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Review Article

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Prognostic Factors in Obstetric Cases Which were Admitted in ICU (Periods of Calm and Epidemics). Location, Evaluation & Ways of Resolving Human Errors

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Introduction

It is widely accepted that the field of obstetrics and gynecology is one of the most challenging specialties, due to the high expectations regarding patients' safety, irregular working hours and great sense of responsibility surrounding it. Medical errors among obstetricians, midwives and nurses consist of a significant problem which arises in this field. Numerous factors have been shown to affect the occurrence of obstetric errors. Not only is raising awareness of the potential causes of high importance, but it can also contribute to the reduction of adverse events and unfortunate patient outcomes.

Analyzing the Most Common Causes of Medical Errors in the Field of Obstetrics

To begin with, a factor that has proven to be contributory to the deterioration of the problem is the insufficient number of health care workers, accompanied by excessive workload and disproportional number of patients per midwife/nurse [1]. To illustrate, a relevant study conducted on 365 nurses and midwives working in Turkish hospitals (Ugurlu & Vural study), showed that the rise in the number of patients that nurses and midwives were responsible for resulted in attention deficit and fatigue, thus causing burnout and making the staff vulnerable to erring. In a more specific study on this matter, the study of Cho et al. run on 51 hospitals, a statistically significant relationship between the increased number of patients per nurse and poor quality of care - caused by lack of time - was established [2]. Similar effect is also caused on doctors; an obstetrician who takes up treating a large number of patients or watching over high-risk pregnancies, is at higher malpractice risk compared to another, as stated by the President of the Hellenic Society of Forensic Medicine [3].

Subsequently to the inadequate staffing pattern and the staff burnout caused by it, neglect and carelessness have more often than not been shown, thus causing unfavourable events [4]. For instance, in the analysis of care records at the Medical Protection Society's London office, covering the years 1982 - 1986, in several cases inadequate fetal monitoring was reported. In 14 of the overall 64 cases where cardiotocography was omitted, fetal distress went unnoticed or ignored [4]. In addition to that, it is said that unnecessary Caesarian deliveries are being scheduled for

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convenience or billing purposes in countless facilities, rendering the risk of medical errors higher and jeopardizing patients' lives [4]. Moreover, as stated by the President of the Hellenic Society of Forensic Medicine in his report about analysis and elimination of medical errors and evaluation of the condition in Greece, several surveys have been carried out on the relationship between the pressure caused by medical responsibility and the choice of treatment, focalizing on the field of obstetrics in which physicians, facing great responsibility pressure, have often been found to practice defensive medicine. In fact, obstetricians often select the conduction of C - section instead of vaginal birth in order to avoid lawsuit, oblivious to the underlying danger and thus increasing medical expenses [3].

Another cause of errors is lack of information regarding the patient and lack of professional knowledge [2,4,5] Concerning errors in medication, which is the type with the highest rate, the most common group of factors associated were those related to knowledge of the drug therapy and patient factors that affect it (allergies to the same medication class, for example), incorrect use of calculations (ex. wrong expression of rates) and trouble in classification [5]. In other cases, insufficiency of professional knowledge has proved to be much more menacing or even devastating, causing even patients' death; in the same study mentioned above, the analysis of care records at the Medical Protection Society's London office, 5 infant deaths were cited due to mismanagement of forceps, in a total of 31 cases [4].

Inadequate knowledge is -not unduly- correlated with lack of training and skills. In most research, health care workers who reported having made errors, had not received in-service training, controllable measures communication training or adequate education on birth positions. Most of them had also not participated in certificate programs and courses [2,4,6].

As previously mentioned, fatigue is reportedly the major cause of obstetric errors in several incidents [2,7]. The Nurse/ Midwife staffing pattern has proved to be inadequate, leading to unfortunate patient outcomes [1]. This is due to the fact that, in the commonly used pattern, the use of overtime (either imposed or not) to cover staff vacancies prevails, causing burnout and fatigue and thus provoking the occurrence of frequent medical errors [1].

As implied, overtime leads to irregular sleep periods. Sleep deprivation can have a negative effect on obstetricians' and midwives' alertness and performance. Medical errors in this field are often attributed to lack of sleep [7]. However, in contrast to the above, the Latoref study, an observational study including 31 ICUs, which covered the period from August 2009 to December 2011, presents depression as a major and independent risk factor when it comes to erring. Symptoms of depression were prominent in 18,8% of physicians and 15,6% of nurses participating. This particular study suggests that safety culture has limited influence on medical errors, whereas burnout is not associated with errors [8].

Another frequently mentioned risk factor, although rather controversial, is the age of health care workers. Numerous research has confirmed the correlation between age and status of error. In the Ugurlu and Vural study, nurses and midwives over the age of 31 are said to be more likely to err, whereas in another study addressing this matter, the Kocak and Yaman study, it is suggested that nurses who are 26-35 years old make more medical errors [2]. It is evident that more studies addressing this specific matter are needed.

