

## Patient Safety in the Maternity Context: integrative review

### Segurança do Paciente no Contexto da Maternidade: revisão integrativa

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**Abstract**

The aim is to know the national and international scientific production on the subject of patient safety in the context of maternity. This is an integrative review carried out in the Virtual Health Library using as descriptors: patient safety / patient safety / patient safety and maternity / maternity / maternity. Inclusion criteria were: articles available in full, online, in Portuguese, English or Spanish, published in the period from 2010 to 2016 that presented relevant information. Were initially found 34 articles. After floating reading of the titles and abstracts, we selected 17 studies for textual analysis. After categorizing and analyzing the studies, the following categories emerged: organization of health services in the maternity unit, health team performance in relation to quality and safety of maternity care, and satisfaction/dissatisfaction among women with the care received during the stay in the maternity unit. It was possible to observe in the scientific productions that the safe care in the mother-infant units depends on the good planning and organization of the institution, the efficient communication between the workers and the satisfaction of the women and their families with the attention received during their stay in the unit.

**Keywords:** Patient Safety; Maternity; Women's Health.

**Resumo**

O objetivo é conhecer a produção científica nacional e internacional a respeito da temática segurança do paciente no contexto da maternidade. Trata-se de uma revisão integrativa realizada na Biblioteca Virtual de Saúde utilizando como descritores: segurança do paciente / *patient safety* / *seguridad del paciente* e maternidade / *maternity* / *maternidades*. Os critérios de inclusão foram: artigos disponíveis na íntegra, online, em português, inglês ou espanhol, publicados no período de 2010 a 2016 que apresentassem informações relevantes. Inicialmente encontrou-se 34 artigos. Após leitura flutuante dos títulos e resumos, selecionou-se 17 estudos para análise textual. Após categorização e análise dos estudos, emergiram as categorias: organização dos serviços de saúde na maternidade, atuação da equipe de saúde frente a qualidade e segurança do atendimento na maternidade e satisfação/insatisfação das mulheres com o atendimento recebido durante a permanência na unidade materna. Foi possível observar nas produções científicas que o cuidado seguro nas unidades materno-infantil depende do bom planejamento e organização da instituição, da comunicação eficiente entre os trabalhadores e da satisfação das mulheres e seus familiares com atenção recebida durante a sua permanência na unidade.

**Palavras-chave:** Segurança do Paciente; Maternidade; Saúde da Mulher.

## Introduction

Patient safety is characterized by reducing the risk of unnecessary damage during health care to the minimum acceptable, and a Safety Incident is the event or circumstance that may result in or resulted in unnecessary damage during the care course<sup>(1)</sup>.

The movement for patient safety began in the late twentieth century, after the publication of the report *To err is Human: building the safer health system*, which found that among 33.6 million hospital admissions of 44,000 to 98,000 patients died every year in US hospitals because of damage caused during the health care provision<sup>(1)</sup>.

Another study<sup>(2)</sup> carried out between 2007 and 2009 in five Latin American countries also showed that 10.5% of hospitalized patients suffer some Adverse Event type, of which 58.9% could have been avoided.

The patient safety in the maternity and neonatal health context is of fundamental importance in view of the patients' number involved and the potential for adverse events that may arise in the care process. According to the World Health Organization (WHO) of the 130 million births that occur each year, about 303 thousand result in the mother's death, 2.6 million are stillborn and another 2.7 million newborns die in the first 28 days after birth<sup>(3)</sup>. According to Dr Marie-Paule Kieny<sup>(4)</sup>, WHO's Deputy Director-General "Women and children die in childbirth for preventable causes, often linked to poor quality of care."

In Brazil, there are approximately 3 million births each year, which means almost 6 million patients, that is, the parturients and their sons or daughters<sup>(5)</sup>. Of this total, about 98% of births take place in public or private hospitals, and obstetric procedures are the third hospitalization cause in the Unified Health System - UHS<sup>(4)</sup>.

