

## RESEARCH ARTICLE

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## Understanding the Psycho-Social Differences Between Mothers of Infants Who Do and Do Not Have Dyschezia

### ABSTRACT

**Objective:** Infant dyschezia is one of the as yet little known infant functional gastrointestinal disorders and data on dyschezia is extremely limited. In this study, thus, we aimed to investigate the relationship between the psychological and psycho-social states of mothers of 1-6 month-old infants with dyschezia, and the dyschezia of their infants.

**Methods:** The sample consisted of 127 mothers of 1-6 months old infants with dyschezia and 127 mothers of 1-6 months old infants without dyschezia. The psychological symptoms of mothers were evaluated using the Brief Symptom Inventory (BSI). The data within the specially prepared personal information sheet were obtained by face-to-face interviews.

**Results:** We found that the mothers of infants with dyschezia had more social and economic difficulties such as lower education and income levels, lower employment rate, having more children, and less support from their partners in infant care. Compared to the mothers in the control group, the scores of the mothers, whose infants had dyschezia, were significantly higher in both the total, and all of 9 subscales in the BSI.

**Conclusions:** In conclusion, the mothers of infants with dyschezia have more psychological problems and socioeconomic difficulties. It is possible to say that there may be a relationship between the mother's psychological symptoms and her infant's dyschezia problem. We believe that this report would be beneficial to pediatricians, child psychiatrists, pediatric surgeons, and physicians and nurses working in this field.

**Keywords:** Maternal Mental Health, Dyschezia, Infants, Defecation, Mother-Baby Interaction

## Diskezi Olan ve Olmayan Bebeklerin Anneleri Arasındaki Psiko-Sosyal Farklılıkları Anlamak

### ÖZET

**Amaç:** İnfant diskezi henüz az bilinen bebeklik fonksiyonel gastrointestinal bozukluklarından biridir ve diskezi hakkındaki veriler son derece sınırlıdır. Bu nedenle, bu çalışmada, 1-6 aylık diskezi olan bebeklerin annelerinin psikolojik ve psiko-sosyal durumları ile bebeklerinin diskezi arasındaki ilişkiyi araştırmayı amaçladık.

**Gereç ve Yöntem:** Örneklemi 1-6 aylık diskezi olan bebeklerin 127 annesi ile 1-6 aylık diskezi olmayan bebeklerin 127 annesi oluşturdu. Annelerin psikiyatrik belirtileri Kısa Semptom Envanteri (KSE) kullanılarak değerlendirildi. Özel olarak hazırlanmış kişisel bilgi formundaki veriler yüz yüze görüşülerek elde edildi.

**Bulgular:** Bebeklerinde diskezi sorunu olan annelerin daha düşük eğitim ve gelir düzeyi, daha düşük istihdam oranı, daha fazla çocuk sahibi olma ve bebek bakımında eşlerinden daha az destek gibi daha fazla sosyal ve ekonomik güçlükler yaşadıklarını bulduk. Kontrol grubundaki annelerle karşılaştırıldığında, bebeğinde diskezi olan annelerin KSE'de hem toplam hem de 9 alt ölçeğin tümündeki puanları anlamlı olarak daha yüksekti.

**Sonuç:** Sonuç olarak, diskezi olan bebeklerin annelerinin daha fazla psikiyatrik sorunları ve sosyoekonomik zorlukları bulunmaktadır. Annenin psikiyatrik belirtileri ile bebeğinin diskezi sorunu arasında bir ilişki olabileceğini söylemek mümkündür. Bu yazının çocuk doktorları, çocuk psikiyatristleri ve cerrahları, bu alanda çalışan doktorlar ve hemşireler için faydalı olacağına inanıyoruz.

