POSTPARTUM DEPRESSION IN UKRAINIAN REFUGEE WOMEN WHO GAVE BIRTH ABROAD AFTER BEGINNING OF LARGE-SCALE WAR

Olena Kostiuk[1, 5], Yelyzaveta Shunko[1], Roma Jusiene[2], Rima Breidokiene[2], Violeta Drejeriene[3], Sigita Lesinkiene[4], Arunas Valiulis[5, 6]

[1]Department of Neonatology, Shupyk National Healthcare University, Kyiv, Ukraine
[2]Institute of Psychology, Faculty of Philosophy, Vilnius University, Vilnius, Lithuania
[3]Clinic of Children's Diseases, Vilnius City Clinical Hospital, Vilnius, Lithuania
[4]Clinic of Psychiatry, Institute of Clinical Medicine, Medical Faculty, Vilnius University, Vilnius, Lithuania
[5]Clinic of Children's Diseases, Institute of Clinical Medicine, Medical Faculty, Vilnius University, Vilnius, Lithuania
[6]Department of Public Health, Institute of Health Sciences, Medical Faculty, Vilnius University, Vilnius, Lithuania

SUMMARY

Objectives: The Russian military aggression against Ukraine in February 2022 became the cause of the biggest humanitarian crisis. Postpartum depression (PPD) is a type of mood disorder of pregnant and postpartum women. It was earlier reported that depression of pregnant women is increased in a combat zone, while effects of war on pregnant refugee and displaced women are less studied. The aim of the study was to determine the features of emotional state of temporarily displaced Ukrainian women who gave birth in Lithuania in spring–autumn 2022, and compare it with the state of Lithuanian women who were not directly affected by war.

Methods: The study was conducted by surveying a group of Ukrainian refugee women (UG) and a group of Lithuanian women (LG) who gave birth in maternity units of Lithuania, using Edinburgh Postpartum Depression Scale (EPDS), the questionnaire elaborated for evaluation of social and medical peculiarities of mother-child pair in early postpartum period as well as medical records of maternity unit.

Results: The average mean scores of EPDS in UG were significantly higher compared to LG; 42% of UG exceeded the threshold for the high risk of PPD (> 13). UG, who arrived in Lithuania during the war because of close relatives legally working in Lithuania, had lower EPDS scores to compare to UG who came from combat zones and who did not have close relatives.

Conclusions: Support of closest relatives and convenient surrounding is important for women's emotional state during the vulnerable period of maternity and especially during the crisis time.

Key words: Edinburg Postpartum Depression Scale, pregnancy, refugees, Ukraine, war

Address for correspondence: O. Kostiuk, Department of Neonatology, Shupyk National Healthcare University, 9 Dorogozhitska str., 04112 Kyiv, Ukraine. E-mail: kostiuk.o@gmail.com

https://doi.org/10.21101/cejph.a8003

INTRODUCTION

The World Health Organization (WHO) defines an armed conflict as "the intentional use of physical force or power with the threat or actual use against oneself, another person, group, or community that results or may result in injury or death, psychological harm, maldevelopment, or deprivation" (1, 2). Armed conflict is an extreme form of violence. Furthermore, the multiplicity of the armed conflicts means that many different factors may play a role in influencing the incidence of adverse pregnancy outcomes.

Postpartum depression (PPD), also defined as postnatal depression, is a type of mood disorder, common in pregnant and postpartum women. It is associated with adverse outcomes for the mother, infant, and the partner, also affecting the relationship with infant, partner and the significant other (3–6). The meta-analysis of 58 relevant articles revealed the prevalence of PPD around 17% in different regions of the world (ranging from 8% in Europe to 26% in Middle East) (5, 7, 8). Notably, no significant difference was found between assessment time points of PPD during the first year after childbirth (5, 8). Identifying women at risk of depression and anxiety during pregnancy provides an opportunity to improve health outcomes for women and their children. There are contradictory results of individual studies, evaluating the socio-demographic predictors of the PPD, yet previous psychiatric history, depression during pregnancy and the stressful life events usually relate to the higher PPD symptoms (5, 9, 10).

