

# Psychological Factors in Experience of Pain during Childbirth

Ana Havelka Meštrović<sup>1</sup>, Morana Bilić<sup>2</sup>, Larisa Buhin Lončar<sup>3</sup>, Vlatko Mičković<sup>4</sup> and Zoran Lončar<sup>5</sup>

<sup>1</sup> University Hospital Dubrava, Department of Psychiatry, Zagreb, Croatia

<sup>2</sup> University of Applied Health Sciences, Department of Health Psychology, Zagreb, Croatia

<sup>3</sup> »Ante Tempus« Center for individual and group development, Zagreb, Croatia

<sup>4</sup> Institute for Anthropological Research, Zagreb, Croatia

<sup>5</sup> »Sestre milosrdnice« University Hospital Center, Clinic for Traumatology, Zagreb, Croatia

## ABSTRACT

*Pain during delivery is unique because it is accompanied by powerful emotions. Emotions that occur in women during labor and delivery are closely tied to upbringing and culture in which they were raised and consequently with the sensation of experienced pain. According to the Melzack-Wall Theory of Pain, general mood is directly related to the intensity and quality of pain and it is therefore justifiable to presuppose that certain psychosocial factors will be linked with the intensity and quality of pain experienced during childbirth. (Melzack et al., 1981). We endeavored to show the effect of psychosocial factors that influence the intensity and quality of labor pain. Data was collected in a sample of 176 parturient women who delivered without Cesarean sections or epidural anesthesia. The intensity and quality of pain were obtained through the administration of the McGill Pain Questionnaire – Short Form. Psychosocial factors included: number of births, presence of partner, self-evaluation of knowledge of physio-anatomical aspects of birth and the completion of a pregnancy course. Labor and delivery pain is of high intensity and the quality of pain is most frequently characterized as smarting, cramping, exhausting, and sharp. The presence of a partner and the completion of a pregnancy course is exercised by a small number of parturients. Self-evaluation of preexisting knowledge of physio-anatomical aspects of delivery is predictive of the affective component of intensity of childbirth pain. Psychosocial factors have been shown as significant for the intensity and quality of experienced childbirth pain.*

**Key words:** *psychological factors, social factors, childbirth pain, childbirth*

## Introduction

The experience of pain is the most complex human sensory experience due to the significant influence of physiological, social, and psychological factors which affect the intensity and duration of the experience of pain. An internationally recognized definition of pain describes pain as a complex sensory and emotional experience which is always subjective and is connected with real or possible tissue damage<sup>1</sup>. We define pain as an experience because of the implications of a slew of factors that influence its understanding, feeling, and consequently coping with this most often unpleasant experience.

Physiological mechanisms of generation of pain imply our physical condition and organism resilience<sup>1</sup>.

Social factors refer to the meaning of pain in certain social situations. The research of Wall and Melzack showed that a reduced sensation of pain was reported by wounded soldiers as opposed to wounded civilians<sup>2</sup>. Wall and Melzack explain their results through a connectedness between social factors with the experience of pain. Soldiers are not on the battlefield; rather they are in a safe place, in a hospital whereas the civilians leave the safety of their homes for the hospital which to them they consider less safe<sup>3</sup>. An everyday example of social factors in the experience of pain is tied precisely to menstrual and childbirth pain<sup>3</sup>. Research comparing Western and Eastern cultures shows that women in Western cultures experience menstrual and childbirth pain more frequently, which is ascribed to childrearing methods as well as stereotypes that

hold that women are more depressed, consume more food, and have decreased ability to concentrate during their menstrual cycles<sup>3</sup>. Research examples confirm the extent to which cultural values and learned behavior can be linked with the subjective experience of pain. Social factors are especially interesting in the research on childbirth pain because that may be the only pain which has, as its ultimate purpose, a positive aspect and that is the birth of a new life. We most frequently view pain as something dangerous and alarming, warning us that something is not as it should be. Therefore, we could say that childbirth pain is »reversed pain«, not alerting us to something negative, rather signaling something positive.

A person's own attitude toward the experience of pain, our expectations and emotions, motivation and knowledge we possess all influence the variability in the experience of intensity and quality of pain. Factors like motivation, attitude, learning, memory, thinking, and perceiving are tied to the psychological components of experience of pain. The research of Melzack and Turk indicates that depressed and/or anxious individuals estimate the pain due to injury and/or medical procedure to be stronger<sup>3</sup>. This is precisely one of the reasons why antidepressants are also effective in reducing the sensation of pain<sup>3</sup>. The presence of positive emotions has been empirically linked to the experience of pain. Procedures during which positive emotions are also present despite the sensation of pain, like childbirth, show lower values of the sensation of pain than those procedures in which positive emotions are not present<sup>5</sup>.

