UDC 159.9.075
DOI: 10.56871/MHCO.2024.14.83.002

THE PERCEIVED POSTPARTUM STRESS AND ITS PREDICTORS

© Maria A. Korgozha[1], Alesya O. Evmenenko[1], Lyudmila V. Kurdynko[1], Anna N. Taits[1], Anastasia A. Shulga[2]

[1] Saint Petersburg State Pediatric Medical University. Lithuania 2, Saint Petersburg 194100 Russian Federation
[2] Salvation is the Northern Capital. 59 letter F Polyustrovsky ave., Saint Petersburg 195197 Russian Federation

Contact information: Maria A. Korgozha — Candidate of Psychological Sciences, Associate Professor of the Department of Clinical Psychology. E-mail: ma.korgozha@gpmu.org ORCID: https://orcid.org/0000-0001-8422-1772 SPIN: 1547-7742

For citation: Korgozha MA, Evmenenko AO, Kurdynko LV, Taits AN, Shulga AA. The perceived postpartum stress and its predictors. Medicine and Health Care Organization. 2024;9(3):17–27. DOI: https://doi.org/10.56871/MHCO.2024.14.83.002

Received: 19.08.2024 ***Revised: 17.09.2024*** ***Accepted: 08.10.2024***

ABSTRACT. The article presents the empirical study results of the perceived stress level and its predictors in women after childbirth. The study sample consisted of 57 women who were interviewed under inpatient care in a maternity facility on the 3rd day after delivery at 37–40 gestational weeks of single pregnancy. Psychodiagnostic methods were used: the authors' original questionnaire, the Perceived Stress Scale-10, the Perinatal Anxiety Screening Scale (PASS-R), and the Edinburgh Postpartum Depression Scale. The respondents were divided into two comparison groups according to the "Overexertion" subscale (measures the subjectively perceived level of tension and stress level) of the "Perceived stress Scale — 10" method. In the early postpartum period, a high level of perceived stress was found in 38.6 % of women in the sample. Women with high levels of postpartum stress are characterized by moderate levels of general anxiety and mild symptoms of postpartum depression. Half of the women in this group in the first days after delivery noted the presence of difficulties with breastfeeding. In general, the overwhelming majority of women in the sample highly rated their own prior awareness of the specifics of delivery and pain management during delivery. They also highly rated the quality of interaction with doctors during delivery and were satisfied with this interaction and contact with doctors. Predictors of perceived stress were perinatal anxiety, symptoms of postpartum depression, as well as prior awareness of the specifics of delivery (clarity of information about the criteria for prescribing a caesarean section and the potential probability of performing this surgical intervention; clarity and completeness of information about methods, opportunities and limitations of pain relief in delivery).

KEYWORDS: postpartum stress, delivery, perinatal anxiety, postpartum depression, awareness

ВОСПРИНИМАЕМЫЙ СТРЕСС ПОСЛЕ РОДОВ И ЕГО ПРЕДИКТОРЫ

© Мария Александровна Коргожа[1], Алеся Олеговна Евмененко[1], Людмила Витальевна Курдынко[1], Анна Николаевна Тайц[1], Анастасия Александровна Шульга[2]

[1] Санкт-Петербургский государственный педиатрический медицинский университет. 194100, г. Санкт-Петербург, ул. Литовская, д. 2
[2] Спасение Северная Столица. 195197, г. Санкт-Петербург, Полюстровский пр., д. 59, литера Ф

Контактная информация: Мария Александровна Коргожа — к.п.н., доцент кафедры клинической психологии. E-mail: ma.korgozha@gpmu.org ORCID: https://orcid.org/0000-0001-8422-1772 SPIN: 1547-7742

Для цитирования: Коргожа М.А., Евмененко А.О., Курдынко Л.В., Тайц А.Н., Шульга А.А. Воспринимаемый стресс после родов и его предикторы // Медицина и организация здравоохранения. 2024. Т. 9. № 3. С. 17–27. DOI: https://doi.org/10.56871/MHCO.2024.14.83.002

Поступила: 19.08.2024 ***Одобрена: 17.09.2024*** ***Принята к печати: 08.10.2024***

РЕЗЮМЕ. В статье представлены результаты эмпирического исследования уровня воспринимаемого стресса и его предикторов у женщин после родов. Выборку исследования составили 57 женщин, которые были опрошены в условиях стационарного наблюдения в учреждении родовспоможения на 3-и сутки после родов на сроке 37–40 гестационных недель одноплодной беременности. Использовались психодиагностические методы: авторская анкета, «Шкала воспринимаемого стресса — 10» (The Perceived Stress Scale — 10), Скрининговая шкала перинатальной тревоги (Perinatal Anxiety Screening Scale, PASS-R), Эдинбургская шкала послеродовой депрессии. Респондентки были разделены на две группы сравнения по данным субшкалы «Перенапряжение» (в соответствии с уровнем субъективно воспринимаемой напряженности ситуации) по методике «Шкала воспринимаемого стресса — 10». В послеродовом периоде высокий уровень воспринимаемого стресса был выявлен у 38,6% женщин в выборке. Для женщин с высоким уровнем стресса после родов характерны средний (умеренный) уровень общей тревоги, наличие слабовыраженных симптомов послеродовой депрессии. Половина женщин данной группы в первые дни после родов отмечали наличие сложностей с грудным вскармливанием ребенка. В целом подавляющее большинство женщин выборки высоко оценивали собственную предварительную информированность об особенностях родоразрешения и обезболивания в родах. Они также высоко оценивали качество и уровень собственной удовлетворенности взаимодействием с врачами в процессе родов. Предикторами воспринимаемого стресса выступили перинатальная тревога, симптомы послеродовой депрессии, а также предварительная информированность об особенностях родоразрешения (понятность информации о критериях назначения операции кесарева сечения и потенциальной вероятности проведения данного хирургического вмешательства; понятность и полнота информации о методах, возможностях и ограничениях применения обезболивания в родах).

