



Module 1

Understanding Postpartum Aemorrhage (Pph) In Pregnancy

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Introduction

Postpartum hemorrhage (PPH) remains the primary cause of maternal mortality globally for over three decades, necessitating urgent action to reduce maternal deaths attributable to PPH. The incidence of PPH varies internationally, affecting 5% to 15% of all deliveries, with higher frequencies observed in low- and middle-income countries. PPH not only leads to mortality but also causes significant morbidity, including maternal near-miss events, with an estimated 50 to 100 severe morbidity cases for every PPH incident.

To combat PPH mortality, it is crucial for healthcare providers to recognize risk factors, diagnose early, and implement effective treatments swiftly. Current diagnostic methods for PPH, primarily based on visual estimation of blood loss, are inadequate due to their tendency to underestimate the volume lost, which could delay necessary interventions. Effective clinical management of PPH relies more on holistic clinical judgment rather than solely on quantified blood loss, as healthy women may tolerate a loss of up to 500mL without showing signs of hemodynamic instability, whereas those with existing morbidities might demonstrate complications much sooner.

Clinical guidelines advocate using a combination of vital signs and patient symptoms to better assess the risk of complications in PPH cases. These include the rate of blood loss, heart rate, blood pressure, respiratory rate, and signs of dizziness or altered mental status. Despite the availability of these indicators, there is still ambiguity regarding how healthcare providers integrate these elements into their clinical judgment for managing PPH effectively. This study aims to explore the decision-making processes of health providers in recognizing and responding to PPH, enhancing understanding and potentially improving outcomes in PPH management¹⁻¹⁶

This exploratory and descriptive study utilized a qualitative approach through semi-structured interviews to understand the diagnosis and management of postpartum hemorrhage (PPH).

Purposive sampling was used to select healthcare professionals from the obstetric ward and labor room of Hospital da Mulher Prof. Dr. José Aristodemo Pinotti CAISM/Unicamp, a tertiary-level hospital affiliated with Universidade Estadual de Campinas (UNICAMP), Brazil. This hospital serves over 60 cities and handles high-complexity cases with more than 2,000 deliveries annually.

Data collection occurred from January to March 2018, involving professionals experienced in obstetrics who had witnessed or managed cases of PPH. Training on PPH is provided annually, supplemented by lectures and specific conferences for obstetrics and gynecology residents. Despite the high volume of complex cases, the hospital lacks equipment to accurately measure blood loss postpartum.

Participants included nursing staff, medical residents in their second and third years, and obstetricians from the School of Medical Sciences of UNICAMP.

The inclusion criteria were a minimum of six months' experience in obstetrics, direct experience with PPH, and willingness to participate in the study. Those unwilling to record the interview or unavailable post-selection were excluded.

Interviews were conducted in person or via telephone, based on participant availability, after obtaining informed consent. A pretested semi-structured questionnaire guided the interviews, focusing on experiences of diagnosing PPH and factors influencing its identification. Recommendations for improving PPH identification were also explored.

Thematic analysis was conducted according to Patton's method. The transcription of interviews highlighted key phrases and words, which were coded and grouped by similarity to analyze themes related to the perception of PPH severity, challenges in early diagnosis, and strategies to enhance obstetrical care.

The results provided insightful perspectives on improving care practices in the detection and management of PPH.¹⁷⁻²⁰

Health Provider Interviews on Postpartum Haemorrhage Management

Participant Details:

The study involved interviews with 27 healthcare providers at a specialized hospital facility, encompassing a diverse group of professionals:

- 9 obstetricians (medical doctors)
- 7 medical residents
- 6 nurses
- 5 nursing technicians

Interview Duration:

The interviews varied in length, with the longest lasting 27 minutes and the shortest approximately 5.75 minutes. There was a 100% participation rate with no refusals.

Analysis Categories:

Three main thematic categories emerged from the analysis of the interviews, offering detailed insights into the management of postpartum hemorrhage. These categories were thoroughly described and supported with direct quotes from the interviews to illustrate key points effectively.

