LABOR PAIN AS A NEW NURSING DIAGNOSIS: CONCEPTUAL AND CONTENT VALIDATION

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INTRODUCTION

• The phenomenon of pain during labor differs from the experiences of acute and chronic pain in physiology and interpretation of the mother.

• The response to the experience of pain is complex and subjective.

• The interpretation of labor pain is built based on: personality, ethnicity, and social and cultural experience before pain and labor.

Question
• Is pain in labor situations inserted into the nursing diagnosis NANDA-I (00132) Acute Pain?

Hypothesis
• Labor pain has clinical evidence that differs from the Acute Pain nursing diagnosis.

Objectives
• To build the concept of labor pain and to develop the content validation.
METHODS

- **Phase A** - Analysis of concepts as proposed by Walker and Avant (2005)

- **Phase B** - The content validation followed the Fehring’s recommendations (1986)

(Walker & Avant, 2005; Fehring, 1986)
Phase A - Analysis of concepts

Walker & Avant Model (Eight steps)


2. Proposed analysis: - to build the concept of pain in labor situations.

3. Identify the uses of the concept:

A- Concept selected among the 180 terms related to pain (DeCs and MeSH): Labor Pain (Pain of Labor, Labor Pains and Childbirth Pains).

B- Search in the literature
Phase A - Analysis of concepts

B - Integrative review of the literature (Whittemore, 2005).

- MEDLINE, LILACS, CINAHL databases.

- 448 citations with abstracts in the period from Jan/1983 to Feb/2010 were found (accessed on Feb/11/2010).

- Criteria for inclusion: descriptive studies (on physiological, psychological, emotional, and cultural aspects) and intervention studies (describing measurement instruments for labor pain).

- Sample - were eligible for the analysis:
  59 complete articles + 6 textbooks + 3 dissertations + 2 dictionaries
RESULTS Phase A - Analysis of concepts

4. Identification of defining attributes (Definition & DC):
- Sensorial and emotional experiences that vary from pleasant to unpleasant occurs during labor and delivery.
- Perception of pain ranging from mild to intense; intensity and frequency of pain tends to increase from beginning of dilation to expulsion period.

# RESULTS Phase A - Analysis of concepts

<table>
<thead>
<tr>
<th>DEFINING CHARACTERISTICS: ACUTE PAIN*</th>
<th>DEFINING CHARACTERISTICS: LABOR PAIN</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change in appetite</td>
<td>Altered muscle tension</td>
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<tr>
<td>Change in blood pressure</td>
<td>Altered neuroendocrine function</td>
</tr>
<tr>
<td>Changes in heart rate</td>
<td>Altered urinary function</td>
</tr>
<tr>
<td>Change in respiratory rate</td>
<td>Change in blood pressure</td>
</tr>
<tr>
<td>Coded report</td>
<td>Changes in heart rate</td>
</tr>
<tr>
<td>Diaphoresis</td>
<td>Change in respiratory rate</td>
</tr>
<tr>
<td>Distraction behavior</td>
<td>Diaphoresis</td>
</tr>
<tr>
<td>Expressive behavior</td>
<td>Distraction behavior</td>
</tr>
<tr>
<td>Facial mask</td>
<td>Expressive behavior</td>
</tr>
<tr>
<td>Guarding behavior</td>
<td>Facial mask</td>
</tr>
<tr>
<td>Narrowed focus</td>
<td>Increased appetite</td>
</tr>
<tr>
<td>Observed evidence of pain</td>
<td>Lack of appetite</td>
</tr>
<tr>
<td>Positioning to avoid pain</td>
<td>Narrowed focus</td>
</tr>
<tr>
<td>Protective gestures</td>
<td>Nausea</td>
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<tr>
<td>Pupillary dilation</td>
<td>Noted evidence of uterine contraction</td>
</tr>
<tr>
<td>Reports pain</td>
<td>Observed evidence of pain</td>
</tr>
<tr>
<td>Self-focus</td>
<td>Perineum pressure feeling</td>
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<tr>
<td>Sleep pattern disturbance</td>
<td>Positioning to avoid pain</td>
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(* NANDA-I, 2012)
RESULTS Phase A - Analysis of concepts