КЛЮЧЕВЫЕ СЛОВА: послеродовый стресс, роды, перинатальная тревога, послеродовая депрессия, информированность

INTRODUCTION

Comprehensive all-round support of a woman giving birth is one of the priority directions of modern healthcare in Russia. Despite the fact that childbirth is a physiological process for a woman's body, it can be associated with a number of psychological and emotional difficulties. Domestic and foreign studies show that a significant percentage of women perceive childbirth as a traumatic event. Approximately 3% of women develop posttraumatic stress disorder (PTSD) after childbirth, with others reporting multiple symptoms that do not meet all the criteria necessary to confirm this diagnosis [1–6]. Although increased stress levels are somewhat normal in the postpartum period [7], excessive stress poses a serious threat to the well-being of mothers and their infants [8, 9–12]. Expressed stress affects neural regulation of mothers' emotions, and can have negative consequences for their adaptation to parenthood [13] and become a major factor in dysfunctional motherhood [14–16], leading to poor quality child care and neglect. The most negative consequences for the mother-child dyad are pronounced postpartum stress in women, which is observed during 4–12 weeks after childbirth [14–17]. At the same time, a number of researchers note that any degree of severity and duration of postpartum stress have an impact on the child's development and mental health after the three-month period during which the stress occurred [18–20].

In 2020, A. Oyetunji and P. Chandra conducted a systematic review of 74 foreign studies carried out between 1995 and 2019, which showed that maternal postpartum stress is negatively associated with the dynamics of psychophysical development of the child: growth deficit, delayed cognitive and speech development, reduced indicators of the development of large and fine motor skills of the child in the first year of life [21]. Expressed maternal stress after childbirth was associated with poor sleep of the child in the first year of life: a longer process of falling asleep and the frequency of night awakenings [22]. Postpartum stress also brings a number of difficulties in breastfeeding. Mothers who have anxiety-depressive symptoms in the postpartum period and who are exposed to significant stress were more likely to experience breastfeeding problems in the first 6–8 weeks after delivery [23]. On the one hand, postpartum stress

reduces maternal adherence to breastfeeding [24, 25], on the other hand, the composition of breast milk itself changes under the influence of stress hormones [26]. These consequences of stress justify the need for continuous professional support of breastfeeding mothers in a hospital postpartum unit and in the first days after discharge from a maternity hospital [27].

Although researchers have paid close attention to the problem of postpartum stress in women, the issue of determining its predictors remains open. Common predictors of maternal stress in the postpartum period are the experience of one or two births, low level of education, specific preferences for gender of a future child, and low level of social support [28, 29]. Motherhood experience has mixed results on postpartum stress [30]. S. Nakić Radoš et al. showed that first-time mothers have higher rates of postpartum stress only regarding the care for a newborn, which can be objectively reduced by assisting of medical personnel in a postpartum unit [31]. Higher satisfaction of pregnant women with their partner relationship and marriage in general is associated with low levels of postpartum stress [32].

Assessment of types of labor demonstrated no definite impact on stress after childbirth. In general, the type of delivery does not affect women's levels of stress and anxiety. However, on average, women who delivered naturally had higher levels of overt and covert anxiety than women who underwent cesarean section [33].

The apparent assumption that stress after childbirth is associated with anxiety-depressive symptoms has triggered many interdisciplinary studies. However, it has not led to a resolution of the causal relationship between these phenomena [34]. Nevertheless, perinatal anxiety, which is caused by mother's worries about childbirth and well-being, appeared to be closely related to a level of perceived stress after childbirth [35, 36].

A promising area of research is identifying links between postpartum stress and a woman's dissatisfaction with the quality of interaction with medical staff of an obstetric care facility [37–39]. Informational and psychological support of a woman by the medical staff of a maternity hospital is an important component of a woman's psychological readiness for labor, and can also be a factor that reduces the risk of a pronounced stress reaction to childbirth [40, 41]. The need for information support for pregnant women is also reflected in clinical recommendations for the delivery of singleton births by cesarean section and spontaneous labor [42, 43]. In this case, the timeliness and balance of information on peculiarities of delivery and possibilities of anesthesia during labor. In addition, it is also important to provide information on the course of the postpartum period, organization of care and feeding of a neonate. Relevance and multifactorial nature of postpartum stress determines the need for a thorough study of objective and subjective indicators affecting women in the postpartum period.

AIM

The aim of this research is to identify predictors of perceived stress in women in the postpartum period under inpatient observation in an obstetric care facility. The hypothesis was based on an assumption that predictors of perceived stress in women in the postpartum period (on the 3rd day after delivery) are symptoms of postpartum depression and perinatal anxiety, as well as subjective assessment of awareness of delivery peculiarities.

MATERIALS AND METHODS

Organization of the research. Empirical data were collected on the basis of the Perinatal Center of SPbSPMU. The research project was approved by the Local Ethical Committee of SPbSPMU of the Ministry of Health of Russia (protocol No. 3/13 of March 23, 2020). All respondents were patients of the Obstetrics Department, all women were transferred to the department after delivery. All women volunteered to participate in the study and gave their informed consent. On the 3rd day after delivery, respondents were asked to answer the questions of a research psychologist and to fill out questionnaires. The survey was conducted once. Individual participation results and psychologist consultation were provided to women upon request.

Sampling. 57 women aged 24 to 42 years (mean age 32±4.2 years) who delivered at 37 to 40 gestational weeks constituted an empirical sample of the research. All women had singleton pregnancies. All respondents denied having a history of mental health disorders. In order to analyze the predictors of stress in the postpartum period, the sample was divided into two comparison groups using the questionnaire

"The Perceived Stress Scale — 10" (The Perceived Stress Scale — 10 in the adaptation of Ababkov V.A. et al., 2016), which includes two subscales "Overstress" and "Counteracting Stress". The "Overstress" subscale measures a subjectively perceived level of tension (stress level) and was taken as a criterion forming comparison groups. The first group of women with a high level of perceived stress included 22 respondents with 17 to 25 scores according to this subscale. The second group of women (with a low level of perceived stress) consisted of 35 participants with scores ranging from 7 to 16. Half of the respondents in each comparison group were first-time mothers. Assisted reproductive technologies were used to achieve pregnancy in 9% of cases in the first group and in 11% of cases in the second group. Women with a high level of stress after childbirth were twice as likely to have various chronic diseases as women with a low level of stress. About one-third of the respondents in each comparison group had various pregnancy aggravations, such as gestational diabetes mellitus, moderate preeclampsia, and gestational hypothyroidism.

