

Effectiveness of sacral massage on sacral area for labour pain among Primigravida mothers

¹Dr. Nitunjali Patil, ²Priyanka Mohite, ³Dr. Mahadeo Shinde, ⁴Afsana Mulani, ⁵Angha Katti

^{1,5}Assistant Professor, KIMSDU, Krishna Institute of Nursing Sciences Karad, Maharashtra, India

²UG Student of KIMSDU, Krishna Institute of Nursing Sciences, Karad, Maharashtra, India

³Professor and Vice Principal, KIMSDU, Krishna Institute of Nursing Sciences, Karad, Maharashtra, India

⁴Clinical Instructor, KIMSDU, Krishna Institute of Nursing Sciences Karad, Maharashtra, India

Corresponding Author:

Dr. Nitunjali Patil (nitanjalipatil@gmail.com)

⁵Assistant Professor, KIMSDU, Krishna Institute of Nursing Sciences Karad, Maharashtra

Abstract

Introduction: Pregnancy is a beautiful and natural state for every woman. There are nine transformative months of suspense. The labor pain is intense, but the memories of pain decreases over time. Labor is an emotional experience that encircles both psychological and physiological processes. The best method for delivering a healthy fetus is labour, which is characterized by regular frequent, painful uterine muscle contractions that increase in frequency and intensity.

Objectives: To assess the level of pain in primigravida mother's and to assess the effect of sacral massage on sacral area for labour pain among primigravida mothers.

Methods: Descriptive approach was used. Study setting, Krishna Hospital and Medical Research Centre, Karad. 40 primigravida. Selected by convenient sampling technique. Tool used for study Socio-demographic variables and Visual Analogue Scale. Data collected after permission from the concerned authority. Informed content was obtained. Collected data was analyzed in the term of objectives for the study using descriptive and inferential statistics.

Results: Maximum 77.5% of mothers were from 21-25 years, 35% were graduate and above. 60% were employed. 57.5% were having monthly income Rs.13,161/ to 26,354/. 35% were from Upper lower socioeconomic class. Maximum 92.5% were having severe pain, 7.5% were having moderate pain, no one with severe pain. Mean 8.22, median 8 and SD was 1.25. There was no statistically significant association seen except monthly income Chi-Square value 26.212 and p-Value= <0.0001 .

Conclusion: Primigravida suffers with more of labour pain during 1st stage of labour. Present study concluded that 92.5% mothers were having severe pain. Also they have inadequate knowledge of pain relief measures during labour.

Keywords: Assessment, labor pain, primigravid mothers

Introduction

Labour is a state that most women aspire to, at some point in their lifetime. Every woman has first thought in their mind when they conceive is regarding her delivery is the pain during labour. As it's giving birth to a baby is a normal physiological process. Perception of pain perceived during labour which may be different for each woman ^[1]. Pregnancy is the special event, unique, exciting and often joyous time in woman's life, it highlights the mothers amazing creative and nourish powers while providing a bridge to the future pregnancy. The developing fetus depends entirely on the mother's health for all his needs ^[2].

Labour has divided into four stages. First stage that cervical stage which starts from the onset of true labour pain and ends with full dilatation of cervix. Second stage of labour starts from full dilatation of cervix and ends with the expulsion of fetus. Third stage of labour starts after the expulsion of fetus and ends with the expulsion of placenta and its membranes and last Fourth stage of labour is the stage of observation for at least one hour after the expulsion of placenta and its membranes ^[3].

Pain during childbirth is results of normal physiologic events of labour. Woman during needs supportive care physical comfort includes offering a variety of pharmacological and non-Pharmacological interventions. Among the non-pharmacological methods of pain relief giving back massage, acupuncture, acupuncture and hot application are effective for labour pain management ^[4].

