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# Alexithymia in Mothers of Preterm Infants in Open Access and Limited Access Neonatal Intensive Care Units (NICU)

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## Abstract

**Objective:** The present study aimed to examine the influence of the limited contact between mothers and their preterm infants on the former's alexithymia in a Greek sample.

**Design:** Cross-sectional study.

**Setting:** The study was conducted between September 2010 and December 2011 at two hospitals in Athens, Greece.

**Participants:** The study group consisted of mothers who had delivered a preterm baby at 23-36 weeks' gestation with the baby having received care in the NICU for at least one week.

**Method:** The mothers were approached to participate in the study approximately within the first month after infant admission to the NICU and after verbal informed consent was obtained, they were asked to complete the Toronto Alexithymia Scale and a demographic questionnaire. Infant data were collated from the medical personnel of the two units.

**Results:** It was found that mothers whose newborns were hospitalized in a limited access Neonatal Intensive Care Unit (NICU) (n=36) had higher alexithymia scores than those with infants in an open access NICU (n=30).

**Conclusion:** These findings suggest that the development of more open access units in Greece and the promotion of rooming-in with the infant, which will allow the merging of physiological care of the infant with meaningful mother-infant interactions, are of the utmost importance.

**Keywords:** Alexithymia; Contact; Infant; Mother-Child Relationship Trauma

## Introduction

The hospitalization of an infant in a Neonatal Intensive Care Unit (NICU) immediately after birth is a very distressing experience for his or her parents [1]. The separation from the infant has been found to be the most difficult and traumatizing aspect for the mothers when their newborn child is hospitalized in a NICU [2,3]. Freud has defined trauma as an "event in the subject's life, defined by its intensity, by the incapacity to cope with it adequately, by the disturbance and by the lasting pathogenic effects it causes in psychic organization. In economic terms the trauma would be a rush of agitation too great for the subject's tolerance and for his ability to dominate and psychically elaborate this agitation" [4].

In Greece there are two types of NICUs; in the open access units - just two in the whole country - the mothers are able to visit their infants and interact with them freely all day with the help and support of the nursing staff. The other units operate under strict visiting hours, half an hour in the morning and half an hour in the afternoon, when all the infants' parents enter the unit all together.

Research to date about the intensive care units has focused on parents of specific high risk groups, such as premature (<37 weeks), low birth weight (2.500gr) and critically ill infants. Regarding the mothers of premature infants, various studies report that they experience higher rates of anxiety [5] and depression [6] than mothers of full term infants and they also show symptoms of traumatization long after hospital discharge [7-9].

The concept of alexithymia was introduced by Sifneos [10] to describe a personality construct constantly seen in psychosomatic patients who have difficulty in perceiving and discriminating between their feelings, leading to a sense of emotional detachment

from themselves and difficulty connecting with others. A distinction has been made between primary and secondary alexithymia: primary alexithymia is a dispositional form, whereas the secondary form may be a major posttraumatic sequel [11,12], as is the case when the mother is separated from her child [13].

The aim of this study was to examine the influence of the limited contact between the mothers and their newborns on the former's alexithymia. It was hypothesized that the mothers whose newborns were hospitalized in a limited access NICU would have higher alexithymia scores than the mothers whose newborns were hospitalized in an open access NICU.

## Methods

### Participants

The study was conducted between September 2010 and December 2011 at two hospitals in Athens, Greece. Women were recruited during a one month period after they had given birth at the Department of Obstetrics and Gynaecology. Mothers were required to have working knowledge of the Greek language in order to participate in the study. Exclusion criteria were previously diagnosed mental disorders and drug use. The study group consisted of mothers who had delivered a preterm baby at 23-36 weeks' gestation with the baby having received care in the NICU for at least one week. Of those eligible, 66 mothers who delivered 78 infants agreed to participate; 36 of them had infants that had been admitted to a limited access NICU and the remaining 30 in an open access NICU.

### Procedure

The mothers were approached to participate in the study approximately within the first month after infant admission to the NICU. This time period was given in order to give the mothers sufficient time to physically recover from childbirth and become familiar with the environment and the personnel of the unit and for the infants' medical condition to stabilise. After verbal informed consent was obtained from the participants, they were then asked to complete the following questionnaires.

### Measures

**Toronto Alexithymia Scale (TAS-20):** The TAS-20 [14] is a reliable self-report scale, consisting of 20 items grouped into three factors: Factor 1, difficulty identifying feelings, Factor 2, difficulty describing feelings and Factor 3, externally oriented thinking. Scores of 61 and over have been suggested to indicate alexithymia.

**Demographic Data:** Maternal demographic data were collected using a demographic questionnaire and infant data, including birth weight (grams) and gestational age (weeks), were collated from the medical personnel of the two units.

**Statistical Analysis:** Comparison of maternal and infant characteristics in the two groups was carried out using Pearson r bivariate correlations and independent t-tests for normally distributed data and chi-squared tests for categorical data. All statistical analyses were performed with the SPSS version 21 software (SPSS Inc, Chicago, Ill).

