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Original Article

Development of preschool refugee children living under temporary protection status

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ABSTRACT

Background. The conflict in Syria following the anti-regime demonstrations that started in March 2011 created one of the greatest humanitarian crises. The United Nations High Commissioner for Refugees (UNHCR) reports that refugee and resettlement experiences can influence the critical stages of intellectual, social, emotional and physical development of children. There is a lack of sufficient information about the prevalence of developmental delay in forcibly displaced children. In this study, we aimed to describe the impact of the Syrian crisis on the development of children after resettlement, factors that are associated with developmental problems and domains in which developmental delays are more likely to occur.

Methods. Refugee children (n=60) between the ages of 18-72 months admitted to the Yenimahalle Community Health Center Immigrant Health Unit to receive primary health care services between 1 November 2018- 1 March 2019 were included in this study. The control group included 60 Turkish children between 18-72 months admitted to the İsmail Ulucan Family Health Center which is in the same building. Developmental assessments were conducted by the researchers using the Denver II Developmental Screening Test (DDST-II). Sociodemographic characteristics of the child, family and caregivers as well as risk factors related to development were collected using a questionnaire. The interviews with refugee families were conducted with an interpreter.

Results. Developmental delay was more frequent in refugee children compared to Turkish children. The DDST-II were normal in 82.1%, questionable in 10.7% and abnormal in 7.1% of Turkish children; in the study group, 22.2% of the patients were found to be normal, 33.3% were questionable and 44.4% were abnormal. The differences were statistically significant ($p<0.05$). Multiple logistic regression analysis revealed that, being a forcibly displaced refugee was the single significant risk factor for developmental delay alone. In the DDST II subdomain analysis, it was seen that high monthly income reduces the risk of caution-delay in personal-social domain. It was found that birth weight below 2500 g increased the risk of caution-delay in the fine-motor and gross-motor domain and being a forcibly displaced refugee and consanguinity increased the risk of caution -delay in the language domain.

Conclusions. This study showed that being a forcibly displaced refugee was the most important risk factor for developmental delay. We emphasized the importance of surveillance and screening development in these high-risk children as well as early intervention services.

Key words: refugee, war, child, child development, developmental delay, forced displacement.

Children are extremely vulnerable to forced displacement and humanitarian emergencies. The Syrian conflict has raised these numbers to an unprecedented level. Currently, Syria's conflict has spawned 4.8 million refugees in neighbouring countries, hundreds of thousands in Europe, and 6.6 million people displaced inside Syria against a pre-war population of over 20 million.[1] Turkey hosts the highest refugee population in the world (3,671,761 million).[2]

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During the process of migration; care of newborns and children with chronic diseases is interrupted, exposure to infectious diseases increases, immunization processes are disrupted; furthermore, proclivity towards criminality in later life stages and susceptibility to abuse tend to rise. At the same time, asylum-seekers have unique development and learning needs. Infections, nutritional deficiencies and traumatic experiences in the early stages of life have a significant effect on the development of the child.[3] Experiencing traumatic events, including violence, abuse or neglect leads to cognitive, emotional, and behavioral changes, affecting learning and academic performance.[4-6] Exposure to violence is a risk factor for a range of mental health problems and such effects are dose-dependent; ie, more excessive and repeated exposures lead to a greater effect.[7] Early childhood is a period in which environmental factors have significant effects on the development of the brain and central nervous system and includes children's skills in physical, mental, social and emotional fields. During early childhood nutrition, health and the environment in which the child grows, are determinants of development.[8,9] The United Nations High Commissioner for Refugees (UNHCR) reports that refugee and resettlement experiences may affect critical stages of intellectual, social, emotional and physical development of children.[10] Socioeconomic distress, exposure to violence in the countries of origin, followed by migration and ultimately resettlement in a new environment exposes them to several cumulative risks for their physical, emotional and social development.[11] There is insufficient data in the literature on the prevalence of developmental delay in forcibly displaced children or the optimal approach to detection or screening in this group. Developmental delay in these children may not be detected by families, and when diagnosed, interventions may be delayed due to cultural barriers, creating unfavorable academic and psychosocial consequences that may also affect later life.[12,13] Given the evident positive effects of early intervention, it is important to identify the most appropriate approach to effectively screen refugee children.

The aim of this study was to evaluate the developmental levels of refugee children aged 18-72 months living under temporary protection status in Ankara; to determine the associated risk factors that may affect child development and compare with Turkish children of the same age range as a control group. The secondary aim of the study is to emphasize the importance of developmental screening tests in primary care and to contribute to further studies on the subject.

