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Research article

Changes in the emotional state of mothers of extremely premature children (born before 28 weeks)

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Abstract

*Introduction***.** In recent years, the issue of women's mental health in the postpartum period has attracted growing attention from specialists across disciplines. Particular focus has been placed on women who give birth to premature infants and their psychological well-being; however, only a few recent studies have examined the emotional state of mothers of premature *children.* This article presents findings from a study on changes in the emotional state of mothers of extremely premature children (born before 28 weeks).

Materials and Methods. The longitudinal study involved 18 mothers of extremely premature children aged 29–41 years. Empirical data were collected using the Perinatal Anxiety Screening Scale (PASS-R) adapted by M. A. Korgozha and A. O. Evmenenko; the Edinburgh Postnatal Depression Scale (J. L. Cox, J. M. Holden, R. Sagovsky) adapted by G. E. Mazo, L. I. Wasserman, and M. V. Shamanina; and the Clinical Questionnaire for Detection and Assessment of Neurotic States (K. K. Yakhin and D. M. Mendelevich). The analysis of empirical data included descriptive statistics, and the Wilcoxon signed-rank test (W) was used to calculate differences between the first and second stages of the study.

Results. Mothers of extremely premature children exhibited pronounced symptoms of anxiety and specific fears, which became more severer 12–14 weeks after birth. They also showed signs of asthenia and postpartum depression, which likewise intensified within 12–14 weeks after birth. By contrast, they did not exhibit pronounced symptoms of generalized anxiety, fear of social contacts, or a need for constant control.

Conclusion. The findings highlight the need for further research on the emotional state of mothers of premature infants, taking into account the gestational age of the children at birth The aim of further research may be to obtain additional evidence on women's mental health and to implement support measures for mothers facing premature birth and for those who have delivered a premature infant.

Keywords: medical psychology, emotional state, premature birth, premature infant, anxiety, depression

Научная статья

Динамика эмоционального состояния у матерей детей, рожденных крайне преждевременно (менее 28 недель)

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Аннотация

Введение. Проблема психического здоровья женщин в послеродовом периоде в последние годы привлекает внимание специалистов различного профиля. Особое внимание в этой связи уделяется женщинам в ситуации рождения недоношенного ребенка и их психологическому благополучию, однако за последнее время лишь немногочисленные исследования касаются эмоционального состояния матерей недоношенных детей. Настоящая статья посвящена изучению динамики эмоционального состояния у матерей детей, рожденных крайне преждевременно (менее 28 недель).

Материалы и методы. В лонгитюдном исследовании приняли участие 18 матерей детей, рожденных крайне преждевременно (менее 28 недель), в возрасте от 29 до 41 года. Для сбора эмпирических данных использовались следующие психодиагностические методики: Скрининговая шкала перинатальной тревоги (The Perinatal Anxiety Screening Scale — PASS-R) в адаптации М. А. Коргожи и А. О. Евмененко; Эдинбургская шкала послеродовой депрессии Дж. Л. Кокс, Дж. М. Холден, Р. Саговский в адаптации Г. Э. Мазо, Л. И. Вассермана, М. В. Шаманиной; Клинический опросник для выявления и оценки невротических состояний К. К. Яхина и Д. М. Менделевича. Анализ эмпирических данных включал в себя методы описательной статистики. Для расчета различий показателей на первом и втором этапах исследования использовался Т-критерий Вилкоксона (W).

Результаты. У матерей детей, рожденных крайне преждевременно (менее 28 недель), в эмоциональном состоянии присутствуют выраженные симптомы тревоги, а также специфические страхи, выраженность которых возрастает через 12–14 недель после родов. В эмоциональном состоянии матерей наблюдаются симптомы послеродовой депрессии, также возрастающие к 12–14-й неделе после рождения недоношенного ребенка, как и симптомы астении. Важно отметить, что в эмоциональном состоянии матерей детей, рожденных крайне преждевременно (менее 28 недель), отсутствуют выраженные симптомы генерализованной тревоги, страх социальных контактов, а также стремление к постоянному контролю.

Заключение. Результаты настоящего исследования подтверждают необходимость дальнейшего изучения эмоционального состояния матерей в ситуации рождения недоношенного ребенка, с учетом категории детей по сроку рождения. Целью дальнейших исследований может стать получение дополнительных научных данных о психическом здоровье женщин и реализация мер поддержки для матерей в ситуации преждевременных родов и рождения недоношенного ребенка.