Over the past few years, there has been a rapid increase in the global number of migrants (8). Russian invasion of Ukraine in February 2022 created yet another, arguably the biggest humanitarian disaster of the 21st century, joining long-running conflicts in Syria, Afghanistan and Sudan (8, 11–13). The war became a dramatic escalation of the conflict that existed in the eastern part of the country since 2014 after the criminal annexation of Crimea and parts of the Luhansk and Donetsk regions. During the first 3

months of the war, millions of people were displaced both within the country and into neighbouring countries.

According to the UN Office for Refugees and the latest estimates of the Ministry of Reintegration, 8.3 million refugees from Ukraine in Europe since February 24 were recorded (13, 14). The international community immediately stepped in to provide humanitarian support, including medical evacuation across Europe, immediate issuance of visas, proper care and comprehensive assistance for the displaced population, and increased funding in host countries (13–16, 17–19).

Lithuania also joined the global initiative "Help Ukraine". According to official data, during the military invasion of Russia from February 24, as of December 31, 2022, Lithuania accepted more than 72,000 Ukrainian refugees, including about 2,000 pregnant women (20). There are no official statistics on the number of Ukrainian women who gave birth in Lithuania after February 24, 2022, but according to rough estimates, their number may reach several hundreds. In Lithuanian migration centres, pregnant women are immediately offered comprehensive support, which includes material, psychological and, first of all, medical assistance. Women receive referrals for observation to obstetricians and for childbirth. All help is completely accessible and free of charge. After birth, all newborn children receive basic medical observation and full vaccination, which are also free services. Yet despite the medical and social assistance they get, the Ukrainian refugee women may experience much higher distress than usually during the postpartum period.

Especially vulnerable are refugee women during and after pregnancy (10). According to several studies (11, 12, 21–24) being in a combat zone, and even memories of the experience, are the important causes of depression or may significantly worsen the emotional state in pregnant women and women in the postpartum period. Studies reveal that during the postpartum period refugee women are twice as likely to experience depressive symptoms as non-refugee women (13).

As PPD significantly affects the general women's well-being and mother-infant interaction (bonding and maternal care), the screening for PPD can insure timely treatment (6, 8). In addition, researching the protective factors of emotional well-being can provide with the clues for prevention of later difficulties.

The aim of the present study is to analyse emotional state of temporarily displaced Ukrainian women who gave birth in Lithuania in 2022, and to compare it with the state of Lithuanian women who were not directly affected by the war.

MATERIALS AND METHODS

This study is cross-sectional correlational, conducted on women who gave birth in maternity hospitals in Lithuania (mostly in Vilnius) in late spring–autumn 2022.

Participants

The main study group consists of 50 Ukrainian women (UG) who arrived in Lithuania and gave birth there after the beginning of Russian aggression in Ukraine. UG who were permanent residents of Lithuania or arrived before 24 February 2022 and gave birth in Lithuanian maternity wards and Ukrainian woman who had complications during childbirth and who gave prematurely birth were excluded from the present study. The age of UG participants ranged from 18 to 39 years. Nineteen participants had their first child, 25 had their second, and 6 had their third or more. Nine children in UG were born by caesarean section, the others were born as a result of vaginal delivery. The surveyed mothers gave birth to 27 boys and 23 girls (Table 1).

The comparative Lithuanian group (LG) of postpartum women consists of three subsamples: 40 Lithuanian women who have birth in Lithuania after 24 February 2022, who were surveyed in the maternity hospital at the 1st–3rd day after delivery (LG1); 331 Lithuanian women surveyed in 2009 at the 2nd–3rd day after delivery (LG2); and 159 Lithuanian women from the sample LG2 surveyed in 2010 at the 6th month after delivery (LG2a).

