

Factors Influencing Perception of Labor Pain among Parturient Women at Tribhuvan University Teaching Hospital

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Aims: This study was done to understand the severity of labor pain in parturients of Kathmandu and to determine factors affecting it.

Methods: A descriptive study was conducted in Tribhuvan University Teaching Hospital (TUTH), Kathmandu, Nepal where 300 term parturients in active labor (cervical dilatation of 3-5 cm with three uterine contractions in 10 minutes each lasting for ≥ 30 seconds) were analysed for socio-demographic data, clinical profile and pain assessment. Visual analog scale was used for pain assessment.

Results: The intensity of labor pain was graded as severe by 32%, moderately by 57% and mild by 11% of parturients. Almost half of the parturients in the age group of ≤ 19 years described labor pain as severe as compared to women between 20-34 years (30.4%) and ≥ 35 years (20%). Among the nulliparous parturients, 37% described it as severe compared to only 20.7% in \geq Para 1. In those with higher secondary level education, 35.9% described labor pain as severe as compared to those women who had education of \leq primary level (26.9%) and upto secondary level (27.1%). Labor pain was seen to be more severe in advanced labor with more than half describing it as severe when the cervix was dilated to 5 cm, as compared to only 25.9% and 29.4% of the parturients at 3 and 4 cm cervical dilatation respectively.

Conclusions: This study concluded that the labor pain was moderate to severe for majority of the parturients. Adolescents, nullipara, patients with higher education and those in advanced labor were more likely to perceive labor pain of higher intensity.

Keywords: advanced labor, labor pain, visual analog scale.

INTRODUCTION

Labor is considered to be one of the most painful experiences in life.¹ Labor pain is an inevitable and intricate part of the childbirth.² The intensity of the pain experienced during labor affects maternal psychology, labor progress and fetal well-being.

Physiological factors, such as uterine contractions and cervical dilatation though essential parts of labor, are the major contributors to labor pain. Psychological factors, such as stress, anxiety, fear, sense of loss of control and sense of abandonment also contribute to it.² There is a wide spectrum of factors which may influence labor pain including personal, physical and medical characteristics.¹

It is seen that 68.3% of women described labor pain as severe and > 86% of the women would want the pain to be relieved.³ Understanding the patient's suffering and ensuring safe labor with minimal pain is one of the basic principles of modern obstetrics.¹⁻³ So this study was conducted to understand the severity of labor pain in parturients of Kathmandu and to determine factors affecting it.

METHODS

This was a descriptive study conducted at labor room of Obstetrics and Gynecology Department of Tribhuvan

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Table 2. Distribution of the women according to parity, cervical dilatation and gestational age (n=300).

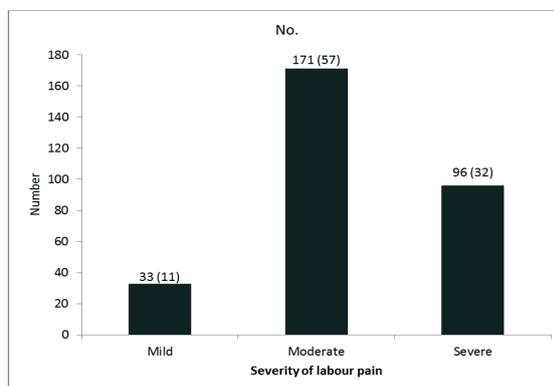
Characteristics	Number	Percentage
Para		
0	208	69.3
1	72	24.0
2	16	5.3
≥ 3	4	1.3
Cervical dilatation		
3 cm	143	47.7
4 cm	109	36.3
5 cm	48	16.0
Gestational age		
37-37 ⁺⁶	51	17.0
38-38 ⁺⁶	76	25.3
39-39 ⁺⁶	93	31.0
40-40 ⁺⁶	68	22.6
41-41 ⁺⁶	12	4.0

For majority (57%), the intensity of labor pain was moderate, 32% had as severe and only 11% described it as mild (Figure 1). Pain perception was compared among women with various socio-demographic factors and obstetric factors (Table 3).

Table 3. Pain score according to socio-demographic and obstetric profile of the women (n=300).

	Baseline pain score		
	Mild	Moderate	Severe
Age in years			
≤ 19	2 (5.7)	17 (48.6)	16 (45.7)
20-34	31 (11.9)	150 (57.7)	79 (30.4)
≥ 35	0	4 (80.0)	1 (20.0)
Parity			
Nullipara	21 (10.1)	110 (52.9)	77 (37.0)
≥ P1	12 (13.0)	61 (66.3)	19 (20.7)
Literacy			
≤ Primary	3 (11.5)	16 (61.5)	7 (26.9)
Secondary	9 (8.4)	69 (64.5)	29 (27.1)
≥ Higher	21 (12.6)	86 (51.5)	60 (35.9)
Cervical dilatation			
3 cm	27 (18.9)	79 (55.2)	37 (25.9)
4 cm	5 (4.6)	72 (66.1)	32 (29.4)
5 cm	1 (2.1)	20 (41.7)	27 (56.3)

*Figures in the parentheses indicate the percentage



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Figure 1. Pain score (n=300).

