

Risk Reduction to Increase the Safety of Processes in the Obstetric Structure



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ABSTRACT: The definition of risk in the obstetric structure and its impact on a particular health phenomenon determines the model of work aimed at increasing safety for patients and staff. Preventable events are used as a measure of problems in different sectors, in the organization of work, which also determines the behavior of managers from different hierarchical levels. These are events that would not have happened if there were no strong exposure to a factor or gaps in standard health interventions in obstetric care.

Methods: a survey was conducted among medical persons in obstetric structures of the city of Varna. The data is processed using statistical software.

Results and discussion: significant results relevant to the definition of risks in obstetric practice have been identified. Proper management of risk situations requires an impact on the causes of complications, which increases the quality of the medical service and ensures patient safety. More than 80% of the risks are determined by acute complications during pregnancy and childbirth, by the urgency and time to manage them.

Conclusion: obstetric care requires a continuous audit of the activities, structure and resources and the application of written rules for all possible and rare situations, consistent with the established guidelines and rules of Conduct, which ensure patient safety and workplace safety for employees, in accordance with the legal framework defining medical practice.

KEYWORDS: risk, obstetrics, responsibilities, audit, quality.

I. INTRODUCTION

Risk is a condition or potential environmental event that may alter the expected outcome. It is measured in terms of probability and consequences, and can cause damage in medicine, lead to the occurrence of adverse events. According to the International Organization for Standardization, risk is defined as the product of the probability of occurrence of events and the impact of the event occurring. [1,2,3]. The following definition of risk [4] has been adopted in the standards of the Apostille: "risk-the impact of uncertainty on targets." (Risk is measured by its effect on structure and resources and by the probability of its occurrence). Risk management is a process that involves responsible management decisions [5,6,7]. No guidelines and methodology have been developed to support the establishment of a risk management system in the Health Organization, respectively in obstetrics practice, to assist the management in determining the policy of management of the structures, reducing the risk. Environmental factors have a permanent impact, creating uncertainty [8], changing medical behavior, requiring corrective action to achieve quality of care and environmental safety [9,10].

Events of a different nature change the course of obstetric care which pose a risk [11,12] and lead to a range of consequences for obstetric organization [13,14], from health factors to environmental factors economic stability and workplace safety for employees and patients [13]. A number of negative events in obstetric practice indicate the need for Risk Management in structures to reduce their effect on hospital Organization [15]. Process analysis requires defining errors, reducing their consequences and taking appropriate measures (through training, enhancing competences, changing rules, changing the organization of the performance of the given activity [14, 16, 17]) to ensure safety for all subjects. Knowledge, skills, clinical thinking and individual approach play a key role in the care of each individual patient. Knowing and combining all skills, through training and development, conducting colleges, reduces the possibility of an unwanted turn in the process of obstetric care.

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The timely definition and reduction of the opportunities for its occurrence are the commitment of the employees and the management who, through feedback and proper actions taken [18], guarantee the safety and security of processes, people, patients.

II. MATERIAL AND METHODOLOGY

THROUGH A DIRECT ANONYMOUS SURVEY, THE OPINION OF 232 MEDICAL PROFESSIONALS WORKING IN HOSPITAL OBSTETRIC STRUCTURES IN RELATION TO THE WORKPLACE WAS STUDIED TO DEFINE THE RISKS ASSOCIATED WITH MEDICAL CARE RELEVANT TO PATIENT SAFETY. THE STUDY PERIOD IS OCTOBER 2022 - MARCH 2023. RESULTS ARE PROCESSED WITH STATISTICAL SOFTWARE - SPSS STATISTIC AND ARE PRESENTED GRAPHICALLY.

III. RESULTS AND DISCUSSION

A survey was conducted among 232 medical specialists from 3 Hospital structures in Varna, of which 53.45% are doctors with a recognized specialty. Operational and managerial positions occupy 8.19% of the respondents. Opinions on workplace risk factors and those related to medical care relevant to patient safety were examined.

1. Risks in the workplace

The leading element of the workplace are the factors of the working environment – workload, working conditions, workplace safety, conflicts, training, staff development, security. Of the respondents, 55.78% identified a high workload in the work environment. The most intensive and busy sectors are the surgical block, maternity wards, intensive neonatal units, intensive care units, Covid structures. The workload stems from the nature of work, the urgency of performing tasks, sudden complications related to pregnancy, childbirth or extragenital conditions (diseases of various organs and systems, Covid infection, etc.). According to the respondents, workload, conflicts, and many obligations are factors that increase the risk situations related to medical care (for 76.72% of respondents).

An important element of the impact on risk is the timely recognition of problems in the workplace. The defined problems refer to (Table 1):

- The pay system-196 (84.48%) of the respondents identified as the leading problem low pay and lack of mechanisms for its increase. Legislative thresholds for pay of medical professionals are set at the branch level, which is not adequate to the responsibilities and workload. Some specialties have the possibility of realization of several jobs due to a defined insufficiency of specific specialists (anesthesiologists, clinical pathologists, imaging specialists);
- Lack of teamwork for 176 (76.72%) of respondents;
- conflicts and tense situation in 174 (75%) - the attitude that medics face from internal and external factors, microclimate in the wards, conflicts and rude attitude, has a negative impact and makes it difficult for them to adapt to the working environment.

