

EVALUATION OF THE MEDICAL CARE ARRANGEMENT FOR NEWBORNS IN CONDITIONS OF A PATIENT-ORIENTED APPROACH

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ABSTRACT--Today, in the search for new approaches to improving the quality of medical services, the patients' opinion can serve as one of the criteria for a comprehensive evaluation of the activities of a medical organization. In order to evaluate the satisfaction of mothers with providing medical care to newborns by random sampling, an anonymous survey was conducted of 1026 mothers whose children were born in the perinatal center in 2018-2019. It was found that 71.9% of mothers were hospitalized to the perinatal center as planned, on the doctor's referral due to the state of their health or the health of the child. 79.4% of respondents were served under compulsory medical insurance. On average, mothers rated the work of doctors who provide medical care to newborns by 4.6 ± 0.11 points, and average medical personnel - by 4.4 ± 0.09 points. However, 13.7% of mothers indicated that doctors were not always tactful and polite and 41.2% of women – medical nurses. 15.9% of mothers were partially dissatisfied with the conditions of the child's stay in the perinatal center. In most cases, the reasons for dissatisfaction were unregulated temperature conditions in the room (47.4%), inattentiveness of medical staff (9.1%) and lighting (14.8%). In general, the medical care arrangement for newborns in the perinatal center received a fairly high rating from mothers (an average of 4.4 ± 0.09 points) and 93.8% of respondents would recommend this maternity facility for providing medical care to children.

KEYWORDS--Perinatal center, newborns, medical care arrangement for newborns, satisfaction of mothers, the main reasons for dissatisfaction

I. INTRODUCTION

In the conditions of the demographic crisis, caused by a decrease in the birth rate, the fight for the life and health of each newly born child becomes especially important [1, 2, 3]. Therefore, improving the efficiency of the children's health system is a strategic task facing the state that cares about the future of its country [4, 5, 6, 23].

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High efficiency of medical care for newborns is observed, first of all, in those regions of the Russian Federation where a three-level system of obstetric and perinatal care for pregnant women and newborns has been formed completely [7, 8], according to which the first-level organizations include the majority of physiological and part of specialized maternity hospitals and obstetric departments that include newborn rooms. The maternity homes (departments) can be attributed to the second level, including those profiled by types of pathology, the structure of which provides intensive care units for newborns. The third level is represented by regional and federal prenatal centers, which have intensive care units for newborns and departments of pathology of newborns and premature babies (II stage of nursing) [9].

Despite the development and implementation of national and regional programs and projects aimed at supporting motherhood and childhood at the state level, the number of births has been declining in almost all regions of the Russian Federation recently [10]. A particularly noticeable decline is observed in the Northern regions of Russia, where the birth rate is traditionally lower than the national average [11, 12]. The evaluation of the dynamics of the absolute number of births for 2016-2018 showed that in the North-Western Federal district, with an annual fall, the overall decrease was 16.1% [13, 14]. Even in Saint Petersburg, that is a federal city and has a higher birth rate due to constant migration processes, the number of births during this period decreased by 12.4%. The evaluation of the distribution of childbirths by levels of obstetric hospitals in the North-Western Federal district and Saint Petersburg revealed that the decrease is observed regardless of the level of organization of maternity care. However, the most significant number of births in the North-Western Federal district decreased at the first level of obstetric hospitals, where the decrease was 38.9% (table 1).

Table 1: Distribution of childbirths by hospital level in the North-Western Federal district (NWFD) and Saint Petersburg (SPb) in 2016-2018 (in abs. numbers (in %))

Years	Obstetric aid arrangement							
	Total		I level		II level		III level	
	NWFD	SPb	NWFD	SPb	NWFD	SPb	NWFD	SPb
2016	165724 (100,0%)	69742 (100,0%)	10687 (6,4%)	- (0,0%)	117101 (70,7%)	64931 (93,1%)	37936 (22,9%)	4811 (6,9%)
2017	148285 (100,0%)	63623 (100,0%)	8004 (5,4%)	- (0,0%)	106244 (71,6%)	59570 (93,6%)	34037 (23,0%)	4053 (6,4%)
2018	139088 (100,0%)	61082 (100,0%)	6533 (4,7%)	- (0,0%)	97276 (69,9%)	56914 (93,2%)	35279 (25,4%)	4168 (6,8%)

In modern conditions, when the reduction of the birth rate becomes a problem of national security of the state, increasing the availability and quality of medical care for newborns in maternity care organizations is of particular importance [15, 16, 17]. Objectively, the quality and availability of medical services for children can be evaluated by analyzing the efficiency of maternity hospitals and prenatal centers. It is advisable to make a subjective evaluation by conducting regular sociological surveys of mothers [18, 19]. The obtained results can accurately identify positive and negative trends that occur in obstetric aid establishments and identify factors that negatively affect the provision of medical care to newborns, and take timely corrective measures [20, 21, 22]. Thus, in the

context of working out a patient-oriented model of the health system, the opinion of mothers can serve as a guide in improving the organization of medical care for newborns.