Ключевые слова: медицинская психология, эмоциональное состояние, преждевременные роды, недоношенный ребенок, тревога, депрессия

Introduction

The World Health Organization defines premature, or preterm, birth as 'babies born alive before 37 weeks of pregnancy are completed'. Preterm births remain a major healthcare concern and the main cause of neonatal morbidity and mortality worldwide (Lee et al. 2019). According to the latest data, approximately 15 million infants around the globe — 10–11 % of all life births — are born prematurely every year (Vokhidov et al. 2023). In Russia alone, the annual number of premature births exceeds 100,000, the Ministry of Health reports (Nizamova 2020).

Neonatology research shows that premature infants are at an increased risk of neurodevelopmental disorders and somatic complications; they are also more likely to develop long-term health issues with a lasting impact on their overall quality of life (Zivaljevic et al. 2024).

Over the past decade, psychological studies have centered around the emotional state of mothers that went into premature labor and delivered a preterm infant. Multiple papers have confirmed that mothers of premature children exhibit greater levels of stress and anxiety, along with stronger symptoms of postpartum depression (Andrushchenko et al. 2024; Bodunde et al. 2024; Hamon et al. 2023; Padilla-Muñoz et al. 2024). Moreover, the mother's emotional state — and the very fact that her baby is taken away from her to the neonatal intensive care unit — deprives her of physical contact with the infant, which in turn disrupts essential mother–child bonding; as a result, women may experience difficulties in interpreting the infant's signals and understanding its needs (Medina et al. 2018).

Adding to the above, topical research carried out over the past five years has identified a distinct category of anxiety that affects women during the antenatal and postnatal period: perinatal anxiety. This emotional state is characterized by persistent and pronounced tension, preoccupation with the circumstances of childbirth, excessive worry about pregnancy, labor, and/or the postpartum period, and a lingering 'premonition' that the pregnancy will have an adverse outcome affecting the child's health and well-being (Korgozha et al. 2023). Premature childbirth is a risk factor for higher levels of perinatal anxiety in the mother, as supported by a number of studies (Yang et al. 2023; Silverwood et al. 2022).

A review of academic literature reveals that women who deliver preterm infants are much more likely to develop postpartum depression. A number of studies demonstrate that as many as 14–63 % of mothers with premature children suffer from depressive symptoms. In psychological terms, postpartum depression, also known as postnatal depression, is defined as a form of depressive disorder that emerges shortly after childbirth, as the woman adapts to motherhood and her body undergoes hormonal changes (Korotaeva et al. 2019). In this state, the woman's overall mood worsens, her interests fade, and she feels both mental exhaustion and unpleasant physical sensations in various parts of her body. Authors note that premature childbirth is frequently associated with signs of emotional asthenia in the mother, including mood swings, heightened fatigue, and other autonomic disorders (Alberque et al. 2008).

Not as many studies, however, delve into the delayed onset of negative emotional state in preterm mothers, or into the adverse impact this state has on their mental health. It has been established that premature delivery is more likely to prolong the mother's stress, anxiety, and postpartum depression symptoms, potentially even prompting signs of post-traumatic stress disorder (Carson et al. 2015). Studies have further shown that elevated psychological stress in mothers of premature children may persist for several months, sometimes for over a year; notably, such women tend to feel insecure about their ability to be a good parent (Bener 2013; Ouwendijk-Andrea et al. 2020). Russian studies reaffirm that mothers continue to suffer the negative emotional consequences of their child's premature birth for an extended period of time; nonetheless, scientific data collected specifically in Russia is somewhat lacking (Andrushchenko et al. 2024).

Of particular research interest are infants delivered before 28 weeks of gestation; they are considered to be extremely premature and account for roughly 0.5 % of all preterm newborns. They are at high risk of postnatal complications and have the highest infant mortality rates (Ananth, Vintzileos 2008; Manley et al. 2014). Furthermore, extremely premature infants are much more likely to develop respiratory, cardiovascular, and neurological disorders than the very premature, moderately premature, or late preterm infants. This increased risk may result in longer inpatient unit stays, future hospitalizations, and

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the development of severe chronic illnesses (Amirova et al. 2019).

Both Russian and international studies indicate that mothers of extremely premature children experience a significantly more difficult postpartum period, marked by more pronounced stress and anxiety, and, over time, symptoms of postpartum depression (Janssen et al. 2023). In some cases, this elevated stress may be associated with medical complications sustained by the premature infant following the first and second stages of hospital care (Misund et al. 2014; Trumello et al. 2018).