In addition to these data, the work process and nature in maternal and neonatal care presents other peculiarities such as the human workforce use, with various teams' configurations, involving physicians, nurses and other professionals, who require intensive occurrence of errors, as well as effective communication between different disciplines. With these data, the diversity of care locations and professionals involved makes

maternal and neonatal care one of the priority areas for actions aimed at patient safety<sup>(6)</sup>.

In view of the presented scenario, governments and international organizations have mobilized to support strategies for prevention and mitigation of health care failures and to disseminate practices that guarantee patient safety. To this goal, WHO, supported by the signatory countries, launched in 2004 the World Alliance for Patient Safety. In Brazil, the National Patient Safety Program (NPSP) was launched in April 2013, which recommends the implementation of protocols, patient safety centers and adverse event notification to qualify care in all health facilities in the national territory<sup>(7)</sup>.

Specifically in the obstetric and neonatal care context, the document entitled "Sanitary Safety in Maternal and Neonatal Care: Safety and Quality" was published in 2014, aimed at strengthening the health services where care is provided, aiming to reduce the damages resulting from the reproductive process itself and minimize the damages related to the care process, in addition to contributing to a care that focuses on safety and humanization<sup>(8)</sup>.

Whereas improvement of quality and safety in maternal and newborn care should include all strategies for patient care in general as well as specific strategies for this group and the importance of developing evidence-based research with best practices for patient safety the objective of this study was to know the national and international scientific production regarding the patient safety in the maternity context subject.

## Method

It is an integrative review of literature, which is characterized as a method that provides the research analysis, subsidizing decision making and allowing understanding and knowledge of a particular subject. It also allows the recognition of knowledge gaps that need to be filled through new research<sup>(9)</sup>.

This research type consists in the organization, cataloging and synthesis of the results presented in the selected materials for analysis, facilitating the interpretation. An integrative review consisted in the search for data in secondary sources, but adopting the same rigor

and clarity of the primary study. To do so, the following steps were taken: research question definition; search in databases; studies categorization; evaluation of the studies included in the review; results interpretation; synthesis of the knowledge produced<sup>(10)</sup>.

The question that guided this research was: What scientific production, national and international, available in the Virtual Health Library (VHL) regarding patient safety in the maternity context?

From the publications located in the VHL the articles were hosted in the Latin American and Caribbean Literature in Health Sciences (LILACS), Nursing Database (BDENF) and National Library of Medicine National Institutes of Health (MEDLINE).

The inclusion criteria were: articles available in full, online, in Portuguese, English or Spanish, published between 2010 and 2016 and presenting information relevant to the research topic. The following descriptors were used: patient

safety / patient safety and maternity / maternity / maternity.

After a detailed reading of all articles, a chart was prepared containing: number for article identification, article title, authors, periodical/database and publication year. For the studies evaluation, were used the Qualitative Textual Analysis, which is developed through a process of read material fragmentation<sup>(11)</sup>.

### Results and Discussion

Were found 34 articles in the VHL according to the inclusion criteria, two of which were repeated, remaining 32 for the pre-analysis. The sample selection was performed by means of floating reading of the titles and summaries followed by reading the articles in full. After this stage, 17 articles were selected that were in agreement with the subject in question. Of these, 12 were housed in the MEDLINE database, 3 in LILACS and 2 in BDENF