Material and Methods

Study Design

This is a case-control study conducted to evaluate the developmental level of the children of families who came to Turkey after the Syrian conflict and who are living under temporary protection status and to compare their developmental level with Turkish children.

Population and Sample

A pilot study that included 15 patients from both groups was conducted to calculate the sample size to establish a statistically significant relationship between the two groups. Using the PASS 11 program, the sample size was calculated to be at least 28 to attain 90% power at 95% confidence level. The study included 60 patients from each group and 120 patients in total. Refugee children (study group) (n=60) aged between 18-72 months admitted to the Yenimahalle Community Health Center No. 2 Migrant Health Unit (MHU) for primary health care between November 1, 2018 and March 1, 2019 were included in this study. MHUs have been devised in order to provide basic and preventive health services to Syrians in Turkey in a more effective and efficient way. The control group consisted of Turkish children (n=60) aged 18-72 months who applied to the İsmail Ulucan Family Health Center located in the same building. Exclusion criteria were the presence

of any visual, auditory or physical disabilities and health problems that would impair their general condition.

Ethical approval of the study was obtained from Hacettepe University Non- interventional Clinical Research Ethics Board (decision number: 18/450-27, date: 2018/03). Permits were procured from the Department of Migration Policies which is a branch of the Ministry of Internal Affairs' Directorate General of Migration Management (decision number: 621003649-604.02.02-E.42356, date: 2018/09), along with the General Directorate of Public Health of the Ministry of Health (decision number: 49654233-604.02, date: 2018/07).

In this study, developmental level of the children were evaluated by Denver II Developmental Screening Test (DDST II). Height, body weight, and head circumference were measured. Written informed consent was received from families who agreed to participate in the study. The interviews with refugee families were conducted with an interpreter. Sociodemographic characteristics of the child, family and caregivers as well as risk factors related to development were collected using a questionnaire. In addition to these questions, factors related to war (hearing war sounds, witnessing death) and migration were also questioned in the study group. Afterward, DDST II was applied to evaluate developmental status. Growth was evaluated using the National Center for Health Statistics percentile curves.

The DDST II was conducted by a researcher who was certified to apply the test with the assistance of a medical interpreter. After the assessment, recommendations to support development were given to every family. The test was repeated 3 months later for children in both groups who were categorized as "questionable", to increase the reliability of this result. Out of the 27 "questionable" cases in the study group, 21 were available for a second evaluation. In the control group, 16 of the 20 "questionable" cases were available for a second evaluation. The outcome of the second evaluation was used in the final results. The necessary referrals were made for refugee and Turkish children who were questionable as a result of repeated DDST II. The flowchart of the study is shown in Figure 1.

Denver II Developmental Screening Test (DDST II)

DDST II was adapted and standardized for the Turkish society. The test assesses development in children aged 0-6 in four domains: personal-social, fine motor, gross motor and language. It consists of 125 items, and the development of a child is measured based on these 125 items. Each test item is scored as pass, fail or refused. Delay is defined as a child failing a test item which 90% of his or her age mates pass, and caution is defined as a child failing a test item which 75% to 90% of his or her age mates pass. The test usually takes 10–20 min to perform, and the child is classified as normal, questionable, or delayed based on the test results. "Normal" is no delay in any domain and no more than 1 caution; "questionable" is one delay or more than 2 cautions; "abnormal" is 2 or more delays.[14,15]

The Turkish version of DDST II was used in this study.[16] Screening results are given as normal, questionable and abnormal. In each domain the results are defined as normal, caution or delay for age.

Statistical Analysis

Chi-square test was used to investigate the relationships between qualitative data of the children included in the study. For continuous variables, t-test was used in paired groups and ANOVA test was used to determine the differences between parameters with more than 2 groups. $P < 0.05$ was considered statistically significant. A multiple logistic regression model was developed using the variables which rendered $p < 0.05$ in pairwise comparisons and variables that would directly affect development. All statistical analysis were