**Anahtar Kelimeler:** Anne Ruh Sağlığı, Diskezi, Bebek, Dışkılama, Anne-Bebek Etkileşimi

## INTRODUCTION

Infant dyschezia which just means uncoordinated defecation is one of the childhood functional gastrointestinal disorders. According to the most recently revised Rome IV criteria, infant dyschezia is defined as at least 10 minutes of straining and crying before the successful or unsuccessful passage of soft stools in an otherwise healthy infant younger than 9 months of age (1). These episodes, which are exhausting for the infant and induce anxiety in the parents, happen several times daily, but, usually, they then pass normal and soft stools several times daily in contrast to constipation. Parents frequently report that their healthy infant cries for 20 to 30 minutes, appears to strain and grunt, turns red or purple in the face and grunts or screams while making an effort to defecate (2-4). The prevalence of infant dyschezia is reported as 3.9%, 0.9%, and 0.9% in 1, 3, and 9 months-old infants, respectively (5). However, it is emphasized that infant dyschezia is easily mistaken for constipation and both parents and physicians commonly misinterpret dyschezia as constipation, and it is important to distinguish between these two disorders. As cues for eliminating this misconception, it is suggested that infant dyschezia is more likely if the infant is younger age and the stool has a soft consistency (2, 3, 6). The symptoms of dyschezia usually begin in the first months of life and resolve spontaneously as the child develops and no tests or treatments are necessary (7-9). In the developmental process, to be able to have a bowel movement, an infant needs to coordinate the increase in intra-abdominal pressure with pelvic floor relaxation. An infant with dyschezia has not yet developed this coordination (2, 3, 7). On the other hand, the etiology of functional constipation has not been clarified yet and it is considered to be a phenomenon affected by numerous factors. Psychosocial factors have an important role in functional constipation (10, 11). However, data regarding the natural history of infant dyschezia are scarce. Previous studies have shown that psychosocial factors, the mental state of mothers (primary caregiver), and the mother-infant relationship are implicated in the defecation problems during infancy (12, 13), but the evidence is limited to a few studies and to generally functional constipation. For this reason, the aim of this study is to obtain information about the relationship between the psychological and psychosocial states of mothers of 1-6 month-old infants, and the dyschezia of their infants and to compare these relationships with a cohort of mother-infant dyads where infant dyschezia is not present. Our study has the potential to fill the information gap in this field.

## MATERIAL AND METHODS

The mothers of the 1- 6 month-old infants who were enrolled to in the Family Health Centers (FHCs) (22 centers) located in the city center of

Sivas were included in the study. Dyschezia group consisted of 127 mothers who had the infants that were exclusively breastfed, had dyschezia according to the Rome IV criteria but no additional disorders including other infant functional gastrointestinal disorders such as functional constipation. We excluded mothers with severe psychiatric disorders (schizophrenia, mental retardation etc.) and who used medication that may cause constipation other than an antibiotic, vitamin D, and iron preparation for both herself and her infant. Control group was composed of 127 mothers who were also followed up by the same FHCs, had 1-6 month-old infants, exclusively breastfed their infants but did not have dyschezia and other functional gastrointestinal disorders in their infants. In order to keep the effect of the confounding factors at a minimum level, the groups were matched in terms of the usage of the iron and vitamin preparations, which may be associated with constipation.

This study received the approval of the local Ethics Committee of the Sivas Cumhuriyet University and Sivas Provincial Directorate of Health. All participants provided written informed consent. The study was conducted in accordance with the principles of the Declaration of Helsinki and Good Clinical Practice procedures.

### *Data Collection Tools:*

**Personal Information Form:** This form was prepared specifically by the researchers based on the relevant literature. The form includes questions about sociodemographic information, the health status of mothers, and infant care. In addition, the form includes questions about the birth and health information of infants, the time of their first bowel movement and their defecation habits, the presence of gas pain and regular sleep pattern. The researchers filled out this form by conducting a face-to-face interview with the mothers.

**Brief Symptom Inventory-BSI:** BSI is a 53-item self-report inventory developed by Derogatis (1992) to scan various psychological symptoms and complaints (14) It is composed of 9 subscales, additional items, and 3 global indices. These subscales are "depression", "somatization", "interpersonal sensitivity", "obsessive-compulsive disorder", "anxiety", "paranoid ideation", "hostility", "phobic anxiety" and "psychoticism". This Likert type scale is scored as Not at all (0), A little bit (1), Moderately (2) Quite a bit (3), and Extremely (4). The total score ranges from 0-212. High scores signify high levels of psychological symptoms. General Severity Index (GSI), Positive Symptom Total (PST), and the Positive Symptom Distress Index (PSDI) constitute 3 global indices. GSI is calculated by dividing the total scale score into 53. If GSI values are between 0 and 1, the psychological symptom levels are considered as low and if it is higher than 1, the psychological

symptom levels are considered as high. Şahin and Durak (1994) adapted the scale into Turkish (15).