**Chart 1.** Synthesis of articles. Pelotas, RS, Brazil, 2017.

No.	TITLE	AUTHORS	PERIODICAL/ DATABASE	YEAR
1	Reducing the length of postnatal hospital stay: implications for cost and quality of care	Bowers, J; Cheyne, H.	BMC Health Serv Res / MEDLINE	2016
	The health team and the safety of the mother-baby binomial during labor and birth	Dornfeld, D; Pedro, ENR.	Invest Educ Enferm / LILACS/BEDEnF	2015
3	Lessons learned from the introduction of an electronic safety net to enhance test result management in an Australian mothers' hospital	Georgiou, A; Lymer, S; Forster, M; Strachan, M; Graham, S; Hirst, G; Callen, J; Westbrook, Jl.	J Am Med Inform Assoc / MEDLINE	2014
4	424 Membres de la commission des usagers du Reseau « Securite NaissanceNaitre ensemble ¼ des Pays-de-la-Loire	Branger, B; Le Coz, F; Gillard, P; Merot, E; Winer, N.	J Gynecol Obstet Biol Reprod / MEDLINE	2014
5	Perinatal staff perceptions of safety and quality in their service	Sinni, SV; Wallace, EM; Cross, WM .	BMC Health Serv Res / MEDLINE	2014
6	Evaluation of compliance to the WHO safe surgery checklist in urological and gynecological surgeries in two teaching hospitals in Natal, Rio Grande do Norte, Brazil	Freitas, MR; Monte, LC; AAG; Lopes, BNA; Fernandes, FC; Gama, ZAS.	Cad Saúde Pública / LILACS	2014

7	Room for improvement: noise on a maternity ward	Adatia,S; Law, S; Haggerty, J.	BMC Health Serv Res / MEDLINE	2014
8	Changes in care associated with the introduction of a postpartum hemorrhage patient safety program	Lappen, JR; Seidman, D; Burke, C; Goetz, K; Grobman, WA.	Am J Perinatol; MEDLINE	2013
9	Nurses' perspectives on the intersection of safety and informed decision making in maternity care	Jacobson, CH; Zlatnik, MG; Kennedy, H P; Lyndon, A.	J Obstet Gynecol Neonatal Nurs; MEDLINE	2013
10	Managing information and knowledge within maternity services: Privacy and consent issues	Baskaran, V; Davis, K; Bali, RK; Naguib, RNG; Wickramasinghe N.	Inform Health Soc Care/ MEDLINE	2013
11	Women's safety alerts in maternity care: is speaking up enough?	Rance, S; McCourt, C; Rayment, J; Mackintosh, N; Carter, W; Watson, K; Sandall, J.	BMJ Qual Saf; MEDLINE	2013
12	Perception of the woman about the accompanying birth process	Palinski, JR; Souza, SRRK; Silveira, JTP; Salim, NR; Gualda, DMR.	Online Brazilian Journal of Nursing/ BDENF	2012
13	Management processes as a tool for quality in a public hospital-maternity in the city of São Paulo	Demarchi, TM.	Rev. adm. Saúde/ LILACS	2012
14	Patients' perceptions of safety and quality of maternity clinical handover	Chin, GSM; Warren, N; Kornman, L; Cameron, P.	BMC Pregnancy Childbirth; MEDLINE	2011
15	Midwife-led care unit for 'low risk' pregnant women in a Japanese hospital	Suzuki, S; Hiraizumi, Y; Satomi, M; Miyake, H.	J Matern Fetal Neonatal Med; MEDLINE	2011
16	Communication as a safety factor and delivery protection	Dornfeld, D; Pedro, ENR.	Rev. Eletrônica enferm; LILACS	2011
17	Supporting patient safety: examining communication within delivery suite teams through contrasting approaches to research observation	Berridge, EJ; Mackintosh, NJ; Freeth, DSM	MEDLINE	2010

Source: survey data.

Among the analyzed studies, 82.32% were published in an international database, while only 17.68% were national. Of the total production, five articles were carried out in Brazilian health

services, 12 come from foreign institutions and two are theoretical reflections. Faced with this observation, it is noted that in Brazil, the scientific

production in the area of patient safety for the maternal and neonatal area is still incipient.

Regarding the methodological approach used, 8 articles focused on the qualitative method, 6 used a quantitative approach, 1 quali and quantitative study and 1 of documentary research.