Table 1 Characteristics of the study sample

Gender	n (%)
Female	22 (81.5%)
Male	5 (18.5%)
Age*	
20 to 29 years	7 (27%)
30 to 39 years	10 (38.5%)
40 to 49 years	6 (23%)
≥50 years	3 (11.5%)
Schooling	
High school	2 (7.4%)
Higher education	14 (52%)
Graduate studies	11 (40.6%)
Occupation	
Obstetrician	9 (33.3%)
Resident	7 (26%)
Nurse	6 (22.2%)
Nursing Technician	5 (18.5%)
Years of experience	
≤5	14 (52%)
6–10	5 (18%)
> 10 years	8 (30%)
Total	27

Perception of the Severity: 'There Is something Wrong with the Women

General Perception:

All health providers recognized postpartum hemorrhage (PPH) as a life-threatening condition that demands vigilant attention. Despite this awareness, there exists a noted variability in the familiarity with the frequency and severity of PPH, attributed largely to the infrequent occurrence of severe cases at the institution.

Risk Factor Awareness and Attention Disparities:

Staff vigilance increases in cases where women exhibit known risk factors for PPH. Conversely, a common concern among providers is the potential for reduced attention in women without apparent risk factors, which might lead to oversight of critical bleeding risks during the postpartum period.

Diverse Detection Approaches Across Professional Roles:

Different training backgrounds influence how various categories of health professionals perceive and react to potential PPH:

- Nursing Team: Focuses on the subjective behaviors and movements of the women, identifying serious cases by deviations from normal behaviors.
- Medical Team: Prioritizes objective surveillance based on technical parameters such as vital signs and clinical symptoms.

Role of Nursing Technicians:

Nursing technicians, who spend the most time with patients postpartum, play a crucial role in early detection. They are often the first to notice deviations from expected behaviors and are pivotal in initiating further evaluation by alerting nurses and physicians.

Table 2 Words and criteria used by each category of professionals to identify women at risk of complications due to PPH and the amount of bleeding

Category	Words used to identify the problem	Words used to determine the amount of bleeding
Nurse technicians	Irritability with the baby, asking to take the baby away, uneasiness, or the woman turns pale, wet, or complaining about weakness, dizziness, nausea, constantly wanting to get out of bed	Subjective, visual estimate, provider experience
Nurses	Every complaint needs to be valued	Subjective, visual estimate of blood loss in the sheets, provider experience
Medical residents	The amount of bleeding, vital signs	Subjective, "insight," visual estimate of blood loss in the sheets and compresses, velocity and intensity of blood loss, vital signs, provider experience
Obstetricians	Pallor, darkening of vision, lethargy, dizziness, tiredness, disconnected speech	Subjective, massive number of clots, visual estimate of blood loss in the sheets and compresses, vital signs, provider experience

Behavioral Indicators:

Changes in a woman's behavior, such as irritability, restlessness, or complaints about feeling weak or dizzy, are significant early indicators of potential complications. These signs often precede observable changes in vital signs or excessive bleeding.

Response to Behavioral Changes:

Irritability, especially with the baby or discomfort in bed, is seen as a critical alert that something might be wrong. The nursing staff is trained to distinguish between mental confusion and normal fatigue from labor, which aids them in assessing the severity of the situation.

Medical Evaluation:

Upon notification by nursing staff, doctors assess the situation based on more clinically observable parameters like pallor, darkening of vision, or lethargy. Medical residents focus heavily on the quantity of bleeding as a primary indicator for action.

Subjectivity in Bleeding Assessment:

Among all health providers, there is a unanimous agreement on the subjective nature of assessing postpartum bleeding. The decision on whether the amount of bleeding is normal or excessive largely relies on the individual provider's judgment, compounded by the lack of precise tools to quantify blood loss.

This comprehensive view encapsulates the multifaceted approach and the collaborative effort required in the timely and effective management of PPH, highlighting the crucial roles played by different healthcare professionals within the hospital setting.

Strategies and Challenges in Early Diagnosis of Postpartum Hemorrhage (PPH)

Strategies for Assessing Bleeding:

Participants employ various methods to gauge whether blood loss is typical. Techniques include counting surgical compresses used during delivery, assessing whether blood has spilled beyond the bed, observing for clots, and noting the intensity and continuity of the bleeding. For instance, medical residents recognize a potential PPH when vaginal bleeding is continuous, runs off the bed, and is accompanied by multiple clots. Monitoring is essential even if the delivery was uncomplicated, as a woman may be quietly suffering from hypovolemic shock, even appearing to be asleep.