**Statistical Method:** Statistical data were analyzed using SPSS 22.0 (IBM SPSS, Version 22.0, IBM Corporation, Armonk, NY, USA). Kolmogorov-Smirnov Test was used to test the compatibility of the data to normal distribution. The numerical and categorical data were expressed as mean±standard deviation (SD), median (min-max), number (n) and percentage (%). The groups were compared by chi-square test for the categorical variables and by Mann-Whitney U test for continuous variables. The value of  $p < 0.05$  was considered as statistically significant.

## RESULTS

**Demographic and Clinical Characteristics of the Infants:** Table 1 shows the sociodemographic data of the infants. The two groups were similar in gender, but the infants in the dyschezia group were significantly younger (in month) than the control infants ( $p < 0.001$ ). The two groups were similar in

terms of some natal characteristics (type and weight of birth) and the time of first bowel movement (all  $p$ -values  $> 0.05$ ). However, the prematurity rate was significantly higher (18.1% vs. 6.3%) and the first breastfeeding time of the infants in the dyschezia group was significantly late than those of controls. The rate of breastfeeding within the first half hour–first hour was significantly lower in the dyschezia group (10.2% vs. 38.6%,  $p < 0.001$ ). There were differences in terms of the development and daily routines of the infants. Accordingly, the infants in the dyschezia group had more problems in regular weight gain (74% vs. 39.4%,  $p < 0.001$ ), sleep pattern (84.3% vs. 66.1%,  $p = 0.001$ ) and, gas pain (50.4% vs. 17.3%,  $p < 0.001$ ) compared to the infants in the control group. But, the bowel habits of the infants did not differ ( $p = 0.250$ ).

No statistical difference was found between the groups in terms of functional gastrointestinal disorders history in the family and the mothers' amount of daily consumption of caffeine-free beverage consumed in a day (both  $p$ -values  $> 0.05$ ) (Table 1).

**Table 1.** Demographic, developmental and clinical features of infants

	Dyschezia Group (n=127)	Control Group (n=127)	P-value <sup>a</sup>
Gender (n,%)			0.602
Male	48 (37.8)	44 (34.6)	
Female	79 (62.2)	83 (65.4)	
Age (months)			<b>&lt;0.001</b>
1st and 2nd months	96 (75.6)	57 (44.9)	
3rd and 4th months	22 (17.3)	34 (26.8)	
5th and 6th months	9 (7.1)	36 (28.3)	
Birth Type (n, %)			1
Vaginal Delivery	109 (85.8)	110 (86.6)	
Cesarean Section	18 (14.2)	17 (13.4)	
Gestational age at birth (n,%)			<b>0.004</b>
Premature (<36 weeks)	23 (18.1)	8 (6.3)	
Miad (37-42 weeks)	104 (81.9)	119 (93.7)	
Birth weight (n,%)			0.090
Under 2500 gr	24 (18.9)	12 (9.4)	
Between 2500-4000 gr	98 (77.2)	108 (85)	
Over 4000 gr	5 (3.9)	7 (5.5)	
First defecation time (n,%)			0.888
1-4 hours	54 (42.5)	48 (37.8)	
5-8 hours	50 (39.4)	53 (41.7)	
9-12 hours	11 (8.7)	12 (9.4)	
12 hours or more	12 (9.4)	14 (11)	
First breastfeeding time (n,%)			<b>&lt;0.001</b>
First half hour	13 (10.2)	49 (38.6)	
First hour	20 (15.7)	33 (26)	
The first 2-4 hours	47 (37)	20 (15.7)	
5 hours or more	47 (37)	25 (19.7)	
Regular weight gain (n,%) <sup>*</sup>			<b>&lt;0.001</b>
Yes	33 (26)	77 (60.6)	
No	94 (74)	50 (39.4)	
Number of daily defecation (mean±SD)	2.82±1.03	2.97±0.890	0.250
Gas pain (n,%) <sup>**</sup>			<b>&lt;0.001</b>
No-Mild	63 (49.6)	105 (82.7)	
Moderate-Severe	64 (50.4)	22 (17.3)	
Sleep pattern (n,%) <sup>**</sup>			<b>0.001</b>
Regular	20 (15.7)	43 (33.9)	
Irregular	107 (84.3)	84 (66.1)	
Family history of functional gastrointestinal disorders (n,%)			0.071
Yes	56 (44.1)	42 (33.1)	
No	71 (55.9)	85 (66.9)	
Mothers' daily consumption of caffeine-free beverage (n,%)			0.716
At least four cups	16 (12.6)	19 (15)	
5 and above cups	111 (87.4)	108 (85)	

