

SURGICAL ASSISTANCE: THE IMPORTANCE OF SAFE SURGERY CHECK- LIST IN CESAREANS

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Abstract: We believe that a patient dying from a surgical error is a rare occurrence. However, a report published by the Centers for Disease Control and Prevention suggests that in the year 2013, the number of patients dying from “medical errors” would be 251,000. In the US alone it is half the number of 585,000 people who succumb to cancer and eight times more from accidents with motor vehicles 34,000. According to the World Health Organization, in developed countries, 50% of all adverse events that occur in hospitalized patients are related to surgical care, half of which, in turn, are considered preventable. The problem of surgical safety is widely recognized around the world. From this, specialists prepared a checklist consisting of three steps, namely: Identification (before anesthetic induction), Confirmation (before the surgical incision - surgical pause, with the presence of all team members in the operating room) and Registration (before the patient leaves the operating room). For the nurse, the implementation of the checklist can bring benefits to the patient, with an emphasis on promoting safety. For the team, the benefits consisted of improving communication and using the list as an opportunity for dialogue between professionals; and improving the quality of care was the main benefit factor related to the health service. The evidence generated made it possible to identify the benefits, facilitators and barriers in implementing the checklist in the national context.

Keywords: Perioperative nursing, Check list of surgeries, Patient safety, Caesarean.

INTRODUCTION

Birth, despite being a physiological event, can result in a surgical procedure, a cesarean. It is suggested that around 60,000 women per year in Brazil suffer adverse events (AE) during childbirth, which are aggravated in cases of

cesarean sections (AGÊNCIA NACIONAL DE VIGILÂNCIA SANITÁRIA, 2014). Among the most frequent complications in cesarean sections are: hemorrhage, infections and problems in anesthesia (DIALLO et al. 2019). Furthermore, a report published by the Centers for Disease Control and Prevention suggests that in the year 2013, the number of patients dying from “medical errors” would be 251,000. In the US alone, 585,000 succumb to cancer and eight times more from accidents with motor vehicles 34,000 (MAKARY et al. 2013).

The AE consists of damage resulting from a used therapy, which may or may not be preventable (LYNCH et al. 2011). They can also produce severe pelvic adhesions and harmful consequences for future pregnancies. Pain is also an important factor after surgery, and requires a longer recovery period and longer hospital stays. It is estimated that approximately 2% of obstetric patients experience some serious adverse event (AE) during labor and/or delivery, which contributes to maternal and neonatal morbidity. Considering about three million births per year in Brazil, this can represent about 60,000 women who suffer from some AE each year (SELL et al. 2012).

In this field of scientific knowledge that is under construction, several initiatives have been implemented and have helped to prevent AEs, such as conducting research involving the application of checklists to improve the surgical work process.

Surgical care has been an essential component of healthcare worldwide for more than a century (HUNG et al. 2020; CORREIA et al. 2019; TELES et al. 2019). With increasing incidences of traumatic injuries, cancers and cardiovascular diseases, the impact of surgical intervention on public health systems will increase. It is estimated that 234 million major operations are carried out around the world

each year, corresponding to one operation for every 25 people alive (ROSE et al. 2017; WORLD HEALTH ORGANIZATION, 2008). However, surgical services are unevenly distributed with 30% of the world population receiving 75% of major operations (ALKIRE et al. 2016; SAFETY & WHO et al. 2008).

Lack of access to high-quality surgical care remains a significant problem in much of the world, despite the fact that interventions can be cost-effective in terms of lives saved and disabilities avoided (TEUNISSEN et al. 2020). Surgery is often the only therapy that can alleviate deficiencies and reduce the risk of death from common conditions. Each year, approximately 63 million people undergo surgical treatment for traumatic injuries, another 10 million operations are performed for pregnancy-related complications, and 31 million more are performed to treat malignant diseases (BATISTA et al. 2021; WORLD HEALTH ORGANIZATION, 2008).

Furthermore, the problem of surgical safety is widely recognized around the world. Studies in developing countries confirm the magnitude and pervasiveness of the problem. In developing countries, such as Brazil, the precariousness of infrastructure and technological equipment, supplies, quality of medicines, deficiencies in organizational management and infection control, inadequate capacity and minimal team training, added to the serious underfinancing for health contribute to the difficulties (MURRAY et al. 2019). Therefore, a global movement to promote a system for safer surgical care could save the lives of millions of people around the world.

From this, specialists prepared a checklist consisting of three steps, namely: Identification (before anesthetic induction), Confirmation (before the surgical incision - surgical pause, with the presence of all team members in the operating room) and Registration (before the

patient leaves the operating room) (WHO et al. 2008). This study aims to evaluate the Safe Surgeries Checklist (CCS) of Cesarean sections.

GOALS

MAIN GOAL

To assess the degree of implementation of the Safe Cesarean Surgeries Checklist.