The vast majority of respondents in both groups stayed together with newborns in the hospital after childbirth by the time they participated in the research (86% and 91%, respectively). In other cases, a baby was temporarily placed in a neonatal observation ward due to careful monitoring of a mother's somatic condition. The mean Apgar scores at the 1st and 5th minutes after birth were 7.6±1 and 8.7±1, respectively, in the first group, and 7.8±0.4 and 8.9±0.3 in the second group. In the first days after delivery, 50% of the women in the first group and 29% of the women in the second group experienced various difficulties in breastfeeding ($p \leq 0.05$)."

Methods. Collection of clinical-anamnestic and social and demographic data was carried out by analyzing medical records (history of childbirth), filling out an author's questionnaire (Korgozha M.A., Shulga A.A.) and answering qualifying questions of the psychologist-researcher. The questionnaire contained a separate block of questions aimed at studying women's retrospective assessment of their own awareness before childbirth. These questions included information about the course of labor and peculiarities of the postpartum period, the probability and criteria for the appointment of cesarean section surgery, methods of anesthesia in labor, and possibilities and limitations of its use. Information about personal expectations of childbirth during pregnancy and attitudes regarding interaction with doctors during delivery was also specified. Each question was quantified on a 10-point scale to facilitate data processing. Standardized psychological questionnaires were also offered to respondents:

- Perceived Stress Scale — 10 (PSS-10, adapted by Ababkov V.A. et al., 2016) was used to measure a subjectively perceived level of tension of the actual situation and a person's level of effort to overcome this situation.
- Perinatal anxiety screening scale (PASS-R, adapted by Korgozhi M.A., Evmenenko A.O., 2021) was used for self-assessment of anxiety symptoms in women in the postpartum period.
- Edinburgh Postnatal Depression Scale (EPDS, adapted by Golubovich V.V., 2003) was used to identify and assess the level of postpartum depressive symptoms.

Mathematical processing of the data was carried out using IBM SPSS Statistics 26 program. The nonparametric method of comparison of mean Mann–Whitney, Pearson's χ^2 and linear regression analysis using the input method were applied.

RESULTS AND DISCUSSION

Analysis of the stress level experienced by mothers on the 3rd day after childbirth showed that 38.6% of the participants reported a high level of stress after childbirth. At the same time, the respondents of both comparison groups have average normal indicators according to the stress counterchange index level. However, women with high levels of perceived stress coped with stress worse compared to women with minimal levels of this indicator (9.68±2.64 and 7.8±2.55 points respectively, $p \leq 0.05$). On average, women with high levels of perceived stress had significantly higher scores of anxiety and depression in the postpartum period (Table 1). On average, the PASS-R total score revealed moderate levels of anxiety in women with high levels of perceived stress. This result indicates the presence of persistent symptoms of anxiety affecting the process of adaptation during the postpartum period, potentially redu-

cing the quality of life, as well as the presence of a moderate risk of developing anxiety disorder in women of this group. It is important to pay attention to significant differences in the symptoms of perinatal anxiety among women of the first and second groups ($p \leq 0.01$). Thus, in the first few days after childbirth, women with high levels of perceived stress are characterized by pronounced anxiety about childbirth and its impact on the child's health and well-being. Symptoms of postpartum depression were also more pronounced in women with high levels of perceived stress ($p \leq 0.001$). It is important to note that, although the average level of depression symptoms in the women of the first group on the 3rd day after delivery was 8.23±5.3 points with a diagnostic criterion of depression of 9–10 points, this category of women may represent a group of moderate risk of developing postpartum depression and should receive additional help from mental health professionals.

Examination of social demographic characteristics and clinical and anamnestic data of the patients revealed no significant differences between comparison groups, which reduces the likelihood of their influence on the level of perceived stress after childbirth ($p > 0.05$). No significant differences were also detected between comparisons on the scales of the author's questionnaire ($p > 0.05$).

Fifty-nine percent of the women in the first group and 71% of the women in the second group delivered through natural labor. The main reasons for cesarean section delivery were poor

Table 1

The level of severity of anxiety and depressive symptoms in women in the early postpartum period (in comparison groups)

Таблица 1

Уровень выраженности тревожной и депрессивной симптоматики у женщин в раннем послеродовом периоде (в группах сравнения)

Показатели шкал и субшкал / Indicators of scales and subscales	**Женщины с высоким уровнем воспринимаемого стресса (n = 22) / Women with high perceived stress (n = 22)**		**Женщины с низким уровнем воспринимаемого стресса (n = 35) / Women with low perceived stress (n = 35)**		**Показатель различий / Difference score**
	Среднее / Mean	**Стандартное отклонение / Standard deviation**	**Среднее / Mean**	**Стандартное отклонение / Standard deviation**	**U-критерий Манна–Уитни / Mann–Whitney U test**
PASS-R: Общий балл / PASS-R: Total score	32,77	12,09	18,00	9,25	645,0***
PASS-R: Острая и навязчивая тревога / PASS-R: Acute and obsessive anxiety	11,59	5,23	5,23	5,01	649,5***
PASS-R: Социальная тревога / PASS-R: Social anxiety	2,09	2,29	0,91	1,98	525,5*
PASS-R: Навязчивый перфекционизм / PASS-R: Obsessive perfectionism	7,86	3,68	4,57	3,40	573,0**
PASS-R: Специфические страхи (перинатальная тревога) / PASS-R: Specific fears (perinatal anxiety)	8,27	3,65	5,63	3,05	547,5**
PASS-R: Проблемы адаптации (диссоциация) / PASS-R: Adaptation problems (dissociation)	2,32	1,73	1,20	1,28	528,5*
PASS-R: Фобия / PASS-R: Phobia	0,64	0,73	0,46	0,74	452,0
Эдинбургская шкала послеродовой депрессии / Edinburgh Postnatal Depression Scale	8,23	5,30	4,26	3,65	579,5***