Regarding the content, after the categorization and textual articles analysis, three categories emerged. One refers to the organization of health services in the maternity ward, another refers to the health team's performance in relation to the quality and safety of maternity care, and the third category evidenced subjects related to the women's satisfaction/dissatisfaction with the care received during the stay in the maternal unit.

### Organization of maternity health services

In this category were gathered studies that focus on the importance of physical structure, human resources and the work and care process in the organization of maternity health services for the sake of patient safety.

A study<sup>(12)</sup> which evaluated factors contributing to the high rate of maternal death in Africa, researchers pointed out that the factor of higher insecurity in the women and newborns' care was related to the lack of health services organization to implement policies, protocols or guidelines.

In Brazil, especially since 2000, actions are intensified to reduce the high rates of maternal and perinatal morbidity and mortality with the Prenatal and Birth Humanization Program - PBHP<sup>(13)</sup>, with the Stork Network<sup>(5)</sup> in 2011 and in 2014 ANVISA launched the document Maternal and Neonatal Care Services: safety and quality<sup>(8)</sup>.

The first two strategies represent a set of initiatives that involve changes in the process of care for pregnancy, childbirth and birth, linking network attention points to obstetric regulation. Its operation requires the basic care technical qualification and maternity teams, improvement of the health services environment and expansion of the service offer and the professionals' number<sup>(14)</sup>.

The last one meets the managers needs, health surveillance supervisors and professionals involved in care, serving as the basis and orientation for the construction and reform of maternal and neonatal care units as well as a guide

for the organization and structuring of services. It also serves as support and reference for the construction of patient safety systems in these units with a view to reducing errors and damages inherent in the care process<sup>(8)</sup>.

In this context, authors<sup>(15-16)</sup> pointed out that the quality of care in health services depends on a complex articulation of the work process, the multidisciplinary team, the infrastructure conditions and the health system, and management plays an important role in this articulation. Another study<sup>(17)</sup> pointed out the need to redesign the care processes for the rationalization at work, the satisfaction of those involved, the innovation and, consequently, the improvement of the quality of assistance and given birth women and newborns' safety.

Other measures identified were the implementation of electronic records and information governance to maintain privacy, confidentiality and security<sup>(18-19)</sup>. According to a study carried out in a maternity hospital in England, violations were identified in the sharing of personal information without the patients consent<sup>(20)</sup>.

The safety measures implementation and care improvement of the parturients and NBs as the compliance to the checklist in urological and gynecological surgeries of two teaching hospitals in Natal, Rio Grande do Norte/Brazil was evaluated. Of the total surgeries, only 61% had a checklist and 4% of them were fully filled<sup>(21)</sup>.

The other studies that focused on the question of comfort and silence for the adequate parturient recovery and favoring the formation of bond with the neonate observed that the new mothers face constant interruptions throughout the day, including visits by a variety of health professionals, hospital employees, students, family, and friends. In addition, the constant presence of noises resulting from the medical equipment handling, aisle conversations, intercom announcements, construction, opening and closing of doors, cleaning equipment and food trolleys<sup>(22-23)</sup>.

This means disruption in important learning activities, such as breastfeeding, which is key to establishing the mother's bond with her baby and strengthening exclusive breastfeeding in the early days of childbirth. A highly disturbing

environment can also lead to acute sleep deprivation, increasing the risk of postpartum mental health disorders and resulting in cardiovascular dysfunction<sup>(24)</sup>.

According to PBHP, the place designed to women's care in labor and delivery is fundamental to the process success. Therefore, providing a welcoming environment, organizing the place, making it pleasant and safe for the woman, tends to reduce anxiety, insecurity, and facilitate the chaperone presence and the bond formation.

### Difficulties and facilities of the health team to provide safe maternity care

It was identified in this category aspects related to the difficulties and facilities for the health team to provide safe and quality care to women and newborns during their stay in the maternity ward.