Adolescent girls were more likely to perceive labor pain of higher intensity. Among the parturients in the age group of ≤19 years almost half of them (45.7%) described labor pain as severe as compared to women who were between 20 to 34 years (30.4%) and ≥35 years (20%).

Similarly nulliparous parturients described the labor pain to be more severe. Among the 208 nulliparous parturients, 37% described it as severe, whereas only 20.7% of the parturients who were para 1 and above described it as severe.

Patients with higher education seemed to perceive labor pain as more severe. Out of 167 women who had education upto higher secondary level or more, 35.9% described labor pain as severe as compared to those women who had education upto primary level or less (26.9%) and upto secondary level (27.1%).

Labor pain was more severe when the patient presented in advanced labor. So when the cervix was dilated to 5 cm, more than half described labor pain as severe as compared to only 25.9% and 29.4% of the parturients who presented at 3 and 4 cm cervical dilatation respectively.

DISCUSSION

In this study, only 11% of the parturients described the labor pain as mild. For majority (57%), the intensity of labor pain was moderate and for 32% it was severe. This finding is congruent with findings of other studies. In a study by Rooth et al⁴ 68.3% of women described labor pain as being severe and more than 86% of them would want the pain to be relieved. Melzack et al⁵ also noted that only patients from the amputation of a digit reported greater pain on average than women in labor. Similarly, high levels of pain intensity during labor was reported in 100 Jordanian parturients with a mean Numeric Pain Intensity Scale of 8.82.2

Labor pain was found to be more severe in younger age. More number of adolescent parturients described the labor pain to be severe as compared to those above 20. This finding was consistent with the findings of Melzack et al⁶ who also found a trend towards less labor pain experienced by older women compared to younger. A multicentre study in six hospitals in five European countries⁷ and a study by Sheiner et al⁸ in 447 women have also confirmed that pain perception decreased with advancing age. This may be due to a higher pain threshold with increased age which was confirmed by some studies.^{9,10} But other studies could not find such an association. Age as a predictor of higher pain scores was not shown in the study done by Klostergaard et al¹ in 139 primipara or by Ohel et al¹¹ in 40 parturients which may be because of small sample size.

In this study, more patients with education of higher secondary or above (35.9%) perceived labor pain as severe as compared to those with education of primary or below primary level (26.9%) and lower secondary to secondary level (27.1%). A study by Olayemi O et al¹² in 765 parturients using a questionnaire with the Box Numerical Scale (BNS) to assess pain within 48 hours of delivery also noted that the pain scores were lowest among those with no formal education. Multivariate analysis revealed educational attainment as a significant predictor of BNS. The reason behind higher pain score among those with higher education may be due to easy life styles of those with higher education thus not being able to tolerate much pain.

The intensity of pain perception during labor appeared to be different in nulliparous and multiparous women. In this study more of the nulliparous parturients (37%) described the labor pain to be more severe as compared to only 20.7% of the parturients who were Para1 and above. Though the parity was not seen to affect the intensity of pain in the studies done by Aushaikha et al¹², Shapira et al¹³; another study found that 25% of nulliparous women (n=87) compared to 9% of parous women (n=54) described their labor pain as horrible or excruciating.¹⁴ The findings of other studies indicated that during early labor (before 5 cm), nulliparous women on average experience greater sensory pain than multiparous women.^{8,15-20} While as labor progressed, these differences were less pronounced, except for a possible increase in pain intensity during the pelvic phase of labor (deceleration and second stage) in multiparous women.^{16,19,20} The affective component of pain which refers to the unpleasantness or emotional distress seems to be greater throughout the first stage of labor for nulliparous as compared to multiparous parturients, but it tends to decrease in both groups during the second stage.^{16,18,21} This may be because the nulliparous women experiencing labor pain for the first time go through greater emotional distress as compared to multiparous women.

Labor pain was seen to be more severe when the patient presented in advanced labor. So when the cervix was dilated to 5 cm, more than half (56.3%) described labor as severe as compared to only 25.9% and 29.4% of the parturients who presented at 3 and 4 cm cervical dilatation respectively. This finding is consistent with Present Pain Intensity data from a mixed parity sample of 78 parturients which showed that before 5 cm of dilatation, only 24.4% described their pain as horrible or excruciating, whereas after 5 cm of dilatation, 46.2% did so.²² The pain during first stage of labor is due to the distention of cervix and lower uterine segment which explains the increase in pain severity as the cervical dilatation increases.

CONCLUSIONS

This study concluded that the labor pain was moderate to severe for majority of the parturients. Adolescent girls, nulliparous parturients, patients with higher education and those in advanced labor were more likely to perceive labor pain of higher intensity.

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