ORIGINAL ARTICLE

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Is a safety checklist necessary for vaginal birth?

¿Es necesaria una lista de verificación de seguridad para el parto vaginal?

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ABSTRACT

Introduction: Vaginal to delivery care is a complex, multidisciplinary process that requires institutions that provide safe and efficient surveillance of pregnant women. In obstetric practice, the physician frequently makes critical decisions in a short period of time and adverse events may occur. Within the framework of the WHO World Alliance for Patient Safety whose aim is to reduce risks during the delivery process, the use of safety checklists has been promoted as a strategy to reduce maternal and neonatal death. Objective: To elaborate a Vaginal Birth Safety Checklist (VBSC) to be applied to all pregnant women admitted to San Bartolomé hospital for her delivery care. Methodology: To design a correct sequence of procedures and useful actions to improve the safety of the pregnant woman during her stay, including the periods of dilatation, expulsion and immediate puerperium, using a questionnaire addressed to the different members of the health team involved in the care of both the mother and the newborn. Some questions to the patient are also included. Results: Systematized care is achieved, communication between the care team and the patient is improved, decision-making is favored, risks are identified, and delivery care is standardized. Conclusion: The VBSC is a valuable tool for optimizing safety and quality in vaginal delivery care, the success of which will depend on how it is integrated into clinical practice.
Key words: Checklist, Parturition, Natural childbirth, Patient safety

RESUMEN

Introducción. La atención del parto vaginal es un proceso complejo, multidisciplinario, que requiere de instituciones que brinden una vigilancia segura y eficiente a las gestantes. En la práctica obstétrica, frecuentemente el médico toma decisiones críticas en un breve tiempo pudiendo originarse eventos adversos. En el marco de la Alianza Mundial de la Seguridad del Paciente de la OMS, cuyo fin es la reducción de riesgos durante el proceso de atención del parto, se ha fomentado el uso de listas de verificación de seguridad, como una estrategia para disminuir la muerte materna y neonatal. Objetivo. Elaborar una Lista de Verificación de la Seguridad del Parto Vaginal (LVSPV), para ser aplicada a toda gestante que ingresa al hospital San Bartolomé para su atención de parto. Metodología. Diseñar una secuencia correcta de procedimientos y acciones útiles para mejorar la seguridad de la gestante durante su estadía comprendiendo los periodos de dilatación, expulsivo y puerperio inmediato, utilizando un cuestionario dirigido a los diferentes miembros del equipo de salud que participan en el cuidado tanto de la madre como del recién nacido. Se incluyen también algunas preguntas a la paciente. Resultado. Se logra una atención sistematizada, se mejora la comunicación entre el equipo de atención y la paciente, se favorece la toma de decisiones, la identificación de riesgos y se estandariza la atención del parto. Conclusión. La LVSPV es una herramienta valiosa para optimizar la seguridad y la calidad en la atención del parto vaginal, cuyo éxito dependerá de cómo se integre en la práctica clínica.
Palabras clave. Lista de verificación, Parto normal, Seguridad del paciente

Introduction

Reducing maternal mortality is a public health priority in the world. According to the World Health Organization (WHO) about 350,000 maternal deaths occur annually, mostly in developing countries. Most of these deaths are considered to be preventable with timely evidence-based interventions[(1)]. Given that maternal morbidity and mortality can occur unpredictably, any initiative to improve the quality of care is important to reduce it[(2)].

Childbirth, being a physiological process, has become more complex. There are various approaches to the humanization of childbirth or 're-

spected childbirth', understood as vaginal birth with a reduction in medical interventions to achieve a natural childbirth. It includes personalized clinical care, incorporates the mother and her companion, proposes avoiding unnecessary medical interventions and encourages continuous training of the health team[3].

Vaginal delivery is a complex event that merits multidisciplinary management and requires healthcare institutions that can care for patients efficiently and safely. The hospital environment is not simple. It serves a population that is vulnerable due to its condition as a pregnant woman, susceptible to adverse events when undergoing medical procedures -a vaginal examination- or surgical procedures -an episiotomy-, the use of technologies such as cardiotocographic monitoring and the administration of medications[4].

It is estimated that in developed countries one out of every ten patients suffers some harm during their hospital stay as a result of various errors or adverse effects[5]. Eleven percent of people admitted to a health care institution will have an adverse event and, of this group, 40% occur in pregnant women during delivery[6]. Adverse events due to medical care represent an important source of morbidity and mortality in the world[7]. Given the need to establish safe, efficient procedures of the highest possible quality, areas outside medicine have been shown to be effective in reducing and preventing incidents. One example is the safety checklist (SC), a tool that emerged in the aeronautical industry[8] and which makes it easier to remember the correct sequence of steps in a complex procedure.