<sup>a</sup>The chi-square test for categorical variables and the Mann-Whitney U Test for continuous variables were used to test group differences. Data were given as mean±standard deviation or number (%). Bold font indicates statistical significance:  $P < 0.05$

<sup>\*</sup>Regular weight gain was determined using records of Family Health Centers (FHCs).

<sup>\*\*</sup>A standard psychometric test was not used in the measurement of sleep patterns and gas pain, it was based on the mother's reports.

**Sociodemographic Characteristics of the Mothers:** Table 2 shows the sociodemographic characteristics of mothers. The mothers differed significantly in terms of education level, family structure, family income level, place of residence, employment status, and the number of living children. The mothers of the infants with dyschezia had a lower education level compared to the mothers of the non-dyschezia infants ( $p < 0.001$ ). There was no participant with a single-parent family (divorced, separated, or death) in the study population. However, the mothers of the infants with dyschezia had an extended family at higher rates compared to the control group (41.7% vs.

26%,  $p = 0.012$ ). The mothers of the infants in the dyschezia group had an “income less than expenses” at a higher rate (33.9% vs. 20.5%,  $p = 0.024$ ) and a regular job at a lower rate (10.2% vs. 26.8%,  $p = 0.001$ ), and resided in the rural areas at a higher rate compared to the mothers in the control group (45.7% vs. 26%,  $p = 0.002$ ). No difference was found between the two groups in terms of the gender of the children they have, however, the mothers in the dyschezia group had more children compared to the mothers in the control group (3 or more alive children). The rate of having one child was higher in the mothers in the control group ( $p < 0.001$ ) (Table 2).

**Table 2.** Sociodemographic characteristics of mothers of infants with and without infant dyschezia

	Dyschezia Group (n=127)	Control Group (n=127)	P-value <sup>a</sup>
Age group (n,%)			0.702
19-34 years	50 (39.4)	54 (42.5)	
35 and over	77 (60.6)	73 (57.5)	
Education Level (n,%)			<b>&lt;0.001</b>
Primary education	59 (46.5)	25 (19.7)	
High school	40 (31.5)	48 (37.8)	
University and above	28 (22)	54 (42.5)	
Family type (n,%)			<b>0.012</b>
Nuclear	74 (58.3)	94 (74)	
Extended	53 (41.7)	33 (26)	
Family Income Level (n, %)			<b>0.024</b>
Income is equal to or more than expenses	84 (66.1)	101 (79.5)	
Income is less than expenses	43 (33.9)	26 (20.5)	
Place of residence (n,%)			<b>0.002</b>
Rural	58 (45.7)	33 (26)	
Urban	69 (54.3)	94 (74)	
Regular job (n,%)			<b>0.001</b>
Yes	13 (10.2)	34 (26.8)	
No	114 (89.8)	93 (73.2)	
Number of living children (n,%)			<b>&lt;0.001</b>
None	21 (16.5)	49 (38.6)	
1	46 (36.2)	41 (32.3)	
2	22 (17.3)	28 (22)	
3 <sup>+</sup>	38 (29.9)	9 (7.1)	
Gender of the living children (n,%)			0.250
Female only	39 (30.7)	43 (33.9)	
Male only	18 (14.2)	26 (20.5)	
Both genders	70 (55.1)	58 (45.7)	

<sup>a</sup>Chi-square test. Data were given as number (percent%). Bold font indicates statistical significance:  $P < 0.05$

With respect to the health status of the mothers and their drug use, none of the mothers in sample of the present study had a chronic physical disease requiring regular drug use.