Understanding the dynamic progression of women's emotional state in such contexts offers substantial practical value. Research-backed insights into the long-term consequences of maternal anxiety and depression — and into the potential effects of maternal symptoms on the child's emotional and psychophysical development — can provide a foundation for future comprehensive screening and intervention programs. Such programs should be initiated as early as possible, while both mother and infant remain at the perinatal center (Zakharova et al. 2022; Chloe et al. 2023). Accordingly, this paper aims to explore temporal evolution of emotional states in women who delivered extremely premature infants, specifically, by tracing the trajectories of perinatal anxiety, postpartum depression, and asthenic symptoms.

Research design and methodology

Our longitudinal study was carried out from 2021 to 2023 at the obstetric physiological ward of the Perinatal Center at Saint Petersburg State Pediatric Medical University of the Russian Ministry of Health. The Local Ethics Committee approved the study on 11 November 2021 (Minutes No. 04/05).

The study was conducted in two stages and involved 18 female volunteers aged 29–41 years, each of whom had delivered her child extremely prematurely (before 28 weeks). Exclusion criteria were age over 45, congenital fetal malformations, or a documented history of significant psychiatric conditions. All enrolled participants reported no prior psychiatric disorders or depressive episodes. The first stage of the study took place during the first week following the premature delivery, while the mother and child remained hospitalized at the Perinatal Center. This stage included clinical data analysis, an interview with a medical psychologist, and completion of a custom socio-demographic questionnaire, specially designed for the study (with separate versions for the first and second stage). To assess their emotional state, participants completed the following: the Perinatal Anxiety Screening Scale (PASS-R) adapted by M. A. Korgozha and A. O. Evmenenko; the Edinburgh Postnatal Depression Scale adapted by G. E. Mazo, L. I. Wasserman, and M. V. Shamanina; and the Clinical Questionnaire for Detection and Assessment of Neurotic States developed by K. K. Yakhin and D. M. Mendelevich (Mendelevich 2008; Shamanina, Mazo 2015; Korgozha, Evmenenko 2023).

The second stage of the study unfolded 12–14 weeks following the premature delivery, with participants filling out a form online. This interval was selected because research indicates that, while early initiation of rehabilitation for premature infants — whether in outpatient settings or early intervention units — is critical within the first three to four months, the mother's concurrent emotional distress may impede timely engagement in such programs (Surenkova 2021). At this stage, participants completed the second version of the custom socio-demographic questionnaire with follow-up questions that addressed the postpartum period's progression, the somatic health of both mother and infant, the mother's need for psychological support, and the availability of childcare assistance from immediate family and close friends. The psychodiagnostic instruments used during the first stage of the study were readministered to assess the changes in the mother's mental state. Additionally, both study stages included a questionnaire on adverse life circumstances (within the previous 12 months at the first stage of the study and within the previous 3 months at the second stage).

Participants had a mean age of 33.27 ± 3.84 years and delivered at a mean gestational age of 25.83 ± 1.33 weeks. All women enrolled in the study resided in Saint Petersburg or the surrounding Leningrad Region throughout both stages. The majority were legally married (94.4 %), while 5.56 % were in a common-law relationship. Regarding educational attainment, 88.89 % held a completed university degree, 5.56 % had incomplete university education, and another 5.56 % had vocational education. At the time of the study, 55.56 % of participants were employed, while the remaining 44.44 % did not have steady full-time

employment. When assessing perceived income level, 72.22 % described themselves as middle-income, 16.67 %, as high-income, and 11.11 %, as low-income. Notably, just over half (55.56 %) reported satisfaction with their material circumstances. During the year preceding the study (including the pregnancy period), 22.22 % of respondents had sought mental health assistance; the remaining participants reported no significant prior psychiatric history. When queried about adverse life circumstances over the previous 12 months, 61.11 % of respondents reported one or more negative events, most commonly loss of support from their loved ones, difficulties with a husband/partner, and major life disruptions such as relocation, etc.

The analysis of empirical data included descriptive statistics, and the Wilcoxon signed-rank test (W) was used to calculate differences between the first and second stages of the study. Statistical analysis was performed using IBM SPSS Statistics v. 26.