In the last 10 years, more than 6,000 scientific studies have investigated all aspects of labor pain and how the experience of pain can be reduced in order to remember childbirth in a more positive light. Delivery is a challenging and significant life event that affects a large number of women every year<sup>6</sup>. Childbirth as an event could be exceptionally stressful should certain complications or difficulties to the health of the mother and/or the newborn occur. In developed Western nations complications arise in less than 1% of cases<sup>6</sup>. However, excluding delivery complications, every woman feels tension, worry, fear of delivery outcome but also fear of the experience of pain immediately preceding delivery. Given what we know about the significant effect of emotions on the experience of pain, scientists have been addressing the question of pain reduction in different ways. In the last 10 years, the dominant opinion has held that pain should be reduced with the help of anesthesia because the existence of severe pain during delivery can have a negative effect on the mother and the baby<sup>3</sup>. Researchers have found significant correlations between the strength of pain during delivery and post-partum depression: mothers who experienced stronger delivery pain for a longer period of time have an increased chance of developing post-partum depression<sup>3,7</sup>. One of the first studies conducted by Bonica in 1981 on a sample of 2,700 parturients confirmed that 65% of the women described childbirth pain as strong<sup>3</sup>. In a study using the McGill Pain Questionnaire, Melzack found that 65–68% primiparae and multiparae graded their delivery pain as strong or exceptionally strong, while 23% of primiparae

and 11% multiparae marked their childbirth pain as unbearable<sup>3,7</sup>.

Considering that labor and delivery take place in four phases and that a certain physiology and degree of pain is characteristic of each phase, we shall briefly describe the phases of the birthing process:

1. This phase of labor is caused by uterine contractions, and shortening and dilating of the cervix. Simultaneously this is the period which is the most difficult for primiparae because it lasts longer and is marked with the highest intensity of pain due to strong and longer muscle contractions. The presence of a husband is of great significance to most parturients, especially at the time of first childbirth when psychological support is of the utmost importance<sup>8</sup>.
2. and 3. These phases of labor refer to the expansion of the birth canal and the vagina<sup>9</sup>. The pushing out of the baby occurs and the so called »active labor« begins. The second and third labor periods last shorter than the first period and, if managed well including if the parturient woman has been well prepared and led through labor, it can greatly facilitate and accelerate the delivery<sup>8</sup>.
4. This phase of labor refers exclusively to monitoring the patient to prevent any complications.

Pain during labor and delivery is a universal experience of women who have given birth. For many pregnant women, the notion of delivery is equivalent to the notion of pain. The fact that pain is a significant part of the birthing process – tied to the contractions of smooth muscles, nevertheless labor pain is unique because it is accompanied by powerful emotions<sup>10</sup>. The array of emotions present during labor spans from happiness to concern, anxiety and apprehension about delivery outcomes. The means of coping with childbirth pain are connected to a great extent with cultural, social and environmental factors, as well as expectations and support of family members<sup>11</sup>. Emotions that occur in women during labor and delivery are in a close relationship with upbringing and the culture in which they grew up as well as with the experience of the intensity of pain<sup>3</sup>. Belongingness to different cultures which hold different attitudes and stances toward manifestations of pain, significantly influences the experience of pain<sup>3</sup>. Emotional states of anxiety and fear significantly correlate with higher estimates of experience of pain during labor<sup>1</sup>. The research of Gagon and Sandall<sup>12</sup> shows that individuals who are better prepared for a procedure (delivery) always indicate experiencing less intense pain on the self-report scales of pain as opposed to individuals who are unprepared for and uneducated about the procedure. Education about the birthing process is tied to the culture in which a woman lives. Unfortunately, there are no records for Croatia of attendance of courses whose purpose ought to be education about breathing techniques and theory of the birthing process and which could result in the reduction of anxiety and fear and consequently in the reduction of experienced labor and delivery pain.

Self-reports of parturients about the satisfactoriness of the birthing process indicate that the satisfaction of the woman is not related purely to the removal of pain but also to the bearing of the hospital professional staff as well as the creation of a comfortable atmosphere<sup>13</sup>. Unfortunately there is no research in Croatia investigating the satisfaction of parturients with medical staff and still only a small number of women give birth in the presence of a partner making only correlational conclusions possible about partner utility. Self-reports of their own knowledge about labor and delivery indicate also the reduction in anxiety and childbirth pain<sup>2</sup>. For example, only 1.8% women give birth in the absence of their partners in Sweden, less than 1% in Great Britain, 1.4% in France, while in Eastern countries like Turkey, Greece, and the former Yugoslav Republic of Macedonia only 10% or less women give birth in the presence of a partner<sup>14,15,16</sup>. Moreover, the importance of the presence of a partner during labor and delivery and his support during the entire period of pregnancy is also emphasized. In cases where fathers provide meaningful support to women during pregnancy and childbirth, women feel less pain during delivery<sup>3</sup>. Furthermore, cognitive interventions such as the explanation of the birthing process and the undertaken procedures, conversation, and distraction also reduce the sensation of pain<sup>11</sup>. The degree of confidence in the medical staff has also been shown as significant: the higher the confidence, the lower the experience of pain<sup>11</sup>. Also, many studies have examined the significance of education about childbirth and the experience of pain. For the most part, results have indicated the importance of education implying that the knowledge of the birthing process itself significantly decreases the intensity of labor pain because the woman in labor is less tense and anxious<sup>3</sup>.