5 – Development of a model case: all attributes

6 – Development of additional cases:

- **Borderline:** some attributes
- **Contrary case:** concept antonym to the concept of interest.
C.S, 26 years, married, gestational age of 39 weeks and 6 days, arrived at the hospital with her husband and was admitted to the maternity for her first labor experience. During the interview with the nurse, she mentioned that the couple had wanted the pregnancy and that they were happily awaiting the arrival of their child. She feels pain in the back, which started approximately 8 hours earlier (Referred pain according to VAS = 7). She also mentions pain in the lower part of the abdomen and fetal movements. She denies vaginal fluid loss and bleeding. The presence of expressive pain behavior in the form of groans is observed between the responses to the anamnesis, as well as facial expressions of pain. After an obstetrical examination, she was diagnosed in the active phase of labor. The uterine dynamics showed three contractions, two of which were effective, four centimeters of dilation and thin colon with 70% ripening. The bag spontaneously ruptured and contractions shortened during the period; the parturient woman reported intensified pain in the abdomen, perineum, groin and thighs until the expulsion period (Verbal pain report according to VAS = 10). Delivery took place without problems, resulting in the birth of a male infant. Although the mentioned being tired, the postpartum woman indicated pleasure and personal accomplishment as a result of the delivery and the arrival of the child.
Contrary Case

H.B.O., 33 years, married, arrived at the hospital accompanied by her partner, fourth pregnancy, gestational age of 38 weeks, reporting three earlier normal births. During the interview, she mentioned fluid loss. The examination revealed nine centimeters of dilation and presentation height at +3 (DeLee Plane), having reached the expulsion period. She gave birth in the presence of her companion, denied pain, except for mild pressure on the perineum, highlighting the absence of pain during her previous delivery.
RESULTS Phase A - Analysis of concepts

7- Antecedents and consequence:

Antecedents $\rightarrow$ 2 Related Factors:

- **Dilatation period**: latent phase, active phase, transition phase of labor

- **Expulsion period**

Melzack (2001); Ackeley & Ladwig (2008); Davim, Torres & Dantas (2008); Rezende Filho & Montenegro (2006); Tseng & Juu-Su (2008); DeCS, (2008); MeSH (2005); Trout (2005); Rowlands & Permezel (1998); Backer *et al* (2001); Weber (1996); Lowe (1996; 1987); McCallum & Reis (2006); Mazoni & Carvalho (2008); Maul (2007).
RESULTS Phase A - Analysis of concepts

7- Antecedents and consequences:

B-Consequences resulting from the experiences of the phenomenon

- **Tiring**: wearing, exhaustion, suffering, nervousness, tension, lack of control, agitation, aggression, anger, worry, fear, distress, obstetric experience negative, negative feelings, anxiety.

- **Gives meaning to life**: teach, provides personal accomplishment.

- **Interferes with relationships**: the mother’s initial experience.

Macedo (2007); Tseng & Juu-Su (2008); Brownridge (1995); Costa et al., (2003); Lang & Sorrel (2006); Hodnett (2002); McCallum & Reis (2006); Davim, Torres & Dantas (2008); Rowlands & Permezel (1998); Ruano et al (2007).
RESULTS Phase A - Analysis of concepts

8 – Empirical references (methods to enable measuring the phenomenon)

<table>
<thead>
<tr>
<th>MAIN EMPIRICAL REFERENTS</th>
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<tbody>
<tr>
<td>1. VAS - Visual Analogue Scale: 0 – no pain/10 – worst possible pain   (McCaffery &amp; Pasero, 1999).</td>
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<tr>
<td>3. PCS - Pain Catastrophizing Scale  (Sullivan, 2009).</td>
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<tr>
<td>4. UAB - Pain Behavior Scale  (Nepumuceno et al., 1982)</td>
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<tr>
<td>5. VRS - Verbal Pain Scale: mild-moderate-severe   (Jensen &amp; Karoly 1992)</td>
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<td>6. NRS - Numeric Rating Scale: 11 point  (Hawker et al., 2011).</td>
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</table>
Phase B – The content validation

What is the opinion of experts about Labor pain as a new diagnosis?