SPECIFIC OBJECTIVES

- Describe the care provided during the Steps of the Safe Cesarean Surgery Checklist, at each surgical time at the Obstetric Centers.
- Observe methods to minimize the risk of surgical site infection.
- Observe whether hospitals and public health systems establish routine surveillance of surgical capacity, volume, and outcomes.

JUSTIFICATION: PERSONAL AND PROFESSIONAL INTEREST

The idea of this study arose with the aim of instigating reflections and discussions based on a relevant contribution of scientific knowledge in the area of health and nursing for the management of patient safety. The main contribution is the evaluation of the surgical safety checklist in cesarean delivery as a technology tool in the management of the care process, which promotes the desired benefit for the multidisciplinary team and users of the Brazilian health system.

SOCIAL AND SCIENTIFIC RELEVANCE

This research is relevant because of the implications for the care provided by the surgeon and, mainly, by the nursing team, from the first stage of patient identification and safety to cesarean surgery in the obstetric center. Thus, maternity health can be constructed as essential for the promotion

of surgical safety in cesarean delivery, and its practical usefulness can be extended to other areas of health and similar services in Brazil. This study also reveals possible changes after the insertion of the checklist in the service through the training of the entire surgical team at the obstetric center. This will make it possible to obtain comparisons of outcomes that demonstrate possible improvements in patient safety in post-intervention cesarean delivery using the checklist.

If there is an information manual on the role and standards of surgical safety in public health for physicians, nurses and public health officials in general, defining a minimum set of uniform measures, or 'surgical vital statistics', identifying a simple set of Surgical safety standards that are applicable to all countries and settings and are compiled into a checklist for use in operating rooms, can promote greater surgical safety, reduce deaths and complications during surgery.

CEARIANA AS THE ROUTE OF BIRTH: GOOD CARE PRACTICES

During the last century, childbirth has ceased to be a domestic, family and community issue to become a professional medical act. Changes in the perception of childbirth and the use of interventions and new technologies have resulted in significant improvements in health and, at the same time, have taken the experience of childbirth outside the family environment and into hospital facilities. One of the interventions resulting from the improvements brought about by the change in the delivery care model was the cesarean section. It has since become a key strategy for saving the lives of women and newborns, and it is also one of the emergency obstetrics strategies that the World Health Organization (WHO) considers essential. Cesarean section is surgery used to resolve or prevent certain complications that occur during pregnancy

or childbirth and to reduce health risks for women and newborns. However, like any surgical procedure, cesarean section presents some risks and its use implies higher costs for health systems.

HISTORY OF SAFE SURGERY PUBLIC POLICIES

In October 2004 the World Health Organization (WHO) launched the “World Alliance for Patient Safety”, which aims to raise awareness to improve care safety, in addition to the development of health care policies and strategies (BANSAL et al. 2021; WHO et al. 2008, WORLD HEALTH ORGANIZATION, 2008). The Alliance raises awareness and political commitment to improve the safety of care and supports Member States in developing a policy on patient safety in medical practice. Each year, the Alliance organizes programs that cover both systemic and technical aspects to improve patient safety around the world. A central element of the Alliance’s work is the formulation of Global Patient Safety. Every two years, a Challenge is formulated to galvanize global commitment and action on a patient safety issue that addresses a significant area of risk for all WHO Member States (CABRAL et al. 2020; NUNES et al. 2019; WORLD HEALTH ORGANIZATION, 2008). The first Challenge focused on healthcare-associated infection, while safe surgery was chosen as the theme of the second Global Patient Safety Challenge (SAFETY & WHO et al. 2008; NINA et al. 2017).

In 2008, the World Health Organization (WHO) reissued international guidelines to promote actions and guarantee the surgical safety of patients. A checklist was carried out in several services, and its results showed a reduction in AEs, proving to be effective in improving the care provided. In Brazil, the WHO surgical safety protocol and surgical safety checklist was launched in 2009.

In 2015, the safe cesarean checklist was amended by WHO following a 2010 study involving nine countries, demonstrating improvements in obstetric care. The safe cesarean checklist allows investigation of other aspects that cover routine delivery care and cesarean delivery. It can be said that checklists complement each other to strengthen maternal and newborn safety.

SAFETY IN THE SURGICAL PROCEDURE AND ITS UNFOLDING

The adoption of checklists and protocols that promote safety in surgical care can bring benefits to professionals and patients, in addition to fully involving the health team. The results of studies analyzed in an integrative review indicated significant changes in the area of communication between professionals in the surgical team, reducing incidents in obstetric care (RATTNER et al. 2012). Surgical care has been an essential component of healthcare systems around the world for over a century. Although there have been great improvements over the past and decades, the quality and safety of surgical care has been startlingly variable all over the world. From this perspective, the aim is to improve the safety of surgical care worldwide by defining a basic set of safety standards that can be applied worldwide. To this end, working groups of international experts were convened to review the literature and the experiences of physicians around the world. They reached consensus on four areas where dramatic improvements could be made in the safety of surgical care. They are: prevention of surgical site infection, safe anesthesia, safety of surgical teams and evaluation of surgical services. For Dr. Atul Gawande, associate professor and surgeon at Harvard, the Safe Surgery Saves Lives initiative has raised the standards that patients anywhere can expect.