* Уровень значимости $p \leq 0,05$; ** уровень значимости $p \leq 0,01$; *** уровень значимости $p \leq 0,001$.
* Significance level $p \leq 0,05$; ** significance level $p \leq 0,01$; *** significance level $p \leq 0,001$.

labor activity and uterine scar failure in cases of repeated delivery. Half of the respondents in the second group expected that an emergency caesarean section might be required during delivery, while about one-third of the respondents in the first group (36% of the group) expected such a situation. At the same time, when asked "Do you think you were prepared for such a situation? (regardless of how the delivery was performed)", the affirmative answer was more common in the first group than in the second (77 and 66%, respectively). In both comparison groups, women rated their own prior knowledge of cesarean section surgery at an average level (6.7±3.7 and 6.8±3.7 points, respectively, $p > 0.05$). Women rated comprehension of information about the criteria for cesarean section surgery and the potential likelihood of this surgical procedure higher (7.9±3.1 and 7.2±3.6 points, respectively, $p > 0.05$).

Epidural analgesia was used during labor in 36% of women in group 1 and 37% of women in group 2. Spinal analgesia during cesarean section was used in 32% of women in the first group and in 23% of women in the second group. General anesthesia for cesarean section was used in 5% of women in group one and 3% of women in group two. Postoperative transverse abdominal space blockade was used for a total of three women from the total sample. Mean score of completeness of their own prior knowledge of anesthesia in labor was 6.6±3.8 for women in the first group and 7.8±2.9 in the second group. At the same time, the average level of comprehension concerning pain management was moderately high and amounted to 7.8±3.3 points for women in the first group and 7.9±3.1 points for women in the second group. About half of the respondents in both groups indicated that they were given a choice of anesthesia during labor. Respondents in both groups highly rated confidence in their choice of anesthesia in labor (8.5±2.0 and 8.4±2.9 points, respectively). Regardless of perceived stress level, on average, women rated their satisfaction with pain relief in labor highly (8.7±1.9 points in group 1 and 8.7±2.3 points in group 2, $p > 0.05$).

The results also showed that, on average, women with different levels of perceived stress expected close contact in interaction with doctors during labor (9.0±1.7 and 8.0±2.3 points in the first and second groups, respectively, $p > 0.05$). It is important to note that women in both comparison groups had higher personal expectations of the closeness of contact and quality of interaction with physicians during labor (9.3±1.7 and 9.0±2.3 points in the first and second groups, respectively, $p > 0.05$). Despite the level of perceived stress in the postpartum period, women rated this close contact with the physician as comfortable and sufficient. It is also important to note that women's average degree of satisfaction with the professional actions of physicians during labor was high and amounted to 9.7±0.8 points in the first group and 9.3±1.6 points in the second group ($p > 0.05$).

To identify predictors of perceived stress after delivery, linear regression analysis using the input method was performed, resulting in a regression equation (Table 2).

PASS-R (beta coefficient 0.45, $p \leq 0.001$) was the most significant predictor of the level of perceived stress in the postpartum period, as measured by PASS-R (beta coefficient 0.45, $p \leq 0.001$). A predictive ability of this indicator is increased by combining it with a range of conditions. Among them there are the severity of symptoms of postpartum depression, subjective assessment of the completeness of one's own prior knowledge of the methods of anesthesia in labor and the comprehensibility of this information, as well as the assessment of the comprehensibility of information about the cesarean section operation. The combination of all these indicators explains 45.7% of variance and has a high level of F — Fisher's criterion (8.57, $p=0.001$).

Thus, the results of the empirical research have shown that psychological indicators of a woman's emotional state (symptoms of postpartum depression and anxiety related to the situation of childbirth) primarily influence the level of perceived stress after childbirth in women. Postpartum stress also additionally depends on the degree of women's prior knowledge of peculiarities of labor and anesthesia in labor, as well as on the quality of interaction with medical personnel in the conditions of receiving inpatient care. The data obtained indicate the need to organize comprehensive medical and psychological care in obstetric care institutions, taking into account the control of identified factors affecting postpartum stress in female patients.

CONCLUSION

Women with high levels of perceived stress in the postpartum period had significantly high

Table 2

Regression analysis results

Таблица 2

Результаты регрессионного анализа

Уравнение регрессии / Regression equation	Критерий значимости (F) / Significance test (F)	Коэффициент детерминации (R^2) / Determination coefficient (R^2)
0,452 Перинатальная тревога* + 0,222 Депрессия – 0,109 Понятность информации об обезболивании – 0,091 Полнота информации об обезболивании – 0,039 Понятность информации о кесаревом сечении + 1,973 / 0,452 Perinatal Anxiety* + 0,222 Depression – 0,109 Clarity Information About Pain Management – 0,091 Completeness Information About Pain Management – 0,039 Clarity Information About Caesarean Section + 1,973	F = 8,572 p < 0,001	45,7 %

* Уровень значимости p ≤ 0,001. / Significance level p ≤ 0,001.

rates of anxiety, moderate rates of postpartum depression symptoms, and experienced various problems with breastfeeding during the first days of hospitalization more often than women with low levels of perceived stress.

In general, women highly valued their own prior knowledge of labor and pain management in labor, regardless of the severity of perceived stress after delivery. They also highly rated the quality of interactions with physicians during labor.

Women's perinatal anxiety, symptoms of postpartum depression, as well as preliminary awareness of the peculiarities of delivery (comprehensibility of information about cesarean section and potential probability of this surgical intervention; comprehensibility and completeness of information about the me thods, possibilities and limitations of anesthesia in labor) are main predictors of perceived stress in the postpartum period in an obstetric care facility.