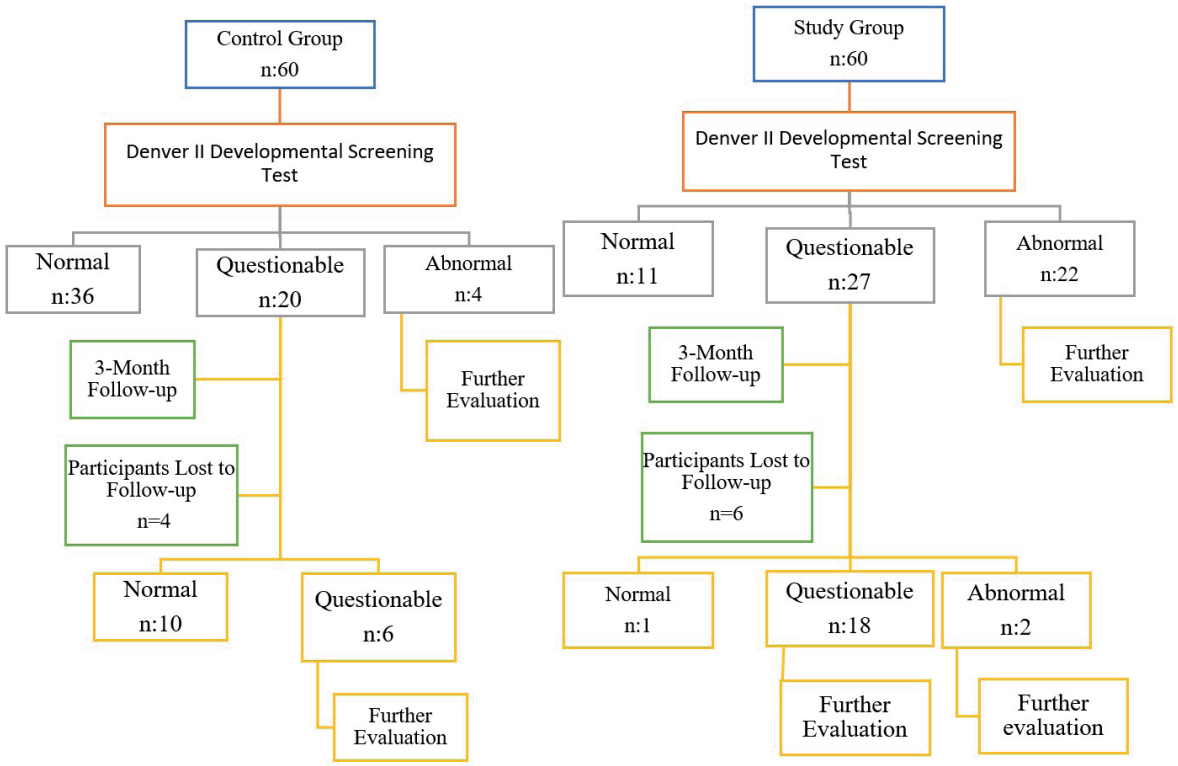

Fig. 1. Flow chart of the study.

performed using SPSS version 22.0 (Statistical Package for the Social Sciences).

Results

In the study, the control and study groups consisted of 60 children in each group and there was no difference in age and sex between the groups. Comparison of descriptive characteristics showed that in the study group the number of siblings, percentage of unemployed mothers, the number of people living in shanties and the number of people living per house, gravida of the mothers and consanguineous marriage rates were higher than in the control group. Also in the study group; mothers were younger, mothers' education level, income levels and the number of rooms per house, the duration of breastfeeding and the mother's age at pregnancy were lower than the control group and these differences were statistically significant ($p<0.05$). (Supplementary table)

When the height and body weight were compared according to the pathological percentile values (<3 percentile and >95 percentile), no significant difference was found, but between the basis of <10, 10-50p and >50p, there was a statistically significant difference ($p <0.05$) between the height and body weight percentile values of the study and control groups.

The characteristics of the study group related to war and migration revealed that 43.3% of the children were in Syria during the war and heard war sounds; 5% had witnessed death during the war. The children who moved 2 times and/or more was 81.7% after they left their country. In the study group, 96.7% of the mothers stated that they were not exposed to discrimination. Among refugees, 56.7% had been in Turkey longer than 24 months; 85% had been in Ankara for longer than 12 months and 68.3% had never stayed in a camp (Table I).

According to the DDST II, 82.1% (n=46) of the children in the control group were normal, 10.7% (n=6) were questionable and 7.1% (n=4) were abnormal with respect to their age. In the

Table I. Descriptive characteristics of the study group related to war and migration.

