

DURATION OF BREASTFEEDING AND BABY'S INITIATIVE TO COMMUNICATE WITH MOTHER IN REFUGEE AND DISPLACED POPULATION

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Breastfeeding as an aspect of communication between mother and her baby was surveyed in 477 refugee/displaced mothers. Duration of breastfeeding was correlated with the child's initiative to establish eye contact, spontaneously smile, touch and initiate play with its mother. The specific influence of the mother's depression and post traumatic stress disorder (PTSD) on the duration of breastfeeding and early communication was also studied. The consistency of the correlation with breastfeeding for all monitored parameters (longer breastfeeding is followed by more child initiative) allows us to conclude that breastfeeding is an important factor in mother – infant communication. It is not possible to establish causal relation between breastfeeding and communication initiative by infants as shorter breastfeeding might be a sign of overall lack of responsiveness and other emotional problems in the mother that jointly reduce the level of signal interchange. Mothers with PTSD and depression breastfeed their babies longer than mothers without those symptoms.

Descriptors: BREAST FEEDING; COMMUNICATION; MOTHER-CHILD RELATIONS; REFUGEES; CROATIA; BOSNIA-HERZEGOVINA

INTRODUCTION

During the war in Croatia and Bosnia and Herzegovina, as a part of a general psycho-social assistance program, the Croatian Psychiatric Association, in cooperation with Rädä Barnen, of the Swedish Save the Children organisation, organized a specialized program of assistance (1994-1999) for refugee mothers with babies aged up to 1 year – known as the "Baby Project" (1). Part of the project was providing assistance to displaced persons and refugees from Northern Bosnia and the Una-Sana County who had been placed either in the Gašinci collective refugee centre (Croatia), or in the

Una-Sana County (Bosnia and Herzegovina Federation) living in their homes or as displaced. Seven multidisciplinary teams consisting of a pediatrician, psychologist and field nurse, actively and continuously visited and assisted affected families. Upon the initial visit teams performed, in 90 minutes, an initial structured interview consisting of 88 variables enabling the team to plan adequate assistance. Special attention was paid to the early mother-baby relationship as it was deeply affected by war trauma and additional traumatization caused by life in exile. The denial of the body, pregnancy and newborn child seen in this group of mothers moved expert teams to look deeper into how those elements affect the specific path of the early mother – baby emotional relation, that takes place during breastfeeding.

ing a safe form of attachment. Physical contact is one of the major modalities of interaction. The daily routine, like nurture and feeding, provides a wide spectrum of stimuli that affect the baby's brain development and emotional relationship within the dyad. Numerous papers deal with breastfeeding from a point of view of the nutritive advantages of mother's milk compared to supplementary milk products. The long term positive effects of breastfeeding on emotional and cognitive development due to the nutritional characteristics of mother's milk are difficult to evaluate, mostly because of the confounding emotional, physical and social factors (2-5). After pregnancy, it is hard to imagine a closer physical and emotional relationship than during breastfeeding. Adjustments in the physical (hormonal and neurological) and emotional processes in breastfeeding mothers which promote attachment are well described in literature (6-8) but there are very few papers dealing with the adjustment processes in the baby. As a part of the WHO/UNICEF Baby Friendly Hospital Initiative, there are reports on the positive impact of very early breastfeeding on the overall dura-

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LITERATURE REVIEW

The quality of the early mother – baby emotional relationship depends on their communication. Emotional availability, responsiveness and affective attunement of the mother are key elements for build-

tion of breastfeeding and cognitive development (9, 10).

There are very few reports on infant behavior and communication initiatives within a dyad related to the duration of breastfeeding (11). Subtle signaling from the baby, emotional availability and adequate responsiveness during breastfeeding reflect the overall quality of attachment. Attempts to establish eye contact, social smiles, touch and starting to play with the mother are considered to be reliable signals closely related to the early mother – baby relationship (12-14). The timing and intensity of these elements reflect the development (dynamics) and quality of attachment. Stimulation from mother is crucial for child's development. Breastfeeding is considered to be one of the modalities which stimulate a wide range of senses. Refugee/displaced mothers experiences during the war and life in exile unfavorably affect the early mother – baby relationship (15-17).

Psychotrauma, poverty, single motherhood, a high rate of adolescent motherhood and existential uncertainty disturb the mother's emotional capabilities to recognize and affectively attune to the infant's signals. Consequently, various forms of physical and emotional neglect appear in a significant number of children (18).