DISCUSSION

The implementation of the checklist has the potential to produce beneficial effects for the patient, the surgical team and the healthcare service. In a systematic review of the effects produced by the checklists, the results indicated that these tools were effective in improving patient safety in different clinical settings, strengthening clinical practice according to evidence-based guidelines and reducing the incidence of adverse events, morbidity and mortality (THOMASSEN et al. 2014).

In another systematic review on the benefits of CCS for the surgical team, the results indicated that the use of the tool contributed to the improvement of self-perception of teamwork and communication (RUSS et al. 2013). However, when the checklist was used in inadequate conditions or the individuals involved did not adhere to the implementation process, the use of CCS can have negative impacts, such as the perception that its use does not change interpersonal communication (RUSS et al. 2013; PANCIERI et al. 2013).

Regarding the benefits for hospitals, the implementation of CCS can promote cost reduction through efficiency gains, reduced nurse turnover, reduced delays, cancellation of surgical procedures and prevention of surgical complications (CADMAN et al. 2016; TREADWELL et al. 2014).

Regarding the facilitators, the offer of an educational program was not considered by most nurses who worked in hospitals that implemented the CCS ($p = 0.006$). These results are contradictory to what is recommended in the literature, as education is considered an essential and facilitating element in the implementation of the checklist (TREADWELL et al. 2014; NUGENT et al. 2013). Thus, it can be inferred that, given the diversity of educational strategies used

in hospital institutions to implement the CCS in relation to the approach, content, time dedicated to the activity, participating professional category, maintenance over time and results obtained (TREADWELL et al. 2014; NUGENT et al. 2013) or lack of educational process (O'CONNOR et al. 2013), this facilitator can become a barrier.

The results showed a statistically significant difference between the groups in the acceptance of the item by surgeons, that is, the nurses in group 2 understood that the item in question is a facilitator for the implementation of the CCS. On the other hand, nurses in group 1 did not recognize this aspect as a facilitator. In a qualitative study whose objective was to explore the factors that influence adherence to the use of the checklist, the results showed that the resistance of members of the surgical team, especially surgeons, was one of the barriers to the implementation of CCS (GAGLIARD et al. 2014). Thus, it is suggested that the implementation of this tool be carried out by a multidisciplinary team. In particular, surgeons and anesthetists, to be recruited, must be available, have good influence and a positive image with their peers, because the sustained use of the list can be successful when physicians are actively engaged.

In a study carried out on the CCS implementation process in hospitals in England, the relevant facilitators for the successful implementation of the checklist were teaching about LVSC; hands-on training on how to use the tool and how to deal with resilient team members; audit, performance feedback, disclosure of results (reduction of adverse events) to minimize team member skepticism; sanctions for individuals who do not demonstrate adherence to use; institutional support, integration of tools into existing forms, verification by team members with leadership skills, senior medical leadership and multidisciplinary team involved in the

implementation process (RUSS et al. 2015).

Regarding barriers, as mentioned above, the results indicated a statistically significant difference between the groups for: lack of support from the administration ($p = 0.006$), lack of support from the heads of surgery, anesthesia and nursing ($p = 0.041$), lack of patient safety center ($p = 0.005$), abrupt introduction of the CSC in the operating room, no prior planning ($p = 0.001$) and lack of education ($p < 0.001$).

With regard to the management of health services, institutional micropolitical factors can contribute to the successful incorporation of the CCS, hospitals must create policies aimed at patient safety, as well as assume safety as a guiding axis for health management. Therefore, institutions must have the support of the Patient Safety Center, which must promote and support the implementation of actions aimed at patient safety; define security practices in accordance with current international and national recommendations; conditions and support the use of the checklist at the beginning of its implementation (TOSTES et al. 2016).

In the CCS implementation process, the absence of effective leadership is one of the critical factors. In a study carried out to assess the effect of a strategy to improve adherence to CCS, the authors concluded that the adopted strategy, which included the definition and involvement of leaders of each surgical discipline (surgery, anesthesia and nursing) can contribute to improve adherence and team engagement and highlighted as success factors the engagement of leaders (ONG et al. 2016).