Challenges in Early Diagnosis:

Several barriers hinder the timely identification of PPH:

- **Workload and Staffing:** High workloads and inadequate staffing levels often lead to suboptimal postpartum care.
- **Inexperience:** Residents may lack sufficient experience for early PPH detection, despite formal training.
- **Physical Setup:** The physical layout, such as the distance between patient rooms and the nursing station, complicates frequent monitoring, especially when patients are unaccompanied by family.
- **Technical Difficulties:** Techniques like assessing uterine tone can be painful, causing reluctance among technicians to apply necessary pressure during evaluations.

Improving Obstetrical Care:

Healthcare providers suggest several improvements to enhance PPH management:

- **Educational Tools:** A handbook or a flowchart detailing the steps for diagnosing and treating PPH could help inexperienced residents remember procedures.
- **Resource Availability:** Critical medications for PPH treatment should be readily available in all wards, not just in the pharmacy.
- **Periodic Training:** Regular and updated training sessions are recommended to keep all team members current on the best practices and protocol changes.

- Case Review and Audits: Discussing PPH cases post-resolution and conducting audits on adverse outcomes can provide learning opportunities and facilitate improvements.
- Teamwork and Communication: Enhancing communication between doctors and nurses is crucial, especially regarding the women's subjective symptoms reported by the nursing team. Immediate clinical evaluation following such reports can lead to better outcomes.

These insights underscore the complexity of managing PPH effectively and highlight the need for systemic changes to support healthcare providers in delivering optimal care during critical postpartum situations.

Insights and Challenges in Early Diagnosis of Postpartum Hemorrhage (PPH)

Varied Diagnostic Approaches Across Health Providers:

Health professionals express deep concern for the early identification of PPH to prevent maternal mortality and morbidity. However, their strategies vary significantly: the nursing team tends to focus on behavioral changes as early signs of PPH, whereas physicians often rely on objective measurements such as changes in vital signs or direct estimates of blood loss. This discrepancy likely stems from differences in training and the close contact that nurses maintain with patients post-delivery.

The Role of Experience and Intuition:

Experience and intuition play a crucial role in the early recognition of PPH. More seasoned professionals are instrumental in guiding less experienced staff to recognize early signs of PPH. The literature and this study both highlight how professional intuition and clinical experience are vital in assessing the severity of bleeding, supporting the notion that both subjective and objective assessments are essential in forming a complete diagnostic strategy.

Underestimation of Blood Loss:

Studies have consistently shown that health providers often underestimate blood loss post-childbirth, a challenge exacerbated by the absence of effective quantification tools. This underestimation is particularly marked in cases of significant bleeding, highlighting a gap in accurate diagnostic practices despite training.

Proposed Enhancements for PPH Diagnosis:

To improve the accuracy of PPH diagnosis, several studies suggest incorporating clinical signs such as the shock index and other clinical parameters into the decision-making process. Simulations and clinical reconstructions are also recommended to enhance provider confidence and reduce stress, although the long-term benefits of these practices need further validation.

Workload and Staffing Challenges:

High work demands and inadequate staffing are significant barriers to timely PPH recognition. These issues not only compromise the quality of care but also reduce vigilance towards potential PPH diagnoses.

Suggested remedies include the implementation of PPH protocols in accessible locations and ongoing educational programs to equip providers with comprehensive treatment strategies and emphasize the importance of teamwork and effective communication.

Communication and Team Training:

Communication breakdowns are a major cause of medical errors, including delays in PPH diagnosis. The adoption of “obstetric hemorrhage bundles,” which include team training, conflict resolution, and other collaborative tools, are proposed as means to bridge gaps in care stemming from varied professional perspectives.

Study Limitations and Further Research:

The findings from this university hospital setting may not be generalizable to smaller hospitals where staff might have less specialized training. Despite its qualitative nature, this study provides valuable insights into how clinical judgment for PPH diagnosis is developed, paving the way for future research to explore effective strategies for implementing diagnostic and treatment protocols.

