Strategies for coping with labour pain

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ABSTRACT

Introduction: Labour pain, though physiological, is an impulse producing stress reactions and adverse physical, mental and emotional sequelae in the body. Knowing the factors influencing the intensity of pain feeling, activities aimed at easing the pain can be applied. There is a great variety of strategies for coping with pain during labour. Parents can choose between pharmacological and natural methods, which are presently growing in popularity. Parents can ease the pain by means of different strategies of pain coping.

Purpose: To analyse different strategies for pain coping used in labour.

Materials and methods: The study was carried out in the Department of Gynaecology and Obstetrics of the J. Sniadecki District Hospital in Bialystok with a group of 164 patients during labour, using the questionnaire of pain coping strategies-CSQ, and visual analogue scale-VAS, which evaluates the intensity of pain.

Results: In the group of patients examined, the most frequently used strategies of pain coping were declaration of coping and prayer/hope. These methods caused statistically significant influence on the decrease of the intensity of pain felt during labour stages I and II. The efficiency of the level of pain control and the possibilities for its reduction in labour were reported as average.

Conclusions: Our results give grounds to assume that psychological treatment can be helpful during labour. The conscious application of pain coping strategies can significantly improve patients' states of mind during labour, change patients' attitudes towards labour and induce co-responsibility for labour progression.

Key words: Pain control, pain coping strategies, labour pain

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INTRODUCTION

Pain is a feeling known to every human being. International Association for the Study of Pain (ISAP) defines pain as an unpleasant sensory and emotional experience accompanying the existing or oncoming tissues damage, or it is only referred to such a damage [1, 2]. Pain accompanies a human being since the beginning of his existence and is widely recognized as a negative phenomena. In fact, it is an indispensible element of our life. It signals the worsening of health (it is called pathologic pain in that case), or it supports the progress of natural processes taking place in the body, e.g. during labour (physiological pain) [3-6].

One of the most important and the most beautiful periods of a woman's life is pregnancy. It is finished with labour which is the delivery of a fetus, as well as amniotic fluid and afterbirth from the uterine cavity [7]. This process is always accompanied by pain [2, 8, 9]. Labour pain, similarly to labour itself, is a physiological phenomena. It is a kind of an acute pain of changeable nature. Its kind and intensity inform the body about the stage of labour. Labour pain motivates a woman to some instinct behaviour such as position changes and sounds articulation. It dynamizes and facilitates labour as hormones are released, among others, endorphins, which act as an anaesthetic [10]. Pain's variability is largely dependent on labour stage. At the beginning of labour, pain is caused by the opening and shortening of the uterine cervix and myometrium ischaemia during the contraction. It is so called hysteralgia in which sensory impulses are transferred to the spinal cord by the sympathetic afferent fibers. During the second stage of labour the leading part of a fetus presses more on the structures of uterus and perineum what intensifies the pain. It is so called perineal pain [11, 12]. However labour pain is not a symptom of pathology, a woman during labour should be helped in coping with it. Fear and pain can affect uterus contractions and thus, disturb the progress of labour, and affect the condition of fetus [10].

There is a wide variety of ways of labour pain coping. There are pharmacological methods available, as well as natural methods which are growing in popularity presently. How much a man can decrease the intensity of pain felt depends not only on methods he uses, but also on the strategies for pain coping applied [13 -15]. The pain stimulus is only an impulse which induces a complex system of reactions controlled mainly by the processes taking part in brain. There are two interplaying components in the feeling of pain: sensory, connected with the transfer of nociceptive information to the brain, and emotional, focused on feelings and thoughts devoted to pain. Interactions between those two elements decide on reaction to pain. It is thought that the fundamental reason of individual differences in pain and illness coping are the strategies used in illness-related stress coping what significantly affects the health-related quality of life (HRQL). The way for pain coping has its consequences in further behavior of the one in labour, as well as in the way of pain perception. Many studies point to a strong relation between the location of pain control and the strategies used during labour. Inner location of pain control determines the use of active strategies, outer location-contributes to strategies of helplessness and unreal expectations [16 - 18].