Results and discussion

Clinical data analysis showed that 83.33 % of participants had a history of chronic conditions, most frequently involving the ENT, dermatological, and gastrointestinal systems. For 22.22 % of respondents, this was their first pregnancy, for 38.89 %, their second, and for another 38.89 %, their third. Out of the women participating in the study, 55.56 % became pregnant after planning to conceive within the same year, and 33.33 % became pregnant after planning to conceive for more than a year. For 11.11 %, the pregnancy was unplanned. More than one-fifth (22.22 %) of respondents had utilized some form of reproductive assistance to achieve pregnancy. All study participants experienced pregnancy complications — most commonly isthmic-cervical insufficiency, gestational diabetes, and threatened preterm labor. Over one half of respondents (55.56 %) had been hospitalized at least once during their pregnancy. All women involved in the study had delivered their child via emergency C-section.

Following the preterm delivery, all premature infants were admitted to the neonatal intensive care unit (NICU) of the Perinatal Center, while their mothers remained at the obstetric physiological ward and were permitted to visit. The majority of participating mothers (66.7 %) reported complete satisfaction with their interactions with the Center's medical staff.

Within the 12–14-week postpartum period, 72.22 % of mothers and their children were discharged from hospital once the second stage of premature infant care was complete. The remaining 27.78 % of mothers and their children remained hospitalized and under observation in the maternity ward of the neonatal and infant pathology unit. Of the infants, 33.33 % were exclusively breastfed, 27.78 % received mixed feeding, and 38.89 % were formula-fed. At the second stage of the study, all mothers reported that they required consultations with a range of specialist healthcare professionals (e.g., neurologist, ophthalmologist, pulmonologist, gastroenterologist) to provide ongoing care for their child.

A total of 66.67 % of mothers reported experiencing adverse life circumstances during the preceding three months. The most frequently cited events included conflicts with family members, difficulties with the husband/partner, housing problems, and serious physical health issues affecting a close family member. About 45 % of respondents noted that they were receiving childcare assistance from their closest support network. Only 16.67 % of women sought help from a mental health professional during the second stage of the study. To track changes in the emotional state of extremely preterm mothers, we calculated mean scores for all the psychodiagnostic instruments administered at the first and second stages of the study. Changes over time were evaluated using the Wilcoxon signed-rank test (see Table).

The scores obtained for anxiety symptoms — each corresponding to a subscale under the Screening Scale (see Table) — show that overall, mothers scored within the range indicative of severe anxiety (45.56 ± 15.66 points) across all parameters during the first week following the preterm delivery. The second stage of the study saw an increase in this figure, which reached 48.33 ± 14.86, likewise pointing to severe anxiety and constituting a statistically significant change ($p \leq 0.05$). These findings suggest that the level of anxiety is characterized by pronounced and persistent symptoms that markedly impede maternal adaptation during the perinatal period, potentially diminishing quality of life and increasing the risk of developing an anxiety disorder.

To delineate specific manifestations of perinatal anxiety in this population necessitates a more

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Table. The changes in the emotional state of mothers of extremely premature children

The scales of psychodiagnostic methods	Mean scores		Wilcoxon signed-rank test (W) z/p
	The first stage of the study (one week after birth)	The second stage of the study (12–14 weeks after birth)	
The Perinatal Anxiety Screening Scale (PASS-R)			
Overall score	45.56 ± 15.66	48.33 ± 14.86	–2.021 / **0.043**
Sub-scale 1. Acute and obsessive anxiety	16.17 ± 7.66	16.94 ± 6.84	–1.545 / 0.122
Sub-scale 2. Social anxiety.	6.83 ± 4.66	6.56 ± 4.53	–0.970 / 0.332
Sub-scale 3. Obsessive perfectionism	7.17 ± 4.03	6.11 ± 3.80	–1.856 / 0.063
Sub-scale 4. Specific fears	11 ± 3.55	12.61 ± 2.25	–2.361 / **0.018**
Sub-scale 5. Problems of adaptation (dissociation)	4.83 ± 2.53	6.11 ± 2.97	–2.323 / **0.020**
The Edinburgh Postpartum Depression Scale			
Overall score	9.94 ± 4.83	12.67 ± 4.43	–2.062 / **0.039**
The Clinical Questionnaire for Detection and Assessment of Neurotic States			
Anxiety	–1.13 ± 3.70	–1.51 ± 3.81	–0.632 / 0.528
Neurotic depression	–0.40 ± 3.47	–2.16 ± 2.80	–2.243 / **0.025**
Asthenia	–1.41 ± 4.42	–1.94 ± 3.45	–0.370 / 0.711
The hysterical type of reaction	2.30 ± 2.51	2.14 ± 2.15	–0.457 / 0.647
Obsessive-phobic disorders	0.36 ± 4.17	0.92 ± 3.40	–1.154 / 0.248
Autonomic disorders	–1.82 ± 4.68	–1.38 ± 4.36	–1.132 / 0.257

Note: Significance levels where p ≤ 0.05 are shown in bold.