ADDITIONAL INFORMATION

Author contribution. Thereby, all authors made a substantial contribution to the conception of the study, acquisition, analysis, interpretation of data for the work, drafting and revising the article, final approval of the version to be published and agree to be accountable for all aspects of the study.

Competing interests. The authors declare that they have no competing interests.

Funding source. This study was not supported by any external sources of funding.

Consent for publication. The authors received written consent from the respondents to publish the data.

ДОПОЛНИТЕЛЬНАЯ ИНФОРМАЦИЯ

Вклад авторов. Все авторы внесли существенный вклад в разработку концепции, проведение исследования и подготовку статьи, прочли и одобрили финальную версию перед публикацией.

Конфликт интересов. Авторы декларируют отсутствие явных и потенциальных конфликтов интересов, связанных с публикацией настоящей статьи.

Источник финансирования. Авторы заявляют об отсутствии внешнего финансирования при проведении исследования.

Информированное согласие на публикацию. Авторы получили письменное согласие анкетируемых на публикацию данных.

REFERENCES

1. Ababkov V.A., Burina E.A., Pazaratskas E.A., Kapranova S.V. Distress at women: before and after pregnancy. Vestnik of Saint Petersburg University. Psychology. 2019;9(4):401–410. DOI: 10.21638/spbu16.2019.406. (In Russian).
2. Kozhadey E.V., Grechanyy S.V. Psychotic disorders of postpartum period as states of potential threat to newborn`s life and health (clinical case analysis). Pediatrician. 2018;9(5):109–114. DOI: 10.17816/PED95109-114. (In Russian).
3. Dennis C.L., Brown H.K., Brennenstuhl S. Development, Psychometric Assessment, and Predictive Va-

lidity of the Postpartum Childcare Stress Checklist. Nursing Research. 2018;67(6):439–446. DOI: 10.1097/NNR.0000000000000308.
4. Johansson M., Benderix Y., Svensson I. Mothers' and fathers' lived experiences of postpartum depression and parental stress after childbirth: a qualitative study. International Journal of Qualitative Studies on Health and Well-Being. 2020;15(1):1722564. DOI: 10.1080/17482631.2020.1722564.
5. Stramrood C., Slade P. A Woman Afraid of Becoming Pregnant Again: Posttraumatic Stress Disorder Following Childbirth. In: Paarlberg K., van de Wiel H. Bio-Psycho-Social Obstetrics and Gynecology. Springer Cham; 2017:33–49. DOI: 10.1007/978-3-319-40404-2_2.
6. Yakupova V.A., Anikeeva M.A., Suarez A.D. Postpartum Posttraumatic Stress Disorder: A Review. Clinical Psychology and Special Education. Moscow State University of Psychology and Education. 2023;12(2):70–93. DOI: 10.17759/cpse.2023120204.
7. Kristensen I.H., Simonsen M., Trillingsgaard T., Pontoppidan M., Kronborg H. First-time mothers' confidence mood and stress in the first months postpartum. A cohort study. Sexual & Reproductive Healthcare. 2018;17:43–49. DOI: 10.1016/j.srhc.2018.06.003.
8. Booth A.T., Macdonald J.A., Youssef G.J. Contextual stress and maternal sensitivity: A meta-analytic review of stress associations with the Maternal Behavior Q-Sort in observational studies. Developmental Review. 2018;48:145–177. DOI: 10.1016/j.dr.2018.02.002.
9. Leppert B., Junge K.M., Röder S., Borte M., Stangl G.I., Wright R.J., Hilbert A., Lehmann I., Trump S. Early maternal perceived stress and children's BMI: Longitudinal impact and influencing factors. BMC Public Health. 2018;18(1):1211. DOI: 10.1186/s12889-018-6110-5.
10. Ababkov S.G., Avdyunina I.A., Averin A.P. et al. Anesthesiology-intensive care. Moscow: GEOTAR-Media; 2016. EDN: XGHJDL. (In Russian).
11. Gladkaya V.S., Gricinskaya V.L. Medical, social and ethnic characteristics of pregnancy and childbirth in rural women of the Republic of Khakassia. Universitetskij terapevticheskij vestnik. 2021;3(4):15–20. (In Russian).
12. Hromova M.I., Konovalova M.V., Matevosyan I.E. The effect of a new coronavirus infection on pregnancy and childbirth. Forcipe. 2022;5(S3):51–52. (In Russian).
13. Grande L.A., Olsavsky A.K., Erhart A., Dufford A.J., Tribble R., Phan K.L., Kim P. Postpartum Stress and Neural Regulation of Emotion among First-Time Mothers. Cognitive, Affective and Behavioral Neuroscience. 2021;21(5):1066–1082. DOI: 10.3758/s13415-021-00914-9.
14. Ermolova T.V., Ivolina T.V., Dedova O.V., Litvinov A.V. The problem of dysfunctional motherhood in the latest foreign researches. Journal of Modern Foreign Psychology. 2019;8(4):25–37. DOI: 10.17759/jmfp.2019080403. (In Russian).
15. Dobryakov I.V. Perinatal psychology. Saint Petersburg; 2010. (In Russian).
16. Filippova G.G. Psikhologiya materinstva: uchebnoe posobie dlya vuzov. Moscow: Yurait; 2024. (In Russian).
17. Thiel F., Dekel S. Peritraumatic dissociation in childbirth-evoked posttraumatic stress and postpartum mental health. Archives of Women's Mental Health. 2020;23(2):189–197. DOI: 10.1007/s00737-019-00978-0.
18. Moiseeva K.E., Glushchenko V.A., Alekseeva A.V., Kharbediya S.D., Berezkina E.N., Levadneva M.I., Danilova V.V., Khvedelidze M.G., Simonova O.V. Current status and main organizational problems of medical care for newborn. Medicine and health care organization. 2023;8(1):116–128. DOI: 10.56871/MHCO.2023.36.58.010. (In Russian).
19. Field T. Postnatal anxiety prevalence, predictors and effects on development: A narrative review. Infant Behavior and Development. 2018;51:24–32. DOI: 10.1016/j.infbeh.2018.02.005.
20. Schmeer K.K., Guardino C., Irwin J.L., Ramey S., Shalowitz M., Schetter C.D. Maternal postpartum stress and toddler developmental delays: Results from a multisite study of racially diverse families. Developmental Psychobiology. 2020;62(1):62–76. DOI: 10.1002/dev.21871.
21. Oyetunji A., Chandra P. Postpartum stress and infant outcome: A review of current literature. Psychiatry Research. 2020;284:112769. DOI: 10.1016/j.psychres.2020.112769.
22. Sorondo B.M., Reeb-Sutherland B.C. Associations between infant temperament, maternal stress, and infants' sleep across the first year of life. Infant Behavior and Development. 2015;39:131–135. DOI: 10.1016/j.infbeh.2015.02.010.
23. Korgozha M.A. Dynamics of emotional fluctuations in women in the postpartum period. PhD thesis. Saint Petersburg; 2019. (In Russian).
24. Chen J., Lai X., Zhou L., Retnakaran R., Wen S.W., Krewski D., Huang L., Li M., Xie R.H. Association between exclusive breastfeeding and postpartum posttraumatic stress disorder. International Breastfeeding Journal. 2022;17(1):78. DOI: 10.1186/s13006-022-00519-z.
25. Gila-Díaz A., Carrillo G.H., de Pablo Á.L.L., Arribas S.M., Ramiro-Cortijo D. Association between maternal postpartum depression, stress, optimism, and breastfeeding pattern in the first six months. International Journal of Environmental Research and Public Health. 2020;17(19):1–13. DOI: 10.3390/ijerph17197153.
26. Ryoo C.J., Kang N.M. Maternal Factors Affecting the Macronutrient Composition of Transitional Human