PURPOSE: to evaluate mothers' satisfaction with providing medical care to newborns in conditions of a Prenatal center.

II. MATERIALS AND METHODS

This study was conducted on the basis of the prenatal center of the Saint Petersburg State Pediatric Medical University of the Ministry of Healthcare of the Russian Federation (hereinafter referred to as the prenatal center of SPbSPMU). The prenatal center is a federal medical organization that provides care to patients from the North-Western Federal district, as well as from other regions of Russia, as well as from neighboring and distant foreign countries.

In the prenatal center of SPbSPMU, medical care for newborns is provided by neonatal hospital doctors. Its structure includes: departments of newborn obstetric physiology and obstetric observation departments; department of pathology of newborns and premature babies (II stage of nursing); department of anesthesiology-resuscitation and intensive care for newborns; remote consultation center with mobile anesthesiology-resuscitation neonatal teams; centralized milk block. The neonatology hospital's bed stock is as follows: 26 beds for newborns, 37 beds for pathology of newborns and premature babies, 5 surgical beds, 5 cardiac surgery beds, 3 neurosurgical beds, 12 intensive care beds for newborns. In 2016, the prenatal center delivered 1931 babies, in 2017 - 1863, in 2018 - 1932.

A subjective evaluation of the organization of medical care for newborns was conducted based on the study of the mothers' opinions whose children were born in the prenatal center of SPbSPMU in 2018-2019. Using a specially developed form "Questionnaire of the mother of a newborn child", an anonymous survey of 1026 mothers was carried out by random sampling. The average age of the mother was 31.8 ± 0.10 years. Statistical processing of results and data analysis were performed using the computer program Microsoft Office Excel and the software package for statistical analysis developed by StatSoft-Statistica 10.0.

III. RESEARCH RESULT AND THEIR DISCUSSION

Patient orientation is the main principle of arranging the process of medical care, the most desirable model of patient-doctor relationships, in which all parties are equally responsible for the process and results of medical care. The task of a medical organization in this case is to create favorable conditions for its formation, based on the basic principles of quality management. The survey showed that 28.1% of mothers had emergency hospitalization and 71.9% had planned hospitalization. Of all women who had planned hospitalization, the choice of this medical organization was in most cases due to the referral of a doctor, due to the health of the child (55.1%) or the mother (24.6%). And 17.4% of women chose the center on the recommendation of friends and acquaintances. The main reasons for choosing a prenatal center for planned medical care are shown in table 2.

Table 2: The main reasons for choosing Prenatal center of SPbSPMU for medical care (in %)

Reason	Relative share
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The doctor's referral due to the health status of the child	55,1
The doctor's referral due to the mother's health condition	24,6
Recommendations from friends and acquaintances	17,4
Reviews on the Internet	2,9
Total:	100,0

The study found that the majority of women were in double rooms (45.2%). There were 9.5% of mothers in single rooms, 22.9% in triple rooms, 19.6% in quadruple rooms, and 2.9% in five rooms. On average, there were 2.6 ± 0.07 people in the room.

Satisfaction with medical care, which directly depends on the level of expectations of patients, consists of many factors, in most cases of a subjective nature. An important role is played by compliance with the principles of deontology on the part of medical personnel. 79.5% of prenatal center patients believed that their child's doctor was always friendly and tactful. It was believed that sometimes he was tactless and rude by 12.0% of mothers. 1.7% of respondents indicated that the doctor was always tactless and openly rude, while 6.8% found it difficult to answer this question. The study of mothers' satisfaction with the activities of secondary medical personnel revealed that, according to 57.1% of patients at the prenatal center, nurses were always attentive and tactful. 37.8% of the respondents sometimes encountered tactlessness and rudeness of the nursing staff. 3.4% of mothers believed that nurses always behaved tactlessly and openly rude towards their patients. 1.7% of respondents found it difficult to answer.