Breastfeeding also plays an important role in the mothers' postpartum mental health. Groër and Davis noted that "breastfeeding confers some psychoneuroimmunological benefits to mothers" in part because of its impact on stress (19). In an earlier review, Groër, Davis and Hemphill noted that although women experience many stressors in the postpartum period, breastfeeding protects them by inducing calm, reducing maternal reactivity to stressors, and increasing nurturing behavior (20). Research in the field of psychoneuroimmunology has revealed that depression is associated with inflammation manifested by increased levels of proinflammatory cytokines. Recent research has identified inflammation as a key factor in depression, and inflammatory response system is triggered by both physical and psychological stress. Postpartum women are particularly at risk because their inflammation levels are naturally elevated in the last trimester of pregnancy, and this elevation continues through the postpartum period.

In a study of 200 women at 4 to 6 weeks postpartum, depressed mothers had

significantly smaller babies, more life stress, and more negative life events (21).

AIM

The aim of the study is to evaluate the influence of the duration of breastfeeding on the interaction initiatives of babies aged between 6 and 9 months towards their mothers. The frequency of establishing eye contact, gentle touch, smiling and play as the baby's initiative to communicate with the mother is correlated with the duration of breastfeeding.

A more specific aim is to correlate the signs of PTSD and depression with the duration of breastfeeding.

METHODS

From a total of 1521 displaced/refugee mothers approached by intervention teams, a group of mothers who had stopped breastfeeding was identified. Each family was interviewed individually, either in their home or in a refugee center. The interview was conducted using a strictly structured form. Previous education of the teams members about the methodology of acquiring data and observation techniques was provided. The first interview was conducted by the team who was to take care of the family in the future. For 90 minutes a team consisting of a psychologist and a field nurse (registered nurse) monitored the following initiatives: the baby's spontaneous initiative to establish eye contact, gentle physical contact (touch), smile contact and initiatives to play with the mother. Any observed initiative within the monitored spectrum was registered as existing, disregarding the intensity and/or frequency of contact. After observation, the psychologist and nurse made joint conclusions on the baby - mother initiative. Signs of PTSD and depression were established according to the DSM IV classification (22). Results were discussed at regular team meetings. Duration of breastfeeding data were collected from anamnesis data provided by the mothers during the initial interview. Groups with 0-1, 2-3, 4-6 months of breastfeeding were correlated with the observed parameters. The gathered data were analyzed by the Chi square test.

SAMPLE

1521 displaced or refugee mothers and their babies age up to 12 months were

provided with complex assistance and subjected to analysis. Research was performed at the Gašinci refugee camp (providing shelter for approximately 6,000 refugees) in the Republic of Croatia (272 families from the Una-Sana Canton of the Federation of Bosnia and Herzegovina) and in the Una-Sana Canton (1248 families). At that time, around 200.000 inhabitants lived in the Canton and they had been constantly exposed to war atrocities for almost 4 years (from 1992-1995).

The age structure of the mothers is presented in table 1.

Table 1. Age groups of mothers
Tablica 1. Dobne skupine majki

Dobne skupine majki Age groups of mothers	Number Broj	%
Unknown Nepoznato	45	3,0
13-19	141	9,3
20-29	932	61,3
30 or more 30 ili više	403	26,5
Total Ukupno	1521	100,0

Table 2. Age structure of mothers who stopped breastfeeding
Tablica 2. Dobna struktura majki koje su prestale dojenje

Years Godine	Number Broj	%	Valid % Važeći %
Missing Nedostajući	15	3,0	
13-19	38	7,7	8,0
20 or more 20 ili više	439	89,3	92,0
Total Ukupno	492	100,0	100,0

Table 3. Age of the child when breastfeeding was stopped
Tablica 3. Djetetova dob u kojoj je prekinuto dojenje

Months Mjeseci	Number Broj	%	Cumulative % Kumulativni %
till 1 do 1	208	42,3	42,3
2-3	167	33,9	76,2
4-6	92	18,7	94,9
7-9	15	3,0	98,0
10-12	5	1,0	99,0
Over 12 Preko 12	5	1,0	100,0
Total Ukupno	492	100,0	

At the time of the interview, from a total of 1521 mothers, 492 had ceased breastfeeding. The age structure of the mothers revealed 38 (8.0%) of adolescent mothers (aged 13-19 at the time of delivery) (table 2).

The highest percentage (42.3%) stopped breastfeeding very early - within the first month followed by a group of mothers (33.9%) who stopped breastfeeding during the 2nd and 3rd month meaning that 76.2% were not breastfeeding their babies by the end of the third month (table 3).

Based upon the presented data it is not possible to make conclusions on the general duration of breastfeeding in the population of examinees because at the time of the interview 1029 mothers were still breastfeeding or there were no data on breastfeeding cessation. Still, the acquired data can be used to evaluate different factors affecting the duration of breastfeeding.

Observation of the baby's communication initiative towards the mother was performed in the first 3 groups (breastfeeding stopped before the completion of 6 months) when the baby's age ranged from 6 to 9 months. A total of 477 mothers and their babies were observed.

RESULTS

Babies who were breastfed for a shorter period of time less frequently try to establish eye contact with their mothers (table 4).