Within the WHO patient safety program, the use of the SC was encouraged, initially focused on safe surgery, and since 2008 an SC has been introduced for each patient undergoing a surgical procedure[9]. Since then, the applications of these lists have succeeded in reducing complications and mortality resulting from surgery[10].

With the positive experience of SCs applied in safe surgery, its use is proposed as a strategy to reduce maternal and neonatal death. The application of a SC is very useful due to the complexity that accompanies delivery care. Despite the fact that the main causes of maternal mortality are known, that most of them occur on the first day of puerperium, that international guidelines for best obstetric practices already exist, that some clinical interventions are relatively inexpensive, cost-efficient and easy to perform, in daily hospital practice they can be difficult to remember and execute in the appropriate sequence, an aspect that could be solved by using a safety checklist[11,12].

Justification

The main reason for hospitalization at Hospital Docente Materno Infantil San Bartolomé, in Lima, Peru, is childbirth. At the time of discharge, most of patients have undergone a perineal incision (episiotomy), a perineal tear, a surgical procedure (cesarean section) or other invasive interventions such as bladder catheterization, lumbar puncture for labor analgesia, among others. This intervention is associated with probable risks and complications.

On the other hand, obstetrics is the only specialty that cares for and has responsibility for two patients -the mother and the fetus- who, for the most part, are not assumed to be ill when they come to the hospital for the birth. It is routine for the physician to have to make critical decisions in a short period of time that can lead to an unintended adverse event[13], an event that occurs during health care, resulting in harm to the patient.

Delivery care is a complicated process with risk for both the mother and the newborn. It requires coordinated and comprehensive surveillance to ensure its safety[11]. In modern obstetrics, checklists have become a fundamental tool to ensure safe and quality care during childbirth[14]. They provide a set of useful procedures and actions to improve patient safety by ensuring that the necessary steps (good clinical practices) are performed in a timely manner, preventing adverse events and significantly reducing the risks associated with labor and delivery care.

The benefits of implementing an SC are multiple: 1. It allows for more systematized and organized care, which reduces the possibility of errors and complications; 2. It improves the report between the care team and the patient, which ensures more personalized and effective care; 3. It facilitates decision making and the identification of

possible complications, allowing for more timely and effective care; and, 4. It standardizes care by ensuring that the health team follows the same safety protocols and provides the same level of quality care.

However, it is also important to consider the possible risks associated with the application of SC: 1. It may become a list of routine tasks that generate mechanical care rather than personalized and effective care; 2. It may become a substitute for clinical experience and judgment, which may limit the health team's ability to adapt to unforeseen situations; 3. It may take additional time and become an extra burden for the health team; and, 4. It may be perceived as a tedious task if it is not properly integrated into clinical practice, losing effectiveness[15].

Methodology

Following WHO recommendations, a Vaginal Birth Safety Checklist (VBSC) was developed with the participation of the different professionals of Hospital San Bartolomé involved in the care of vaginal delivery: obstetrician-gynecologists, neonatologists, obstetricians and nurses, with the advice of physicians specialized in hospital management from the quality management office of our hospital.

The objective of this work was to develop a vaginal delivery safety checklist to be applied to all pregnant women admitted to the San Bartolomé hospital for delivery care. Several multidisciplinary work meetings were held, based on WHO recommendations and guidelines[1] and the adaptation and validation of the safe delivery checklist for use in Colombia[12]. Unlike these two experiences, which include the entire delivery process from the patient's admission to the institution until discharge, our working group considered limiting the SC to only include labor and the immediate puerperium, since the highest incidence of adverse events reported in pregnant women in our hospital occurs during their stay in the obstetric center. Likewise, we excluded patients who, having started vaginal labor, decided to have a cesarean section during the course of labor, interrupting their vaginal labor. The VBSC will be mandatory at Hospital San Bartolomé for all patients during the vaginal delivery process (Figures 1 and 2).

Results

In the VBSC, 3 key moments were identified during the progression of labor. The first moment is when the patient enters the dilation area of the obstetric center, the second moment occurs prior to transfer to the delivery area of the obstetric center at the end of the dilation period, and the third moment is at the end of the immediate puerperium, before transfer of the patient to the hospitalization area (Figure 1).

During the application of the VBSC, each item is identified as a question addressed to one of the different members of the health team involved in the care of the pregnant woman and the newborn: obstetrician-gynecologist, neonatologist, obstetrician and nurse.

At the end of the first stage (dilatation) and the second stage (delivery) there is a question: does the patient proceed to cesarean section? If the answer is yes, the application of the VBSC is interrupted. There are also questions to the patient herself, such as: Have you had any vaginal examinations since your admission, specify how many? In addition, some important points are verified in the clinical history, for example: Does the patient have informed consent for vaginal delivery with signature and fingerprint?

It was agreed that the obstetrics graduate was the ideal professional to record the VBSC form, due to her uninterrupted permanence in the obstetric center, completing the required information at each point in time.

