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Results of the Evaluation of the Work on the Prevention of Bleeding in a Number of Obstetric Institutions in the Samarkand Region

Rizaev Jasur Alimjanovich[1], Kattakhodjayeva Makhmuda Khamdamovna[1], Abdullaeva Lola Saifullaevna[2]

[1]Doctor of Medical Sciences, Professor, Uzbekistan
[2]PhD, Samarkand State Medical University, Tashkent State Stomatological Institute, Uzbekistan

Abstract Despite improvements in the quality of medical care worldwide, maternal mortality (MM) claims up to 300,000 women's lives every year. According to statistics, the risk of maternal mortality in developing countries is 100 times higher than in Europe [2,3]. The leading cause of MD today is still obstetric hemorrhage. The risk of hemorrhage among pregnant women exists from the early stages of pregnancy and throughout its duration. Postpartum hemorrhage, accompanied by massive blood loss, hemorrhagic shock, and multiple organ failure, causes particularly serious damage to women's health and even their lives [4].

Keywords Hemorrhage, Massive blood loss, Pregnancy, Maternal mortality

1. Introduction

About 80% of cases of obstetric hemorrhage lead to the development of a number of complications that damage a woman's health and, in some cases, accompany her for the rest of her life. Bleeding occurs more often in the first and third trimesters of pregnancy and can be triggered by a variety of factors that pose a threat to the mother and fetus. In some situations, there are no other pathological signs. About 25% of maternal deaths occur as a result of obstetric hemorrhages in the postpartum period [5]. At the same time, it should be noted that the number of maternal deaths is trending downward; over the past 30 years, Uzbekistan has seen a threefold decrease in maternal mortality. However, this indicator is still high compared to developed countries and in recent years has been 18-20 per 100,000 live births [6]. This raises the logical question: why, despite significant improvements in the material and technical base of medical institutions, the existence of national and local standards and protocols, and the improvement of the qualifications of medical workers, do the rates of hemorrhage and maternal mortality remain high, and what additional organizational measures are needed to improve the quality of medical care? In light of the above, we have attempted to analyze the quality of medical care for pregnant women at various levels of obstetric services.

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In order to assess the quality of medical care in regional maternity complexes and perinatal centers for the prevention of maternal mortality among pregnant women, an analysis of the activities of these institutions was conducted. To assess quality, questionnaires developed by the WHO as a tool for assessing and improving the quality of medical care for women to reduce preventable maternal and neonatal mortality were used, adapted to the conditions of Uzbekistan.

Materials and methods. According to WHO recommendations, the assessment of the organization and quality of medical care is conducted anonymously. We conducted an assessment in six institutions—three obstetric complexes of central district hospitals, two city maternity hospitals, and an obstetric center (three levels of obstetric care)—evaluating the infrastructure of the institution, staffing, availability of essential medicines, necessary equipment, and consumables. The quality of care provided to pregnant women, women in labor, and women after childbirth was assessed by observing the organization of work on the prevention of bleeding during the provision of medical care. Attention was paid to the quality of the staff's work, the control of their work, the availability of care at night, its continuity, and the observance of patients' rights. Next, an analysis was conducted of medical record keeping and the availability of orders, guidelines, protocols, and the quality of their application.

The quality assessment was conducted using a 3-point system, where

0 - extremely low quality care, serious risks to patient health identified.

The institution needs significant improvement.

1 - inadequate level of care, risks to patient health. Significant improvements are required.

2 - insufficient level of care, but no significant risk to patient health. Some improvements are necessary.

3 - care is provided in accordance with international standards. No improvement is required or only minimal changes are necessary.

2. Results and Discussion

The results of the assessment of the facilities of the institutions studied showed that OPCs and some urban maternity hospitals had an appropriate structure and well-trained staff (22% of institutions), the remaining facilities had satisfactory infrastructure and were completely understaffed (11%), but most district-level maternity care facilities were in poor condition and in need of improvement (67%). An analysis of medical records showed that only 11% were fully compliant with standards, 56% had deficiencies in their completion, and 33% were poorly completed, Fig. 1. During diagnostic tests and treatment, filling out the partogram, and preventing bleeding, there were some deviations from the standards and protocols. There were cases of non-compliance with the sequence of certain procedures, technical errors in the completion of medical documentation, careless completion, and sometimes illegibility due to poor handwriting by doctors.