Milk. International Journal of Environmental Research and Public Health. 2022;19(6):3308. DOI: 0.3390/ijerph19063308.
27. Berezkina E.N., Ivanov D.O., Novikova V.P., Zav'yalova A.N., Gostimskiy A.V., Susanina A.M., Lisovskiy O.V. Assessment of the risk factors for premature birth and the role of nurses in the process of premature care. Pediatrician. 2020;11(4):5–13. DOI: 10.17816/PED1145-13. (In Russian).
28. Hung C.H., Lin C.J., Stocker J., Yu C.Y. Predictors of postpartum stress. Journal of Clinical Nursing. 2011;20(5–6):666–674. DOI: 10.1111/j.1365-2702.2010.03555.x.
29. Wang Y., Gu J., Zhang F., Xu X. The effect of perceived social support on postpartum stress: the mediating roles of marital satisfaction and maternal postnatal attachment. BMC Women's Health. 2023;23(1). DOI: 10.1186/s12905-023-02593-9.
30. Prokhorova O.V., Oboskalova T.A., Tikholaz K.G. Assessment of the effectiveness of preparation for birth in primiparous. Ural Medical Journal. 2018;5(160):17–20. DOI: 10.56871/MHCO.2023.36.58.010. (In Russian).
31. Nakić Radoš S., Brekalo M., Matijaš M. Measuring stress after childbirth: development and validation of the Maternal Postpartum Stress Scale. Journal of Reproductive and Infant Psychology. 2023;41(1):65–77. DOI: 10.1080/02646838.2021.1940897.
32. Tissera H., Auger E., Séguin L., Kramer M.S., Lydon J.E. Happy prenatal relationships, healthy postpartum mothers: a prospective study of relationship satisfaction, postpartum stress, and health. Psychology and Health. 2021;36(4):461–477. DOI: 10.1080/08870446.2020.1766040.
33. Rajani F., Vaziri F., Yektatalab S., Sharifi N., Mani A., Akbarzadeh M. The correlation between postpartum stress disorder and maternal anxiety in different types of delivery (vaginal and cesarean section). Central European Journal of Nursing and Midwifery. 2022;13(3):707–713. DOI: 10.15452/CEJNM.2022.13.0014.
34. Bayri Bingol F., Demirgoz Bal M. The risk factors for postpartum posttraumatic stress disorder and depression. Perspectives in Psychiatric Care. 2020;56(4):851–857.
35. Korgozha M.A., Evmenenko A.O., Sergienko O.I. The perinatal anxiety and its predictors: an empirical atudy in women first pregnance. Azimuth of Scientific Research: Pedagogy and Psychology. 2023;12,3(44):128–132. DOI: 10.57145/27128474_2023_12_03_30. (In Russian).
36. Paica C.I. The impact of prenatal emotional difficulties on maternal postpartum stress. Revista de Psihologie. 2019;65(3):181–192.
37. Tugay E.A., Pletneva S.A., Yurchenko T.V., Timofeeva Yu.V., Pletneva E.A. Assess factors influencing satisfaction with childbirth and birth outcomes. Mnogoprofil'nyy statsionar. 2022;9(2):44–48. (In Russian).
38. Boorman R.J., Devilly G.J., Gamble J., Creedy D.K., Fenwick J. Childbirth and criteria for traumatic events. Midwifery. 2014;30:255–61. DOI: 10.1016/j.midw.2013.03.001.
39. Sommerlad S., Schermelleh-Engel K., Raddatz L.M., Louwen F., Oddo-Sommerfeld S. The impact of perceived control during delivery in the context of traumatic birth-experience. European Journal of Obstetrics & Gynecology and Reproductive Biology. 2019;234:e167. DOI: 10.1016/j.ejogrb.2018.08.526.
40. Kazantseva A.V., Prokhorova O.V., Naboychenko E.S., Koroleva D.S., Zaynullina I.R. Analysis of the level of awareness of women about readiness for childbirth. System integration in healthcare. 2022;4(57):5–11. (In Russian).
41. Suarez A.D., Shribman L.A., Yakupova V.A. Childbirth education and support during labour: association with birth satisfaction. Psychological Science and Education. 2023;28(2):70–82. DOI: 10.17759/pse.2023280206. (In Russian).
42. Klinicheskie rekomendatsii "Rody odnoplodnye, samoproizvol'noe rodorazreshenie v zatylochnom predlezhanii (normal'nye rody)", 2021. Available at: https://sankir.ru/uploads/userfiles/shared/Klinicheskie-rekomend/kas-mmc/normal_rodi.pdf (accessed: 25.04.2023) (In Russian).
43. Klinicheskie rekomendatsii "Rody odnoplodnye, rodorazreshenie putem kesareva secheniya", 2021. Available at: http://disuria.ru/_ld/10/1039_kr21O82MZ.pdf (accessed: 25.04.2023) (In Russian).