LG2 were women who have participated in an ongoing longitudinal study since 2009. Participants of the study gave birth to full-term newborns (≥ 37 weeks) in one of the main clinics in Lithuania. The data were obtained during the implementation of several research group projects in Lithuania in 2009 and 2010 (10). Overall, 418 mothers were surveyed in 2009, but we selected 331 mothers, who were corresponding to the UG according to the maternal age, delivery mode and child's weight. All these mothers were surveyed on the 2nd–3rd day after delivery with the EPDS and additional questionnaire, developed by researchers. They were surveyed again 6 months later (LG 2a), in 2010. The detailed information on main characteristics of the samples is provided in Table 1.

Measures

The EPDS and the questionnaire developed by the researchers of this study were used for gathering data. Additional necessary information was obtained from the history of childbirth, the chart of the development of the newborn, and during the interview.

Postpartum depression was assessed using the Edinburgh Postnatal Depression Scale (9, 10). The EPDS was developed to assist health professionals in detecting mothers suffering from PPD. The scale consists of 10 items describing individual's emotional state with four possible answers that is closest to how a respondent has felt during the past week. Responses then are scored 0, 1, 2 and 3 based on the seriousness of the symptoms. Items 3, 5 to 10 are reverse scored. The total score is computed by adding together the scores for each of the 10 items. Previous studies showed very good reliability of the EPDS (4, 6), and also of the Lithuanian version (9, 10).

Women scoring 13 and above are considered to be suffering from depression and should seek medical attention (6). For the data analysis of this study, all participating women were divided into 3 subgroups, according to the total mean score: the subgroup, which consisted of women with the EPDS mean score equalling or exceeding 13 points (which is a mark of clinical depression risk); the subgroup with the EPDS scores of 8 to 12 (which is a so called borderline group, indicating high risk for PDD); the subgroup with the EPDS scores 7 and less (without risk of PDD).

Questions about the social and domestic conditions of adaptation of the woman and her family, reasons for arriving in Lithuania, basic needs and problems were included in the questionnaire developed by the researchers for this study. Medical documentation was also used (medical records of the pregnant

Table 1. *Descriptive characteristics of samples of Ukrainian and Lithuanian group*

	UG sample (n = 50) n (%)	LG control sample 1 2022 (n = 40) n (%)	LG control sample 2 2009 (n = 331) n (%)	LG sample 2a 2010 (n = 159) n (%)
Age				
18–30 years	32 (64.0)	18 (57.5)	229 (69.2)	111 (69.8)
31–40 years	18 (36.0)	17 (42.5)	102 (30.8)	48 (30.2)
Number of pregnancies				
1st	19 (38.0)	24 (60.0)	149 (45.0)	75 (47.2)
2nd	25 (50.0)	8 (20.0)	87 (26.3)	37 (23.2)
3rd and more	6 (12.0)	8 (20.0)	95 (28.7)	47 (29.6)
Delivery mode				
Vaginal	41 (82.0)	36 (90.0)	261 (78.9)	127 (79.9)
C-section	9 (18.0)	4 (10.0)	70 (21.1)	32 (20.1)
Child gender				
Girl	23 (46.0)	22 (55.0)	175 (52.9)	77 (48.4)
Boy	27 (54.0)	18 (45.00)	156 (47.1)	82 (51.6)
Child weight				
2,400–3,000 g	7 (14.0)	0 (0.0)	42 (12.7)	17 (10.7)
3,100–4,600 g	53 (86.0)	40 (100.0)	289 (87.3)	142 (89.3)
Child age				
0–3 months	21 (42.0)	40 (100.0)	331 (100.00)	–
4–6 months	21 (42.0)	0 (0.0)	0 (0.0)	105 (66.0)
7–10 months	8 (8.0)	0 (0.0)	0 (0.0)	54 (34.0)
Child feeding type				
Breast feeding	29 (58.0)	40 (100.0)	40 (100.0)	104 (65.4)
Formula	21 (42.0)	0 (0.0)	0 (0.0)	39 (24.5)

UG – Ukrainian group; LG – Lithuanian group

woman, history of childbirth, history of the newborn in the postpartum ward and the data on observation during pregnancy in Ukraine and Lithuania), which included the parity of the woman, information on the course of childbirth and the postpartum period, data on the newborn (anthropometric data, adaptation, vaccination and screenings, type of feeding and its duration in the case of breastfeeding).