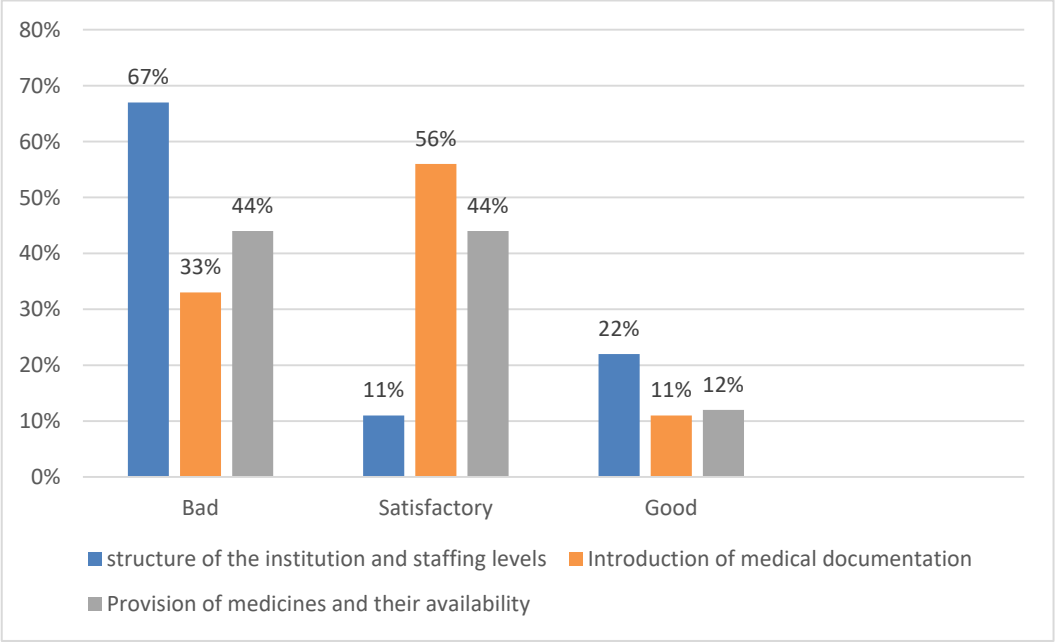

Figure 1. Results of the study of the quality of work organization in obstetric care facilities at three levels