**Characteristics Related to Infant Care:**

Table 3 shows the data regarding the qualities of infant care. No difference was observed between the groups in terms of the attitude of the mothers

toward their infants (relaxed vs. anxious/doting). However, mothers of infants with dyschezia reported that they were more anxious about failing to provide adequate care to their babies compared to mothers in the control group (78.7% vs. 63.8%,  $p = 0.012$ ). Regarding the support of the fathers in infant care, more than half of the mothers of the infants with dyschezia stated that they had no or

inadequate support from their partners and this was significantly lower in the mothers in the control group (54.3% vs. 15.7%,  $p < 0.001$ ). The mothers also differed significantly about the traumatic events (death, accident etc.) they experienced during pregnancy and in the postpartum period and

the presence of any temporary separation from their infants and, accordingly, the mothers in the dyschezia group experienced more traumatic events and they separated temporarily from their infants at a higher rate (22.8% vs. 9.4%,  $p = 0.006$ ) (Table 3).

**Table 3.** Variables related to infant care

	Dyschezia Group (n=127)	Control Group (n=127)	P-value <sup>a</sup>
Mother's attitude towards her infant (n,%) <sup>*</sup>			1
Relaxed	65 (51.2)	64 (50.4)	
Anxious/doting	62 (48.8)	63 (49.6)	
Anxiety about the adequacy of infant care (n,%) <sup>*</sup>			<b>0.012</b>
None-Mild	27 (21.3)	46 (36.2)	
Moderate-severe	100 (78.7)	81 (63.8)	
Father's support in infant care (n,%) <sup>*</sup>			<b>&lt;0.001</b>
None or inadequate	69 (54.3)	20 (15.7)	
Adequate	58 (45.7)	107 (84.3)	
Traumatic life events after pregnancy and delivery and temporary separation from the infant (n,%)			<b>0.006</b>
Yes	29 (22.8)	12 (9.4)	
No	98 (77.2)	115 (90.6)	

<sup>a</sup>Chi-square test. Data were given as number (percent%). Bold font indicates statistical significance:  $P < 0.05$

<sup>\*</sup>Mother's perceived support and anxiety were asked and a standard psychometric test was not used.

#### Psychological Assessment of the Mothers:

Table 4 shows the scores of the Brief Symptom Inventory used to obtain information about the mental health of the mothers. The mothers of the infants with dyschezia had significantly higher scores in overall BSI and in all the 9 subscales of the inventory (somatization, obsessive-compulsive

disorder, interpersonal sensitivity, depression, anxiety, hostility, phobic anxiety, paranoid ideation, psychoticism, additional items), compared to the mothers in the control group. Also, the global severity index scores of these mothers were statistically significantly higher (all p-values  $< 0.001$ ) (Table 4).

**Table 4.** Comparison of the mothers' Brief Symptom Inventory scores

	Dyschezia Group (n=127)	Control Group (n=127)	P-value <sup>a</sup>
Somatization (mean±SD)	2.98±2.47	0.64±0.97	<b>&lt;0.001</b>
Obsessive-compulsive disorder (mean±SD)	5.59±2.96	1.47±2.16	<b>&lt;0.001</b>
Interpersonal sensitivity (mean±SD)	2.45±2.04	0.70±0.82	<b>&lt;0.001</b>
Depression (mean±SD)	5.07±2.59	1.10±1.44	<b>&lt;0.001</b>
Anxiety (mean±SD)	4.13±2.55	1.02±1.32	<b>&lt;0.001</b>
Hostility (mean±SD)	2.57±1.94	1.06±1.10	<b>&lt;0.001</b>
Phobic anxiety (mean±SD)	3.29±2.11	0.65±1.30	<b>&lt;0.001</b>
Paranoid ideation (mean±SD)	2.12±1.55	0.25±0.79	<b>&lt;0.001</b>
Psychoticism (mean±SD)	2.20±1.98	0.34±0.87	<b>&lt;0.001</b>
Additional items (mean±SD)	2.87±1.80	0.81±1.02	<b>&lt;0.001</b>
Total score (mean±SD)	33.29±13.70	8.02±8.04	<b>&lt;0.001</b>
General Severity Index (mean±SD)	0.62±0.26	0.15±0.15	<b>&lt;0.001</b>

<sup>a</sup>The Mann-Whitney U test was used to test group differences. Data were given as mean±standard deviation (SD). Bold font indicates statistical significance:  $P < 0.05$ .