The evaluation of the work of doctors of the organization of maternity care in points allowed establishing that the majority of mothers rated it "excellent" (65.4%). 28.4% of respondents rated it "good" and 6.2% rated it "satisfactory". When evaluating the work of nurses, a smaller number, in comparison with doctors, rated it "excellent" (51.8%). 39.7% rated them "good", 6.8% rated them "satisfactory", and 1.7% of mothers rated them "unsatisfactory". On average, the activity of doctors who provide medical care to newborns was rated by mothers at 4.6 ± 0.11 points, and nurses-at 4.4 ± 0.09 points. The distribution of mothers of newborns depending on the evaluation of the work of doctors and nurses is shown in figure 1.

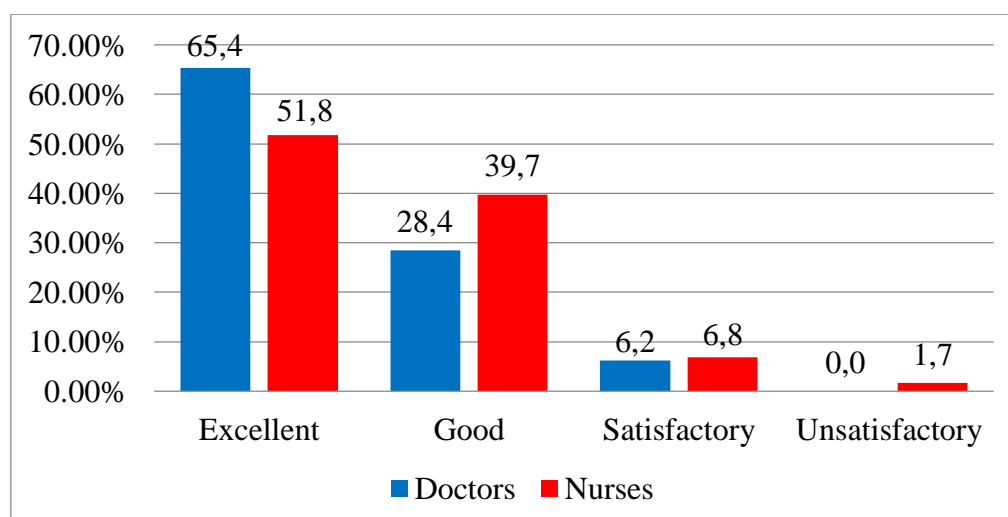


Figure 1: Distribution of mothers depending on the evaluation of the work of doctors and nurses (in %)

It was found that for 79.4% of women, care in the prenatal center was at the expense of the mandatory medical insurance fund (MMIF), 16.8% of respondents received medical care under voluntary medical insurance (VMI), and 3.8% of mothers paid for it themselves.

The study examined the issue of paying for medical care from their personal funds by patients who received it at the expense of the MIF. According to current Russian legislation, patients must be familiar with the list of free medical services that they are entitled to receive. It was found that 37.4% of patients familiarized themselves with the list of free medical services, while 14.7% of patients noted that it was in a prominent place. 34.7% of mothers were not informed, and 27.9% found it difficult to answer this question (Fig. 2)

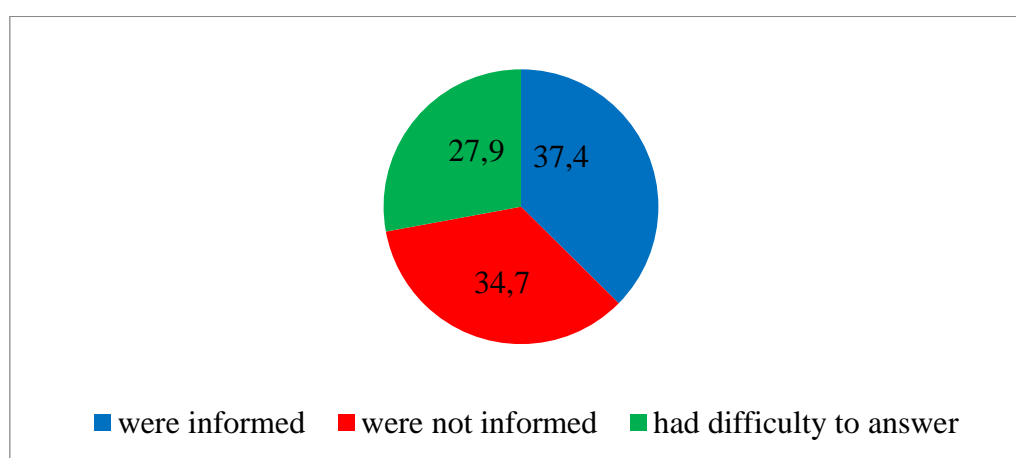


Figure 2: Distribution of mothers receiving MFI assistance according to the degree of familiarity with the list of free medical services (in %)