During the 1st stage of labour, uterine contractions causes cervical dilation and effacement. There is uterine ischemia results from compression of the arteries which supplying blood flow to the myometrium during contractions. Pain impulses during the first stage of labour are transmitted via the thoracic and spinal nerve segments and accessory lower thoracic and upper lumbar sympathetic nerves ^[5].

Research methodology

Quantitative research approach was used. Present study conducted at labour unit of K.H & MRC, Karad. With an objectives, to assess the level of pain in primigravida mother's and to assess the effect of sacral massage on sacral area for labour pain among primigravida mothers. Experimental research design with one group pre-test post research design was adopted for present study. 20 primigravida mothers in 1st stage of labour were selected as per inclusion criteria. Samples were selected by purposive sampling technique. Woman who were not willing to participate were not included in the study. Study tool was prepared by on the basis of the objectives of the study. Socio-demographic variables of the primigravida mothers. And Visual Analogue Scale was used to assess the level of pain before and after intervention. A Visual Analogue Scale consists of 0-10 a scale ranging from '0'-no pain to '10'- agonizing pain.

The study was conducted after approved by the Institutional Ethical Committee and ethical committee of KIMSDU, Karad. Concerned authorities permission was obtained prior to data collection Study samples selected by purposive sampling as well as by inclusion and exclusion criteria. Informed content was obtained from the study participants. Collected data was analyzed in the term of objectives for the study using descriptive and inferential statistics.

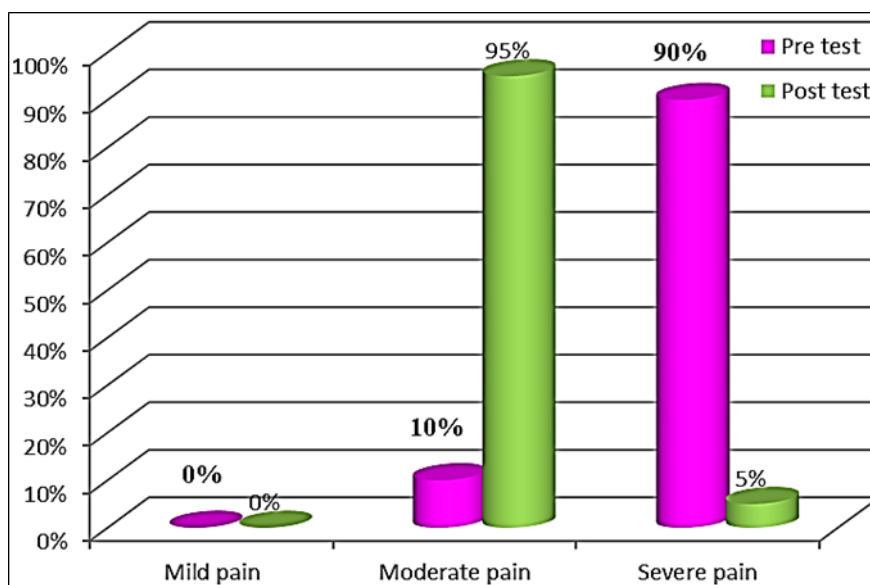
Results

Table 1: Distribution of mothers according to demographic Variables N=20

S. No.	Variable	Frequency(F)	Percentage (%)
1.	Registration		
	Registered	18	90
	Unregistered	2	10
2.	Age (In years)		
	21-25	15	75
	26-30	5	25
3.	Religion		
	Hindu	17	85
	Muslim	2	10
	Christian	1	5
4.	Residence		
	Urban	07	35
	Rural	13	65
5.	Type of family		
	Nuclear family	7	35
	Joint family	13	65
6.	Education		
	Graduate and above	8	40
	Post high school diploma	6	30
	High school certificate	5	25
	Middle school certificate	1	5
7.	Occupation		
	Professional	1	5
	Semi professional	3	15
	Skilled worker	1	5
	Semi-skilled worker	1	5
	Unskilled worker	1	5
	Unemployed	13	65
8.	Monthly income of the family		
	26,355-52,733	1	5
	19,759-26,354	6	30
	13,161-19,758	6	30
	7,887-13,160	6	30
	2,641-7,886	1	5
9.	Socioeconomic class		
	Upper class	1	5
	Upper middle	7	35
	Lower middle	7	35
	Upper lower	5	25
	Lower class	0	0
10.	Weeks of gestation		
	37-39	15	75
	40-42	5	25