Procedure

All interviewed women gave informed consent to participate in the study. The vast majority of women in the UG were interviewed by telephone using two questionnaires (in Ukrainian language), including the examination of their medical records. A certain number of women (22%) were interviewed during personal contact and all information was obtained from their interview only (did not provide medical documents). All LG women were interviewed in Lithuanian, during a personal interview during their stay at hospital after childbirth or filled-in the questionnaires in a paper-pencil mode at their stay in the hospital or (6 months later) at their home. Women in the UG, who were interviewed by telephone, had no objections to the interview, and, on the contrary, were very willing to communicate. During the survey, at the mother's request, adequate advisory assistance was provided regarding the health of the newborn child. A positive aspect of the planned research was that Ukraine and Lithuania have similar systems for providing medical care, conditions for monitoring pregnant women and infants, the cultural background and mindset of the population and medical care providers in both countries have more similarities than differences of both the population and medical workers.

Statistical Analysis

Distribution of variables in groups was calculated using frequency distribution reports. Comparisons of means among groups were conducted with Student's t-test criteria and ANOVA test. The χ^2 test was used to study associations between categorical variables. Variable scaling, descriptive statistics, Student's t-test and χ^2 test were run in SPSS 23.0. A p-value < 0.05 was considered significant.

RESULTS

The descriptive characteristics of the Ukrainian and Lithuanian women by the EPDS and a number of criteria according to the questions in the survey are shown in Table 1.

Table 2. *Comparison of EPDS mean scores in the study samples*

	n	Mean (SD)	F (df)	p-value	Bonferroni criteria
1st group: UG sample	50	11.52 (4.08)	25.53 (3)	< 0.001	1 > 2, 3, 4
2nd group: LG control sample 1 (2022)	40	5.80 (3.13)			2 < 1
3rd group: LG control sample 2 (2009)	331	7.37 (4.61)			3 < 1 3 > 4
4th group: LG control sample 2a (2010)	159	5.42 (4.49)			4 < 1, 3

UG – Ukrainian group; LG – Lithuanian group; SD – standard deviation; F (df) – F-statistics (degrees of freedom)

Table 3. *EPDS cut-off proportions in the study samples*

EPDS	UG sample 2022 (n = 50) n (%)	LG control sample 1 2022 (n = 40) n (%)	LG control sample 2 2009 0–3 months (n = 331) n (%)	LG sample 2a 2010 5–8 months (n = 159) n (%)	p-value
0–7 scores	9 (18)	28 (70.0)	196 (58.9)	116 (73.0)	< 0.001
8–12 scores	20 (40.0)	11 (27.5)	84 (25.2)	30 (18.9)	
13 and more	21 (42.0)	1 (2.5)	51 (15.9)	13 (8.2)	

UG – Ukrainian group; LG – Lithuanian group

We compared the mean EPDS scores of the UG and three groups of Lithuanian women (LG1, LG2 and LG2a). The results showed that the average mean scores of EPDS in women from Ukraine were significantly higher compared to all three Lithuanian samples (Table 2). Lithuanian mothers interviewed in 2022 and 2009–2010 did not differ in the mean scores of the EPDS.

Next, we analysed the subgroups of women with the high, middle and low risk of PDD in each sample (UG, LG1, LG2 and LG2a). By applying chi-square test we found that the proportion of women with the high scores (≥ 13) of the EPDS was different in the UG and LG samples (Table 3). The largest proportion of women with the EPDS mean score of 13 and more was in the sample of the UG, compared to the three Lithuanian samples. Only 18% of UG could be considered without risk for PDD, and 42% as having very high risk for PDD. On the contrary, two-thirds of Lithuanian women could be considered as not having risk for PDD, and only up to 15.9% as having very high risk for PDD.