Only 1.3% of mothers receiving MFI care had to pay for separate medical services (examination, specialist consultation) and laboratory tests (blood, urine, etc.) prescribed by their child's doctor during their stay in a medical organization.

When asked whether they or their relatives were offered to buy any medications, IVS, syringes, dressings and child care products for their child, 90.8% of mothers who received medical care under the MFI said that they were not offered, because the prenatal center had everything they needed. 9.2% of women had to buy something on their own.

The evaluation of mothers' satisfaction with the conditions of the child's stay in the prenatal center revealed that 84.1% of respondents were fully satisfied, while 15.9% were not completely satisfied. Of those who were partially satisfied, the main reasons for dissatisfaction were unregulated temperature conditions in the room (47.4%), inattentiveness of medical staff (9.1%) and lighting (14.8%).

When evaluating the work of the prenatal center as a whole on a five - point system, just over half of mothers rated it "excellent"(50.6%), 46.8% of respondents rated it "good" and 2.6% - "satisfactory". The average score given by mothers was 4.4 ± 0.09 points.

According to the majority of mothers who participated in the study, in order to improve the arrangement of medical care for newborns in the prenatal center, it is necessary to increase the number of nurses (18.9%), improve nutrition (25.4%) and improve the website (10.3%). Recommendations of patients to improve the work of the prenatal center are presented in table 3.

Table 3: Relative share of individual recommendations of mothers in improving the work of the Prenatal center of SPbSPMU(in %)

Recommendation	Relative share
To increase the number of doctors	6,6
To increase the number of nurses	18,9
To improve the skills of staff	2,8
To increase the care and sensitivity of staff to patients	9,3
To improve nutrition	25,4
To improve the website	10,3

The study found that 93.8% would recommend this medical organization for providing medical care to children, and only 6.2% would not.

IV. CONCLUSIONS

1. The majority of mothers are hospitalized to the prenatal center as planned (71.9%) due to the health of their child (55.1%) and receive assistance under mandatory medical insurance (79.4%).
2. Despite the fact that the majority of mothers rate the work of medical personnel in providing medical care to newborns as “excellent” and “good”, 13.7% of mothers indicate that doctors are not always tactful and polite, and 41.2% of women –that nurses.
3. 34.7% of mothers are not familiar with the list of free medical services, and 9.2% of respondents purchased separate medicines and child care products for their newborn by themselves.
4. 15.9% of mothers were partially dissatisfied with the conditions of the child’s stay in the prenatal center, in most cases due to unregulated temperature conditions in the room (47.4%), inattention of medical staff (9.1%) and poor lighting (14.8%).

In general, the arrangement of medical care for newborns in the prenatal center of SPbSPMU received a fairly high rating from mothers (an average of 4.4 ± 0.09 points) and the majority of respondents will recommend this obstetric aid establishment for providing medical care to children (93.8%).

REFERENCES

1. National Center for Health Statistics. Guide to completing the facility worksheet for the certificate of live birth and report of fetal death. Atlanta, GA: US Department of Health and Human Services, CDC, National Center for Health Statistics; 2016.