		Study Group n :60
		n (%)
Turkish-speaking People in the Household	Yes	48 (80)
	No	12 (20)
Presence of Turkish Literate in the Household	Yes	21 (35)
	No	39 (65)
Exposure to War (Child)	No	31(51.7)
	Hearing War Sounds	26 (43.3)
	Witnessing Death	3 (5)
Exposure to Discrimination (Mother)	Yes	2 (3.3)
	No	58 (96.7)
Number of Relocations (Child)	1	11 (18.3)
	2	25 (41.7)
	3	21 (35)
	4	3 (5)
Length of Stay in Turkey (Children) (Months)	≤12	6 (10)
	13-24	20 (33.3)
	25-36	9 (15)
	36-48	17 (28.3)
	≥49	8 (13.3)
Length of Stay in Camp (Child) (Month)	0	41 (68.3)
	≤12	12 (20)
	13-24	4 (6.7)
	25-36	3 (5)
Length of stay in Ankara (Child) (Month)	≤12	9 (15)
	13-24	33 (55)
	25-36	15 (25)
	37-48	3 (5)

study group, 22.2% (n=12) cases were normal, 33.3% (n=18) were questionable and 44.4% (n=24) were abnormal with respect to their age (p = 0.000) (Fig. 2).

Table II shows the comparison of the results of children in the study and control groups according to the developmental domains of DDST II. There was a statistically significant difference between the groups in the language, fine motor and gross motor domains (p <0.05).

When the DDST II results of refugee children born in Syria and Turkey were compared it was shown that 13% (n=7) of Syrian born were scored questionable and 31.5% (n=17) were abnormal with respect to their age. However, 20.4% (n=11) of Turkey born were questionable and 13% (n=7) were abnormal with respect to their age. There was no statistically significant difference between the groups (p>0.05).

When the subjects exposed to war and those who were not exposed to war were compared in terms of DDST II results, it was seen that exposure to war increased the frequency of abnormal DDST II (p = 0.050) in the study group (Table III).

Within the scope of the research, the risk factors that could affect child development were questioned. Among these variables, 17 variables,

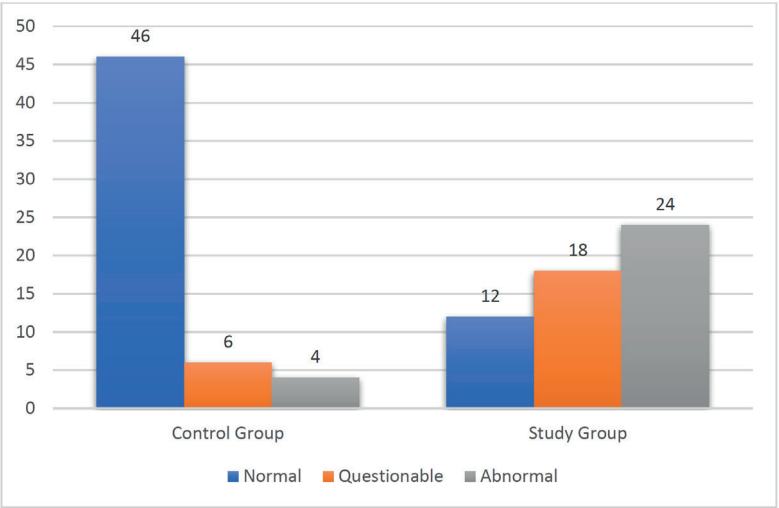

Fig. 2. Distribution of Denver II Developmental Screening Test Results of Children in the Study and Control Groups.

Table II. The comparison of the results of children in the study and control groups according to the Developmental Domains of DDST II*.

	Control Group DDST II Results (n:56)			Study Group DDST II Results (n:54)			p
	Normal n (%)	Caution n (%)	Delay n (%)	Normal n (%)	Caution n (%)	Delay n (%)	
Personal-Social	47 (83.9)	5 (8.9)	4 (7.1)	39 (72.2)	6 (11.1)	9 (16.7)	0.256
Fine Motor	49 (87.5)	5 (8.9)	2 (3.6)	28 (51.9)	9 (16.7)	17 (31.5)	0.000
Language	45 (80.4)	8 (14.3)	3 (5.4)	16 (29.6)	14 (25.9)	24 (44.4)	0.000
Gross Motor	42 (75)	10 (17.9)	4 (7.1)	22 (40.7)	12 (22.2)	20 (37)	0.000

*Denver II Developmental Screening Test

Table III. Relation of war and migration-related characteristics of the study group to DDST II results.

		Study group DDST II results (n:54)		p
		Normal (n:12) n (%)	Questionable (n:42) n (%)	
Exposure to War (Hearing war sounds, witnessing death) (Child)	Yes	3 (11.1)	24 (88.9)	0.050
	No	9 (33.3)	18 (66.7)	

*Denver II Developmental Screening Test

which could directly affect development and displayed statistically significant differences between the two groups, were included in multiple regression analysis. These variables are as follows: number of siblings, mother's and father's education level, age of the mother at birth, monthly income status, consanguinity between parents, gestational week at birth, birth weight, duration of breastfeeding, whether parents read to the child, smoking status of

Table IV. Developmental risk and protective factors determined by logistic regression analysis.