Above table no 1 shows that, maximum mothers 90% were registered cases and 10% were unregistered. 75% of mothers were having age between 21-25 years, 25% of mothers were having age between 26-30 years. 85% were Hindus, 10% were Muslim, 5% were Christian. Maximum 65% of mothers from rural area and 35% of mothers were from urban area. 65% of mothers from joint family and 35% of mothers were from nuclear family.

Maximum 40% of mothers were educated graduate and above, 65% of mothers were House wife, maximum 30% of mothers are having monthly income Rs. 19,759-26,354, Rs. 13,161-19,758 and Rs. 7,887-13,160. Maximum 35% of mothers are from Upper middle, lower middle socioeconomic class, and No one is from lower socioeconomic class, 75% of mothers were having 37-39 weeks of gestation and 25% were having 40-42 weeks of gestation.



Graph 1: Percentage of level of pain before and after intervention

The above graph shows out of 20 primigravida mothers 0% of mothers had mild pain, 10% had moderate pain and 90% had severe pain before intervention. As back massage there is significant reduction in pain score mothers 0% of mothers had mild pain, 95% had moderate pain and 05% had severe pain at 8-9 cm of cervical dilatation.

Table 2: Comparison of pre and post-test level of pain during 4-5 cm dilation in labour. N=20

	Mild pain		Moderate pain		Severe pain		Mean	SD	't' value	p value
	F	%	F	%	F	%				
Pre-test	0	0	2	10	18	90	8.05	1.234	6.866	<0.0001
Post test	0	0	10	50	10	50	6.6	0.9403		

Table 2 shows 0% of mothers had mild pain, 10% had moderate pain and 90% had severe pain. Post-test at 4-5 cm dilation after back massage 0% of mothers had mild pain, 50% had moderate pain and 50% had severe pain. Comparison of pre-test and post-test mean and SD of sacral massage shows Pre-test mean score was 8.05 and SD=1.234 as compared to post-test mean was 6.6 and SD=0.9403. The calculated paired t value was 6.866 at $p < 0.0001$ this shows that the effect of sacral massage had significant effect on reduction of level of pain among primigravida mothers during 4-5 cm dilation in labour.

Table 3: Comparison of pre and post-test level of pain during 6-7 cm dilation in labour. N=20

	Mild pain		Moderate pain		Severe pain		Mean	SD	't' value	p value
	F	%	F	%	F	%				
Pre-test	0	0	2	10	18	90	8.05	1.234	10.987	<0.0001
Post test	0	0	15	75	5	25	5.9	0.7881		

Table 3 shows 0% of mothers had mild pain, 10% had moderate pain and 90% had severe

pain. Post-test at 6-7 cm dilation after back massage 0% of mothers had mild pain, 75% had moderate pain and 25% had severe pain. Comparison of pre-test and post-test mean and SD of sacral massage on level of pain during 1st stage of labour in primigravida mothers. Pre-test mean score was 8.05 and SD=1.234 as compared to post-test mean was 5.9 and SD=0.7881. The calculated paired t value was 10.987 at $p < 0.0001$ this shows that the effect of sacral massage had significant effect on reduction of level of pain among primigravida mothers during 6-7 cm dilation in labour.