Expert

- Nurse specialized in Obstetrical Nursing
- Professional experience in labor for at least one year

Sample $\ n = 10$
RESULTS Phase B – The content validation

Labor pain (as a new NDx)

Domain 12 – Comfort

Class 1 – Physical Comfort

Domain and Class validated with scores > 60%
# RESULTS Phase B – The content validation

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<thead>
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<th>ACUTE PAIN: DEFINITION</th>
<th>LABOR PAIN: DEFINITION</th>
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<tbody>
<tr>
<td>“Unpleasant sensory and emotional experience arising from actual or potential tissue damage or described in terms of such damage (International Association for the Study of Pain); sudden or slow onset of any intensity from mild to severe with an anticipated or predictable end and a duration of &lt; 6 months.”</td>
<td>Sensorial and emotional experience that varies from pleasant to unpleasant and occurs during labor, resulting from complex interactions among clinical, hormonal and mechanical aspects of labor and from nociceptive stimuli deriving from cervical progress, uterine contractions, cervical dilation and fetal descent, molded by cognitive events of physical, cultural, emotional, psychological origin and sensorial perceptions that vary from low to intense, tending to increase in intensity and frequency from the dilation period to the expelling stage.</td>
</tr>
</tbody>
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RESULTS Phase B – The content validation

• 23 defining characteristics were identified in Phase A (concept analysis)

• Content validation: 21 were validated
  Noted evidence of uterine contraction (0.95)
  Altered muscle tension (0.93)
  Change in respiratory rate (0.85)
  Expressive behavior (0.85)
  Facial mask (0.85)
  Observed evidence of pain (0.85)
  Diaphoresis (0.83)
  Reports pain (0.80)
  Changes in heart rate (0.80)

N=9 Defining Characteristics were strongly indicative of Labor Pain
RESULTS Phase B – The content validation

Change in blood pressure (0.78)
Distraction behavior (0.75)
Sleep pattern disturbance (0.73)
Altered urinary function (0.73)
Positioning to avoid pain (0.70)
Nausea (0.68)
Lack of appetite (0.63)
Vomiting (0.60)
Protective gestures (0.58)
Self-focus (0.58)
Altered neuroendocrine function (0.58)
Narrowed focus (0.55)

N=12
Defining Characteristics were validated with scores > 0.50 to < 0.80
RESULTS Phase B – The content validation

Defining Characteristics:
validated n=21
unrepresentative (scores < 0.50) n= 2
(Pupillary dilatation and Increased appetite)

Related Factors:
Dilatation period
• Latent phase
• Active phase
Expulsion period

Validated RF
Scores > 60%

Total DCV = 0.73
CONCLUSION PHASE A

Labor Pain

• Results from complex interactions among clinical, hormonal and mechanical aspects of labor.

• Interactions generate **nociceptive stimuli** arising from cervical ripening, uterine contractions, cervical dilation and fetal descent.

• Manifestation of the phenomenon is modulated by cognitive events of physical, cultural, emotional, psychological origins and sensory perception (ranging from pleasant to unpleasant experience).
CONCLUSION PHASE B

Experts mostly approved Labor Pain diagnosis as:

- insertion into Domain 12 - Comfort
- and Class 1 - Physical Comfort

- definition
- 21 defining characteristics
- 2 related factors
CONCLUSION

• The methodological approach reinforced the comprehension that the phenomenon labor pain should be expressed differently from acute pain.

• The construction of the concept “Labor pain” and the evidences observed in the content validation process justify the proposal of this new diagnosis to the NANDA-I taxonomy.
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