The study underscores significant gaps and discrepancies in the early diagnosis of PPH, pointing to the need for a multifaceted approach that combines clinical protocols with intuitive and experiential learning. It also highlights the critical role of teamwork and communication in enhancing the management of PPH, advocating for comprehensive educational and procedural interventions to improve patient outcomes 21-23

References

1. Bateman BT, Berman MF, Riley LE, Leffert LR. The epidemiology of postpartum hemorrhage in a large, nationwide sample of deliveries. *Anesth Analg*. 2010;110(5):1368-1373. doi: 10.1213/ANE.0b013e3181d74898.
2. Say L, Chou D, Gemmill A, Tunçalp Ö, Moller AB, Daniels J, et al. Global causes of maternal death: a WHO systematic analysis. *Lancet Glob Health*. 2014;2(6):e323-e333. doi: 10.1016/S2214-109X(14)70227-X.
3. GBD 2015 Maternal Mortality Collaborators. Global, regional, and national levels of maternal mortality, 1990-2015: a systematic analysis for the Global Burden of Disease Study 2015. *Lancet*. 2016;388(10053):1775-1812. doi:10.1016/S0140-6736(16)31470-2.
4. Geller SE, Koch AR, Garland CE, MacDonald EJ, Storey F, Lawton B. A global view of severe maternal morbidity: moving beyond maternal mortality. *Reprod Health*. 2018;15(Suppl 1):98-110. doi: 10.1186/s12978-018-0527-2.
5. Creanga AA, Berg CJ, Ko JY, Farr SL, Tong VT, Bruce FC, et al. Maternal mortality and morbidity in the United States: where are we now? *J Womens Health (Larchmt)*. 2014;23(1):3-9. doi: 10.1089/jwh.2013.4617.
6. Kramer MS, Berg C, Abenhaim H, Dahhou M, Rouleau J, Mehrabadi A, et al. Incidence, risk factors, and temporal trends in severe postpartum hemorrhage. *Am J Obstet Gynecol*. 2013;209(5):449.e1-449.e7. doi: 10.1016/j.ajog.2013.07.007.
7. Mehrabadi A, Hutcheon JA, Lee L, Liston RM, Joseph KS. Trends in postpartum hemorrhage from 2000 to 2009: a population-based study. *BMC Pregnancy Childbirth*. 2012;12:108-116. doi: 10.1186/1471-2393-12-108.
8. Sentilhes L, Merlot B, Madar H, Sztark F, Brun S, Deneux-Tharaux C. Postpartum haemorrhage: prevention and treatment. *Expert Rev Hematol*. 2016;9(11):1043-1061. doi: 10.1080/17474086.2016.1245135.
9. Diaz V, Abalos E, Carroli G. Methods for blood loss estimation after vaginal birth. *Cochrane Database Syst Rev*. 2018 Sep 13;9(09):CD010980. doi: 10.1002/14651858.CD010980.pub2. PMID: 30211952; PMCID: PMC6513177.
10. Natrella M, Di Naro E, Loverro M, Benshalom-Tirosh N, Trojano G, Tirosh D, et al. The more you lose the more you miss: accuracy of postpartum blood loss visual estimation. *J Matern Fetal Neonatal Med*. 2018;31(1):106-115. doi: 10.1080/14767058.2016.1274302.
11. Hofmeyr GJ, Mohlala BK. Hypovolaemic shock. *Best Pract Res Clin Obstet Gynaecol*. 2001;15(4):645-662. doi: 10.1053/beog.2001.0205.