	Variables	Odds Ratio (OR)	%95 Confidence Interval		p
			Lower Limit	Upper Limit	
The Denver Developmental Screening Test II Questionable-Abnormal	Being in Study Group	16,100	6,304	41,120	0.000
Personal-Social Caution-Delay	Monthly Income Over 2000 TL	0,461	0,239	0,889	0.021
Fine Motor Caution-Delay	Being in Study Group	5,247	1,962	14,033	0.001
	Birth Weight Below 2500 g	2,182	0,999	7,916	0.050
Language Caution-Delay	Being in Study Group	5,023	1,674	15,072	0.004
	Consanguineous Marriage	4,013	1,206	13,350	0.023
Gross-Motor Caution-Delay	Being in the Study Group	5,011	1,579	15,903	0.006
	Birth Weight Below 2500 g	5,751	1,605	20,605	0.007

parents, preschool education status, height, body weight, duration of background television exposure and being a refugee (*being forcibly displaced*). The abnormal-questionable cases for DDST II test results and delay/caution in each domain were evaluated together.

Logistic regression analysis revealed that the single significant factor that increased the risk of developmental delay by 16.1 times according to the DDST II assessment was being a forcibly displaced refugee. A monthly income of over 2000 TL reduced the risk of having caution-delay in the personal-social domain of DDST II 0.461-fold; being a forcibly displaced refugee increased the risk of caution-delay in the DDST II fine motor domain by 5,247 times and having a birth weight below 2500 grams increased the risk of caution -delay in this domain by 2,181-fold. Being a forcibly displaced refugee increased the risk of caution-delay in the DDST II language domain 5.023-fold, and consanguineous marriage increased the risk of caution-delay in the language domain 4,013 times. It was seen that being a forcibly displaced refugee increased the risk of caution-delay in the gross-motor area of DDST II by 5.011 times, having a birth weight less than 2500 grams increased the same risk by 5.751 times, and these were all statistically significant ($p < 0.05$) (Table IV).

Discussion

The present study delineates how the Syrian crisis, the extent to which the UNHCR called the greatest humanitarian crisis of the present, affects the developmental aspects of children, the most vulnerable group, after resettlement.

In accordance with the data reported by the Disaster and Emergency Management Presidency, reports by Celik et al.[17] and previous research done in countries with a high Syrian refugee population, such as Jordan and Lebanon; the socioeconomic and housing conditions of the refugee population have been shown to be worse and their education levels lower than the local population.[18,19]

In this study, the breastfeeding duration of Turkish mothers was significantly higher than that of refugee mothers. This difference may be a result of the stress caused by the negative life-experiences of asylum-seekers that prevents breastfeeding their babies. Their high fertility rate may also shorten their breastfeeding duration. In a meta-analysis that included data from 11 studies including a total of 322 immigrant women with children under five years of age, participants agreed that breastfeeding was the best for the baby, although it was difficult to continue breastfeeding while struggling with difficult living conditions in a new country.[20]

Likewise, in a 2013 study conducted in Lebanon, Jordan and Iraq to assess the health and nutrition of Syrian refugees affected by the conflict in the camps, the breastfeeding status of 1452 children between 0-23 months was evaluated. It was reported that the highest breastfeeding rates were in the 0-5 month period and there was a significant decrease in breastfeeding after 1 year of age.[21] The 2018 Turkish Demographic and Health Survey (TDHS) findings also support shorter median breastfeeding in Syrian families (16.7 mo vs 13.7 mo).[22]

In the present study, it was shown that the height and bodyweight of Syrian children were lower than Turkish subjects. In the 2014 study at the Za'atari camp in Jordan, the prevalence of chronic malnutrition was 17% for children staying at the camp, and 9% for children outside the camps.[23] The 2018 TDHS findings revealed a higher prevalance of stunting among Syrian under 5 children (17.4% vs 6%) and obesity (10.4% vs 8.1%) compared to Turkish children. However wasting frequencies were similar (1.9% vs 1.7 %).[22]

In this study, evaluation using DDST II revealed that developmental delay were more common in forcibly displaced refugee children compared to Turkish children. Of the Turkish children, 82.1% were normal, 10.7% were questionable, 7.1% were abnormal for their ages; while in the study group, 22.2% of the cases were normal, 33.3% were questionable and 44.4% were abnormal for their ages.