Insufficient communication can be listed as one of the major risk factors [9,10]. Reports reveal that a high percentage, reaching over 70% of adverse events is caused due to lack or failure of communication. In a relevant study carried out by the Institute for Safe Medication Practices (ISMP), half of the 2000 health care workers inquired, reported having felt skeptical about giving a specific medication, however intimidated and unable to express their concerns. As another study stated, '' Analysis of 421 communication events in the operating room found communication failures in approximately 30 percent of team exchanges; one-third of these jeopardized patient safety by increasing cognitive load, interrupting routine, and increasing tension in the OR setting'' [9]

Evidently, differentiation of documentation systems in hospitals also plays a leading role in the occurrence of communicational problems.

Lack of supervision and lack of protocols have been the case several times as well. Lack of supervision by seniors and more experienced health workers is cited as a cause of medical errors in multiple surveys on the subject. Similarly, lack of protocols seems to be of great concern. In fact, the Public Citizen report enhances the significance of the matter and illustrates that, in facilities where the appropriate protocols for high-risk cases are absent, the staff cannot be forewarned about any trouble that may arise, thus the possibility of error occurrence increases [10].

The Effect of Covid-19 on the Frequency of Occurrence of Medical Errors in Obstetrics

Lastly, it is well known that, with Covid-19 being the primary health concern during the last few years, a significant amount of serious or even life-threatening cases may have received late diagnosis and subsequently late treatment due to suspicion of Covid-19. Additionally, data shows that the pandemic has had an adverse effect on health care workers' performance [11].

In an online survey made to assess Covid-19 associated risks it was established that a great percentage of the 217 health care workers who participated (78,8%) reported poor quality sleep. Despite being smaller, this rate seems to have existed before the pandemic. However, it now seems to have increased among front line health care workers because of Covid-19. As cited; '' Among the participants, 77.42% performed medical errors, particularly not checking for drug allergies (17.97%), dispensing medication with incomplete instructions (20.74%), providing incorrect doses or overdosing (14.75%), incorrectly explaining the use of medication (9.22%), and prescribing a drug to the wrong patient (10.14%)'' [12]. In essence, results showed that the Covid-19 adversely affects the sleep quality of front-line health care workers, thus acting on the frequency of medical errors [11,12].

In a Summary

Medical errors in the field of obstetrics and gynecology can have unfortunate consequences on patients' safety, even putting their life at risk at times. Numerous factors have been found to affect and differentiate the frequency and number of errors in different health care facilities. Deep knowledge of these causes is useful for every health care worker, in order to be alarmed and work on minimizing the risk. Undeniably, more studies on the subject are needed and it is vital that the incidence of medical errors be diminished, so patient safety can be ensured.

What can be done

It is important to develop a culture of patient safety as safety is considered a key component in providing optimal health care to women. Safety requires everyone in the healthcare environment to recognize that the potential for error exists to an increased degree and should be the basis of any effort to reduce medical errors. According to the Agency for Healthcare Research and Quality (AHRQ), safety culture refers to "a commitment to safety that permeates all levels of an organization, from frontline staff to management." Safety culture is confused with the concept of "just culture", which recognizes that even the most competent professionals make mistakes and that they may develop unhealthy rules, such as shortcuts or breaking routine rules, but with zero tolerance for reckless behavior [13].

"Frontline staff are required to disclose errors thus maintaining professional responsibility." A just culture recognizes that some degree of human error is inevitable, especially in complex endeavors such as healthcare delivery. Therefore, the first step in providing safe healthcare should be to identify and study the patterns and causes of errors in delivery systems. Obstetrician-gynecologists should adopt and develop safe practices that reduce the possibility of system failures that may cause adverse outcomes [13,14].

Just Culture points out that behaviors that would qualify as "risky behavior" or "reckless behavior" should be avoided. Risk behavior is the type of rule bending that tends to occur naturally over time in systems where the rate of adverse outcomes is very low. Reckless behavior is the type of behavior that clearly places patients at significant risk of harm and demonstrates a conscious violation of safety protocols. In a just culture, cases of adverse outcomes or failure to follow safety protocols are fairly and openly investigated, and clearly human error is condoned, and reckless behavior punished. Establishing these principles creates an atmosphere where all health professionals feel safe to report errors and high-risk behaviors by themselves and others. This will increase error reporting and identify hidden problems, as well as motivate healthcare providers to find system problems and work together to resolve system failures [13,14].

Strong leadership in obstetrics and gynecology is essential to support the provision of both financial and human resources to achieve goals related to patient safety. Efforts to optimize communication and collaboration among the various members of the health care team are equally important in promoting these principles of patient safety [15].