ЛИТЕРАТУРА

1. Абабков В.А., Бурина Е.А., Пазарацкас Е.А., Капранова С.В. Дистресс у женщин: до и после родов. Вестник Санкт-Петербургского университета. Психология. 2019;9(4):401–410. DOI: 10.21638/spbu16.2019.406.
2. Кожадей Е.В., Гречаный С.В. Психотические расстройства послеродового периода как состояния потенциальной угрозы жизни и здоровью новорожденного (анализ клинического случая). Педиатр. 2018;9(5):109–114. DOI: 10.17816/PED95109-114.
3. Dennis C.L., Brown H.K., Brennenstuhl S. Development, Psychometric Assessment, and Predictive Validity of the Postpartum Childcare Stress Checklist. Nursing Research. 2018;67(6):439–446. DOI: 10.1097/NNR.0000000000000308.
4. Johansson M., Benderix Y., Svensson I. Mothers' and fathers' lived experiences of postpartum depression and parental stress after childbirth: a qualitative study. International Journal of Qualitative Studies on Health and Well-Being. 2020;15(1):1722564. DOI: 10.1080/17482631.2020.1722564.

5. Stramrood C., Slade P.A Woman Afraid of Becoming Pregnant Again: Posttraumatic Stress Disorder Following Childbirth. In: Paarlberg K., van de Wiel H. Bio-Psycho-Social Obstetrics and Gynecology. Springer Cham; 2017:33–49. DOI: 10.1007/978-3-319-40404-2_2.
6. Yakupova V.A., Anikeeva M.A., Suarez A.D. Postpartum Posttraumatic Stress Disorder: A Review. Clinical Psychology and Special Education. Moscow State University of Psychology and Education. 2023;12(2):70–93. DOI: 10.17759/cpse.2023120204.
7. Kristensen I.H., Simonsen M., Trillingsgaard T., Pontoppidan M., Kronborg H. First-time mothers' confidence mood and stress in the first months postpartum. A cohort study. Sexual & Reproductive Healthcare. 2018;17:43–49. DOI: 10.1016/j.srhc.2018.06.003.
8. Booth A.T., Macdonald J.A., Youssef G.J. Contextual stress and maternal sensitivity: A meta-analytic review of stress associations with the Maternal Behavior Q-Sort in observational studies. Developmental Review. 2018;48:145–177. DOI:10.1016/j.dr.2018.02.002.
9. Leppert B., Junge K.M., Röder S. Borte M., Stangl G.I., Wright R.J., Hilbert A., Lehmann I., Trump S. Early maternal perceived stress and children's BMI: Longitudinal impact and influencing factors. BMC Public Health. 2018;18(1):1211. DOI: 10.1186/s12889-018-6110-5.
10. Абабков С.Г., Авдюнина И.А., Аверин А.П. и др. Анестезиология-реаниматология. М.: ГЭОТАР-Медиа; 2016. EDN: XGHJDL.
11. Гладкая В.С., Грицинская В.Л. Медико-социальные и этнические характеристики течения беременности и родов у женщин сельского населения республики Хакасия. Университетский терапевтический вестник. 2021;3(4):15–20.
12. Хромова М.И., Коновалова М.В., Матевосян И.Э. Влияние новой коронавирусной инфекции на беременность и роды. Forcipe. 2022;5(S3):51–52.
13. Grande L.A., Olsavsky A.K., Erhart A., Dufford A.J., Tribble R., Phan K.L., Kim P. Postpartum Stress and Neural Regulation of Emotion among First-Time Mothers. Cognitive, Affective and Behavioral Neuroscience. 2021;21(5):1066–1082. DOI: 10.3758/s13415-021-00914-9.
14. Ермолова Т.В., Иволина Т.В., Дедова О.В., Литвинов А.В. Проблема дисфункционального материнства в новейших зарубежных исследования. Современная зарубежная психология. 2019;8(4):25–37. DOI: 10.17759/jmfp.2019080403.
15. Добряков И.В. Перинатальная психология. СПб.; 2010.
16. Филиппова Г.Г. Психология материнства. Учебное пособие для вузов. М.: Юрайт; 2024.
17. Thiel F., Dekel S. Peritraumatic dissociation in childbirth-evoked posttraumatic stress and postpartum mental health. Archives of Women's Mental Health. 2020;23(2):189–197. DOI: 10.1007/s00737-019-00978-0.
18. Моисеева К.Е., Глущенко В.А., Алексеева А.В., Харбедия Ш.Д., Березкина Е.Н., Левaднева М.И., Данилова В.В., Хведелидзе М.Г., Симонова О.В. Современное состояние и основные организационные проблемы медицинской помощи новорожденным. Медицина и организация здравоохранения. 2023;8(1):116–128. DOI: 10.56871/MHCO.2023.36.58.010.
19. Field T. Postnatal anxiety prevalence, predictors and effects on development: A narrative review. Infant Behavior and Development. 2018;51:24–32. DOI: 10.1016/j.infbeh.2018.02.005.
20. Schmeer K.K., Guardino C., Irwin J.L., Ramey S., Shalowitz M., Schetter C.D. Maternal postpartum stress and toddler developmental delays: Results from a multisite study of racially diverse families. Developmental Psychobiology. 2020;62(1):62–76. DOI: 10.1002/dev.21871.
21. Oyetunji A., Chandra P. Postpartum stress and infant outcome: A review of current literature. Psychiatry Research. 2020;284:112769. DOI: 10.1016/j.psychres.2020.112769.
22. Sorondo B.M., Reeb-Sutherland B.C. Associations between infant temperament, maternal stress, and infants' sleep across the first year of life. Infant Behavior and Development. 2015;39:131–135. DOI: 10.1016/j.infbeh.2015.02.010.
23. Коргожа М.А. Динамика эмоциональных состояний у женщин в послеродовом периоде. Автореф. дис. … канд. псих. наук. СПб.; 2019.
24. Chen J., Lai X., Zhou L., Retnakaran R., Wen S.W., Krewski D., Huang L., Li M., Xie R.H. Association between exclusive breastfeeding and postpartum post-traumatic stress disorder. International Breastfeeding Journal. 2022;17(1):78. DOI: 10.1186/s13006-022-00519-z.
25. Gila-Díaz A., Carrillo G.H., de Pablo Á.L.L., Arribas S.M., Ramiro-Cortijo D. Association between maternal postpartum depression, stress, optimism, and breastfeeding pattern in the first six months. International Journal of Environmental Research and Public Health. 2020;17(19):1–13. DOI: 10.3390/ijerph17197153.
26. Ryoo C.J., Kang N.M. Maternal Factors Affecting the Macronutrient Composition of Transitional Human Milk. International Journal of Environmental Research and Public Health. 2022;19(6):3308. DOI: 0.3390/ijerph19063308.
27. Березкина Е.Н., Иванов Д.О., Новикова В.П., Завьялова А.Н., Гостимский А.В., Сусанина А.М., Лисовский О.В. Характер вскармливания новорожденных в перинатальном центре. Трудности первых дней. Педиатр. 2020;11(4):5–13. DOI: 10.17816/PED1145-13.
28. Hung C.H., Lin C.J., Stocker J., Yu C.Y. Predictors of postpartum stress. Journal of Clinical Nursing. 2011;20(5–6):666–674. DOI: 10.1111/j.1365-2702.2010.03555. x.