Table 1. Defined problems in the workplace

No	Defined problems	Number of respondents	Relative share*
1	Lack of contact with management	102	43,96%
2	Vaguely defined obligations	208	89,65%
3	Vaguely defined tasks	214	92,24%
4	Lack of teamwork at work	176	76,72%
5	Lack of a payment system	178	72,72%
6	Conflict and tense situation	174	75%
7	Other	45	19,39%

*The sum of the percentages is more than 100% because the respondents gave more than one answer

Medical professionals in management positions also define the leading place of the pay system as the basic level of impact in human factor management:

- Development of the payment system as a measure of commitment and security in the performance of tasks (52.63%);
- improving the qualification of human resources (36.85%);
- Influence on motivation (10.52%).

Direct managers want to have clearly defined rules and required competencies in recruitment, as the acquired qualifications alone are not sufficient to ensure the suitability of the employee in the organisation. Each of these aspects reflects certain management activities of continuous monitoring of staff.

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The constantly changing regulatory framework makes it difficult for 217 (93.53%) of doctors and healthcare professionals to carry out day-to-day work related to medical care.(Figure 1).

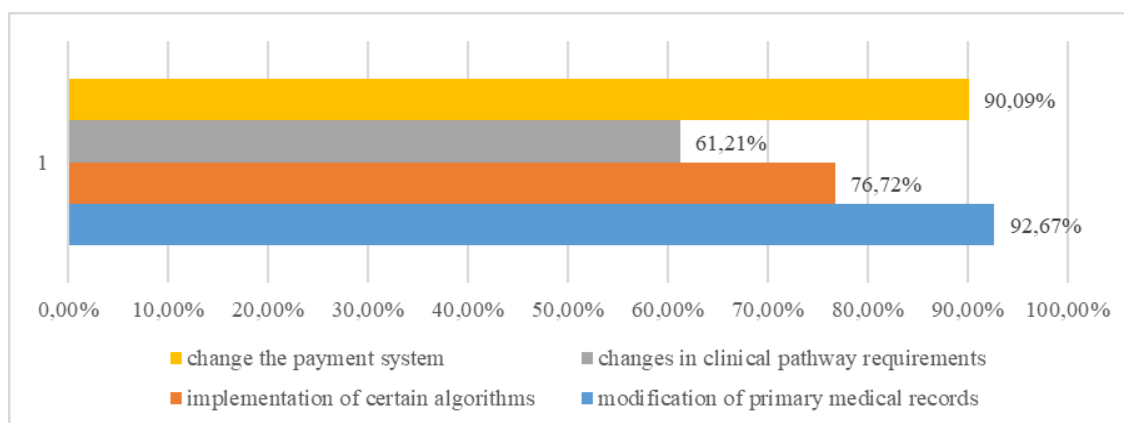


Figure.1. Leading risk factors of structure

2. Risks associated with the activities carried out

The provision of obstetric care requires compliance with the principles of timeliness, accessibility, effectiveness, efficiency, as well as quality of performance of activities related to communication, care, diagnosis and treatment. A number of situations and acute complications make it difficult to carry out daily activities in the structures. As emergency conditions are indicated-bleeding during pregnancy and childbirth, acute and sudden conditions of genital and/ extragenital origin, DIC, HELLP syndromes, etc.

Medical professionals determine the risks of the activity related to medical care (Table 2).

Table 2. Correlation of defined problems related to obstetric medical care

Defined risks associated with medical care	Total number (%)	Doctors	Midwives	p (χ^2)*doctors / health professionals
Acute complications with pregnancy and childbirth	188 (81,03%)	86	102	0,000
Extragenital diseases affecting pregnancy and childbirth	125 (53,88%)	66	59	0,831
Lack of information about the patient's health	155 (66,81%)	85	70	0,547
Lack of resources	190 (81,89%)	101	89	0,850
Lack of ability to provide full medical care	192 (82,86%)	101	91	0,572
Lack of knowledge and skills for work	126 (54,31%)	57	69	0,006
Lack of time to complete all medical care activities	150 (64,66%)	91	59	0,003
Impaired communication in the workplace	126 (54,31%)	54	72	0,079
Tense working environment	211 90,95%)	109	102	0,083
Strong administration of medical activities	185 (79,74%)	86	99	0,000
Low motivation to work	113 (48,71%)	70	43	0,008

The sum of the percentages is more than 100% because the respondents gave more than one answer.

**p -relevance level for applying χ^2 to compare responses between physicians and healthcare professionals*

The results show that for some of the important medical care problems defined by medical professionals (acute complications during pregnancy and childbirth, lack of sufficient experience and skills, insufficient time to perform all work duties, strong administration of activities, low motivation to work), doctors are more confident and confident in the performance of the activities in obstetric structures, and the data are statistically significant.