Communication has been highlighted as one of the fundamental factors for improving the parturients and newborns' safety. The complexity of communication patterns and the multiple influences on institutional models and norms entail interprofessional tensions, workload pressures, impediments to security<sup>(25)</sup>.

Authors<sup>(26-27)</sup> observed 10 birth scenes and identified iatrogenic communication, although they perceived empathic support and encouragement for the companion presence. They also emphasized the health team relevance in the safety and protection of women and the NB and, above all, the nurse's importance as a change agent for a health care model focused on the woman-NB-family needs.

In relation to the Skin-to-Skin Contact (SSC) between mother and baby and the provision of an environment conducive to the newborn reception, study<sup>(27)</sup> pointed out the presence of attitudes that demonstrated the health professionals awareness, with emphasis on nursing, on the benefits of these practices, however, there is still a need for efforts to make these actions in safe care circumstances.

In seeking to better understand how the challenges of interdisciplinary communication can affect the new mothers and newborns' safety, a study carried out in the United States showed that nurses' actions to avoid harm to patients cover

agreement, information management and training of mothers and physicians<sup>(28)</sup>.

These actions were performed in a complex and hierarchical context characterized by patterns and practice of varied relationships. Nurses' priorities and patient safety goals were sometimes misaligned with those of physicians, resulting in potentially unsafe communication<sup>(28)</sup>.

For authors<sup>(29)</sup>, the obstetrician has great opportunity to be a positive and negative influence on safe care in the perinatal period. However, team dynamics, understanding, mutual respect and trust are key issues for potential future service improvement. In addition to iatrogenic communication, robust caregiving processes can hinder safe and quality care for women and newborns in maternal units.

The PBHP establishes that low-risk births can be accompanied by obstetrical nurses anchored in scientific evidence that discuss the care model and are favorable to the obstetric nurse inclusion in the follow-up of low-risk gestation, labor and delivery<sup>(13)</sup>.

In this context, when comparing the obstetric results of 1031 low-risk pregnant women who were admitted to the maternity unit, assisted by obstetric nurse in relation to care shared with obstetric medical staff, there was no evidence indicating that obstetric nurse care is not safe for the low-risk pregnant women attention<sup>(30)</sup>.

In Brazil, the obstetrician nurse has legal support to perform all nursing activities in the obstetrics area, being able to privatize a child without distraction from the professional exercise legalization, as stated in Resolution No. 0477/2015 that provides for the nurses' performance of in the pregnant women, parturients and puerperal women care<sup>(31)</sup>.

### Women' satisfaction/dissatisfaction with the care received during their stay in the maternal unit

In this category were gathered studies that referred the women's perspective with the received care. Both the satisfaction factors and the aspects of women's dissatisfaction with the care received during their stay in the maternity ward are pointed out.

Study conducted in France<sup>(32)</sup> observed that of the women who had cesarean delivery and



Thus, weaknesses such as those pointed out in this integrative review can compromise the safety and quality of care needed for women in parturition process and their child, justifying the need for a systemic look at all aspects that involve the care process of this population specific.

### Conclusion

The result of this integrative review, which sought to know the scientific production related to patient safety in the maternity context, showed the growing concern with the issue of maternal and neonatal quality and safety confirmed by the significant increase in national and international scientific production in relation to the aforementioned in recent years.

It was possible to perceive that the studies pointed out factors that involve the institutional system as a whole. It was identified characteristics related to the service and infrastructure organization, factors that involve the management and the work process of interdisciplinary teams, interpersonal communication, comfort and safety measures adoption for women and newborns, and the satisfaction/dissatisfaction of women and familiar with the care context and received assistance, as well as the indiscriminate use of unnecessary interventions.

In view of this reality, it is evident the importance of deepening investigations that have a systemic perspective on all the barriers present in the health services that can result in risk situations the quality and safety of the care provided for the woman and the newborn's benefit.

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