#### DISCUSSION

In the study, mainly, the psychological and psycho-social states of mothers of 1-6 month-old infants with dyschezia and their infant care-related properties were investigated and compared to a cohort of mother-infant dyads where infant dyschezia is not present. The results of this study

indicated that the mothers of the infants who are exclusively breastfed but have functional dyschezia exhibit more psychological disturbances and more disadvantageous sociodemographically. It has been highlighted that psychogenic factors may affect or contribute to functional gastrointestinal disorders in

infancy. However, existing data is limited to very few studies investigating that the importance of the psychological characteristics of the mothers in order to understand the relationship between psychic aspects and constipation in this early period (12, 13, 16-18). Moreover, in the literature, the published results regarding the data of functional dyschezia are extremely scarce. In fact, the etiological reason for dyschezia is the failure to coordinate increased intra-abdominal pressure preceding defecation with pelvic floor relaxation. Therefore, it is defined as a problem in learning to defecate and uncoordinated pooping, but it is often incorrectly labeled "constipation" by parents and physicians.

Although dyschezia is a very common problem of infants, there is currently no available evidence on whether psychosocial factors and psychological profiles of the mothers are effective and/or contributory in infant dyschezia, just as with functional constipation. Our outcome showing the mothers of the infants with dyschezia have more and severe psychological symptoms suggests that infant dyschezia can be affected by the mother's mental health, and attention should be paid on the psychological state of the mothers. Until now, these outcomes offer a unique result to the literature, however, we cannot make adequately a comparison of our results. Nevertheless, we can make some speculations. For example, the association between the psychological state of mothers and infant defecation problems may be bidirectional. First, as the most likely direction, mothers who are mostly contacted by infants in the early period may be more distressed as a consequence of their child's dyschezia or the child's dyschezia is able to provoke the mother's pre-existing psychological problems. Because in this situation, which is an exhausting process for the infant, parents try many methods such as bicycling the child's legs, use of medication (homeopathic or otherwise, e.g., glycerin suppositories, sorbitol or sorbitol-containing juices, barley malt extract, or corn syrup), rectal thermometer stimulation, enemas, changing formula and mom's diet, even sticking something in their child's bottom with no relief, and unfortunately, they cannot experience the effectiveness of any of these techniques. This can lead to increased anxiety and other negative emotions of the mother, who already experiences stressful fussy days, long exhausting nights and too much physical or mental stress due to the child's symptoms, or can exacerbate these undesirable emotions if they exist. Also, our result indicating infants with dyschezia have more disturbances in the development and daily routines (e.g., regular weight gain, sleep patterns, and gas pain) may be a possible explanation for more psychological problems of their mothers who worried about her infant. In conclusion, it can impair the parents' quality of life and well-being in the mother-infant

relationship context for both infants and mothers. Second, in the reverse direction, mothers with psychological symptoms can react to or portray the child's temporary, common and very normal this problem in an excessively dramatic manner, which in turn, can cause the problem to be an overrepresentation in such mothers' children. In this context, it can be extremely valuable to inform parents that their infants are normal and no tests or treatments are necessary and the distressing situation/condition will be resolved spontaneously as the infant soon learns to the bowel movements.