## Methods

### Participants

Participants included 150 parturients hospitalized on a ward of the Department of Gynecology and Obstetrics of the University Hospital Center Zagreb. Of the total number of participants, 70 were primiparae while the remaining 80 were multiparae.

### Procedure

The study took place between May 1st until July 1st, 2007. Data were collected in groups during recovery from childbirth on the ward. The study was conducted in the morning between grand rounds and nursing periods while the women had one hour of free time to that nothing would interfere with their ability to fill out the questionnaires. Following an introduction, the participants were given general instructions. For the McGill Pain Questionnaire and the VAS Pain Continuum, which were included in the survey packet, specific instructions on completing the instruments were given prior to starting data collection.

## Instruments

*McGill Pain Questionnaire – Short Form (SF-MPQ, Melzack, 1987).*

SF-MPQ consists of three subscales. The first is the Verbal Response Scale (VRS); the second is the Visual Analogue Scale (VAS); and the third is the Present Pain Intensity (PPI), which was not used in the present study.

The VRS is comprised of 15 items; that is to say, representative words describing different types of pain and categorizing them as sensory<sup>1–11</sup> and affective<sup>3,12–15</sup>. Obtained results indicating that participants regardless of their culture of origin, educational or ethnic background use the same adjectives to describe certain types of pain.

For the short form, 15 items from the original questionnaire were used based on the frequency of their use by patients with different acute and chronic pain. A patient ranks each of the 15 items separately on a scale from 0 to 3, where 0 means »I did not feel pain«, 1 means »I felt a mild pain«, 2 »I felt a moderate pain«, and 3 »I felt a severe pain« (7).

Total score on the VRS is obtained by adding the results of the sensory and affective parts, so that the maximum possible score is 45 points. Of that the maximum score in the sensory category is 33 points and 12 points in the affective category.

The Visual Analog Scale (VAS) was used in this study along with the verbal scale in order to give insight into the overall intensity of pain. The VAS is a 10-centimeter-long straight line representing the continuum of pain. At each end of the line is a verbal description of that end of the pole. On the left-hand side the pole is marked as »I did not feel pain«, while the opposite pole is marked with »I felt so much pain I could not bear it«. The participants' task was to place an »x« on the line in the location corresponding to the strength of pain they felt during childbirth. The result is obtained by measuring the distance in centimeters of the »x« from the left pole. If the x is within the 0–7 cm range, then the experienced pain is categorized as weak to moderate and if the x is within the 7.1–10 cm range, then the pain is categorized as strong.

Along with these two the Present Pain Intensity Scale (PPI) is also used, but there was no need for it in this study because the parturients filled out the questionnaire after delivery. The questionnaire was translated into Croatian at the Department of Foreign Languages of the University of Applied Health Sciences in Zagreb for the purposes of a research study on the topic of »Experience of Pain of Elderly Persons« (Havelka & Lučanin, 1987).

The factorial structure obtained in this study is in accordance with earlier research which confirmed the three-factor structure of the questionnaire. According to Holroyd (19; 18; 11) the structure of the MPQ consists of sensory, affective, and cognitive factors with high intercorrelations between factors (17). The questionnaire is widely used in experience of pain and research conducted using the MPQ-SF is widely applicable.

**Psychosocial variables**

Included in this group of variables are: the number of deliveries, presence of a partner, self-evaluation of pre-existing knowledge about the physio-anatomical aspects of childbirth and attendance of a pregnancy course.

**Statistical analysis**

The data were analyzed using the STATISTICA software package. The results of the Verbal Response Scale and of the Visual Analog Scale for the evaluation of pain intensity are shown in the form of mean values and standard deviations. The statistical significance of differences between means of primiparae and multiparae was analyzed using a T-test for independent samples. The frequency of response on categorical variables is shown in percentages. We used the Pearson correlation coefficient as a measure of relationship between variables. Statistical significance value was set at  $p = 0.05$ .

**Results**

All questionnaires that were filled out in a valid way were included in data analysis. We divided participants into groups according to psychosocial variables. Incorrectly completed and incomplete questionnaires were removed from further data analyses. Tables of results show overall experience of intensity of pain, as well as the intensity on the individual factors (sensory/ affective), along with the results of the Visual Analog Scale. Presented are results which refer to psychosocial variables in the following order: ordinal number of the delivery, presence of a partner during childbirth, self-evaluation of knowledge about the physio-anatomical aspects of childbirth, and attendance of a pregnancy course.

