

LABOUR PAIN AND THE DEVELOPMENT OF MOTHER-INFANT INTERACTION IN TURKISH MOTHERS

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ABSTRACT

Objective: To examine whether the intensity of the labor pain has an effect on the development of the mother-infant interaction in Turkish mothers.

Methodology: The research was carried out as a descriptive study in a university hospital with an obstetric and gynecology clinic in Erzurum, Turkey. Data were collected between October-December 2006. In this time interval, it was observed and 225 mothers were interviewed having an infant and meeting the research criteria in this obstetric and gynecology clinic.

Results: The average scores of mother-infant interaction were statistically significant according to mothers' ages; p-value 0.005 ($p < 0.05$), education level; p-value 0.000 ($p < 0.001$) and labor duration p-value is 0.017 ($p < 0.05$). Labor type didn't effect the mother-infant interaction; p-value 0.539 ($p > 0.05$). The difference between starting period for breast-feeding and interaction scores was statistically significant; p-value 0.000 ($p < 0.001$). Labor pain intensity didn't affect significantly mother-infant interaction; p-value 0.437 ($p > 0.05$). However, when labour pain intensity increased, interaction scores decreased.

Conclusion: According to these results, it seems to be important that during antenatal examinations, training programmes about mother-infant interaction for mothers who are older, multigravid, and have lower education level should be implemented. It is also suggested that painless labour technics should be used.

KEY WORDS: Labour pain; Mother-infant interaction.

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INTRODUCTION

The quality of the mother-infant interaction is one of the main predictors of the infant's well-being and development.¹⁻³ Labour pain is determined as a risk factor for development of mother-infant interaction³, because the experience of childbirth is accompanied by significant pain, which has been described as one of the most intensive experiences of acute pain.⁴ Previous studies have shown that traumatic labours, such as cesarean sections or use of vacuum and forceps, delay the formation of the mother-infant bond in the immediate postpar-

tum period. It may be due to prolonged maternal preoccupation with the experience of labor, which interferes with her interest in the infant and the emerging relationship.^{5,6} Several studies on the mother–infant relationship have focused on the short-term and long-term effects of pain.^{4,7}

In the light of this information, the number of studies related to the effect of labour pain intensity on the mother–infant relationship are limited and it's not studied in Turkey. Understanding whether there is any association between labour pain intensity and the development of mother-infant interaction, and determining the factors affecting interaction may provide a useful information. The goal of this study was to investigate whether the labor pain intensity and mothers' characteristics have effect on the development of the mother-infant interaction in Turkish mothers.

METHODOLOGY

The research was carried out as a descriptive study in a university hospital with an obstetric and gynecology clinic in Erzurum, Turkey. The data were collected between October-December 2006. In this time interval, 225 mothers having an infant who met the research criteria were interviewed in this obstetric and gynecology clinic. Mean maternal age was 27.15 years (SD =5.93, range=16-42). It was observed that most of the mothers(45.3%) were between 16-25 years of age, (50.7%) had primary school education and 62.7% were multigravid.

The inclusion criteria were:

- * The mothers not having a health problem after the labour;
- * Their infants having normal ranges (above the 10th percentile; 2500 gram or over; 38 - 42 weeks)

The data were collected with a questionnaire prepared by researchers, Mother-infant interaction assesment scale (MIAS) for determining the interaction between baby and mother and Visual Analogue Scale (VAS) for evaluating the labor pain's intensity in obstetric and gynecology clinic were used. The questionnaire

included demographic information (mother age, education level, number of labours, labour type, etc.). MIAS was filled by one of the researchers while the mothers were at the first breastfeeding period. The VAS scores were determined by mothers and signed. Demographic characteristics were the independent variables of the research. MIAS and VAS scores were described to be dependent variables.

Parent-Infant Interaction Assesment Scale, developed by Stainton (1981),⁸ its reliability and currency was checked by Pek⁹, was used by using the sections about the mother. By observing mother and infant on the first day after the birth, their behaviours were scored. The scale was grouped by 15 articles in behaviour category using 2, 1 and 0 points. In order to be able to obtain exact score, the article giving the best definition in pain behaviour category was marked, by collecting each category score, mothers total score was obtained. The scores were also obtained to determine the need of the nurses' support in mother-infant interaction. Between eight and 10 scores indicates that mother and infant do not need the nurses' support for attachment; five and seven scores indicates that they need the nurses' support; 0 and four scores indicates that they need intensively the nurses' support. Cronbach's Alpha was found as .88⁹ in the study carried out by Pek⁹, and .81 in our study. In the scale, the first item defines that mother wants information about the infant, and the second item about the touch of the mother to the infant, and the third about oral communication of the mother with the infant, and the fourth item about non-oral communication of the mother with the infant, and the fifth item about the feeling of the mother about the labour event.