When multiple logistic regression analysis was used to evaluate the variables which were thought to have a direct effect on development; being a forcibly displaced refugee was found to be the single statistically significant risk factor for developmental delay. Also, when results of DDST II sub-domains were examined, high monthly income tended to reduce the risk of delay in the *personal-social* area, whereas being a forcibly displaced refugee and having low birth weight increased the risk of caution-delay in *fine-motor* and *gross-motor* domains, and being a forcibly displaced refugee and consanguinity increased the risk of caution-delay in the *language* domain. Replacement experiences, deterioration of the family structure, interruption of education, exposure to many traumatic events that may jeopardize development during refugee travel, the difficulty in adaptation to a new language, education system and new social-cultural norms can be said to have a cumulative effect to result in developmental delay. Also, Turkish language acquisition is very important for social integration. The Ministry of National Education has special Turkish courses for Syrian children to overcome the difficulty of adapting to a new language.

The frequency of developmental delay and disability are not well known in the child refugee population. In the study of Martin et al.[24] which aimed to review the literature on developmental screening of migrant and refugee children in 2009, interviews with migrant and refugee families were conducted and obstacles to developmental screening were identified. The obstacles were reported to be language and communication problems, difficulty in accessing health services, not recognizing developmental delays by families and lack of comparison with peers due to being confined to isolated environments during the time they spend with their children which stems from economic difficulties, disruption of family structure, living in the countryside, cultural beliefs, difficulty in comprehension and acceptance of information. Likewise, regression analysis showed high monthly income to be a protective factor against developmental delay in the *personal-social* area.

In this study, it was displayed that encountering war in Syrian children significantly increased the risk of a questionable-abnormal DDST II outcome. Also, the assessment using DDST II revealed that forcibly displaced refugee children born in Syria are 2.42 times more likely to experience developmental delays than Syrian refugee children born in Turkey, but the difference was not significant which may be due to the limited sample size. The difference

may be related to more adverse living, birth and migration conditions of the Syrian born children. When other studies on the effects of war encounter on children in Syria are evaluated, it is noted that these studies are mostly on mental health; no studies on the effects of war exposure on child development has been found. In the Bahçeşehir survey, almost half of the Syrian refugee children experienced post traumatic stress disorder (PTSD) symptoms more than ten times the rate observed in other children and 44% had symptoms of depression.[25] In a study conducted by Save The Children and colleagues in Syria, the number one cause of psychological stress in the daily lives of 84% of adults and nearly all children was the ongoing bombing and shelling; 89% of the children were fearful and tense, 71% of children suffered from bed wetting and incontinence which are common signs of PTSD and toxic stress, and 51% of adolescents used substances to cope with problems.[26] In a more recent study conducted in Turkey, it was found that 33% of Syrian forcibly displaced refugees of all ages met the diagnostic criteria for PTSD.[27] In the study conducted in a camp in Osmaniye by Derman et al.[28], adolescents between the ages of 16-20 underwent a brief symptom inventory; it was found that psychosomatization and hostility to their country of residence were common, they thought their freedom was limited but they struggled to integrate into the society. The results of this study support the view that psychosocial risk factors are strong predictors of current and future developmental and mental health problems and are of particular concern as these negative experiences in early childhood can have a permanent effect.[29]

Although the questionnaire, interviews and the DDST-II assessment have been conducted with experienced interpreters who have long been employed by the immigrant health center, this may be considered a limitation to the study. In future research, it is necessary to implement appropriately validated screening tools and health personnel with language proficiency and training. In addition, a significant relationship could not be established between DDST II results and some factors that may affect the development of the child; this may be attributed to the limited sample size as was previously mentioned and this necessitates further studies with larger sample sizes. However, the sample size of the study is reliable to demonstrate the developmental differences between refugees and Turkish children. The lack of studies in the literature that assess the factors affecting the developmental level of forcibly displaced refugee children has limited the comparison and discussion of the data of this research. On the other hand, this fact once again emphasizes the significance of the present study. Lack of consent for access to laboratory data also limited the present study. Another limitation of the study is that the Turkish and forcibly displaced refugees included in the study consisted of children and families who applied to the immigrant health center for health care so results can not be generalized to the whole population. However, having a control group can be considered as a strength of the study compared with the limited number and sample size of other studies mentioned above.