**Intensity of experienced pain is a sample of primiparae and multiparae in Zagreb**

We can see in Table 1 that slightly less than half of the parturients indicated their pain on the VAS between 8 and 10 cm, which represents the category of the most intense pain: »Nauseating« to »Dreadful/Agonizing pain«. One quarter (25%) of the participants marked the strength of

their pain between 6 and 7.9 cm, which would correspond with the category: »Miserable pain« to »Dreadful pain«. Every tenth parturient indicated the strength of her pain at approximately the midpoint of the scale (4 to 5.9 cm) and another 5 percent of the parturients marked their pain even lower on the scale. That is to say that 5 percent of the parturients indicated strength of pain between 2 and 3.9 cm while the remaining 5 percent were in the lowest category (0–1.9 cm) representing the section of the continuum from »No pain« to »Annoying pain« (Table 1).

We could not find any evidence in the intensity of pain between primiparae and multiparae as the Chi-square test was not statistically significant (Table 2).

**Overall experience of intensity and quality of pain in a sample of parturients**

The quality of pain used most frequently by the parturients to describe childbirth pain: smarting, sharp, cramping, exhausting, strong, and somewhat less frequently – nauseating and terrifying (Figure 1 and Figure 2).

Along with the quality of pain, Figure 2 also shows the intensities at which these pains were experienced. It can be seen that the most frequently specified pain was the pain of the highest intensity (»I felt the pain strongly«) (Table 3).

**Depiction of the relationship of psychosocial variables and the experience of pain during childbirth**

Table 2 and Figure 3 show mean values of the strength of pain in primiparae and multiparae. We compared the results on the VAS with the results of the MPQ-SF with its corresponding subscales. As we can see from Table 4, the difference in the experienced strength of pain between primiparae and multiparae was not statistically significant neither for total scores nor any of the subscales (Table 4 and Figure 3).

Data collected and analyzed in this study failed to show statistically significant difference in the intensity of pain between the primiparae and multiparae subsamples on all factors.

As shown in Figure 4, only 16 percent of the participants or approximately every sixth parturient had a partner present during childbirth (Figure 4 and Figure 5).

**TABLE 1**

| Kategorija doživljene jačine boli                | Frekvencija | Postotak |
|--|-------------|----------|
| Bez boli – Iritirajuća bol (0–1,9 cm)            | 9           | 5.1      |
| Iritirajuća bol – Neugodna bol (2–3,9 cm)        | 9           | 5.1      |
| Neugodna bol – Strašna bol (4–5,9 cm)            | 18          | 10.2     |
| Strašna bol – Užasna bol (6–7,9 cm)              | 47          | 26.7     |
| Užasna bol – Mučna / Agonizirajuća bol (8–10 cm) | 85          | 48.3     |

**TABLE 2**  
CHI-SQUARE TEST OF THE INTENSITY OF PAIN OF PRIMIPARAE AND MULTIPARAE

|                       | Vrijednost         | df | Značajnost |
|-----------------------|--------------------|----|------------|
| Pearson Hi-kvadrat    | 5.812 <sup>a</sup> | 4  | ,214       |
| Vjerojatnost omjera   | 5.938              | 4  | ,204       |
| Linearna distribucija | 3.045              | 1  | ,081       |
| Broj ispitanica       |                    |    |            |

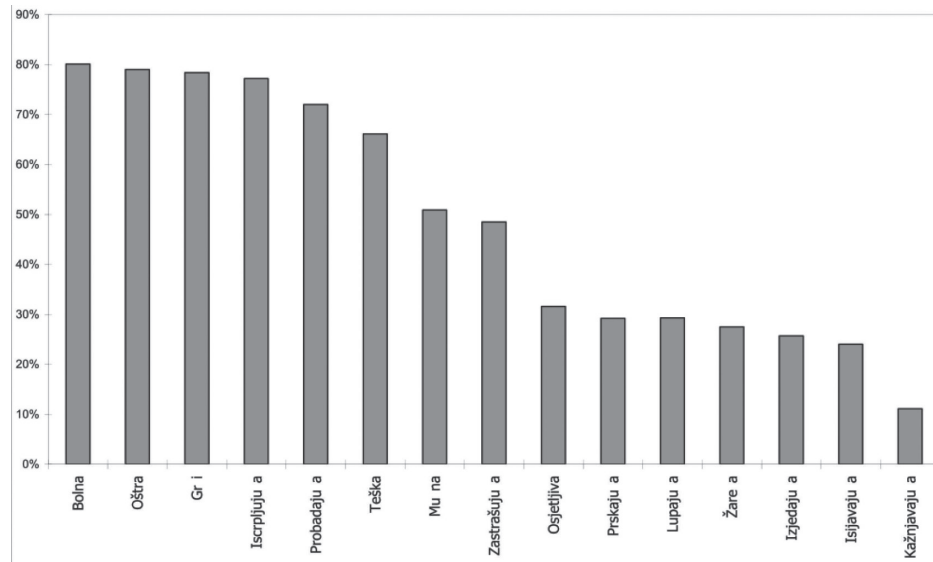


Fig. 1 Experienced quality of pain according to frequency.