Equally, infants who are breastfed for a shorter period of time less frequently smile spontaneously at their mothers (table 5), gently touch her (table 6) and spontaneously initiate play (table 7). It is important to underline that a shorter breastfeeding period should not be considered as the only reason for this unfavourable development of the relationship between mothers and their infants.

Many studies have outlined that emotions are mostly relational, and not individual (23, 24), though they reflect the whole context in which some emotional relations between mother and her baby develop. Smiling in early developmental phases is very important in speech development (25). Our evidence that mothers who had stopped breastfeeding their infants significantly differ from mothers who were breastfeeding their newborns for a longer time, highlights the role of breastfeeding on emotional development

Table 4. Time of breastfeeding cessation and establishing eye contact initiative by infant

Tablica 4. Djetetova dob u vrijeme prestanka dojenja i njegovo nastojanje uspostave kontakta pogledom od strane dojenčeta

Time of breastfeeding cessation in months Dob prestanka dojenja u mjesecima	Up to 1 Do 1	%	2-3	%	4-6	%	Total Ukupno
Child is looking for eye contact Dijete traži kontakt pogledom	136	78,2	145	92,9	84	95,5	365
Child is not looking for eye contact Dijete ne traži kontakt pogledom	38	21,8	11	7,1	4	4,5	53
Total Ukupno	174	100	156	100	88	100	418

chi square=22,91, 1%, at 2 d.f.

Table 5. Time of breastfeeding cessation and smiling at mother

Tablica 5. Dob dojenčeta u vrijeme prestanka dojenja i osmjehivanje majci

Time of breastfeeding cessation in months Dob prestanka dojenja u mjesecima	Up to 1 Do 1	%	2-3	%	4-6	%	Total Ukupno
Child is smiling Dijete se osmjehuje	151	84,8	149	94,9	84	94,4	384
Child is not smiling Dijete se ne osmjehuje	27	15,2	8	5,1	5	5,6	40
Total Ukupno	178	100	157	100	89	100	424

chi square=11,83, 1%, at 2 d.f.

Table 6. Time of breastfeeding cessation and child's initiative to touch mother

Tablica 6. Dob dojenčeta u vrijeme prestanka dojenja i njegovo nastojanje da dodirne majku

Time of breastfeeding cessation in months Dob prestanka dojenja u mjesecima	Up to 1 Do 1	%	2-3	%	4-6	%	Total Ukupno
Child is touching mother Dijete dodiruje majku	118	70,7	130	87,2	74	83,1	322
Child does not touch mother Dijete ne dodiruje majku	49	29,3	19	12,8	15	16,9	83
Total Ukupno	167	100	149	100	89	100	405

chi square =14,23, 1%, at 2 d.f.

Table 7. Time of breastfeeding cessation and child's initiation of play with mother

Tablica 7. Dob dojenčeta za prestanka dojenja i njegovo nastojanje da počne igru s majkom

Time of breastfeeding cessation in months Dob prestanka dojenja u mjesecima	Up to 1 Do 1	%	2-3	%	4-6	%	Total Ukupno
Child is initiating play Dijete započinje igru	101	63,9	113	79,0	72	80,9	286
Child is not initiating play Dijete ne započinje igru	57	36,1	30	21,0	17	19,1	104
Total Ukupno	158	100	143	100	89	100	390

chi square =12,12, 1%, at 2 d.f.

in children of highly traumatized mothers.

There is an impressive difference between the three groups of children and mothers who ceased breastfeeding after different periods of time. In our sample, children who had a shorter opportunity to be breastfed, had a less intensive need to touch their mothers, and to associate with them in such a way. There is empirical evidence that touch has a central role in

early development (13). Some researchers have stated that infants communicate their affective states through touch. This means that poor initiative of touching might result in the mother having poor information on her infant's emotional state (25). If so, evident correlation between the cessation of breastfeeding and the child's initiative to touch the mother could be regarded as an early symptom of the child's problems in developing proper communi-

Table 8. Time of breastfeeding cessation and signs of PTSD in mother
 Tablica 8. Dob dojenčeta u vrijeme prestanka dojenja i znaci PTSP-a u majke

Time of breastfeeding cessation in months Dob prestanka dojenja u mjesecima	Up to 1 Do 1	%	2-3	%	4-6	%	Total Ukupno
No signs of PTSD Nema znakova PTSP-a	194	93,3	157	94,0	78	84,8	429
Signs of PTSD Znaci PTSP-a	14	6,7	10	6,0	14	15,2	38
Total Ukupno	208	100	167	100	92	100	467

chi square = 6,34, 5%, at 2 d.f.