Three coping styles have been identified, forming a permanent disposition to respond to stressful situations in certain ways: emotional, task, and avoidance [19-20]. The task-oriented coping style is based on solving the problem by cognitive reinterpretation of the situation. These are efforts directed at solving or coping with a problem that is causing the stress. Cognitive transformation consists of collecting information, making decisions, planning, conflict resolution, and acquisition of resources to deal with the problem People who use an emotion-oriented coping style focus on themselves. They may avoid thinking about their situation by engaging in alternative activities unrelated to the stressful situation (such as entertainment, social withdrawal, or the use of psychoactive drugs) or seeking for other people.

The aim of the study was to analyze different strategies for pain coping used during in labour.

MATERIALS AND METHODS

The study was carried out in the Department of Gynaecology and Obstetrics of the J. Sniadecki District Hospital in Bialystok with a group of 164 patients during labour, using the questionnaire of pain coping strategies-(CSQ). It consists of 42 statements describing different ways for pain coping. They can be divided to 7 strategies for pain coping and 2 questions concerning the evaluation of own skills to use different strategies of pain coping. Ways of pain coping are reflected by 6 cognitive strategies and 1 behavioral. They are included in 3 factors: cognitive way of coping with pain, reversing attention and substitute activities taking, and catastrophizing and hope quest. For each of them a score is counted. It is included within the range of 0 to 36 points. The higher the score, the greater importance of the particular way for coping with pain used. In the case of questions concerning the level of control and ways of relieving the pain, scores range from 0 to 6. The higher the score, the greater importance of own skills of coping with pain and relieving it [19, 20].

The intensity of pain during labour was evaluated with the use of VAS scale (Visual

analogue scales) before and after particular strategies for pain coping were applied. VAS scale is a visual and analogue, 10 degree, descriptive, graphic scale, consisting of a 10 cm line on which patients mark the point relating to the subjective feeling of pain. This line is divided to 10 points where: 0-is no pain, 5-is pain of average intensity, 10-is unbearable pain intensity [21].

In the analysis carried out, the normality of distribution of quantitative variables was verified by means of Kołomogorow-Smirnow test. Statistical characteristics of quantitative variables were presented in the form of arithmetic means, standard deviations (SD), medians, lower and upper quartile values and extreme values (minimum and maximum). Statistical characteristics of qualitative variables were presented in the form of numerical and percentage distributions. In inter-group comparisons of quantitative variables values, t-Student test for unrelated variables and one-way variance analysis ANOVA with post-hoc test of the least significant difference (LSD) were used. In inner-group comparisons of quantitative variables values Wilcoxon pair sequence test for related variables was used. In inter-groups comparisons of distributions of qualitative variables Pearson chi-square test was used. Strength and direction of the relation between quantitative variables pairs were determined on the basis of the value of Pearson linear coefficient of correlation (r). All of the statistical analysis were performed with Statistica 10.0 PL programme (Statsoft, Poland). Statistical significance was accepted at the level of $p<0.05$.

RESULTS

Labour pain coping strategies which were the most frequently used by the patients in examined group included declaration of coping with pain (39.6%) and prayer/hope (27.4%). The least frequently used were overvaluation (1.8%) and ignoring (10.4%) (Figure 1).

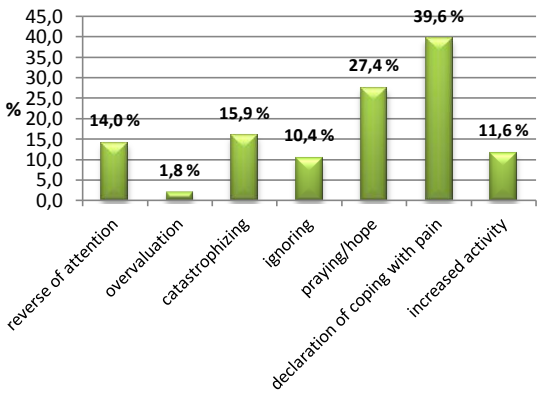

Figure 1. Frequency for pain coping strategies use.

The level of pain control and possibility of its reduction were assessed by patients in study group at the average level of 3.5±1.0 and 3.2±1.2 point; respectively (Table 1).

Table 1. Level of pain control and possibility of its reduction.

	mean	**SD**	**median**	**min.**	**max.**
Pain control	3.5	1.0	3	0	6
Pain reduction	3.2	1.2	3	0	6

The study showed that in I and II stage of labour the level of pain felt by patients using the strategy of declaration for coping with pain was statistically significant before and after applying this form of intervention (in both labour stages $p=0.000$) (Figure 2).