More importantly, in both possible situations, this negative psychological profile or psychological problems of the mothers can result in the mothers to enjoy her role of motherhood less and a dysfunctional motherhood style, and indirectly, pathological attachment. Previous studies have suggested that the mothers with psychological symptoms have more difficulties or fall behind in recognizing and meeting the needs of their infants, they can't understand the distress messages of infants adequately and their emotional interaction with their infants is unsatisfactory. There are reports in the literature showing that the psychiatric symptoms and disorders and/or temperament of mothers may be a factor for various emotional and behavioral problems or even psychosomatic symptoms for their infants/children (12, 19-21). Because the mother's psychiatric symptoms or psychological problems not only adversely affect her own quality of life but can also cause the mother-baby relationship which negatively influences the emotional and mental-motor development of their infants. The studies conducted about the mental health of mothers in the postpartum period have focused mainly on depression, anxiety, bipolar disorder, and psychosis. However, it has also been reported that several psychological problems are less recognized since some complaints that may be psychiatric disorder symptoms, especially anxiety and sadness, are considered to be normal for new mothers (21).

Examining sociodemographic characteristics, the results of our study revealed that the mothers of infants with dyschezia have more familial and socioeconomic difficulties and high levels of anxiety about giving adequate care for their infants. It is possible that these unfavorable conditions create a disadvantageous status on the mothers and hence their mental health is negatively affected. Therefore, our finding demonstrating that the mothers of infants with dyschezia have more mental problems is not surprising. Our findings are consistent with the results of the studies investigating the negative risk factors on the mental health of mothers in the postpartum period and sociodemographic variables (22-24).

The present study is one of the few studies on "infant dyschezia" which has little data and is often overlooked, or misdiagnosed as constipation.

Other strengths of this study are that it is conducted with a large sample and population-based and the data were collected with the face-to-face interview method. However, this study has some limitations. First, the data collection tools including subjective evaluation criteria that we used as the screening method might have caused response bias and they are not diagnostic as the symptoms are screened only. Second, the results of the present study cannot be generalized as the study was conducted only in one province. Finally, no diagnostic interview was applied to these mothers. For this reason, the results of this study should be reproduced and deepened with future studies.

### CONCLUSION

The present study indicated that the mothers of infants with dyschezia have more psychological

symptoms, and it can be asserted that there is a relationship between the dyschezia symptoms of infants and the psychological symptoms of the mother based on our results. The most plausible explanation seems to be that infant dyschezia symptoms can be distressing to parents, in particular mothers, hence, they can produce the psychological problems of the mothers. Primary care physicians and general practitioners, pediatricians, child surgeons, and other healthcare professionals should be aware that the relationship between infant dyschezia and the psychological state of mothers. From this point of view, it would be advisable to screen the mothers of infants with dyschezia in terms of the risk of developing psychological problems.

