

Editorial

## Patient Safety in Maternity Care in Brazil: The Maternity Safety Thermometer as a Tool to Improve the Quality of Care

### *Segurança do paciente em maternidades brasileiras: o termômetro de segurança da maternidade como ferramenta para melhorar a qualidade da assistência*

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Over the last few years, the topic of maternity care in Brazil has been at the heart of several debates. One of the main reasons is the overuse of interventions such as high rates of caesarean section, augmentation of labor with uterotonics and amniotomy, uterine fundal pressure during the second stage of labor (Kristeller maneuver), episiotomy and lithotomy position during childbirth,<sup>1</sup> and mother-baby separation.<sup>2,3</sup> In recent years, disrespect and mistreatment of women in health facilities during labor and childbirth are also frequently reported.<sup>4,5</sup>

Since the 1980s, many actions have been taken to deal with these problems, especially the high rates of caesarean section, which increases the risk of adverse outcomes in the short-term for both women and newborns, when done without medical indication.<sup>6</sup> Overtreatment, as well as the underuse of effective and safe interventions (such as birth companion, midwifery care,<sup>7</sup> and the clinical use of magnesium sulfate [MgSO<sub>4</sub>] for eclampsia prevention and treatment)<sup>8</sup> are among the main factors of maternal and neonatal complications that lead to near-miss and death,<sup>9</sup> including hemorrhages, blood transfusion, anesthetic complications, internal organ damage, infections, thromboembolic disorder, neonatal respiratory distress, and other iatrogenic prematurity complications.<sup>10</sup>

According to Souza (2015, p. 549),<sup>11</sup> “during the 1990's, the increase in efforts to develop strategies that were able to reduce maternal mortality elicited a bigger understanding about the social determinants of maternal mortality, includ-

ing the role of education, income, place of birth and the degree of oppression to which the woman is subject in society,” lifting maternal mortality to an indicator of social development. As a result, it became one of the goals to be monitored within the Millennium Development Goals (MDG) proposed by the United Nations (UN). From the year 2000 to 2015, the MDGs helped to highlight the improvement of the indicators through the universalization of antenatal care and the institutionalization of childbirth, which led to a certain improvement in maternal mortality in Brazil, but had no effect over the ever-increasing rates of caesarean section. Those rates hit 57% in the general population, with 61% in the Southeast region in 2014,<sup>12</sup> and over 80% in the private sector (85%).<sup>1</sup>

The latest estimates of maternal mortality ratio (MMR) place Brazil in the group of countries that have seen some improvement<sup>13</sup> in the past 15 years. Despite that, it is key to consider that, from the obstetric transition point of view, the country is in Level III,<sup>14</sup> given that the direct causes are still predominant (hemorrhage, sepsis, hypertension), and the quality of care becomes one of the main determinants of the health outcomes, especially when almost all women have access to health care.

In a context of underfinancing and overloaded health care, the quality of care in childbirth and the appropriate handling of the complications are essential to the decrease of maternal mortality,<sup>14</sup> severe morbidity and near-miss. As a result, the

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use of intervention protocols that reduce maternal and neonatal morbimortality should be mandatory.<sup>9</sup> It is also urgent the revision of the inappropriate or excessive use of interventions that may lead to iatrogenic harm in a low-risk population that, to this day, are naturalized by our society as innate to the childbirth itself<sup>15</sup> and, in extreme situations, may lead to severe complications and/or death,<sup>16</sup> shedding light on the need for an approach of the quaternary prevention in maternal health.<sup>17</sup>

Studies on the safety in maternal care, up until recently, were limited to audit maternal mortality, which is still an unacceptably common problem in many contexts. Most recently, the cases of severe morbidity and near-miss rightfully entered the research agenda.<sup>18</sup> However, the great geographical variability of the negative outcomes (for instance, the rate of perineal suture, severe lacerations, hemorrhages, intensive care unit [ICU] hospitalization, and cases of post-traumatic stress disorder, among others) showed that some models of care were more associated to harm than others. The definition itself of what would be a harm is controversial, because in some countries it is expected that almost all women leave childbirth with a surgical wound (episiotomy, sutured spontaneous laceration or caesarian section), while in other contexts, this surgical injury might be considered a harm.<sup>19</sup>

In the United Kingdom (UK), England started in 2010 the Quality, Innovation, Productivity and Prevention (QIPP) national program, aiming to improve the quality of care while reducing its cost.<sup>20</sup> The program was developed in response to concerns about avoidable harm. More than 10% of patients of the general population were harmed by care, and many times these patients and their families report a negative experience and adverse effects over their physical, mental and social well-being, and treating those iatrogenic harms has high costs. The emphasis was the decrease of four large harms already defined in previous studies that cost £430 million each to the government: pressure ulcers, falls, urinary tract infections in patients with a catheter, and venous thromboembolism.<sup>20</sup>