29. Wang Y., Gu J., Zhang F., Xu X. The effect of perceived social support on postpartum stress: the mediating roles of marital satisfaction and maternal postnatal attachment. BMC Women's Health. 2023;23(1). DOI: 10.1186/s12905-023-02593-9.
30. Прохорова О.В., Обоскалова Т.А., Тихолаз К.Г. Оценка эффективности подготовки к родам у первородящих. Уральский медицинский журнал. 2018;5(160):17–20.
31. Nakić Radoš S., Brekalo M., Matijaš M. Measuring stress after childbirth: development and validation of the Maternal Postpartum Stress Scale. Journal of Reproductive and Infant Psychology. 2023;41(1):65–77. DOI: 10.1080/02646838.2021.1940897.
32. Tissera H., Auger E., Séguin L., Kramer M.S., Lydon J.E. Happy prenatal relationships, healthy postpartum mothers: a prospective study of relationship satisfaction, postpartum stress, and health. Psychology and Health. 2021;36(4):461–477. DOI: 10.1080/08870446.2020.1766040.
33. Rajani F., Vaziri F., Yektatalab S., Sharifi N., Mani A., Akbarzadeh M. The correlation between postpartum stress disorder and maternal anxiety in different types of delivery (vaginal and cesarean section). Central European Journal of Nursing and Midwifery. 2022;13(3):707–713. DOI: 10.15452/CEJNM.2022.13.0014.
34. Bayri Bingol F., Demirgoz Bal M. The risk factors for postpartum posttraumatic stress disorder and depression. Perspectives in Psychiatric Care. 2020;56(4):851–857. DOI: 10.1111/ppc.12501.
35. Коргожа М.А., Евмененко А.О., Сергиенко О.И. Перинатальная тревога и ее предикторы: эмпирическое исследование у женщин с первой беременностью. Азимут научных исследований: педагогика и психология. 2023;12,3(44):128–132. DOI: 10.57145/27128474_2023_12_03_30.
36. Paica C.I. The impact of prenatal emotional difficulties on maternal postpartum stress. Revista de Psihologie. 2019;65(3):181–192.
37. Тугай Е.А., Плетнева С.А., Юрченко Т.В., Тимофеева Ю.В, Плетнева Е.А. Оценка факторов, влияющих на удовлетворенность родами и исходы родов. Многопрофильный стационар. 2022;9(2):44–48.
38. Boorman R.J., Devilly G.J., Gamble J., Creedy D.K., Fenwick J. Childbirth and criteria for traumatic events. Midwifery. 2014;30:255–61. DOI: 10.1016/j.midw.2013.03.001.
39. Sommerlad S., Schermelleh-Engel K., Raddatz L.M., Louwen F., Oddo-Sommerfeld S. The impact of perceived control during delivery in the context of traumatic birth-experience. European Journal of Obstetrics & Gynecology and Reproductive Biology. 2019;234:e167. DOI: 10.1016/j.ejogrb.2018.08.526.
40. Казанцева А.В., Прохорова О.В., Набойченко Е.С., Королева Д.С., Зайнуллина И.Р. Анализ влияния уровня информированности беременных на готовность к родам. Системная интеграция в здравоохранении. 2022;4(57):5–11.
41. Суарэз А.Д., Шрайбман Л.А., Якупова В.А. Подготовка к родам и сопровождение: связь с удовлетворенностью родами. Психологическая наука и образование. 2023;28(2):70–82. DOI: 10.17759/pse.2023280206.
42. Клинические рекомендации «Роды одноплодные, самопроизвольное родоразрешение в затылочном предлежании (нормальные роды)», 2021. Доступен по: https://sankir.ru/uploads/userfiles/shared/Klinicheskie-rekomend/kas-mmc/normal_rodi.pdf (дата обращения: 25.04.2023).
43. Клинические рекомендации «Роды одноплодные, родоразрешение путем кесарева сечения», 2021. Доступен по: http://disuria.ru/_ld/10/1039_kr21O82MZ.pdf (дата обращения: 25.04.2023).