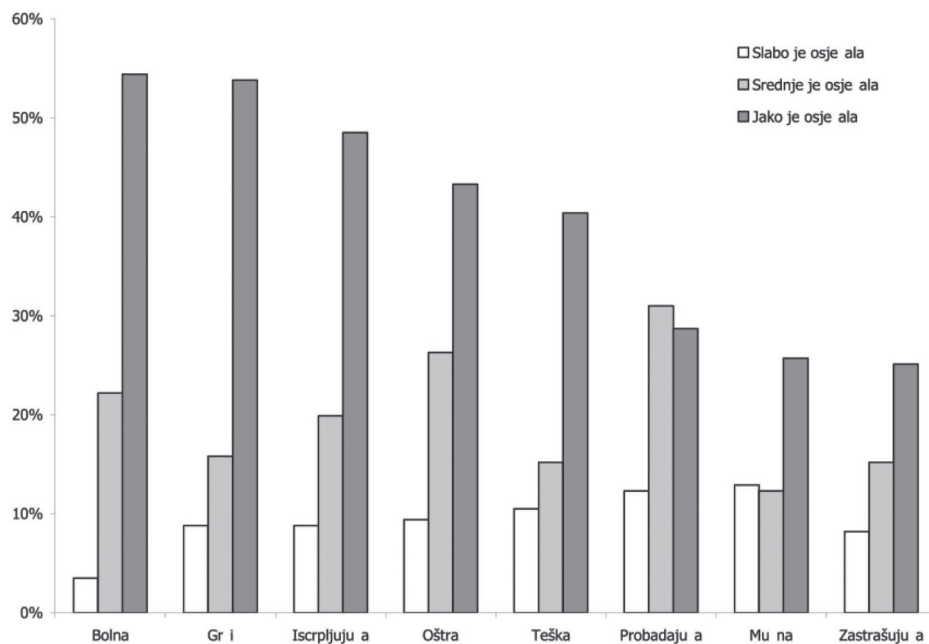


Fig. 2 Intensity of experienced pain for the most frequently experienced quality of pain.

The higher the primiparae's estimate of knowledge about childbirth, the lower their experienced intensity of pain on the affective subscale ( $r = -0.23$ ,  $p < 0.05$ ). This variable did not have a significant correlation with other subscales.

Figure 6 depicts the frequency at which the parturients attended pregnancy courses. As shown, every fifth participant of our study attended a course which is below average in terms of European standards. (Figure 6).

## Discussion

### *Quality and intensity of pain experienced during childbirth*

The results of the study indicate that the sample of parturients included experienced horrible/nauseating, agonizing pain in as many as 48.3 percent of cases, whereas a smaller percentage of parturients, only 5 percent of them felt weak/annoying pain. The results are consistent

**TABLE 3**  
INTENSITY OF OVERALL QUALITY OF EXPERIENCED PAIN

|                 | 1    | 2    | 3    | 4    | 5    | 6    | 7     | 8     | 9    | 10   | 11   | 12    | 13   | 14   | 15    |
|-----------------|------|------|------|------|------|------|-------|-------|------|------|------|-------|------|------|-------|
| 1 Lupajuća      | 1    | 0.53 | 0.17 | 0.13 | 0.00 | 0.20 | 0.08  | 0.10  | 0.13 | 0.22 | 0.14 | 0.15  | 0.18 | 0.08 | 0.00  |
| 2 Isijavajuća   | 0.53 | 1.00 | 0.14 | 0.16 | 0.06 | 0.26 | 0.20  | 0.13  | 0.11 | 0.29 | 0.18 | 0.17  | 0.21 | 0.08 | 0.09  |
| 3 Probadajuća   | 0.17 | 0.14 | 1.00 | 0.37 | 0.23 | 0.31 | 0.21  | 0.19  | 0.17 | 0.27 | 0.18 | 0.24  | 0.17 | 0.19 | 0.01  |
| 4 Oštra         | 0.13 | 0.16 | 0.37 | 1.00 | 0.18 | 0.26 | 0.20  | 0.06  | 0.21 | 0.24 | 0.17 | 0.10  | 0.20 | 0.23 | 0.00  |
| 5 Grči          | 0.00 | 0.06 | 0.23 | 0.18 | 1.00 | 0.22 | 0.15  | 0.13  | 0.19 | 0.17 | 0.04 | 0.25  | 0.21 | 0.29 | 0.02  |
| 6 Izjedajuća    | 0.20 | 0.26 | 0.31 | 0.26 | 0.22 | 1.00 | 0.40  | 0.12  | 0.25 | 0.31 | 0.25 | 0.19  | 0.32 | 0.19 | 0.19  |
| 7 Žareća        | 0.08 | 0.20 | 0.21 | 0.20 | 0.15 | 0.40 | 1.00  | -0.01 | 0.04 | 0.29 | 0.23 | 0.10  | 0.18 | 0.14 | 0.09  |
| 8 Bolna         | 0.10 | 0.13 | 0.19 | 0.06 | 0.13 | 0.12 | -0.01 | 1.00  | 0.55 | 0.24 | 0.24 | 0.28  | 0.33 | 0.31 | 0.15  |
| 9 Teška         | 0.13 | 0.11 | 0.17 | 0.21 | 0.19 | 0.25 | 0.04  | 0.55  | 1.00 | 0.37 | 0.21 | 0.32  | 0.39 | 0.45 | 0.07  |
| 10 Osjetljiva   | 0.22 | 0.29 | 0.27 | 0.24 | 0.17 | 0.31 | 0.29  | 0.24  | 0.37 | 1.00 | 0.41 | 0.26  | 0.32 | 0.27 | 0.11  |
| 11 Prskajuća    | 0.14 | 0.18 | 0.18 | 0.17 | 0.04 | 0.25 | 0.23  | 0.24  | 0.21 | 0.41 | 1.00 | 0.14  | 0.22 | 0.15 | 0.31  |
| 12 Iscrpljujuća | 0.15 | 0.17 | 0.24 | 0.10 | 0.25 | 0.19 | 0.10  | 0.28  | 0.32 | 0.26 | 0.14 | 1.00  | 0.42 | 0.30 | -0.02 |
| 13 Mučna        | 0.18 | 0.21 | 0.17 | 0.20 | 0.21 | 0.32 | 0.18  | 0.33  | 0.39 | 0.32 | 0.22 | 0.42  | 1.00 | 0.44 | 0.07  |
| 14 Zastrahujuća | 0.08 | 0.08 | 0.19 | 0.23 | 0.29 | 0.19 | 0.14  | 0.31  | 0.45 | 0.27 | 0.15 | 0.30  | 0.44 | 1.00 | 0.13  |
| 15 Kažnjavajuća | 0.00 | 0.09 | 0.01 | 0.00 | 0.02 | 0.19 | 0.09  | 0.15  | 0.07 | 0.11 | 0.31 | -0.02 | 0.07 | 0.13 | 1.00  |

