleviating pain and facilitating smoother labor progression among first-time mothers. These results underscore the importance of integrating such supportive techniques into obstetric care to improve the birthing experience for primigravida mothers.

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