12. Rath WH. Postpartum hemorrhage—update on problems of definitions and diagnosis. *Acta Obstet Gynecol Scand*. 2011;90(5):421-428. doi: 10.1111/j.1600-0412.2011.01107.
13. Pacagnella, R. C., & Borovac-Pinheiro, A. (2019). Assessing and managing hypovolemic shock in puerperal women. *Best Practice & Research Clinical Obstetrics & Gynaecology*, 61, 89-105. <https://doi.org/10.1016/j.bpobgyn.2019.05.012>
14. Bohlmann, M. K., & Rath, W. (2014). Medical prevention and treatment of postpartum hemorrhage: a comparison of different guidelines. *Archives of Gynecology and Obstetrics*, 289(3), 555-567. <https://doi.org/10.1007/s00404-013-3016-4>
15. Dahlke, J. D., Mendez-Figueroa, H., Maggio, L., Hauspurg, A. K., Sperling, J. D., Chauhan, S. P., et al. (2015). Prevention and management of postpartum hemorrhage: a comparison of 4 national guidelines. *American Journal of Obstetrics and Gynecology*, 213(1), 76.e1-76.e10. <https://doi.org/10.1016/j.ajog.2015.02.023>
16. Kerr, R. S., & Weeks, A. D. (2017). Postpartum haemorrhage: a single definition is no longer enough. *BJOG: An International Journal of Obstetrics & Gynaecology*, 124(5), 723-726. <https://doi.org/10.1111/1471-0528.14417>
17. Patton, M. Q. (1990). *Qualitative evaluation and research methods* (2nd ed.). Sage.
18. Hancock, A., Weeks, A. D., & Tina, L. D. (2019). Assessing blood loss in clinical practice. *Best Practice & Research Clinical Obstetrics & Gynaecology*, 61, 28-40. <https://doi.org/10.1016/j.bpobgyn.2019.04.004>
19. Andrikopoulou, M., & D'Alton, M. E. (2019). Postpartum hemorrhage: early identification challenges. *Seminars in Perinatology*, 43(1), 11-17. <https://doi.org/10.1053/j.semperi.2018.11.003>
20. Higgins, P. G. (1982). Measuring nurses' accuracy of estimating blood loss. *Journal of Advanced Nursing*, 7(2), 157-162. <https://doi.org/10.1111/j.1365-2648.1982.tb00223.x>
21. Pranal, M., Guttman, A., Ouchchane, L., Parayre, I., Rivière, O., Leroux, S., et al. (2018). Do estimates of blood loss differ between student midwives and midwives? A multicenter cross-sectional study. *Midwifery*, 59, 17-22. <https://doi.org/10.1016/j.midw.2017.12.017>
22. Ononge, S., Mirembe, F., Wandabwa, J., & Campbell, O. M. (2016). Incidence and risk factors for postpartum hemorrhage in Uganda. *Reproductive Health*, 13, 38. <https://doi.org/10.1186/s12978-016-0154-8>
23. Ambardekar, S., Shochet, T., Bracken, H., Coyaji, K., & Winikoff, B. (2014). Calibrated delivery drape versus indirect gravimetric technique for the measurement of blood loss after delivery: a randomized trial. *BMC Pregnancy and Childbirth*, 14, 276. <https://doi.org/10.1186/1471-2393-14-276>

Prevention and Treatment of Postpartum Haemorrhage

Postpartum hemorrhage (PPH) is a leading cause of severe morbidity and chronic disability among postpartum women. It often results in serious conditions such as shock and multiple organ failure due to significant blood loss. Although many women who develop PPH lack clear clinical or anamnestic risk factors, a history of six or more births and prolonged uterine contractions increase the risk. There is a need to update WHO recommendations based on new scientific evidence in the prevention and treatment of PPH, tailored to our country's conditions.

The primary approach to managing the third stage of labor is the use of uterotonics. Oxytocin is recommended as an intrauterine agent to prevent PPH during cesarean sections. PPH is typically defined as the loss of at least 500 ml of blood within 24 hours post-delivery, with severe cases involving a loss of at least 1000 ml. Approximately 2% of women who give birth experience PPH, which accounts for nearly a quarter of all maternal deaths worldwide and remains a leading cause of maternal mortality in many developed countries. Uterine atony is the most common cause of PPH, but it can also result from birth injuries (e.g., vaginal or cervical tears), uterine rupture, placental abruption, or coagulation disorders. Preexisting anemia can exacerbate the consequences of even minor blood loss.

The latter half of the 20th century saw the introduction of a comprehensive approach to the third stage of labor known as "active management of the third stage of labor," which includes the prophylactic use of uterotonics, early clamping and cutting of the umbilical cord, and controlled cord traction. Uterine massage is commonly performed during this stage. Compared to expectant management, active management significantly reduces the incidence of PPH.