<https://www.cdc.gov/nchs/data/dvs/GuidetoCompleteFacilityWks.pdf>

2. Martin JA, Hamilton BE, Osterman MJK, Driscoll AK, Drake P. Births: final data for 2017. National vital statistics reports: from the Centers for Disease Control and Prevention, National Center for Health Statistics, National Vital Statistics System. 2018; 67: 1–50
https://www.cdc.gov/nchs/data/nvsr/nvsr67/nvsr67_08-508.pdf
3. Moiseeva K. E., Yuryev V. K., Alekseeva A. V., Glushchenko V. A., Kharbediya Sh. D. Some assessment results of medical care for newborns. *Archivos Venezolanos de Farmacologia y Terapeutica*. 2019; 39(3): 192-195.
4. Halliday H.L. Speer C.P. Editorial: Research Methods in Neonatal Medicine. *Neonatology* 2018;114 (1): 43-51.
5. Soll R.F. · McGuire W. Evidence-Based Practice: Improving the Quality of Perinatal Care. *Neonatology* 2019; 116: 193–198.
6. McGuire W. Halliday H.L. The Research Cycle: Improving Care and Outcomes for Newborn Infants. *Neonatology* 2018; 114: 2–6.
7. Alexandrovich Yu.S., Parshin E.V., Pshenishnov K.V. Prediction of early outcomes of critical conditions in newborns. *Bulletin of anesthesiology and resuscitation*. 2012; 9(4): 36-42.
8. Sofronova L.N., Fedorova L.A., Kyanksep A.N. et al. Late prematurity – a high-risk group for early and long-term complications. *Pediatrics. G.N. Speransky Journal*. 2018; 97(1): 131-140.
9. Ivanov D.O. Guide to Perinatology. Saint-Petersburg: InformNavigator. 2015; 1216 p.
10. Prometnoy D.V., Aleksandrovich Yu.S., Pshenishnov K.V. Fluid overload as a predictor of death in children in critical condition. *General resuscitation science*. 2019; 15(1): 12-26.
11. Ivanov D.O., Yurev V.K., Shevtsova O.G., Moiseeva K.E., Berezkina E.N. Fetoinfatilelooses in the north-west region of Russia. *Electronic Journal of General Medicine*. 2018; 1: 1-6.
12. Egan M., Petticrew M. Public Health. Risk factors in home and community settings and their associations with. 2014; 8: 227-229.
13. Main indicators of maternal and child health, activities of the child protection and maternity services in the Russian Federation in 2016. Moscow: FRIHOI of MoH of the RF; 2017. 168 p.
14. Main indicators of maternal and child health, activities of the child protection and maternity services in the Russian Federation in 2018. Moscow: FRIHOI of MoH of the RF; 2019: 170 p.
15. Saver BG, Martin SA, Adler RN, Candib LM, Deligiannidis KE, Golding J, et al. Care that matters: quality measurement and health care. *PLoS Med*; 12(11): e1001902.
16. Rosenbusch J, Ismail I., Ringle C. The agony of choice for medical tourists: a patient satisfaction index model. *Journal of Hospitality and Tourism Technology*; 2018;9(3):267-279.
17. Batbaatar E, Dorjdagva J, Luvsannyam A, Savino MM, Amenta P. Determinants of patient satisfaction: a systematic review. *Perspectives in Public Health*; 2016;137(2):89-101.
18. Evstigneev S.V., Vasilyev V.V. Evaluation of the quality of medical care in a hospital based on the criteria of patient and doctor satisfaction. *Scientific Bulletin of the Belgorod State University. Series: Medicine. Pharmacy* 2016;(19):72-79.
19. Butova T G., Yakovleva E.Yu., Danilina E.P., Beloborodov A.A. Service and quality of medical services. Service in Russia and abroad. 2014;(8):3-12.
20. Brazovskaya N.G., Deev I.A., Kobyakova O.S., Bogaychuk P.M., Yarovoy N.D., Schneider G.V.,

- Boykov V.A., Baranovskaya S.V. Patient-oriented approach: analysis of the relationship between patients' evaluation of the effectiveness of medical care and the conditions for its provision. Social aspects of public health. 2019; 65(5):1. URL: <http://vestnik.mednet.ru/content/view/1097/30/lang,ru/>
21. Sadovoy M.A., Kobayakova O.S., Deev I.A., Kulikov E.S., Tabakaev N.A. Tyufilin D.S., et al. Satisfaction with the quality of medical care: "you cannot please everyone" or "the patient is always right"? Bulletin of Siberian medicine. 2017; (16): C. 152–161.
22. Siburina T.A., Volnukhin A.V., Vechorko V.I., Reze A.G. Managing the relationship between doctors and patients in a medical organization. Social aspects of public health. 2018; 64(6). URL: <http://vestnik.mednet.ru/content/view/1025/30/lang,ru/>.
23. Naronova N.A., Surnina E.A., Cheraneva Yu.A. Estimation of the values of the immunity and viscosity of dairy mixtures in different types of water. International Journal of Medicine and Psychology. 2019. Vol. 2. Issue 4. P. 43–46.