Further, we have analysed UG women answers to the question: "What was the main reason for moving to Lithuania?", and the results show that the vast majority moved there after the beginning of the military aggression for reasons of reunification with their families: 8 (16%) of the interviewed women reported that their husbands were officially employed in Lithuanian companies and provided shelter for their families here, 15 (30%) women have other close relatives (father, mother, sister), who have been working or permanently living in Lithuania for a long time. A significant proportion 17 (34%) reported that they had accepted friends or acquaintances invitation. There were also those 10 (20%), who came to Lithuania by evacuation transport or in another way, fleeing from military operations and occupation through territories not controlled by Ukraine, then through the Russian Federation, Belarus, Latvia, and Estonia. The vast majority of those interviewed – 43 (86%) came to Lithuania from "hot" spots that were occupied, or where military operations were taking place or were close to the front, at the time when women left these places (Kyiv and region, Sumy, Chernihiv, Mariupol, Kherson, Zaporizhzhia, and the territories adjacent to them, including the occupied, Kharkiv, Kramatorsk, Severodonetsk). Others came from relatively "calm" territories (Lviv, Uzhhorod, Chernivtsi) (Table 4). However, in Ukraine, since the beginning of the full-scale aggression of the Russian Federation, no territory can be considered safe: missile attacks or drone attacks were recorded everywhere, and the air alarm had sounded several times a day.

Next, we have analysed the accommodation, social protection and access to medical service in Lithuania for UG women and their family members, as related to their emotional state. The majority of respondents (70%) reported the impossibility of free medical service due to the lack of state health insurance (for refugees – provided only to pregnant and women after delivery during 40 days, infants till 1 year old and for the persons who are officially employed). Therefore, medical service for women and older children should be paid for. As for accommodation, 43 (86%) women reported quite acceptable living conditions (social housing, shelter for temporarily displaced persons), where there was heating, water and other necessities. Everyone who came to stay with relatives or friends noted that the living conditions were quite good.

Finally, we compared the mean EPDS scores of UG sample according to the various maternity and living-conditions related indicators (Table 4).

There was no significant difference in EPDS mean scores between groups depending on maternal age, the number of pregnancy and delivery, delivery mode, child age, child feeding type, and residential place in Ukraine. The only significant difference observed: UG who arrived to Lithuania from Ukraine because of husband and close relatives, who have been already resident in Lithuania, had lower EPDS scores.

We also checked, if the Ukrainian women, who arrived from occupied zone, differed from the rest in other indicators. We found only one difference: the proportion of younger infants

Table 4. *EPDS mean score differences in the Ukrainian group depending on social and birth-related indicators (N = 50)*

Indicators		n	Mean (SD)	F (df)	p-value
Maternal age	18–30 years	32	12.19 (3.68)	1.25 (48)	0.124
	31–40 years	18	10.33 (4.58)		
Number of pregnancies/deliveries	1	19	11.63 (3.98)	0.055 (2.47)	0.947
	2	22	11.56 (4.37)		
	3 and more	6	11.00 (3.79)		
Delivery mode	Vaginal	41	11.73 (4.17)	0.568 (48)	0.439
	C-section	9	10.56 (3.75)		
Child age	0–3 months	21	12.43 (3.50)	0.917 (2.47)	0.407
	4–6 months	21	10.76 (4.91)		
	7–10 months	8	11.13 (2.90)		
Feeding type	Breast feeding	29	11.10 (4.21)	0.21 (48)	0.402
	Formula	21	12.10 (3.92)		
Reason for arrival to Lithuania	Husband and close relatives	23	10.22 (4.55)	4.01 (48)	0.036
	Friends and by accident	27	12.63 (3.33)		
Residential place in Ukraine	Occupied zone	27	12.19 (4.07)	0.942 (2.47)	**0.397**
	Kyiv region	16	11.06 (3.75)		
	Other	7	10.00 (4.90)		

SD – standard deviation, F (df) – F-statistics (degrees of freedom)

(0–3 months) was higher in mothers from the occupied zone, in comparison with mothers from Kyiv or another region ($\chi^2 = 15.29$, $p = 0.004$). The reason of the arrival to Lithuania was not related to the maternal and child age, feeding, delivery type, infant gender.