### REFERENCES

1. Koppen IJ, Nurko S, Saps M, Di Lorenzo C, Benninga MA. The pediatric Rome IV criteria: what's new?. *Expert Rev Gastroenterol Hepatol*. 2017;11(3):193-201. doi:10.1080/17474124.2017.1282820.
2. Zeevenhooven J, Koppen IJ, Benninga MA. The New Rome IV Criteria for Functional Gastrointestinal Disorders in Infants and Toddlers. *Pediatr Gastroenterol Hepatol Nutr*. 2017;20(1):1-13. doi:10.5223/pghn.2017.20.1.1.
3. Hyman PE, Cocjin J, Oller M. Infant dyschezia. *Clin Pediatr (Phila)*. 2009;48(4):438-439. doi:10.1177/0009922808327109.
4. den Hertog J, van Leengoed E, Kolk F, van den Broek L, Kramer E, Bakker EJ, et al. The defecation pattern of healthy term infants up to the age of 3 months. *Arch Dis Child Fetal Neonatal Ed*. 2012;97(6):F465-F470. doi:10.1136/archdischild-2011-300539.
5. Kramer EA, den Hertog-Kuijl JH, van den Broek LM, van Leengoed E, Bulk AM, Kneepkens CF, Benninga MA. Defecation patterns in infants: a prospective cohort study. *Arch Dis Child*. 2015;100(6):533-536. doi:10.1136/archdischild-2014-307448.
6. Iacono G, Merolla R, D'Amico D, Bonci E, Cavataio F, Di Prima L, et al. Gastrointestinal symptoms in infancy: a population-based prospective study. *Dig Liver Dis*. 2005;37(6):432-438. doi:10.1016/j.dld.2005.01.009.
7. Hyman PE, Milla PJ, Benninga MA, Davidson GP, Fleisher DF, Taminiu J. Childhood functional gastrointestinal disorders: neonate/toddler. *Gastroenterology*. 2006;130(5):1519-1526. doi:10.1053/j.gastro.2005.11.065.
8. Drapkin Z, Franchek-Roa K, Srinivas GL, Buchi KF, Miescier MJ. Is my baby normal? A review of seemingly worrisome but normal newborn signs, symptoms and behaviors. *Am J Emerg Med*. 2019;37(6):1153-1159. doi:10.1016/j.ajem.2019.03.028
9. Chogle A, Velasco-Benitez CA, Chanis R, Mejia M, Saps M. Multicountry cross-sectional study found that functional gastrointestinal disorders such as colic and functional dyschezia were common in South American infants. *Acta Paediatr*. 2018;107(4):708-713. doi:10.1111/apa.14196.
10. van den Berg MM, Benninga MA, Di Lorenzo C. Epidemiology of childhood constipation: a systematic review. *Am J Gastroenterol*. 2006;101(10):2401-2409. doi:10.1111/j.1572-0241.2006.00771.x
11. Şahin Ş, Gülerman F, Köksal T, Köksal AO. Evaluation of Cases with Chronic Constipation in Children. *Turkish J Pediatr Dis*. 2014; 8(3): 117-123. doi: 10.12956/tjpd.2014.67.
12. Öznalcin B. Temperament, attitude and psychological feature examination of 4 to 12 months infants' mothers [master's thesis]. Maltepe University, Institute of Social Sciences; 2018.
13. Emanuel L. Holding on; being held; letting go: the relevance of Bion's thinking for psychoanalytic work with parents, infants and children under five. *J Child Psychother*. 2012;38(3):268-283. doi: 10.1080/0075417X.2012.720101.
14. Derogatis LR. SCL-90: Administration, scoring and procedures manual-I for the (revised) version and other instruments of the psychopathology rating scale series. Baltimore, Johns Hopkins University School of Medicine, Clinical Psychometrics Research Unit; 1977.
15. Sahin NH, Durak A. A study of the Brief Symptom Inventory in Turkish Youth. *Turk Psikol Derg*. 1994;9(31):44-56.
16. Winnicott DW. Primary Maternal Preoccupation. *Psychoanalytical Writings*. 2002;4:101-107.
17. Kreisler L, Fain M, Soulé M, Lebovici S. L'enfant et son corps: études sur la clinique psychosomatique du jeune âge. Paris: Presses universitaires de France; 1974.

18. Knauer D. Douleur chez l'enfant, une complexité à explorer. *Douleur, Rev Med Suisse*. 2014;436(25):1401-1405.
19. Ulusoy MN. A Longitudinal Study of The Relationship between The Frequency of Postpartum Depression in The Postpartum 6-Month Period and Nutrition and Growth on The Infants [master's thesis]. Selcuk University, Institute of Health Sciences; 2010.
20. Öztürk N, Aydın N . The importance of maternal mental health. *Marmara University Journal of Women and Gender Studies*. 2017;1(2):29-36. doi: 10.26695/mukatcad.2018.9.
21. Williams J. Best practice guidelines for mental health disorders in the perinatal period. BC Reproductive Mental Health Programme and Perinatal Services BC; 2014.
22. Nur N, Çetinkaya S, Arzu Bakır D, Demirel Y. Postnatal depression prevalence and risk factors of women in Sivas city center. *Cumhuriyet Medical Journal*. 2004;26(2):55–59.
23. Norhayati MN, Hazlina NH, Asrenee AR, Emilin WM. Magnitude and risk factors for postpartum symptoms: a literature review. *J Affect Disord*. 2015;175:34-52. doi:10.1016/j.jad.2014.12.041
24. Yağmur Y, Ulukoca N. Social support and postpartum depression in low-socioeconomic level postpartum women in Eastern Turkey. *Int J Public Health*. 2010;55(6):543-549. doi:10.1007/s00038-010-0182-z.