Preventing and treating PPH are crucial steps in improving postpartum healthcare. Healthcare providers must have access to essential medications and training in ICU care. Institutions should implement evidence-based guidelines to develop effective health strategies and improve intervention outcomes. Most PPH-related deaths occur within the first 24 hours post-delivery and are often preventable.

Recommendations for PPH treatment include the use of uterotonics (oxytocin as the preferred monotherapy), uterine massage to alleviate atony, and intensive infusion therapy with isotonic crystalloid solutions. Tranexamic acid is recommended for refractory atonic bleeding or persistent bleeding from soft tissue injuries. In the absence of response to uterotonics, uterine tamponade, bimanual compression, and external aortic compression are advised. Uterine artery embolization should be considered for persistent bleeding without available reserves. Immediate surgical intervention is necessary if conservative treatments fail. If the third stage of labor exceeds 30 minutes, manual placental separation and oxytocin administration are indicated. A single dose of prophylactic antibiotics is recommended following manual placental separation.

Basic Organizational Measures

1. Medical institutions are advised to adopt and implement standardized protocols for the prevention and treatment of sexually transmitted infections (STIs).
2. It is recommended that women in medical institutions have access to and utilize medical transcripts.
3. Pre-diploma and postgraduate training programs should include simulation training on the treatment of STIs as part of the educational curriculum for medical staff.
4. Monitoring the use of postpartum uterotonics is recommended as an indicator of program effectiveness in preventing STIs.

Uterotonics

The use of uterotonics in the third stage of labor is recommended for all births to prevent postpartum hemorrhage (PPH). Oxytocin (10 IU, IV or IM) is the preferred uterotonic agent. In the absence of oxytocin, other injectable uterotonics (e.g., ergometrine/methylergometrine or a combination of oxytocin and ergometrine) or oral misoprostol (600 mcg) should be used. In settings where qualified midwives and oxytocin are unavailable, unqualified health care providers may administer misoprostol (600 mcg orally). While data for direct comparison is limited, the benefits of oxytocin and ergometrine are generally comparable, with attention needed to manage ergometrine's side effects.

Recommendations for STI Prevention and Treatment:

1. Standard Protocols: Medical institutions should have and adhere to standardized protocols for the prevention and treatment of postpartum hemorrhage. This includes protocols for transferring women to higher-level care facilities when necessary.
2. Simulation Training: Periodic simulation training on STI treatment should be conducted in all maternity hospitals as part of staff training programs.^{111 1}
3. Monitoring Uterotonics Use: The utilization of uterotonics should be tracked as a key performance indicator in evaluating the effectiveness of postpartum hemorrhage prevention programs.

Evidence-Based Prevention and Treatment

Effective prevention and treatment of postpartum hemorrhage can be achieved using cost-effective methods. Recommendations include:

1. **Continuous Monitoring:** Women should be under constant medical supervision during the first few hours after delivery.
2. **Cold Chain for Oxytocin:** Proper temperature control must be maintained for oxytocin to ensure its efficacy.
3. **Neonatal Jaundice Management:** Systems for detecting and treating neonatal jaundice should be integrated, especially where late umbilical cord clamping is practiced.

Implementation and Monitoring

The implementation of these recommendations should be monitored at the health system level. Clinical audits, either periodic or based on specific criteria, are necessary to gather important information about treatments used in the ICU. Specific criteria and indicators related to locally approved parameters should be employed.

Prophylactic Uterotonics Coverage

The proposed indicator for assessing the implementation of recommendations is the proportion of women receiving prophylactic uterotonics during the third stage of labor. This allows for evaluation of guideline adherence. Comprehensive quality assessments may require additional specialized indicators.