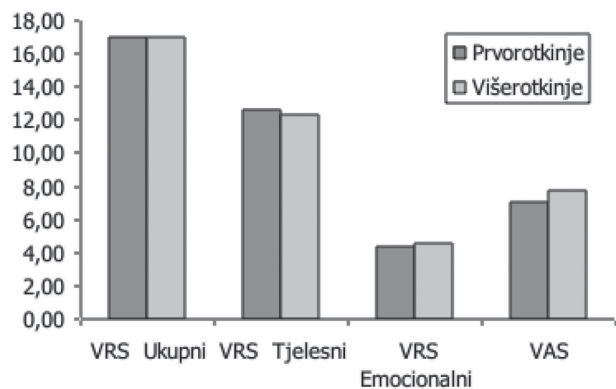


Fig. 3 MPQ-SF and VAS strength of pain mean values for primiparae and multiparae.

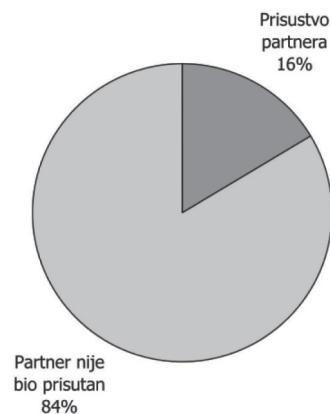


Fig. 4 Frequency of the presence of a partner during labor and delivery.

with earlier research conducted by Melzack<sup>3</sup>. Relevant to the quality of pain, most of the parturients (80%) experienced so called »smarting pain«. In this category, 54 percent of the sample expressed feeling »smarting pain« strongly. Smarting pain was followed by »cramping pain« experienced by 78 percent of the parturients, further followed by »exhausting«, »sharp«, and »heavy«. Among sensory pain, the parturients also felt »stabbing pain« to a large extent and »terrifying« and »nauseating« pain were felt in the affective category. These results partially coincide with earlier research on labor and delivery pain where the most represented sensory pains were cramping, sharp, radiating, and smarting, while exhausting, nause-

ating, and terrifying were the most represented affective pains<sup>20</sup>. The depiction of all types of pain according to intensity at which it was felt can be found in Table 3. It is important to mention that the most frequently experienced pain in terms of quality was simultaneously felt at the highest intensity.

During data collection many of the participants had difficulties with accurate interpretation of the description of the quality of pain which could be the reason for the frequent choice of »smarting« pain. Smarting pain could represent a general term used by the parturients in the absence of more accurate descriptions of the pain they had experienced. Among the pains not represented in prior

**TABLE 4**  
ANALYSIS OF STATISTICAL SIGNIFICANCE OF DIFFERENCES OF PAIN INTENSITY MEAN VALUES BETWEEN PRIMIPARAE AND MULTIPARAE USING THE PPQ-SF AND THE VAS

|             | Prvorotkinje |      | Višerotkinje |      | t     | p     |
|-------------|--------------|------|--------------|------|-------|-------|
|             | M            | SD   | M            | SD   |       |       |
| VRS         |              |      |              |      |       |       |
| Ukupni      | 17.05        | 7.38 | 16.97        | 9.25 | 0.07  | >0.05 |
| Tjelesni    | 12.66        | 5.16 | 12.35        | 6.98 | 0.33  | >0.05 |
| Emocionalni | 4.39         | 2.93 | 4.62         | 3.34 | -0.47 | >0.05 |
| VAS         | 7.04         | 2.88 | 7.73         | 2.28 | -1.70 | >0.05 |