The VAS has been widely used in the measurement of pain perception and pain intensity.¹⁰⁻¹² In this procedure, the researcher shows the mothers a 10-cm ruler and asks her to point to the exact level that fits the intensity of pain they experienced during labour. The ruler has two anchors of 0 (no pain at all) and 10 (the worst imaginable pain).¹³ The intensity of labor pain was defined as no pain (0 cm), mild (0.1-4

cm), moderate (4.1-7 cm) and severe (7.1-10 cm) pain.^{12,14}

The VAS seems to be most suitable for measuring the intensity of postoperative pain as it was found to be methodologically sound, conceptually simple, easy to administer to the respondent. Moreover, when a 10-cm VAS was used by parents to assess their children’s worst postoperative pain, the intensity of pain was defined as no pain (0 cm), mild (0.5–3 cm), moderate (3.1–6.5 cm) and severe (6.6–10 cm) pain.^{12,14}

Data Analysis: The data were analyzed using the Statistical Package for the Social Sciences (SPSS) version 10.0. Means and standard deviations were determined for quantitative data and frequency determined for categorical variables. Student-t test and variance analysis (parametric statistics-Fisher test; nonparametric statistics-Kruskal Wallis test) were used for comparison between multiple means. P value < 0.05 was considered statistically significant.

Ethical Considerations: Ethical approval was obtained from the Research Ethics Committee at Hospitals. Informed consent was verbally obtained from voluntary participants.

RESULTS

The study investigated whether the labor pain intensity and mothers’ characteristics- such as age, education level, labour duration, labour type- have effect on the development of the mother-infant interaction in Turkish mothers.

In the study, when the mothers’ age was younger (16-25 ages) and their education levels increased, interaction scores got more, and multigravida mothers had less interaction scores. The mother-infant interaction’s average scores were statistically significant according to mothers’ age; p-value .005 (p<0.05), education level; p-value .000 (p<0.001) and labor duration; p-value is .017 (p<0.05). Labor type didn’t effect the mother-infant interaction; p-value 0.539 (p>0.05). The difference between starting

Table-I: The average scores of interaction according to mothers’ characteristics.

Characteristics	N	%	MBIESaverage scores	P
Age (27.15±5.93, yrs)				
16-25	102	45.3	8.04±2.40	
26-35	99	44.0	7.88±2.02	
36 and over	24	10.7	6.08±3.06	S*
Education level				
Non-literate	45	20.0	5.91±2.31	
Literate and primary school	114	50.7	7.87±2.39	
Secondary education	48	21.3	8.81±1.63	
University	18	8.0	8.94±1.39	S
Labor number				
Primigravid	84	37.3	8.26±2.31	
Multigravid	141	62.7	7.47±2.39	S
Labor type				
Vaginal Caesarean	108117	48.052.0	7.66±2.417.86±2.36	NS**
Time to start breastfeeding				
0-2 hours	115	51.1	7.48±2.87	
3-4 hours	43	19.1	6.27±0.70	
5 hours and over	67	29.8	9.20±1.02	S
Total	225	100.00		

*Significant **Not significant

period for breast-feeding and interaction scores was significant; p-value is .000 ($p < 0.001$) (Table-I). Labor pain intensity didn't affect significantly mother-infant interaction; p-value 0.437 ($p > 0.05$) (Table-II).

DISCUSSION

In our study, it was observed that in the young age mothers' interaction scores were more, and the difference between age and interaction scores was found statistically significant. In a previous research, the pain was positively correlated with maternal age.⁴ This finding may be related to the healthier physique of younger women who may not react to the labor as a threat and may have more physical and mental resources to cope with labor pain.^{4,16,17} Our study results seems to be consistent with these findings.

We also observed that when mothers' education levels increased, interaction scores increased, and the difference between the education level and interaction scores were statistically significant. Previous researches on the development of mother-infant interaction have determined that maternal education is a significant predictor of maternal sensitivity.^{1,18} Our study's results were consistent with these findings.

In our study, it was determined that multigravida mothers had less interaction scores and the difference among the groups was statistically significant. In previous studies it was shown that when mothers' labor duration increased, their pain tolerance decreased and they developed negative mothering behaviours.^{15,19-21}

It was also observed that labour type didn't affect mother-infant interaction and the differ-

ence between labour type and interaction wasn't significant. This finding made us think that the labour type wasn't an effective factor on interaction. Similarly, it was reported before.²²

We also found out that the difference between starting period for breast-feeding and interaction scores was significant. Mothers breast feeding their babies after five hours or more labour had higher interaction scores than others. It was reported to begin breast-feeding within the first 1-2 hours, while the infant was alert.⁶ Our study's finding seems to show that, as time passed after the labour, labour pain was forgotten and mother-infant interaction get stronger. Yet another observation was that when labour pain intensity increased, interaction scores decreased, but labour pain intensity didn't affect mother-infant interaction significantly. In an earlier study, it has been reported that severe labour pain could affect mother-infant interaction negatively during the first critical days.¹⁵ Our study's result is consistent with this observation.

CONCLUSION

It was observed that younger, primigravida mothers, with high education level and breast feeding their babies after five hours or more after delivery had higher interaction scores than others, and this was statistically significant. It is important that during antenatal period, programmes about mother-infant interaction for elderly, multigravida mothers with lower education level should be implemented.

The study also showed that when labour pain intensity increased, interaction scores decreased, but labour pain intensity didn't affect mother-infant interaction significantly.

Table-II: The average pain scores of mothers according to VAS.

VAS	N	%	MBIESaverage scores	P
Mild pain	55	24.4	7.96±2.32	
Moderate pain	74	32.9	7.93±2.23	
Severe pain	96	42.7	7.53±2.53	NS*
Total	225	100.00		

* Not significant

Authors Contributions: Hava Ozkan was involved in data collection, Fatma Guducu Tufekci in study design statistical analysis, data interpretation, literature search and final preparation of the manuscript. Serap Ejder Apay also participated in data interpretation,.

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