Key Outcomes for PPH Prevention

Critical outcomes for evaluating the effectiveness of PPH prevention measures include:

- Reduced maternal mortality
- Decreased incidence of severe PPH (blood loss > 1000 ml)
- Fewer blood transfusions
- Reduced ICU admissions
- Lower incidence of blood loss \geq 500 ml
- Appropriate administration of additional uterotonics
- Reduced cases of postpartum anemia
- Improved breastfeeding outcomes

- Decreased severity of anemia in newborns
- Monitoring and managing side effects such as nausea, vomiting, diarrhea, headache, abdominal pain, and high blood pressure
- Lower maternal body temperature complications

Key Outcomes for PPH Treatment

Critical outcomes for evaluating PPH treatment include:

- Management of additional blood loss ≥ 500 ml and ≥ 1000 ml
- Reduced need for blood transfusions
- Effective use of additional uterotonics
- Non-invasive and surgical interventions (including hysterectomy)
- Control of maternal body temperature $\geq 40^{\circ}\text{C}$
- Management of treatment complications and infections
- Minimizing the time between decision-making and implementation
- Ensuring availability of necessary drugs and therapies

These recommendations and measures are designed to improve the overall care and outcomes for women experiencing postpartum hemorrhage, aligning with international standards while considering local conditions.

Improving the Quality of Medical Care in Uzbekistan: A Focus on Postpartum Hemorrhage Management

The quality of medical care is a fundamental aspect of healthcare development in Uzbekistan. However, scientific research in various healthcare domains has not been adequately prioritized. Currently, there is a lack of clear definitions, criteria for evaluation, and strategies for improving the quality of medical care in the Republic of Uzbekistan. Numerous contemporary studies emphasize that the quality of care provided to women significantly impacts pregnancy and childbirth outcomes. Therefore, the emphasis should shift from solely assessing doctors' performance to evaluating patient satisfaction and the quality of medical care provided.

Quality Management Over Quality Assessment

Through our research, it has become evident that analyzing and managing quality are more critical than mere quality assessment. Our current standards of quality are lagging behind international benchmarks, with much of our efforts still focused on evaluating and inspecting medical care rather than improving it. Effective quality management involves:

- Implementing modern, evidence-based medical technologies
- Adopting medical standards, clinical guidelines, and local clinical protocols
- Licensing physicians and accrediting medical institutions
- Continuous training and skill enhancement for medical staff
- Regular monitoring and evaluation of care quality

Such an approach can reduce medical errors and enhance patient satisfaction. For instance, addressing postpartum obstetric hemorrhage effectively can serve as a reliable measure for assessing, monitoring, and managing the quality of obstetric care.

Challenges in Emergency Care for Pregnant Women

There is a notable gap in studies on organizing emergency care for pregnant women with obstetric and vasomotor pathologies. Often, patients are admitted to hospitals independently rather than through a doctor's referral, which can increase the risk of adverse outcomes. Research by various Russian authors highlights several factors that diminish the quality of care in perinatal centers:

- Insufficient funding (35.5%)
- Inadequate material and technical resources (23%)
- Insufficient qualifications of doctors (6.6%)

Understanding the Role of Quality Management

The absence of a systematic approach to quality management in healthcare is a sign of an incomplete understanding of its critical role in ensuring high standards in maternity hospitals. Despite using evidence-based medical information in obstetric practices in Uzbekistan, there is a need to align more closely with patient needs and continuously develop the professional skills of healthcare providers. Patient satisfaction, which was reported at 59%, is a key criterion for emergency care quality, indicating room for improvement.

Addressing Complaints and Deficiencies

Most complaints from patients and their relatives are related to unprofessional behaviors rather than medical care per se. Despite this, the medical commissions in obstetric hospitals are often not involved in reviewing these complaints, and their insights are not sufficiently considered. When assessing deficiencies in obstetric care, it was found that:

- More than half of the identified deficiencies are primary, mainly related to diagnostics rather than treatment.
- Treatment deficiencies, although less frequent, result in significantly more adverse outcomes.

The Role of Perinatal Education

Further research is warranted to explore the impact of perinatal education on healthcare satisfaction within the obstetric system. Enhancing perinatal education could potentially improve the overall quality of care and patient outcomes in obstetric practices.

In conclusion, a comprehensive approach to quality management in healthcare, focusing on patient satisfaction, continuous professional development, and the implementation of evidence-based practices, is essential for advancing medical care in Uzbekistan. Addressing postpartum hemorrhage effectively can serve as a benchmark for improving obstetric care quality and reducing medical errors.

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