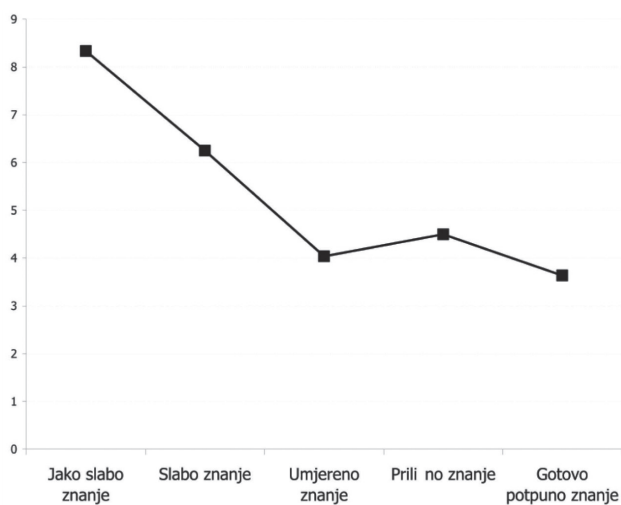


Fig. 5 Relationship between self-evaluation of knowledge about childbirth and the experienced intensity of pain on the affective subscale.

research to any larger extent but present in this study is »heavy« pain. Hence, this already mentioned lack of concordance of results with prior research in the case of »smarting« and »heavy« pain, could be a reflection of issues with the translation of the questionnaire<sup>19</sup>.

The total intensity of pain as measured by the VRS ranged from 2 to 45 with an average pain intensity of 17.01 for all participants. This result is in line with existing research on childbirth pain<sup>19</sup>. The mean result on the subscale of sensory pain was 12.49, while the mean score on the affective pain subscale was 4.52.

### Differences in experienced intensity of pain and knowledge of childbirth

No statistically significant differences could be detected for the entire sample on any of the measures of pain between primiparae and multiparae ( $t_{VRS} = 0.064$ ;  $p >$

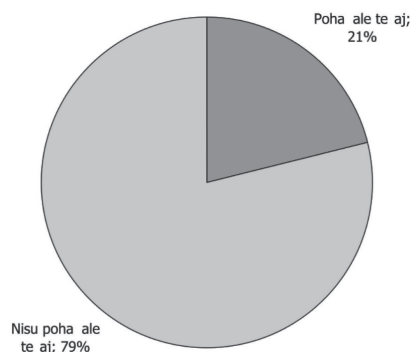


Fig. 6 Frequency of attending a pregnancy course.

0.05;  $t_{VAS} = -1.697$ ;  $p > 0.05$ ). Furthermore, there were no differences between women who had attended pregnancy classes and those who had not ( $t_{VRS} = -0.249$ ;  $p > 0.05$ ;  $t_{VAS} = -0.504$ ;  $p > 0.05$ ), as there were no difference between those women who had given birth in the presence of a partner and those who had not ( $t_{VRS} = -0.994$ ;  $p > 0.05$ ;  $t_{VAS} = 0.305$ ;  $p > 0.05$ ). Taking into consideration that the sample of parturients who had attended a course was exceptionally small, we cannot draw any valid conclusions.

The higher the self-reported estimate of preexisting knowledge about childbirth by the parturients, the lower the intensity of experienced pain (on the affective subscale of the Verbal Report Scale) ( $r = -0.23$ ;  $p < 0.05$ ). Superior knowledge of the process of labor and delivery itself is likely connected with the intensity of fear; which is to say the intensity of unpleasant emotions. Given that the general mood is in direct relationship with the quality and intensity of pain it is possible that being more familiar with the process of childbirth itself reduced uncomfortable emotions, primarily fear, thereby contributing to the reduction of experience of intensity of pain. This link was evident only on the affective subscale.

Finally, primiparae’s knowledge about childbirth was a significant predictor of the affective component of intensity of childbirth pain which points to the importance of being educated and informed about labor and delivery. Melzack, along with other authors whose research brought forth the same results, emphasizes the positive impact of education in preparation for childbirth<sup>8,21,22,23</sup>.

Believing this to be a significant result, it would be useful to organize a series of classes based on an educational approach to labor and delivery that would have as their primary aim the reduction of anxiety pregnant women and parturients, thereby also reducing child-birthing pain. The uncertainty of what awaits us is sometimes much more difficult to bear than the labor and delivery themselves and precisely that fact makes education important. Education would provide not only information increasing women’s awareness and knowledge of the childbirth process, but it would additionally provide emotional support for expecting mothers.