Табл. Сравнение показателей динамики эмоционального состояния у матерей детей, рожденных крайне преждевременно

Наименование шкал психодиагностических методик	Средние значения показателей		Значения Т-критерия Вилкоксона, z/p
	Первый этап (первая неделя после родов)	Второй этап (через 12–14 недель после родов)	
Скрининговая шкала перинатальной тревоги (The Perinatal Anxiety Screening Scale — PASS-R)			
Общий балл	45,56 ± 15,66	48,33 ± 14,86	–2,021 / **0,043**
Субшкала 1. «Острая и навязчивая тревога»	16,17 ± 7,66	16,94 ± 6,84	–1,545 / 0,122
Субшкала 2. «Социальная тревога»	6,83 ± 4,66	6,56 ± 4,53	–0,970 / 0,332
Субшкала 3. «Навязчивый перфекционизм»	7,17 ± 4,03	6,11 ± 3,80	–1,856 / 0,063
Субшкала 4. «Специфические страхи»	11 ± 3,55	12,61 ± 2,25	–2,361 / **0,018**
Субшкала 5. «Проблемы адаптации (диссоциация)»	4,83 ± 2,53	6,11 ± 2,97	–2,323 / **0,020**
Эдинбургская шкала послеродовой депрессии			
Общий балл	9,94 ± 4,83	12,67 ± 4,43	–2,062 / **0,039**
Клинический опросник для выявления и оценки невротических состояний К. К. Яхина и Д. М. Менделевича			
Шкала тревоги	–1,13 ± 3,70	–1,51 ± 3,81	–0,632 / 0,528
Шкала невротической депрессии	–0,40 ± 3,47	–2,16 ± 2,80	–2,243 / **0,025**
Шкала астении	–1,41 ± 4,42	–1,94 ± 3,45	–0,370 / 0,711
Шкала истерического типа реагирования	2,30 ± 2,51	2,14 ± 2,15	–0,457 / 0,647
Шкала обсессивно-фобических нарушений	0,36 ± 4,17	0,92 ± 3,40	–1,154 / 0,248
Шкала вегетативных нарушений	–1,82 ± 4,68	–1,38 ± 4,36	–1,132 / 0,257

Примечание: Жирным шрифтом отмечены уровни значимости, где p ≤ 0,05.

detailed examination of individual psychodiagnostic parameters. This distinct emotional profile should be taken into account when delivering comprehensive medical and psychological care to women following preterm delivery.

For example, scores on the Specific Fears subscale increased from 11.00 ± 3.55 points at the first study stage to 12.61 ± 2.25 points at the second stage, reflecting a statistically significant change ($p \leq 0.05$). This subtype of anxiety is specific to the perinatal period and may indicate that the mother is not yet psychologically prepared to care for her preterm infant. Elevated scores on this subscale have also been associated with an increased risk of postpartum depression (Korgozha et al. 2023). This parameter underwent a statistically significant increase throughout the postpartum period, reflecting that perinatal anxiety becomes more pronounced by 12–14 week following premature delivery ($p \leq 0.05$).

Our findings on mothers' adaptation (dissociation) indicate no notable adaptation difficulties during the first week following preterm delivery. By the second stage of the study, however, the corresponding figures had increased to 6.11 ± 2.97 points, reflecting a statistically significant change ($p \leq 0.05$). These findings suggest that adaptation difficulties — including avoidance of anxiety-provoking situations — emerge 12–14 weeks after preterm birth. This may reflect the mother's efforts to restructure her daily life in response to the specialized care demands of her preterm infant. Adapting to these changing circumstances requires considerable patience and substantial personal resources.

As indicated by median scores on generalized anxiety, social anxiety, and obsessive perfectionism scales (see Table), mothers do not exhibit significant fear of social contacts or a compelling need for sustained control. No statistically significant changes occur 12–14 weeks following preterm birth (≥ 0.05). This suggests an adaptive level of trait anxiety, with no evidence of heightened concern regarding negative social evaluation. Here, our findings align with previous reports describing trait anxiety in mothers of preterm infants as within an optimal range (Trumello et al. 2018). It might also be plausible that assistance from the mother's support network, endorsed by approximately half of respondents, may have contributed to reduced anxiety in social contexts.