This innovative strategy began with the development of the concept of “harm free care” with the slogan: “*it’s not just counting, it’s caring*”.<sup>21,22</sup> This approach is based on the concept of understanding harm from the patient’s perspective, allowing the verification of the presence of one or more harms in each patient, as well as harm-free care offered by the care. In collaboration with more than 160 organizations of the National Health Service (NHS), a group of experts developed an instrument called the Safety Thermometer to measure these four harms.<sup>20,23</sup> According to these documents, “This move to take the national safety ‘temperature’ on four common harms across all healthcare care settings is an ambitious program that will result in an estimated 750,000 patients per quarter screened for harm”<sup>23</sup>.

Those instruments were developed to measure once a month, in real time, the “temperature of the harm” (high temperature = more than one harm in an individual or an elevated number of the same harm in an institution) caused

by the care. In doing so, it is possible to monitor through time, whether locally, regionally or nationally, the quality of care offered to the patients and its improvements over time.<sup>23</sup> Within the many thermometers developed for the different areas (<https://www.safetythermometer.nhs.uk/>), one of them applies to the safety in maternal care: the *Maternity Safety Thermometer* (MST).

The MST was developed to measure maternity care in five important areas: perineal and abdominal trauma, postpartum hemorrhage, maternal infection, Apgar score of less than 7 in the 5th minute of life, admission in a neonatal unit (for children born full-term), and women’s perception of safety.<sup>24</sup>

The MST allows maternity teams to take a temperature check on harm, and records the proportion of mothers who have experienced harm-free care, but also records the number of harms associated with maternity care. It supports improvements in patient care and patient experience, prompts immediate actions by healthcare staff, and integrates measurements for improvement into daily routines.<sup>24</sup>

The great innovation that the MST generates by being used as an instrument to measure harm caused by the maternity care is to shed light on morbidities that are frequently ignored or normalized as inevitable, for instance, rates of caesarean section and episiotomy. Moreover, measuring the frequency of hemorrhages and infections, two of the main reasons of near-miss and maternal mortality, the MST enables professionals and their teams to know their prevalence, and allows them to verify and perform over their sources, in a way to avoid hemorrhages and infections and/or treat them early. Aside from that, the MST includes neonatal outcomes as an indicator of health and safety considering mother-baby separation as a harm, an important update of scientific evidence in mother and child health. A key innovation was the measurement of women’s perceptions of safety.

From the point of view of the Brazilian obstetric reality, the MST comes as an important tool, not only for monitoring the quality of the care offered to our women and newborns, but also for cultural change. First, because we have started to consider – and to name – as harm situations that have been considered for decades as inherent and unavoidable at birth: preventable caesarean section, episiotomy, mother-baby separation, and behaviors women consider disrespectful, abusive and regard as mistreatment. To treat a caesarean section or an episiotomy as a potentially avoidable harm might be the game changer for professionals and managers to start questioning their everyday use without clear medical indication.

As a result, there is the possibility of verifying and documenting with greater precision the behavior of different harms, such as the degree of laceration, the amount of blood loss, and the period in which a determined infection occurred, making it easier to plan the qualification of teams and professionals for the development of actions that aim at reducing the temperature of harms or fractions of a certain harm.

So far, there is only one Brazilian study that has used the version of this tool adapted to Brazilian Portuguese,<sup>25</sup> having demonstrated that the MST is suitable to estimate the instant

prevalence of harm in obstetric care in the state of Rio Grande do Norte. Another study<sup>3</sup> has searched the “Birth in Brazil” database for the frequency of harms expected by the MST, and has identified high rates of perineal traumas, caesarean section and mother-baby separation (respectively 37.5%, 52.6%, and 69.5%). These studies emphasize the need to start the application of the version of the tool already adapted to Brazilian Portuguese as soon as possible, beginning with few maternity wards, to correct and adjust occasional problems or difficulties with its implementation, always bearing in mind the importance of training providers for its use.

Promoting maternity care from the point of view of quaternary prevention, in other words, to avoid iatrogenic care (one that produces harms), toward a harm-free care, is an innovative approach and still a great challenge. But it might be a successful path to achieve care that not only avoids deaths and counts the number of complications, but that also effectively assists and cares about each and every one of its patients, mothers and babies.

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