One another important method for improving medical errors is the implementation of protocols for safe pharmaceutical practices. Most medical errors are caused by problems related to the use of drugs. Therefore, efforts to reduce the occurrence of these errors should be continuous. Although electronic physician order entry systems can be effective in reducing prescribing errors, they are costly and, in many cases, do not collect data that support quality improvement activities. Therefore, to reduce prescription errors, the following steps should be adopted: [14]

- Improving the readability of the manuscript
- Avoid using informal abbreviations.
- Check for possible allergies and drug sensitivities.
- All verbal orders should be recorded by the person receiving the order and read to the prescriber verbatim to ensure accuracy.
-

Additionally, the reduction of surgical errors is important. Surgical errors can include performing the wrong operation or procedure at the wrong site or on the wrong patient. Although these errors occur much less frequently than medication errors, the consequences of these errors are always significant. The obstetrician-gynecologist ultimately responsible for the patient's care should work with operating room staff, such as nurses and anesthesiologists, to ensure that systems are in place to ensure proper identification of the patient and the procedure. They should also use a preoperative verification procedure to get the patient's consent for the intended procedure to be performed [14].

To advance the verification process the Joint Commission developed the Universal Protocol and the related "Speak Up" program to address this. This program is designed to ensure the right person, the right location, and the right process through the elements of a pre-procedure verification process, marking the location of the procedure, and performing a time-out prior to the start of the procedure. process.

The World Health Organization's Safe Surgery Saves Lives program, endorsed by the International Federation of Gynecology and Obstetrics (FIGO), has been shown to significantly reduce surgical morbidity and mortality in multiple settings [14].

Another important way to reduce errors is to improve communication with health care providers. Communication between all members of the health care team is an essential component of patient safety. In its analysis of the incidents, the Joint Commission found that nearly two-thirds of the incidents involved failure to communicate as the root cause. Training in teamwork and communication techniques is increasingly recognized as a cornerstone of a strong patient safety program. AHRQ developed the TeamSTEPPS™ program to address this issue. Another key communication tool it supports is the SBAR-Situation, Background, Assessment and Recommendation or Request. It is a structured system for communicating critical information clearly and effectively. It allows caregivers to provide information about what is happening to the patient, what the clinical background is, what they

think the problem is, and what they would recommend or what action is called for. This information can then be properly understood and applied. A time of high potential for miscommunication is during patient handover. This happens during shift changes for nurses or associates. The Joint Commission states: "The primary purpose of handover is to provide accurate information about a patient's care, treatment and services, current status and any recent or anticipated changes. Information shared during a transfer must be accurate to meet patient safety goals." TeamSTEPPS™ includes a structured technique for handoffs that can facilitate the transmission of clinical and patient safety information in a way that prevents critical aspects of the treatment plan from being missed. Increased awareness of the importance of effective communication among all members of the health care team will enhance the safety of care provided by obstetrician-gynecologists [14,15].

As much as improving communication between health care providers is necessary, so is improving communication with patients. Communication is a key element of a healthy doctor-patient relationship and is essential to providing high-quality and safe patient care. According to the Code of Professional Ethics of the American College of Obstetricians and Gynecologists the patient-physician relationship has an ethical basis and is based on trust and honesty. It also states that the obstetrician-gynecologist must deal honestly with patients and colleagues while communication must be complete, clear, concise and timely. In order to be prepared for incidents of adverse events, ACOG encourages the development and use of written policies regarding the timing, content, communication, and documentation of disclosure. The American College of Obstetricians and Gynecologists believes that it is the ethical obligation of every physician to communicate honestly with patients, especially those facing adverse outcomes. Open communication and transparency in healthcare will increase trust, improve patient satisfaction and potentially reduce exposure to liability [14,15].

At the same time, collaboration with patients is considered necessary to improve safety, as patients who are actively involved in making decisions about their health care have better outcomes compared to those who remain uninvolved. According to the ACOG committee's opinion, Informed Consent, "patient participation in decisions about their own medical care is good for their health—not only because it is a safeguard against treatment that patients may find harmful, but because contributes positively to their well-being". Patients should be encouraged to ask questions about medical procedures, medications, and any other aspect of their care, and in many cases patient education materials developed by ACOG and other organizations are available [14].

Conclusion

The most important thing is to make safety an absolute priority in every aspect of the practice. The discipline of obstetrics and gynecology has a tradition of leadership in quality assessment activities, which have been associated with increased patient safety. The pursuit of patient safety is an ongoing and ever-refining process that incorporates information sharing and collaboration into everyday practice. An emphasis on compassion, communication and patient-centered care will help create a culture of excellence. Opportunities to improve patient safety should be used whenever they are identified.

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Conflicts of Interest

No conflicts of interest.

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