Table 4: Comparison of pre and post-test level of pain during 8-9 cm dilation in labour. N=20

	Mild pain		Moderate pain		Severe pain		Mean	SD	‘ t’ value	p value
	F	%	F	%	F	%				
Pre-test	0	0	2	10	18	90	8.05	1.234	14.457	<0.0001
Post test	0	0	19	95	1	5	5.3	0.8645		

Table 4 shows pre-test level of pain 0% of mothers had mild pain, 10% had moderate pain and 90% had severe pain. Post-test at 8-9 cm dilation after back massage 0% of mothers had mild pain, 95% had moderate pain and only 5% had severe pain. Comparison of pre-test and post-test mean and SD of sacral massage on level of pain during 1st stage of labour in primigravida mothers. Pre-test mean score was 8.05 and SD=1.234 as compared to post-test mean was 5.3 and SD=0.8645. The calculated paired t value was 14.457 at $p < 0.0001$ this shows that the effect of sacral massage had significant effect on reduction of level of pain among primigravida mothers during 8-9 cm dilation in labour.

Table 5: Association between pre-test level and selected socio demographic variables. N=20

Socio demographic characteristics	Mild Pain		Moderate Pain		Severe Pain		Very Severe Pain		Worst pain		p Value	Chi-Square value	Result
	F	%	F	%	F	%	F	%	F	%			
Age													
21-25	0	0	0	0	2	10	11	55	2	10	0.670	0.800	NA
26-30	0	0	0	0	0	0	4	20	1	5			
Type of family													
Nuclear family	0	0	0	0	0	0	5	25	2	10	0.298	2.418	NA
Joint family	0	0	0	0	2	10	10	50	1	5			
Education													
Graduate and above	0	0	0	0	0	0	5	25	0	0	0.108	10.400	NA
Post high school diploma	0	0	0	0	0	0	6	30	3	15			
High school certificate	0	0	0	0	2	10	3	15	0	0			
Middle school certificate	0	0	0	0	0	0	1	5	0	0			
Occupation													
Professional	0	0	0	0	0	0	0	0	1	5	0.578	8.513	NA
Semi professional	0	0	0	0	0	0	2	10	1	5			
Skilled worker	0	0	0	0	0	0	1	5	0	0			
Semi-skilled worker	0	0	0	0	0	0	1	5	0	0			
Unskilled worker	0	0	0	0	0	0	1	5	0	0			
House wife	0	0	0	0	2		10	50	1	5			
Monthly Income													
26,355-52,733	0	0	0	0	0	0	0	0	1	5	0.027	17.222	SA
19,759-26,354	0	0	0	0	0	0	5	25	1	5			
13,161-19,758	0	0	0	0	0	0	5	25	1	5			
7,887-13,160	0	0	0	0	1	5	5	25	0	0			
2,641-7,886	0	0	0	0	1	5	0	0	0	0			
Socioeconomic Class													
Upper class	0	0	0	0	0	0	0	0	1	5	0.173	8.995	NA
Upper middle	0	0	0	0	0	0	6	30	1	5			

Lower middle	0	0	0	0	2	10	6	30	1	5			
Upper lower	0	0	0	0	0	0	3	15	0	0			
Weeks of gestation													
37-39	0	0	0	0	2	10	10	50	3	15	0.329	2.222	NA
40-42	0	0	0	0	0	0	5	25	0	0			
Type of family													
Nuclear family	0	0	0	0	0	0	5	25	2	10	0.298	2.418	NA
Joint family	0	0	0	0	2	10	10	50	1	5			
Registration													
Registered	0	0	0	0	2	10	13	65	3	15	0.690	0.7407	NA
Unregistered	0	0	0	0	0	0	2	10	0	0			

Above table 5 findings reveals that there was no statistically significant association seen between pre-test pain score and selected socio demographic variables of primigravida mothers except monthly income of family as shown in table values Chi- Square value is 17.222 and p Value = <0.0001.