With respect to postpartum depression, second-stage data are of particular interest (12.67 ± 4.43 points). These figures imply that 12–14 weeks post-delivery, mothers exhibited low mood, emotional lability, and increased fatigue. The finding that postpartum depressive symptoms were more pronounced at the second study stage is supported by statistical analysis ($p \leq 0.05$).

Analysis of responses to K. K. Yakhin and D. M. Mendelevich's questionnaire at the first stage of the study reveals the lowest mean scores on the Asthenia (–1.41 ± 4.42) and Autonomic Disorders (–1.82 ± 4.68) scale, suggesting that in the first week following premature birth, mothers commonly experienced heightened fatigue, irritability, rapid emotional fluctuations, and diminished overall physical well-being. No statistically significant changes were observed for these scales at the second stage of the study ($p \geq 0.05$). Nevertheless, asthenic symptoms persisted and showed a trend toward increased severity. As for mothers' physical self-assessment, although scores improved modestly 12–14 weeks post-delivery (–1.38 ± 4.36 points), they still remained within the clinically symptomatic range.

Manifestations of anxiety (–1.51 ± 3.81 points) and depression (–2.16 ± 2.80 points) at the second stage of the study also warrant attention. Both scores fall below the threshold of –1.28 points, indicating a decline in emotional well-being and a heightened risk of postpartum depression 12–14 weeks following preterm delivery. The change in anxiety scores was statistically significant ($p \leq 0.05$). This reflects feelings of restlessness, insecurity, and difficulties with decision-making.

Our findings suggest that women recovering from preterm delivery exhibit little inclination towards impulsive or manipulative emotional reactions and are less prone to health-related anxiety. This may be attributable to the mother's sustained focus on her preterm infant's physical well-being and her substantial investment in childcare responsibilities.

Conclusions

Analysis of changes in the emotional state of mothers of extremely premature children — specifically, symptoms of perinatal anxiety, postpartum depression, and asthenia — reveals that 12–14 weeks following delivery, maternal emotional parameters deviate from normative mean values across all assessed domains.

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Our findings demonstrate an increase in perinatal anxiety, manifested as concern regarding the postpartum period, the preterm birth itself, and the child's physical health.

An examination of postpartum depression symptoms, such as low mood, disruptions in the circadian rhythm, and loss of interest in daily activities, reveals that all such manifestations intensified during the study period. These findings confirm that preterm delivery significantly disrupts maternal emotional stability, with a concurrent trend toward more pronounced asthenic symptoms. Participating mothers exhibited increased fatigue, tearfulness, irritability, and rapid mood fluctuations.

Although beyond the primary scope of this study, an additional insight emerged from the psychodiagnostic assessment: at 12–14 weeks postpartum, mothers continued to experience adaptation difficulties and reported persistent physical discomfort.

Several limitations of this study should be acknowledged. First, although preterm birth is a relatively common occurrence, live births before 28 weeks of gestation are considerably rarer, which constrained the sample size. Second, the emotional distress and reluctance to share personal experiences among mothers of extremely preterm infants pose ethical challenges to recruitment and participation, further limiting sample availability. Third, this study did not examine the specific factors that may have contributed to the observed changes in maternal emotional state; identifying such determinants represents a key objective for future research. Additionally, we did not assess emotional state changes in women who delivered at term, a decision informed by evidence indicating that postpartum emotional adjustments following full-term delivery typically remain within normative ranges (Korgozha 2019).

The present findings underscore the need for further research into maternal emotional responses following extremely preterm delivery. Such investigations promise to yield critical insights into the mental health of women at elevated risk for developing psychiatric disorders during the first postpartum year and to inform the design and implementation of targeted support programs for families with preterm infants.

Conflict of Interest

The author declares that there is no conflict of interest, either existing or potential.

Конфликт интересов

Автор заявляет об отсутствии потенциального или явного конфликта интересов.

Ethics Approval

The study was approved by the Local Ethics Committee of Saint Petersburg State Pediatric Medical University (minutes no. 04/05 of 11 November 2021).

Соответствие принципам этики

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Data Availability Statement

The data are available upon request submitted to the corresponding author.

Заявление о доступности данных

Данные доступны по запросу, адресованному автору-корреспонденту.

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