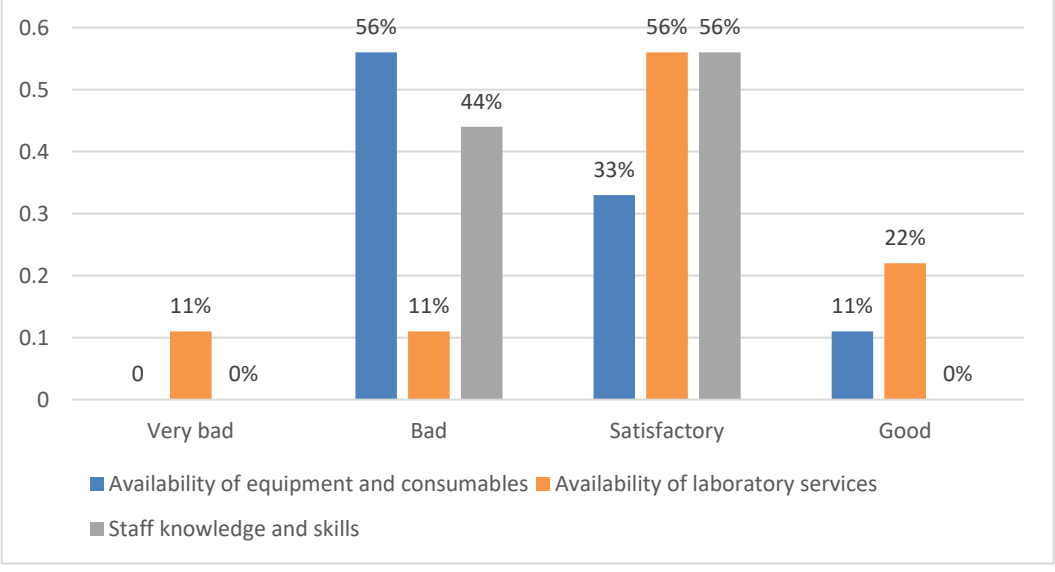

Figure 2. Assessment of quality criteria for maternity care facilities

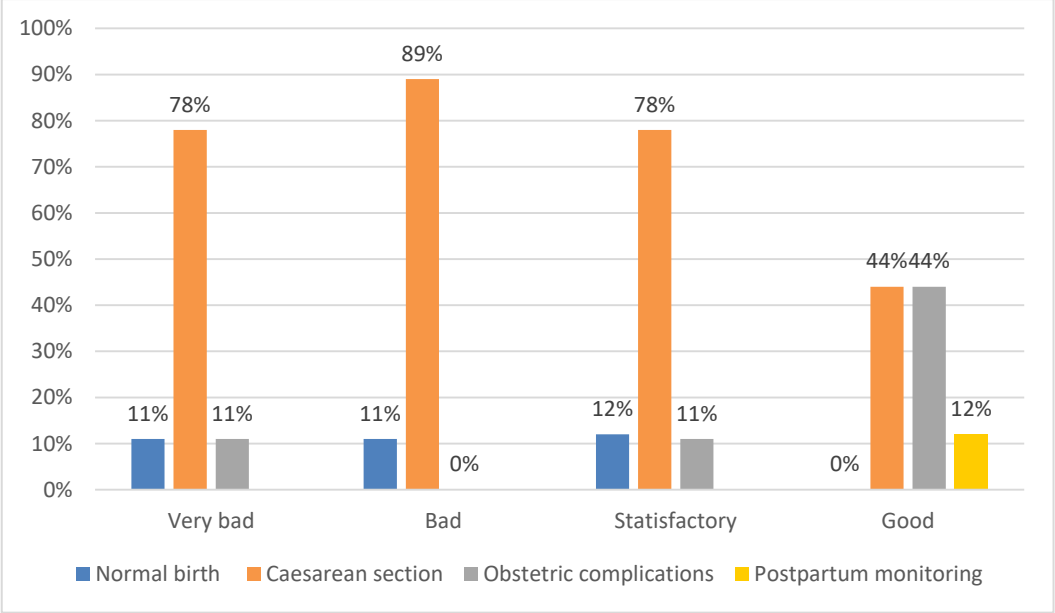

Figure 3. Assessment of quality criteria in delivery rooms

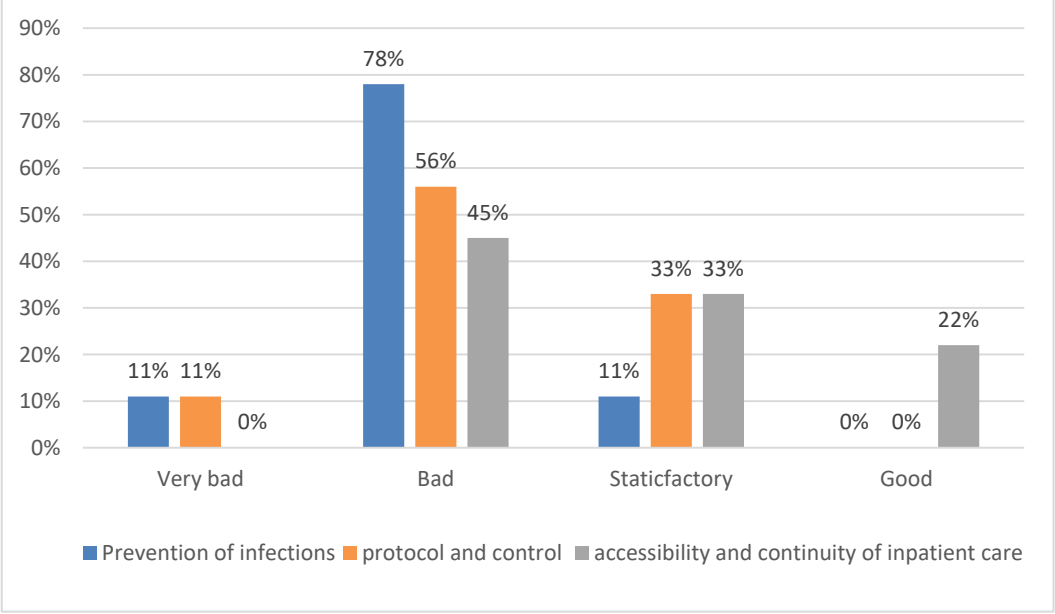

Figure 4. Assessment of quality criteria in delivery rooms

Undoubtedly, one of the most important factors in the prevention of complications is the full provision of essential medicines (EM). An analysis of the availability of medicines in the institutions studied showed that 12% of institutions had sufficient quantities of medicines, 44% of institutions had insufficient supplies of medicines, and another 44% of institutions had low supplies of medicines, Fig. 1.

The next quality assessment criterion was based on the availability of equipment and consumables. As it turned out, in 56% of institutions, this indicator was assessed as clearly insufficient, in 33% of institutions, the availability of equipment and consumables was satisfactory, and only in 11% of institutions was it good (Fig. 2).

The criterion of laboratory service accessibility was assessed as very low in two facilities (11%), while in another 11% of facilities the criterion was assessed as clearly insufficient. In 56% of facilities, laboratory service accessibility was satisfactory, and only in four facilities was accessibility good. Finally, the knowledge and skills of the staff of obstetric care facilities require further training, as 44% of facilities were assessed as requiring significant improvements and 56% as requiring some improvements (Fig. 2).