DISCUSSION

The results of this study revealed that the risk of postpartum depression, as well as the mean scores of PPD as evaluated by EPDS, in Ukrainian women were much higher compared to sample of Lithuanian women. Moreover, the proportion of 42% of Ukrainian women exceeding the threshold for the high risk of PPD (≥13) was also much higher than reported in other studies (5–8).

In the sample of Ukrainian women, those pregnant women who arrived and/or resided in Lithuania together with husband or the close relatives, had significantly lower scores of PPD. This confirms the role of social support as the significant protective factor in PPD (9). On the other hand, women who are separated from close others and especially during crises should be provided with additional social support during such a sensitive period as pregnancy and motherhood.

The results of our research indicate that such stressful experiences as being in the combat zone and/or being a war refugee considerably increases the adverse consequences for pregnancy and maternity. These results add to the previous studies conducted elsewhere (10–14), showing that armed conflicts lead to many traumatic and long-term negative effects on health.

In this study, we focused only on women's emotional state and did not delve into the specifics of the health status of infants. Also, we had no possibility to evaluate the long-term effects. Moreover, due to relatively small study sample we could not analyse some of the factors. For example, during an individual interview with women participating in this study, we figured out that the Ukrainian women, who had an overall score on the EPDS above 13, were significantly more likely to encounter situations related to household problems, lack of funds, illnesses, or other issues of older children in the family, as well as tragic situations in Ukraine (e.g., death or serious injury of loved ones, destruction of hometown, etc.). As the number of these factors was small, we could not combine them for statistical processing. In addition, the data from the questionnaires usually give us a "pure" statistics and do not reflect the real psychological state and needs of women, and the majority of important information could be received during a personal in-depth conversation.

In summarizing and evaluating the evidence revealed in this study, exposure to armed conflict has multiple effects on pregnancy outcomes. In particular, exposure to armed conflicts increases the risks of premature birth and low birth weight babies (26, 27), also significantly increases anxiety in mothers (6, 11,12). The long-term health consequences of low birth weight are significant, as such infants are at increased risk of morbidity and mortality and will require increased health care throughout life. Although the evidence for other outcomes is less conclusive, our research also identifies an increased incidence of adverse outcomes in postpartum women exposed to armed conflict.

Limitations

The number of respondents of the Ukrainian group in this study was limited due to the difficulty of obtaining permission (long procedure for obtaining approval of ethical committee) to conduct research in other obstetric facilities in Lithuania. A small sample of respondents does not allow to generalise our findings. Ukrainian and Lithuanian groups were not homogeneous; thus this limitation does not allow to make a qualitative reliable comparisons. Moreover, we have no sufficient data for PPD in Ukrainian

populations to compare the emotional state of participating UG women to those Ukrainian women who gave birth in Ukraine after the armed conflict had started, or who gave birth in Ukraine during the peaceful time.

There is a need for further longitudinal studies with larger samples to estimate the exact situation in terms of mental and physical health of postpartum women and their children in war refugees.

CONCLUSION

The main conclusion of this study is that stressful events such as fleeing from armed conflicts and experiencing temporal displacement in other country significantly increase the risk for postpartum depression during pregnancy and maternity, although the support of closest persons and convenient surrounding ensure the pregnant women and women after delivery better emotional state. Further well-designed studies are needed to add weight to the conclusions drawn. Nevertheless, the results of this research should be kept in mind when treating patients affected by armed conflict, and systems should be put in place to support these individuals. Pregnancy surveillance recommendations are also particularly important to consider for physicians in other countries who may be treating women displaced by armed conflict.

In the countries of Eastern Europe, there is a lack of specific recommendations for the detection and treatment of postnatal depression. Until national guidelines are formulated, there are various valuable international guidelines that can be adapted to local conditions. There are new guidelines from the American College of Obstetricians and Gynaecologists and the American Psychiatric Association for the treatment of depression during pregnancy (25) and from the National Institute for Health and Care Excellence (26). They offer evidence-based advice on the recognition, assessment, care and treatment of mental health problems in women during pregnancy and the postpartum period, as well as in women planning to become pregnant (25–27).