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3. Improving patient safety

The organization and control of the activities in obstetric structures and medical care are aimed at increasing the safety of medical care and ensuring safety in the workplace (Figure.2.).

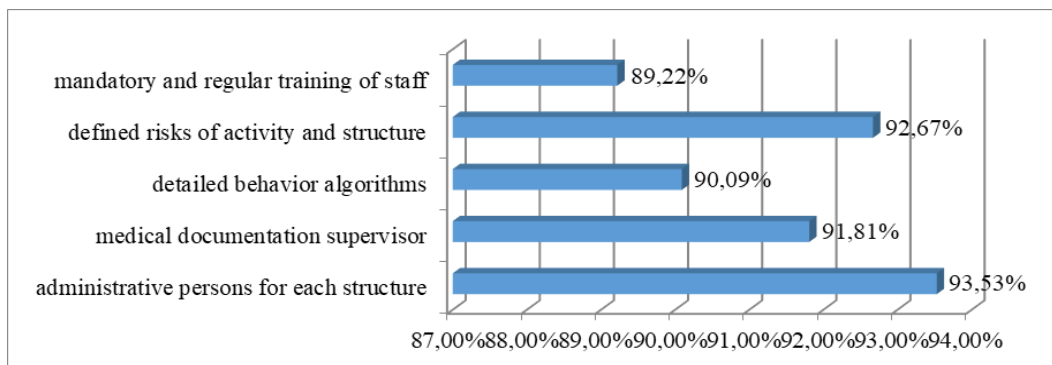


Figure.2. Recommendations of working healthcare professionals to reduce risk

The training as a means of increasing the qualification skills is directed according to the needs of the structure and provides the activities according to a regulatory requirement or a need. Driven by the need for self-improvement, 207 (89.22%) of the respondents said that they need training in their work in terms of: requirements for activity under the national framework contract; work with new technologies; trainings for work with hospital information systems (HIS) and are clearly aware of the need for training and daily instruction.

To reduce uncertainty regarding the administration and documentation of medical activities, a large majority of healthcare professionals (213 – 91.81%) state the need for an official to carry out timely follow-up control of medical records.

There is a need for a supervisor in medical teams to monitor the correctness of activities and to make timely adjustments in activities at different levels and to take the necessary steps to ensure security, safety and ergonomics in the workplace. This will ensure timely feedback on problems in the performance of work tasks, through direct impact on the various elements.

Continuous monitoring of the environment and processes ensures proper risk management, increasing the safety of care and patients, through:

- ✓ Risk assessment (measurement);
- ✓ Selection of effective protective equipment to neutralize risks.
- ✓ Definition of risk management elements and continuous impact on them (Table 3).

Table 3. Elements of impact

Elements	Scope
Values	All necessary resources, processes and activities must be protected.
Threats	Possible threats, possible impacts, likelihood of recurrence.
Impacts	Definition of the immediate aftermath of the threat (e.g. improper process management, poor quality of obstetric services, occurrence of adverse events, violation of medical ethics and disclosure of information, etc.).
Consequences	Definition of long-term consequences after the implementation of the threat (e.g. low rating, patient outflows, decrease in profitability, etc.).
Protection measures	Writing strict rules of conduct, writing algorithms for all possible situations; defining specific responsibilities, activities and tasks in regulations, job descriptions and technical slips.
Residual risk	Determining the consequences for the Health Organization; defining the strategy; auditing the processes and people in the organization; quick corrective measures.

Expected results: the final results of the activities related to the definition, to the management and Prevention of risk are aimed at: to define all possible risks associated with obstetric care, with resources; with the possibility to determine the acceptable levels of risk for each obstetric structure. This will allow the development of risk assessment maps of different workplaces containing values of probability of occurrence of risks and values of consequences (effect) of occurrence of risks. All possible, often repetitive processes and those that occur rarely will be able to differentiate, and the creation of behavior algorithms will

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allow for certainty in the actions of obstetric care. All identified risks and actions to manage them need to be documented in the „Risk register“, which will facilitate management to undertake timely and adequate impact mechanisms, ensuring safety and quality of medical obstetric care.

IV. CONCLUSIONS

Risk management is a function of the probability of realization of a particular threat using vulnerabilities of the system, as well as the magnitude of the possible loss. Defined workplace risks by doctors and healthcare professionals are related to the workplace (unclear duties, lack of teamwork, low pay, etc.), as well as those related to medical care (acute conditions during pregnancy and childbirth; lack of time to perform duties; strong administration of processes, lack of motivation to work, etc.).

Mastering and reducing risk is the main responsibility of management and requires continuous analysis of the system (Audit of processes, resources and technologies); analysis of the possible risks (Risk assessment, categorization of information resources by degree of value and importance); analysis of the vulnerability of the system (Vulnerability assessment); construction of a security system; assessment of threats (Threat assessment). The final effect is to develop rules for the behavior of often repetitive activities and in emergency situations to manage the risk and minimize the consequences for resources and structure.

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