Table 9. Time of breastfeeding cessation and signs of depression in mother
 Tablica 9. Djetetova dob za prestanka dojenja i znaci depresije u majke

Time of breastfeeding cessation in months Dob prestanka dojenja u mjesecima	Up to 1 Do 1	%	2-3	%	4-6	%	Total Ukupno
No signs of depression Bez znakova depresije	171	83,8	141	84,4	69	75,0	381
Signs of depression Znaci depresije	33	16,2	26	15,6	23	25,0	82
Total Ukupno	204	100	167	100	92	100	463

chi square = 6,73, 5%, at 2 d.f.

communication skills. The clinical importance of that symptom is to be confirmed together with other important signs of problems in child-mother relations.

The consistency of the correlation of all monitored parameters to breastfeeding allows us to conclude that breastfeeding is an important factor in mother – infant communication. According to the literature, current evidence about the effect of breastfeeding on the mother-infant relationship is inconclusive, so it is not possible to establish a causal relationship between breastfeeding and communication initiatives by infants. Shorter breastfeeding might be a sign of an overall lack of responsiveness and other emotional problems in the mother that jointly reduce the level of interchange of signals.

Mothers with PTSD and depression breastfeed their babies longer than mothers without those symptoms. (tables 8 and 9).

According to our data, it is not very likely that cessation of breastfeeding is strongly connected to the symptoms of PTSD in mothers. Our chi square result is significant at the 5% risk level, but it is probably the result of the huge differences in the number of cases, and not in differences between different groups. This statement is obviously connected with the data analysed in table 8.

As for the data in table 9 we can state that, in general, breastfeeding has a positive effect on maternal mental health,

since it attenuates stress. Children and especially breastfeeding a child have (among other factors) a very positive impact on the mother's mental health and recovering from trauma.

DISCUSSION

It seems that infants breastfed for a shorter period are emotionally deprived and understimulated might be a cause of depressive behavior. Withdrawal and lack of initiative to establish communication might be signs of emotional deprivation. As the war affected population (refugees and displaced) is heavily burdened with many unfavorable psychological and social factors, the duration of breastfeeding and maternal bonding are independently affected. Still, the positive correlation between the duration of breastfeeding and the intensity of baby's communication attempts show the stimulative and protective effect of breastfeeding on early emotional development.

Although the connection between a lack of contact during breastfeeding and consequent deprivation in the infant's active attempts to establish communication with the mother is very logical, the expressivity and lack of ambiguity of the observed parameters is striking. Their simplicity and applicability to the daily work of paediatricians, field nurses and other professionals at the primary health-care level put them in the group of very

practical indicators to estimate early mother – baby relations and make it possible to detect severe disturbances early.

Mothers with PTSD and depression symptoms, on average, tend to breastfeed their children longer. There are three possible explanations for this observation: 1.) those mothers have been included in intensive work with teams for psychosocial assistance, so longer breastfeeding is an outcome of therapeutic work; 2.) during this research intensive promotion of breastfeeding was provided by UNICEF; 3.) it is possible that mothers try to overcome the personal handicap of traumatic experiences by breastfeeding their child.

CONCLUSIONS

Breastfeeding is obviously an important step in the development of the early emotional relations between mothers and their children. According to this research, it is not only a symptom of possible problems in communication between a traumatized mother and her child, but an important predictor of future development in that communication as well. Lack of communication initiative in children who are breastfed for a shorter time requires special attention in how to support the mother and her child's future development.

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S a ž e t a k

DULJINA DOJENJA I NASTOJANJE DOJENČETA ZA USPOSTAVU KOMUNIKACIJE S MAJKOM U POPULACIJI IZBJEGLICA I PROGNAKNIKA

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Dojenje kao oblik komuniciranja između majke i njezinog dojenčeta analiziran je u 477 izbjeglih i prognanih majki. Trajanje dojenja korelirano je s djetetovom inicijativom uspostave kontakta pogledom, spontanom osmjehivanjem, dodirom i započinjanjem igre s majkom. Također je analiziran specifični utjecaj majčine depresije i PTSP-a na duljinu dojenja i ranu komunikaciju. Konzistentnost korelacija između dojenja i svih promatranih parametara (dulje dojenje je popraćeno većim brojem pokušaja uspostave kontakta) dopuštaju zaključak da je dojenje važan čimbenik u komunikaciji između majke i njezinog dojenčeta. Nije moguće uspostaviti uzročno-posljedični odnos između dojenja i inicijative dojenčeta za uspostavom komunikacije zbog toga što kraće dojenje može biti znak općeg nedostatka odgovornosti i drugih emocionalnih poteškoća majke, koje združeno depriviraju razinu razmjene poruka. Majke s PTSP-om i depresijom doje dulje svoju djecu u usporedbi s majkama bez ovih smetnja.

Deskriptori: DOJENJE; KOMUNIKACIJA; MAJKA-DIJETE ODNOS; IZBJEGLICE; HRVATSKA; BOSNA I HERCEGOVINA

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