Paediatricians worldwide also need to offer additional care to support the physical and mental health of refugee children and their families. Numerous Ukrainian refugees have arrived in many European countries, and we need to benefit from the lessons learned in previous migrant waves (27–29). We should continue our daily clinical, research, teaching, and editorial work, convinced today more than ever that “whoever preserves a single life, is considered to have spared a complete world” (17–19, 30).

Acknowledgement

The authors are grateful to staff of neonatology and obstetric department in Vilnius City Clinical Hospital and the Vilnius Maternity Hospital for their support and help during the follow-up phase in the data collection and clinical interviews.

Conflicts of Interest

None declared

REFERENCES

1. Southall D. Armed conflict women and girls who are pregnant, infants and children; a neglected public health challenge. What can health professionals do? Early Hum Dev. 2011 Nov;87(11):735-42.
2. World Health Organization. Violence prevention alliance: terms of reference [Internet]. Geneva: WHO; 2010 [cited 2024 Nov 11]. Available from: https://cdn.who.int/media/docs/default-source/violence-prevention-alliance-section/violence-prevention-alliance-tors.pdf?sfvrsn=af31fd8a_3.
3. Slone M, Mann S. Effects of war, terrorism and armed conflict on young children: a systematic review. Child Psychiatry Hum Dev. 2016 Dec;47(6):950-65.
4. Levis B, Negeri Z, Sun Y, Benedetti A, Thombs BD; DEPRESsion Screening Data (DEPRESSD) EPDS Group. Accuracy of the Edinburgh Postnatal Depression Scale (EPDS) for screening to detect major depression among pregnant and postpartum women: systematic review and meta-analysis of individual participant data. BMJ. 2020 Nov 11;371:m4022. doi: 10.1136/bmj.m4022.
5. Shorey S, Chee CYI, Ng ED, Chan YH, Tam WWS, Chong YS. Prevalence and incidence of postpartum depression among healthy mothers: a systematic review and meta-analysis. J Psychiatr Res. 2018 Sep;104:235-48.
6. Slomian J, Honvo G, Emonts P, Reginster JY, Bruyère O. Consequences of maternal postpartum depression: a systematic review of maternal and infant outcomes. Women Health (Lond). 2019 Jan-Dec;15:1745506519844044. doi: 10.1177/1745506519844044.
7. Heer K, Mahmoud L, Abdelmeguid H, Selvan K, Malvankar-Mehta MS. Prevalence, risk factors, and interventions of postpartum depression in refugees and asylum-seeking women: a systematic review and meta-analysis. Gynecol Obstet Invest. 2024;89(1):11-21.
8. Blackmore R, Gibson-Helm M, Melvin G, Boyle JA, Fazel M, Gray KM. Validation of a Dari translation of the Edinburgh Postnatal Depression Scale among women of refugee background at a public antenatal clinic. Aust N Z J Psychiatry. 2022 May;56(5):525-34.
9. Zamalijeva O, Jusienė R. [Predictors of women’s depression during postpartum period]. Psichologija. 2010;42:59-73. Lithuanian.
10. Jusienė R, Žalienė J. [Pregnancy and delivery complications and psychosocial factors as predictors of postpartum depression]. Lietuvos akušerija ir ginekologija. 2012;15(1):23-33.
11. Khalifa DS, Glavin K, Bjertness E, Lien L. Postnatal depression among Sudanese women: prevalence and validation of the Edinburgh Postnatal Depression Scale at 3 months postpartum. Int J Womens Health. 2015 Jul 8;7:677-84.
12. Santoro K, Peabody H. Identifying and treating maternal depression: strategies and considerations for health plans [Internet] Washington: NIHCM Foundation; 2010 [cited 2024 Nov 11]. Available from: https://nihcm.org/publications/identifying-treating-maternal-depression-strategies-considerations-for-health-plans.
13. Operational Data Portal. Ukraine refugee situation [Internet]. Geneva: UNHCR [cited 2024 Nov 11]. Available from: https://data2.unhcr.org/en/situations/ukraine.
14. United Nation. Briefing - humanitarian impact of the war in Ukraine: response from universities [Internet]. New York: UN [cited 2024 Nov 11]. Available from: https://www.un.org/en/academic-impact/briefing-humanitarian-impact-war-ukraine-response-universities.
15. UN Human Rights. Ukraine: civilian casualty update 22 May 2023 [Internet]. Geneva: OHCHR: 2023 [cited 2024 Nov 11]. Available from: https://www.ohchr.org/en/news/2023/05/ukraine-civilian-casualty-update-22-may-2023.
16. UNICEF. Ukraine situation reports: humanitarian action for children [Internet]. New York: UNICEF [cited 2024 Nov 11]. Available from: https://www.unicef.org/ukraine/en/ukraine-situation-reports.
17. Southall DP, MacDonald R, Kostiuk O, Shcherbakov V, Deierl A. The UN must provide secure medical and humanitarian assistance in Ukraine. Lancet. 2022 Apr 2;399(10332):1301-2.
18. Kenny A. Call for humanitarian action to help sick babies in Ukraine [Internet]. Dublin: RTÉ; 2022 [cited 2024 Nov 11]. Available from: https://www.rte.ie/news/2022/0305/1284613-ukraine-health/.
19. McClure T, Bryant M. Fear, darkness and newborn babies: inside Ukraine’s underground shelters [Internet]. London: The Guardian; 2022 [cited 2024 Nov 11]. Available from: https://www.theguardian.com/world/2022/feb/26/fear-darkness-and-newborn-babies-inside-ukraine-underground-shelters.
20. LRT. Lithuania’s population increases by 54,000 due to Ukrainian refugee influx [Internet]. Vilnius: LRT; 2023 [cited 2024 Nov 11]. Available from: https://www.lrt.lt/en/news-in-english/19/1867505/lithuania-s-population-increases-by-54-000-due-to-ukrainian-refugee-influx.
21. Al Gasseer N, Dresden E, Keeney GB, Warren N. Status of women and infants in complex humanitarian emergencies. J Midwifery Womens Health. 2004 Jul-Aug;49(4 Suppl 1):7-13.