To date, all obstetric care facilities are provided with local protocols based on national guidelines and standards. However, according to the researchers, their implementation leaves much to be desired. In this regard, we assessed the degree of compliance with the criteria for providing medical care in delivery rooms according to protocols for assisting

pregnant women and women in labor, especially in cases of obstetric hemorrhage. According to the results of the study, the management of normal deliveries was assessed as very poor in 2 institutions (11%), poor in 78% of institutions, requiring significant improvements, and satisfactory in 2 more. At the same time, no maternity care facility fully complies with the preventive and therapeutic measures prescribed by the protocols for the prevention and control of bleeding, and therefore did not receive a good rating, Fig. 3. There are no signs of coordinated teamwork by the medical team in cases of obstetric hemorrhage, insufficient monitoring of the condition of women and the volume of blood lost, delays in providing conservative and surgical care, and inconsistency in treatment measures. All this leads to the development of massive obstetric hemorrhages, causing life - threatening conditions.

Caesarean sections were assessed as very poor in two institutions and poor in the rest, requiring significant improvements. No facility received a satisfactory or good rating. Management of obstetric hemorrhages was rated as "very poor" in two facilities, 'satisfactory' in two others, and "poor, requiring significant improvement" in two more. Monitoring and postpartum observation were rated as poor in 44% of institutions, satisfactory in another 44%, and good in only 12% (Fig. 3).

Infection prevention by medical personnel was rated as "very poor" in 11% of institutions, 'poor' in 78% of institutions, and "satisfactory" in 11% of institutions, Fig. 4.

There is no doubt that effective medical care must be provided in accordance with approved protocols, and it is also necessary to monitor medical staff for compliance with these recommendations. The next criterion is the implementation of recommendations and protocols by medical personnel. As the assessment showed, protocols were followed "very poorly" in 11% of institutions, 'poorly' in 56% of institutions, and "satisfactorily" in the remaining 33% of institutions. The criterion of accessibility and continuity of medical care was rated as "poor" in 45% of institutions, 'satisfactory' in 33%, and "good" in only 22% of institutions (Fig. 4).

Thus, the results of the assessment of the work of obstetric institutions of various levels in identifying the shortcomings and advantages in the activities of medical personnel and develop recommendations for improving the provision of medical care to pregnant women, women in labor, and women in the postpartum period.

The institutions have individual delivery rooms, but they accommodate 2-3 women in labor at the same time, and many hospitals do not offer partner-assisted childbirth. Monitoring of the condition of the fetus during labor does not meet standards, and the partogram is not kept properly. Active management of the third stage of labor by midwives does not meet standards, and hand washing techniques are not fully implemented.

The weaknesses of obstetricians and gynecologists are the high rate of cesarean sections without following the indications. The technique for performing the operation needs improvement. There is a lack of vigilance and, accordingly, complete prevention of massive obstetric hemorrhages during pregnancy, childbirth, and the postpartum period. There is a lack of coordinated teamwork skills when acute hemorrhage occurs. Maternity facilities do not have a full supply of means to stop acute hemorrhage (medicines, cylinders for uterine tamponade).

Conclusions on improving the work of midwives:

- Improve the practice of counseling women on the prevention of bleeding at all stages of their stay in the maternity hospital;
- Introduce partner births into practice and allow free visits to postpartum wards;
- Conduct training and implement skills for the prevention of massive obstetric hemorrhages;
- Conduct training and implement the 2020 partogram into practice;
- Train medical staff in active management approaches for the third stage of labor, followed by monitoring of the woman's condition.

3. Conclusions for Improving the Work of Obstetricians - Gynecologists

- Introduce practices to reduce the number of cesarean sections, perform surgery after 39 weeks and only when strictly indicated.
- Conduct regular training of personnel on national protocols, explaining the importance of their implementation, and monitor their implementation at the hospital level;
- Introduce adequate diagnostic criteria for massive bleeding and algorithms for managing obstetric hemorrhage;
- Develop new protocols based on the principles of evidence-based medicine;
- Use proven methods to improve the quality of medical services.

4. Recommendations for Maternity Facility Managers on the Prevention of Obstetric Hemorrhage

- continue to develop and revise clinical protocols for the prevention and treatment of obstetric hemorrhage;
- develop and implement algorithms and techniques for teamwork in cases of hemorrhage (organizing training in simulated situations) with regular monitoring;
- bring infrastructure, laboratory equipment, and the supply of medicines and consumables into line with the requirements for the regionalization of obstetric care, ensure round-the-clock access, and strengthen the work of laboratory services;
- Conduct ongoing training for all hospital staff using training sessions on combating obstetric hemorrhages in simulated conditions;

- Create multidisciplinary teams in each institution (obstetricians-gynecologists, neonatologists, anesthesiologists, midwives, and nurses) to improve mutual understanding among staff within the institution and to standardize information for different institutions.

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