In light of these results, it was found that refugee children displayed a higher rate of developmental delay. In the light of these results, developmental screening should be expanded as a priority in primary care in order to minimize the negative impact of forced displacement processes that hinder the development of refugee children. And also intervention programs should be started, families should be educated about the developmental process of the child, warning signs should be determined, interventions that support development and awareness should be created, this training should be supported with visual tools and they should be directed to more equipped facilities when developmental concerns arise. For the integration of Syrian children into the Turkish community, language is very important to overcome disadvantages. Considering that encountering war is a risk factor for developmental delay, in order to minimize the

negative effects of this situation and to increase resilience, it is recommended to develop family support, a positive relationship with the parent and to develop support programs for teachers, peers, relatives and health service providers to provide environmental support.

Ethical approval

Ethical approval of the study was obtained from Hacettepe University Non-interventional Clinical Research Ethics Board (decision number: 18/450-27, date: 2018/03).

Author contribution

The authors confirm contribution to the paper as follows: study conception and design: ENÖ, MTA; data collection: MTA; analysis and interpretation of results: ENÖ, MTA, DAB, EK, MC; draft manuscript preparation: ENÖ, MTA. All authors reviewed the results and approved the final version of the manuscript.

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Conflict of interest

The authors declare that there is no conflict of interest.

REFERENCES

1. United Nations High Commissioner for Refugees (UNHCR). Syria conflict at 5 years: the biggest refugee and displacement crisis of our time demands a huge surge in solidarity. 2016. Available at: https://www.unhcr.org/news/press/2016/3/56e6e3249/syria-conflict-5-years-biggest-refugee-displacement-crisis-time-demands.html
2. T.C. İçişleri Bakanlığı Göç İdaresi Başkanlığı. Geçici Koruma. Available at: https://www.goc.gov.tr/gecici-koruma5638 (Accessed on 2021).
3. Minhas RS, Graham H, Jegathesan T, Huber J, Young E, Barozzino T. Supporting the developmental health of refugee children and youth. Paediatr Child Health 2017; 22: 68-71. https://doi.org/10.1093/pch/pxx003
4. Cook A, Spinazzola J, Ford J, et al. Complex trauma in children and adolescents. Psychiatric Annals 2005; 35: 390-398. https://doi.org/10.3928/00485713-20050501-05
5. DE Bellis MD, Hooper SR, Spratt EG, Woolley DP. Neuropsychological findings in childhood neglect and their relationships to pediatric PTSD. J Int Neuropsychol Soc 2009; 15: 868-878. https://doi.org/10.1017/S1355617709990464
6. Pechtel P, Pizzagalli DA. Effects of early life stress on cognitive and affective function: an integrated review of human literature. Psychopharmacology (Berl) 2011; 214: 55-70. https://doi.org/10.1007/s00213-010-2009-2
7. Drury J, Williams R. Children and young people who are refugees, internally displaced persons or survivors or perpetrators of war, mass violence and terrorism. Curr Opin Psychiatry 2012; 25: 277-284. https://doi.org/10.1097/YCO.0b013e328353eea6
8. UNICEF. Early Childhood Development: The key to a full and productive life. Available at: https://docplayer.net/15966001-Early-childhood-development-the-key-to-a-full-and-productive-life.html
9. Bayoglu B, Konuşkan G. Gelişimi değerlendirme araçları. Katkı Pediatri Dergisi 2016; 37: 229-240.
10. United Nations High Commissioner for Refugees (UNHCR). Investing in the Future: Refugee Children and Young People. In: Refugee Resettlement: An International Handbook to Guide Reception and Integration. Available at: https://www.unhcr.org/3d9862c74.html (Accessed on 2015).
11. Masten AS. Masten AS. Ordinary magic. Resilience processes in development. Am Psychol 2001; 56: 227-238. https://doi.org/10.1037/0003-066X.56.3.227
12. Javier JR, Huffman LC, Mendoza FS, Wise PH. Children with special health care needs: how immigrant status is related to health care access, health care utilization, and health status. Matern Child Health J 2010; 14: 567-579. https://doi.org/10.1007/s10995-009-0487-9
13. Raman S, Wood N, Webber M, Taylor KA, Isaacs D. Matching health needs of refugee children with services: how big is the gap?. Aust N Z J Public Health 2009; 33: 466-470. https://doi.org/10.1111/j.1753-6405.2009.00431.x

14. Frankenburg WK, Dodds J, Archer P, Shapiro H, Bresnick B. The Denver II: a major revision and restandardization of the Denver Developmental Screening Test. Pediatrics 1992; 89: 91-97. https://doi.org/10.1542/peds.89.1.91