22. Keasley J, Blickwedel J, Quenby S. Adverse effects of exposure to armed conflict on pregnancy: a systematic review. BMJ Glob Health. 2017 Nov 28;2(4):e000377. doi: 10.1136/bmjgh-2017-000377.
23. Wild H, Stewart BT, LeBoa C, Stave CD, Wren SM. Pediatric casualties in contemporary armed conflict: a systematic review to inform standardized reporting. Injury. 2021 Jul;52(7):1748-56.
24. Horlings A, Hein I. Psychiatric screening and interventions for minor refugees in Europe: an overview of approaches and tools. Eur J Pediatr. 2018 Feb;177(2):163-9.
25. Kim DR, O'Reardon JP, Epperson CN. Guidelines for the management of depression during pregnancy. Curr Psychiatry Rep. 2010 Aug;12(4):279-81.
26. National Institute for Health and Care Excellence. Antenatal and postnatal mental health: clinical management and service guidance: clinical guideline [CG192] [Internet]. London: NICE; 2014 [cited 2024 Nov 11]. Available from: https://www.nice.org.uk/guidance/cg192.
27. Baauw A, Ritz N. Towards better healthcare for migrant and refugee children in Europe. Eur J Pediatr. 2018;177(2):161-2.
28. Shenoda S, Kadir A, Pitterman S, Goldhagen J; Section on International Child Health. The effects of armed conflict on children. Pediatrics. 2018 Dec;142(6):e20182585. doi: 10.1542/peds.2018-2585.
29. Pearn J. Children and war. J Paediatr Child Health. 2003 Apr;39(3):166-72.
30. Uppsala University. Uppsala University Conflict Data Program (UCDP) [Internet]. Uppsala: Uppsala University; 2024 [cited 2024 Nov 11]. Available from: https://www.uu.se/en/department/peace-and-conflict-research/research/ucdp/.

Received August 3, 2023
Accepted in revised form November 10, 2024