## Results

The mean age of the mothers in the sample was 32.1 years. The majority (77.3%) had conceived their infants naturally. Problems during pregnancy were reported in 53% of the cases, with 18.2% reporting risk of miscarriage. The method of delivery was caesarean section for 66.7% of the mothers. Regarding the infants, 56.4% were male, the mean birth weight was 1495g and the mean gestational age was 30.9 weeks. The between units comparison revealed differences in the infants' birth weight and gestational age means between the two units (Table 1), so the possibility that these factors would influence the mothers' alexithymia scores had to be examined. However, the results of the correlation analyses performed for this purpose were not statistically significant (the significance level was .186 and .098. respectively).

| | Limited access NICU | Open access NICU | p value |
|---|---|---|---|
| Mothers' characteristics | n = 36 | n = 30 | |
| Age - mean (SD) | 33.2 (7.2) | 30.9 (4.6) | 0.139 |
| Educational level, n (%) | | | 0.349 |
| Secondary education | 20 (55.6) | 19(63.3) | |
| Tertiary education | 16 (44.4) | 11(36.7) | |
| Ethnicity, n (%) | | | 0.095 |
| Greek | 32 (88.9) | 22 (73.3) | |
| Other | 4 (11.1) | 8 (26.7) | |
| Assisted reproduction, n (%) | 7 (19.4) | 8 (26.7) | 0.343 |
| Multiple pregnancies, n (%) | 4 (11.1) | 5 (16.7) | 0.382 |
| Primiparous | 25 (69.4) | 24 (80) | 0.245 |
| Previous preterm birth | 2 (5.6) | 2 (6.7) | 0.621 |
| Smoking during pregnancy, n (%) | 17 (47.2) | 8 (20) | 0.072 |
| Problems during pregnancy, n (%) | 18 (50) | 17 (56.7) | 0.385 |
| Caesarean section, n (%) | 22 (61.1) | 22 (73.3) | 0.216 |
| Infants' characteristics | n = 42 | n = 36 | |
| Male, n (%) | 22 (52.4) | 22 (61.1) | 0.293 |
| Birth weight (g) - mean (SD) | 1268.7 (551.3) | 1759.5 (678.7) | 0.001 |
| Gestational age (weeks) -mean (SD) | 30.2 (3.1) | 31.8 (3.2) | 0.034 |

**Table 1:** Comparison of mothers' and infants' characteristics between the two units.

Using independent samples t-tests, we then compared the total TAS-20 scores as well as those of the three factors for each group of mothers (Table 2). The results revealed statistically significant associations with the total state TAS-20 scores (p = .032), Factor 1 (p = .007) and Factor 2 scores (p = .020), with the mothers whose infants were hospitalized in the limited access NICU scoring higher in every scale than the mothers of the infants in the other unit, but not with Factor 3 (p = .945).

| | **Limited access NICU n=36** | **Open access NICU n=30** | p value |
|---|---|---|---|
| TAS-20 total, mean (SD) | 51.5 (13.2) | 45.6 (8.5) | 0.032 |
| Factor 1, mean (SD) | 17.7 (7.1) | 13.4 (5.1) | 0.007 |
| Factor 2, mean (SD) | 14.3 (4.5) | 11.7 (4) | 0.02 |
| Factor 3, mean (SD) | 19.5 (3.9) | 19.4 (4.5) | 0.945 |
| Alexithymic (>61), n (%) | 11 (30.6) | 0 (0) | 0.001 |

**Table 2:** Comparison of TAS-20 scores between the two units.

## Discussion

According to the results of the present study, mothers of infants that were hospitalized in a limited access NICU showed higher levels of alexithymia - approximately one third of them were alexithymic - compared to mothers whose infants were hospitalized in an open access NICU. The mother-infant bonding process is definitely more demanding with an infant that needs to be hospitalized in a NICU than with a healthy infant [11,15]. The mother's experience of the unexpected and traumatic separation from her newborn makes her feel left outside and powerless [12], her confidence in their interactions is reduced and her attentiveness towards the infant is abated, whilst it should be sharpened to make up for his or her reduced signals [15,16].

However, since both groups of mothers had given birth to infants that had to be hospitalized, the findings of the present study seem to show that the insufficient contact with the infant exacerbates the trauma. The merging of physiological care of the infant with meaningful mother-infant interactions involving communication, feeding, holding and handling is challenging in the NICU environment [17]. When the newborn is hospitalized in a limited access unit, the mother is not only deprived of personal contact with her infant, but also of sufficient time to care for him or her. Thus, the maternal identity becomes fragile and in an effort to handle the situation, she may turn off her emotions [1] he inability to talk about her feelings and concerns in a mental space where they can be supported and contained and the lack of encouragement to engage with her baby, leave the mother lonely with an unresolved, painful trauma [18].

It is therefore necessary that the function of the unit favors mother-infant interactions, ease the contact between them and that the personnel supports the mother in order for her to be able to express and elaborate her feelings on the traumatic experience of being separated from her newborn. Research has shown that personalized care initiatives in the NICU have a positive effect on the stress level, the comfort level and the parenting confidence of the mother [19]. A consistent facilitative mother-nurse relationship that encourages the maternal feelings of participation in the care of the infant is crucial in order to strengthen the mother's caregiving and maternal competencies [15].

Various studies report that all-day free access units that allow for greater interaction between the mother and her infant and give them the opportunity to spend some private moments together promote the development of the mother-infant bond [15,20,21]. Thus, the development of more open access units in Greece and the promotion of rooming-in with the infant are of the utmost importance not only for the well-being for the mother, but also for that of the infant and their relationship.

The results should be interpreted within the limitations of the study, including the sample size and reliance on self-report data. Further research is needed in order to identify the consequences of the present situation in the NICUs in Greece not only in regarding the well-being of the and the mother-infant attachment, but also for the long-term effects it has on the infant's development in the long term.

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