15. Epir S, Yalaz K. Urban Turkish children's performance of the DDST. Dev Med Child Neurol 1984; 26: 632-643. https://doi.org/10.1111/j.1469-8749.1984.tb04502.x

16. Durmazlar N, Ozturk C, Ural B, Karaagaoglu E, Anlar B. Turkish children's performance on Denver II: effect of sex and mother's education. Dev Med Child Neurol 1998; 40: 411-416. https://doi.org/10.1111/j.1469-8749.1998.tb08217.x

17. Celik R, Altay N, Yurttutan S, Toruner EK. Emotional indicators and anxiety levels of immigrant children who have been exposed to warfare. J Child Adolesc Psychiatr Nurs 2019; 32: 51-60. https://doi.org/10.1111/jcap.12233

18. Afet ve Acil Durum Yönetimi Başkanlığı (AFAD). Türkiye'deki Suriyelilerin Demografik Görünümü, Yaşam Koşulları ve Gelecek Beklentilerine Yönelik Saha Araştırması. 2017. Available at: https://www.afad.gov.tr/kurumlar/afad.gov.tr/25337/xfiles/17a-Turkiye_deki_Suriyelilerin_Demografik_Gorunumu_Yasam_Kosullari_ve_Gelecek_Beklentilerine_Yonelik_Saha_Arastirmasi_2017.pdf

19. Verme P, Gigliarano C, Wieser C, Hedlund K, Petzoldt M, Santacroce M. How Poor Are Refugees?. In: The Welfare of Syrian Refugees: Evidence from Jordan and Lebanon. 2016. Washington, DC: World Bank. https://doi.org/10.1596/978-1-4648-0770-1.

20. Schmied V, Olley H, Burns E, Duff M, Dennis CL, Dahlen HG. Contradictions and conflict: a meta-ethnographic study of migrant women's experiences of breastfeeding in a new country. BMC Pregnancy Childbirth 2012; 12: 163. https://doi.org/10.1186/1471-2393-12-163

21. Hossain SM, Leidman E, Kingori J, Al Harun A, Bilukha OO. Nutritional situation among Syrian refugees hosted in Iraq, Jordan, and Lebanon: cross sectional surveys. Confl Health 2016; 16: 10-26. https://doi.org/10.1186/s13031-016-0093-6

22. Hacettepe University Institute of Population Studies. The 2018 Turkey Demographic and Health Survey. 2019. Available at: https://fs.hacettepe.edu.tr/hips/dosyalar/yayinlar/2019_tnsa_anarapor_compressed.pdf

23. Bilukha OO, Jayasekaran D, Burton A, et al. Nutritional status of women and child refugees from Syria-Jordan, April-May 2014. MMWR Morb Mortal Wkly Rep 2014; 63: 638-639. PMID: 25055188.

24. Martin-Herz SP, Kemper T, Brownstein M, McLaughlin JF. Developmental screening with recent immigrant and refugee children. Available at: https://ethnomed.org/resource/developmental-screening-with-recent-immigrant-and-refugee-children/ (Accessed on 2015).

25. Özer S, Şirin S, Oppedal B. Bahçeşehir Study of Syrian Refugee Children in Turkey. İstanbul: Bahçeşehir University, 2016. Available at: https://www.fhi.no/globalassets/dokumenterfiler/studier/ungkul/bahcesehir-study-report.pdf

26. McDonald A, Buswell M, Khush S, Brophy M. Invisible wounds: The impact of six years of war on the mental health of Syria's children. Save the Children, 2017. Available at: https://www.savethechildren.ca/wp-content/uploads/2017/03/Invisible-Wounds-FINAL-020317.pdf (Accessed on March 2017).

27. Alpak G, Unal A, Bulbul F, et al. Post-traumatic stress disorder among Syrian refugees in Turkey: a cross-sectional study. Int J Psychiatry Clin Pract 2015; 19: 45-50. https://doi.org/10.3109/13651501.2014.961930

28. Derman O, Akgül S, Ataman E et al. The rise of a hostile adolescent population: the syrian refugee problem. Adolescent Psychiatry 2017; 7: 83-88. https://doi.org/10.2174/2210676607666170620121522

29. Simon AE, Pastor PN, Avila RM, Blumberg SJ. Socioeconomic disadvantage and developmental delay among US children aged 18 months to 5 years. J Epidemiol Community Health 2013; 67: 689-695. https://doi.org/10.1136/jech-2013-202610