Generally, to introduce the tool in health services, changes in the work process are carried out suddenly and without planning. In a study that analyzed data on the CCS implementation process, the authors identified that hospitals adopted different

actions in relation to planning, namely: the implementation process was planned with an emphasis on the tool's implementation and integration strategies; implementation with limited planning / no planning, ie the team was unaware of any structured approach to be used; and form of implementation enforced by the hospital management or Ministry of Health. Thus, the barriers that stood out in the organizational sphere were the implementation without planning or imposition and an institutional culture resistant to change, especially by more experienced professionals (RUSS et al. 2015). Thus, the involvement of the surgical team and planning of gradual implantation is recommended, for example: initially, introduce the use of CCS with a specific surgeon and a specific operating room.

To understand the facilitators and barriers to implementing CCS from the user's perspective, the scholars performed a systematic review of qualitative studies. The results indicated that the checklist implementation process is a complex social intervention that requires changes in the user's perspective (doctors and nurses) regarding the perception of CCS and patient safety, requiring adjustments in the integration of the list in the work flow of the team. Factors that could facilitate or hinder these changes were tool design, merging the tool with existing processes, sense of belonging, that is, the list created or adapted to meet the needs of the team; education, training, lack of clarity in the guidelines that made execution difficult, commitment of the multidisciplinary team to the process, especially surgeons, to minimize the effects of the hierarchical context in the operating room; on-site leadership to support doctors and nurses, organizational culture, communication and teamwork (BERGS et al. 2015).

Despite the potential benefit, the use

of checklists has important limitations and caveats that must be considered, since checklists are considered a weak security barrier, vulnerable to standard deviation and can be naturally overlooked. When a CCS step is omitted, with no manifestation against the deviation by the team members or other professionals involved, and no losses for the patient are identified, the misuse is easily accepted or institutionalized (RYDENFÄLT et al. 2014).

In health services, the implementation of CCS is a complex and challenging process, as it requires surgical teams to change behaviors and learn new habits (TOSTES et al. 2017). These findings can help those involved in the CCS implementation process to consider the selection of interventions best suited to the local setting (GILLESPIE et al. 2015).

To better support this process, education is advocated as a broader process under the triad: 1) informal conversation with each member of the surgical team, the dialogue aims to connect each professional with the idea and purpose of the CCS in order to request collaboration to use of the list, before the effective introduction into the operating room; 2) to train each member of the surgical team prior to actual use, the approach includes an explanation of how to do, demonstrate, and provide an opportunity for the surgical team to fully practice verification (use simulation). Training must take place before use in patients because during the first use, surgical team members need to be confident about the training and support received, and inadequate preparation can hinder the progress of the surgical procedure. To make this step feasible, team members can be instructed to train individually, in groups or as a complete surgical team; 3) continued training and on-site guidance, from the introduction of CCS in the operating room.

In countries with medium and low Human

Development Index, such as Brazil, CCS is known, but its use is not universally promoted or implemented, indicating a great opportunity for educational strategies in defense of the use of this security tool. There are unique challenges in many of these countries due to the lack of infrastructure, equipment and trained personnel, which adds to difficulties in implementing the CCS. Therefore, it is recommended that selected strategies must consider these additional barriers (WEISER et al. 2018).

FINAL CONSIDERATIONS

For the nurse, the implementation of the checklist can bring benefits to the patient, with an emphasis on promoting safety. For the team, the benefits consisted of improving communication and using the list as an opportunity for dialogue between professionals; and improving the quality of care was the main benefit factor related to the health service.

Regarding the aspects that facilitate the implementation of the CCS, the results showed a statistically significant difference, between the groups of nurses, in the items offering an educational program and acceptance by surgeons. And, lack of administrative and managerial support, absence of a patient safety center, abrupt introduction of the insurgent room list, absence of prior planning and lack of education constituted barriers.

As for the limitations, the study was carried out in two cities in Paraná, therefore, caution is advised in generalizing the results shown, despite these cities in Paraná being considered the main reference in health care for the population of other cities in the region. Another limitation is the fact that only one professional category (nurses) participating in the research can bias the results, as the CCS is a multidisciplinary tool with the participation of surgeons, anesthesiologists,

surgical instrumentators and nursing staff in the verification and, for this requires the participation of everyone involved, from planning to the evaluation of results.

With regard to Nursing, nurses play a fundamental role in the movement to promote patient safety, especially in surgical care. It is believed that, in the field of education, this study brings contributions, as the evidence generated can support the debate on patient safety in the context of nursing education and in the context of health services through continuing education, so that professionals are aware that safe practices save lives and thus incorporate them into their practice. In the

field of research, the results of this study made it possible to identify the benefits, facilitators and barriers to the implementation of CSS in the Brazilian reality and contribute to filling a knowledge gap in the national context.

In relation to care, the evidence generated can help in the development of protocols related to the implementation and use of CCS that consider the critical factors involved in the process, which are adequate and compatible with the structural and organizational specificities of national health services, with the aim of enabling the integration of this tool in the work process, improve team adherence and achieve the best results for the patient.

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