### *Presence of a partner during childbirth and attendance of a pregnancy course*

Results point to the very small number of parturients who attended a pregnancy course (every sixth woman), which alludes to a significant problem in organizing pregnancy and childbirth education in Zagreb. Follow-up interviews with the parturients we subsequently discovered that there were no organized classes of extended duration and during which the expecting mothers could be educated about childbirth and exchange experiences in order to reduce their anxiety and fear about labor and delivery. Likewise, according to statistics from other countries of the European Union and some of the comparisons drawn from the work of Robertson<sup>15</sup>, we can notice that a trend in the countries of Eastern Europe includes fewer births in the presence of a partner, and from our sample we see that merely every sixth parturient had a partner present during childbirth.

### *Limitations*

Aside from the fact that pain is an experience which is exceptionally difficult to measure objectively and the probability that certain flaws exist in the translation of the instrument used in this study (MPQ-SF), there are certain limitations of the current study as well. Firstly, we did not control for the weight and size of the newborn, the quality of the course, or the level of engagement of the expecting mother in the course. Furthermore, some of the categories contained too few participants preventing any comparisons among them. Finally, the Department of Gynecology and Obstetrics of the University Hospital Center Zagreb serves women according to place of residence as well as those classified as high-risk pregnancies. These factors could have had an effect on the results of this study, therefore they should be interpreted with caution.

In order to increase the validity of future research it would be prudent to undertake a quasi-experimental study in which the intensities of experienced pain could be compared between the specially-educated primiparae (a special labor and delivery course could be implemented

in collaboration with the hospital) and the primiparae who would not participate in such a course, as suggested by Turk and Gatchel<sup>18</sup> as well. Another recommended extension of the current work would be to similarly design and compare the experiences of parturients with and without partners present. Partners would be educated in effective ways of supporting the women during the childbirth process.

### **Conclusion**

The present study attempted to verify a relationship between psychosocial factors and the experience of pain during labor and delivery. Accordingly, results obtained point to the following qualities of pain described as most frequently experienced during childbirth: smarting pain (80%), cramping (78%), exhausting, sharp, and heavy. Taking into account the category of quality of pain, it was shown that in the realm of sensory pain, participating parturients largely felt stabbing pain, whereas in the realm of affective pain they felt terrifying and nauseating pain. These results were partially consistent with prior research<sup>3</sup>.

Those qualities of pain experienced more frequently, were mainly felt at the highest intensity. The scores on the VRS and the VAS were concordant on the issue of intensity of pain so that the average scores obtained on this sample were consistent with other research in this area.

Every fourth expecting mother attended a pregnancy course and half of those stated that the course had been very helpful. With respect to the presence of partners during childbirth, we showed that every sixth parturient had a partner present and all of them described that experience as exceptionally positive, but it was not a significant factor in the intensity of experienced childbirth pain. Furthermore, no differences between primiparae and multiparae on any of the pain measures were detected. The primiparae's knowledge of labor and delivery was shown to be a significant predictor of the affective component of the intensity of childbirth pain, which illustrates the importance of being educated and informed about this process.

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A. Havelka Meštrović

University Hospital Dubrava, Department of Psychiatry, Avenija Gojka Šuška 6, Zagreb, Croatia  
e-mail: havelka2@yahoo.com

## PSIHOLOŠKI ČIMBENICI U ISKUSTVU BOLI TIJEKOM PORODA

### SAŽETAK

Bol koja se javlja tijekom poroda je jedinstvena jer ju prate snažne emocije. Emocije koje se javljaju u žena tijekom poroda su usko vezane za odgoj i kulturu u kojoj su odgojene, a time i sa osjećajem iskustva boli. Prema Melzack-Zidovoj teoriji boli, opće raspoloženje je izravno povezano s intenzitetom i kvalitetom boli te je stoga opravdano pretpostaviti da će određeni psihosocijalni čimbenici biti povezani s doživljajem intenziteta i kvalitete boli tijekom porođaja (Melzack i sur., 1981). Nastojali smo pokazati učinak psihosocijalnih faktora koji utječu na intenzitet i kvalitetu boli prilikom porođaja. Podaci su prikupljeni na uzorku od 176 roditelja koje su rodile bez carskog reza ili epiduralne anestezije. Intenzitet i kvaliteta boli dobiveni su pomoću upitnika za bol McGill – u kratkom obliku. Psihosocijalni čimbenici uključuju: broj rođenih, prisutnost partnera, samoprocjena znanja o fizikalno-anatomskim aspektima poroda i završetku trudnoće. Bol prilikom porođaja je visokog intenziteta i kvaliteta boli je najčešće karakterizirana kao iscrpljujuća, oštra, pečenje, i grčevi. Prisutnost partnera prilikom poroda prakticira vrlo mali broj trudnica. Samovrednovanje prethodno postojećih znanja o fizikalno-anatomskim aspektima poroda predviđaju afektivne komponente intenziteta poroda boli. Psihosocijalni čimbenici su prikazani kao značajni za intenzitet i kvalitetu iskustva boli prilikom poroda.