After the use of strategy of prayer/hope, the feeling of pain during I and II labour stage was statistically lower ($p=0.000$) (Figure 3).

Either during I and II labour stage, after reversing attention strategy application, statistically significant decrease of intensity of pain felt was noted ($p=0.004$ and $p=0.012$; respectively) (Figure 4).

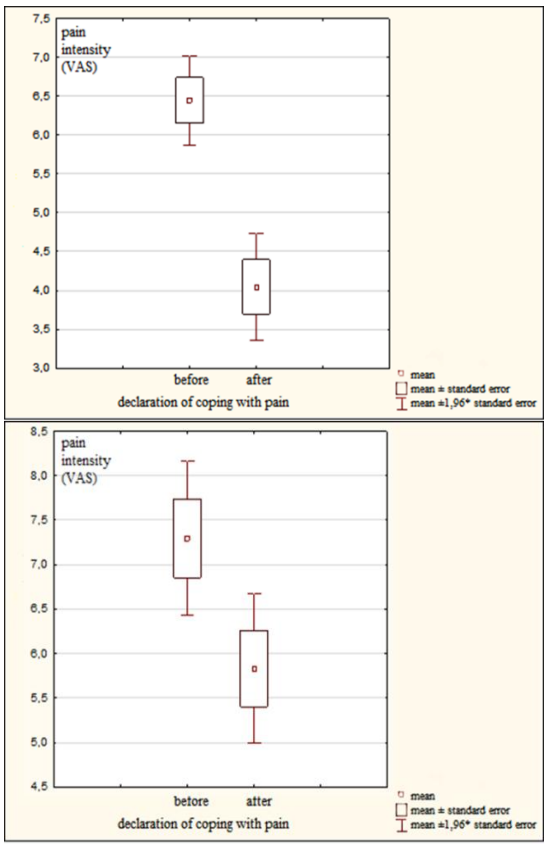

Figure. 2. Intensity of pain felt during I and II stage of labour, before and after the use of the strategy of declaration of self coping.

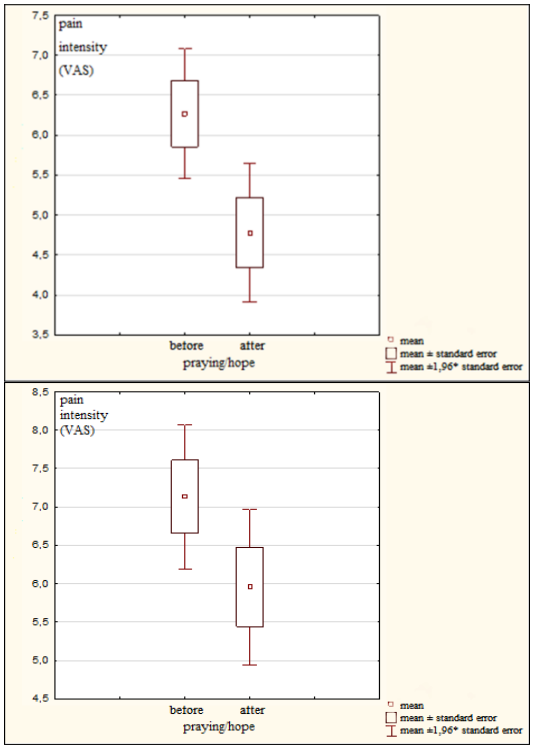

Figure. 3. Intensity of pain felt during I and II stage of labour, before and after prayer/hope strategy was applied.

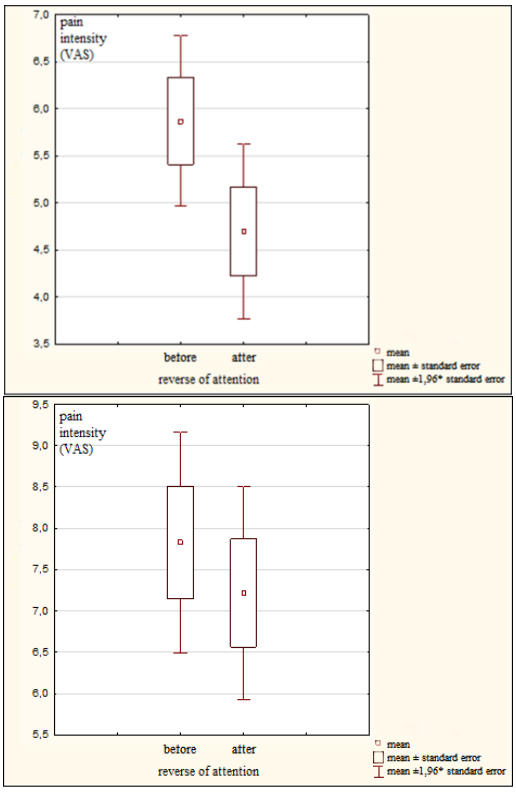

Figure 4. Intensity of pain felt during I and II labour stage, before and after reversing attention strategy was applied.