Discussion

To assess the level of pain in primigravida mother's and to assess the effect of sacral massage on sacral area for labour pain among primigravida mothers. Maximum mothers 90% were registered cases and 10% were unregistered. Maximum 75% of mothers were having age between 21-25 years, similar finding by Ms. Sapna *et al.* in their study maximum 46.6% of women were from 22-25years age ^[6]. 25% of mothers were having age between 26-30 years. Maximum 85% were Hindus, study findings supported by Ms. Sapna *et al.* in their study maximum 70% from experimental group were Hindus. 10% were Muslim, 5% were Christian. Maximum 65% of mothers from rural area and 35% of mothers were from urban area. 65% of mothers from joint family and 35% of mothers were from nuclear family, contradictory finding by Ms. Sapna *et al.* in their study maximum 90% of pregnant women from experimental group were in nuclear family ^[6].

Maximum 40% of mothers were educated graduate and above, in present study maximum 65% of mothers were House wife similar finding by Ms. Sapna *et al.* in their study maximum 86.6% pregnant women from experimental group were in unemployed ^[6]. Maximum 30% of mothers are having monthly income Rs. 19,759-26,354, Rs. 13,161-19,758 and Rs. 7,887-13,160. Maximum 35% of mothers are from Upper middle, lower middle socioeconomic class, and No one is from lower socioeconomic class, 75% of mothers were having 37-39 weeks of gestation similar finding by Ms. Sapna *et al.* in their study maximum 83.3% from experimental group of pregnant women were >37 weeks of gestation⁶. 25% were having 40-42 weeks of gestation.

Present study findings shows after back massage there is significant reduction in pain score mothers 0% of mothers had mild pain, 95% had moderate pain and 05% had severe pain at 8-9 cm of cervical dilatation. Study findings supported by Sethi D *et al.* study findings revealed that in post-test, 60% women had moderate level of pain followed by mild pain 40%. Hence, it was concluded there was significant reduction in back pain after back massage. ¹ another study findings supported by Joyce H; Leventhal LC his study was conducted post-test level of pain was lower than the pre-test level of pain which indicating significantly high level of significance ^[7].

In comparison of pre-test and post-test mean and SD of sacral massage shows Pre-test mean score was 8.05 and SD=1.234 as compared to post-test mean was 6.6 and SD=0.9403. The calculated paired t value was 6.866 at p<0.0001 this shows that the effect of sacral massage had significant effect on reduction of level of pain among primigravida mothers during 4-5

cm dilation in labour. Study findings supported by Sethi D *et al.* study findings revealed that pre-test mean score of primigravida was 6.05 and SD 1.33 ^[1].

Comparison of pre-test and post-test mean and SD of sacral massage on level of pain during 1st stage at 8-9 cm dilation. Pre-test mean score was 8.05 and SD=1.234 as compared to post-test mean was 5.3 and SD=0.8645. The calculated paired t value was 14.457 at $p < 0.0001$ this shows that the effect of sacral massage had significant effect on reduction of level of pain among primigravida mothers. Sethi D 2016, study revealed that the pre-test mean score and post-test mean score which was found statistically highly significant at $p < 0.01$ level As back massage had impact on pain level. Therefore it was concluded that back massage was effective to reduce the level of pain ^[1].

Study findings reveals that there was no statistically significant association seen between pre-test pain score and selected socio demographic variables of primigravida mothers except monthly income of family Chi-Square value is 17.222 and p Value = < 0.0001 . Study findings supported by Sethi D 2016, as in their study sociodemographic variables found that there is no any significant relationship with pain ^[1]. Memchoubi K, study on Effectiveness of Back Massage in the First Stage of Labour study findings concluded that that back massage was effective in reducing the back pain during 1st stage of labour ^[9]. Premila. E, Study to assess the effectiveness of back massage with olive oil on pain in first stage of labour among primigravida mothers; study findings has proved that use of olive oil for massage during 1st stage of labour is effective to reduce the labor pain ^[10].

Conclusion

Present study findings concluded that back massage is effective in reduction of pain during 1st stage of labour among primiparous mothers. As back massage is also used as non-pharmacological pain relief measure used.

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