Other coping strategies included in the CSQ scale did not significantly influence the level of pain felt during I and II labour stage.

Based on the analysis of 2 and 3 question of the CSQ questionnaire, it was found significant relation between the level of pain control and its intensity during the I stage of labour after pain relieving intervention is performed (Table 2).

Table 2. Coefficients of Pearson linear correlation between the level of pain control/possibility of pain reduction and intensity of pain in particular stages analyzed.

		I stage of labour before intervention	**II stage of labour before intervention**	**I stage of labour after intervention**	**II stage of labour after intervention**
Level of pain control	r	-0.116	-0.0897	-0.1604	-0.0963
	p	0.139	0.254	0.040	0.220
Possibility of pain reduction	r	-0,2662	-0.1896	-0.206	-0.1547
	p	0.001	0.015	0.008	0.048

Significant negative correlation between the level of pain control and pain intensity during I and II stage of labour was found, both before and after the chosen form of treatment application. The higher pain control, the intensity of pain was lower.

DISCUSSION

Labour pain, though physiological, is an impulse-producing stress reaction with adverse physical, mental, and emotional sequelae. Knowing the factors that influence the intensity with which pain is felt enables the application of strategies intended to ease pain [22]. Our research showed that the coping strategies most frequently used by patients during labour were prayer and hope. Andruszkiewicz et al. [23] obtained similar results when administering the CSQ questionnaire among patients with degeneration of the hip joint. In studies by Rolka et al. [24] on pain relief in migraine patients, the most frequently used coping strategy was pain coping. Juczynski et al. [20] stated that patients with back pain and neuralgia mainly use the reverse of attention strategy. Faith in the efficiency of personal control positively influences patient behavior during labour, fostering cooperation with doctors and midwives and enhancing attention to caretakers' instructions [20, 25].

Keeping in mind the clinical benefits of pain relief strategies, it should be noted that the most important factor in the success of these strategies is patients' conviction in the crucial influence on labour progress of the strategies chosen and the help patients receive in adapting to the progression of labour [26]. Many authors have

pointed to the relationship between pain control location, pain coping strategy, and the effectiveness of coping. It is generally thought that different strategies for coping with illness-induced stress are associated with differences in pain perception [27-29]. This hypothesis was confirmed by Allison [30] and Norman et al. [31], who claimed that patients with inner loci of pain control make decisions more autonomously, more often engage in pro-health activities, and are more responsible for their health, which is connected to greater pursuit of health maintenance and improvement. Lack of inner control of pain causes feelings of stress, increases the release of stress hormones, and weakens immune reactions [32, 33]. Numerous studies have confirmed that people who perceive pain control as external to themselves feel higher levels of pain and choose inefficient coping strategies [34 - 36]. Outer pain location correlates positively with the choice of catastrophizing and praying strategies. It has been proven that parents choosing passive ways for coping with labour pain feel this pain more intensely than those who choose active coping strategies. A significant relationship has been found between increased depression levels, lower pain thresholds and increased complaints, and the choice of helplessness and catastrophizing techniques [37, 38].

Koleck et al. [39] found a negative association between catastrophizing coping strategies, general activity level, and adaptiveness to illness. Further, Merlijn et al. [40] and Mercado et al. [41] claimed that the choice of passive strategies intensifies pain, which increases the risk of health deterioration. They also explained that decreasing emotional tension indirectly translates into the lowering of pain thresholds.

CONCLUSIONS

Our results give grounds to assume that psychological treatment can be helpful during labour. Such treatment should deal with strategies for expressing emotions and coping with pain. The conscious application of pain coping strategies can significantly improve patients' states of mind during labour, change patients' attitudes towards labour and induce co-responsibility for labour progression.

Conflict of interest

The authors declare no conflict of interest.

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