Before its final approval, a field test was carried out for a month, suggestions were gathered from the participants and the final version of the VBSC was achieved. Throughout the process of developing the VBSC, the progress was disseminated to all health team professionals involved in vaginal childbirth care, and finally the final version was presented.

The VBSC record is collected in duplicate, with one copy remaining in the clinical history and the other being referred in a timely manner to the hospital's quality management office for processing, analysis and recommendations to be implemented by the Obstetrics and Gynecology Department.

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FIGURE 1: VAGINAL DELIVERY CHECKLIST (PART ONE)

General Information

Name: _____ Date: _____ Time: _____

MRN: _____

FIRST MOMENT: PATIENT ENTERS THE DILATION AREA				
VERIFY IN THE MEDICAL RECORD **1. Does the patient have informed consent for vaginal delivery with signature and fingerprint?**			Yes □	No □
VERIFY IN THE MEDICAL RECORD **2.Does she have gynecoid pelvimetry study performed by physician assistant?**	Yes □ No □, specify: _____			
ASK THE PATIENT **3. Has she had vaginal examinations since her admission?**	Yes □, specify how many: _____ No □			
VERIFY IN THE MEDICAL RECORD ***4.* Do you have a relevant pathological history?**	Yes □, specify how many: _____ No□			
VERIFY IN THE MEDICAL RECORD ***5.Do you have previous cesarean sections?***	Yes □, specify how many: _____ No□			
VERIFY IN THE MEDICAL RECORD **Does the patient have current auxiliary tests (less than 60 days old)?**	***6.***	Glucose	Yes □	No □
	7.	Hemogram	Yes □	No □
	8.	Hemoglobin/ hematocrit	Yes □	No □
	9.	Blood type	Yes □	No □
	10.	Time of clotting-bleeding	Yes □	No □
	11.	HIV	Yes □	No □
	12.	VDRL	Yes □	No □
ASK THE PATIENT **13. Is the mother allergic to any medicines or chemicals?**	Yes □, specify how many: _____ No □			
VERIFY IN THE MEDICAL RECORD ***14.* Does the mother require antibiotics?**			Yes □	No □
VERIFY IN THE MEDICAL RECORD ***15.* Does the mother require the use of magnesium sulfate?**			Yes □	No □
VERIFY IN THE MEDICAL RECORD **16.Does the mother require the use of antihypertensives?**			Yes □	No □

ASK BACHELOR OF OBSTETRICS **Are the essential supplies for childbirth assessments available?**			
17.	Confirm availability of supplies and compliance with handwashing protocol.	Yes □	No □
18.	Confirm the availability and use of sterile gloves for each vaginal examination.	Yes □	No □
19.	Confirm availability of oxygen source	Yes □	No □
ASK BACHELOR OF OBSTETRICS **20. Is the presence of an authorized companion allowed during the delivery of the pregnant woman?**		Yes □	No □
ASK THE OBSTETRICIAN GYNECOLOGIST **21. Patient goes to Cesarean section?**		Yes □	No □

Bachelor of Obstetrics

OBSTETRICIAN GYNECOLOGIST

SECOND MOMENT: PRIOR TO THE TRANSFER TO THE AREA FOR THE EXPULSION STAGE OF LABOR?		
ASK BACHELOR OF OBSTETRICS **1. Was a sensitivity test performed for antibiotic prophylaxis?**	Yes □ No □, specify: _____	
ASK THE OBSTETRICIAN GYNECOLOGIST **2. Does the parturient have uterine atony risk factors?**		No □ Yes □, specify how many:
□ Multiparous	□ ≥ 40 years	□ Multiple pregnancy
□ Use of oxytocin	□ Dysfunctional labor	□ Chorioamnionitis
□ UH > 35 cm	□ FW > 4000 g	□ Other: _____
ASK THE OBSTETRICIAN GYNECOLOGIST **3. Does she have risk factors for shoulder dystocia?**		No □ Yes □, specify how many:
□ Diabetes mellitus	□ Obesity	□ Dysfunctional labor
□ FW > 4 kg	□ History of shoulder dystocia	
□ Post-term pregnancy		

ASK THE OBSTETRICIAN GYNECOLOGIST **4. Was an abnormal partogram found?**		Yes □, specify how many: _____ No □		
ASK THE OBSTETRICIAN GYNECOLOGIST **5. Is there a suspicion of acute fetal distress?**		Yes □, indicate FCF: _____ **(COMMUNICATE TO NEONATOLOGY)** No □		
ASK THE OBSTETRICIAN GYNECOLOGIST **6. Is the birth premature?**		Yes □, indicate gestational age: _____ **(COMMUNICATE TO NEONATOLOGY)** No □		
ASK THE OBSTETRICIAN GYNECOLOGIST **7. Is the amniotic fluid clear?**		Yes □ No □, specify: _____ **(COMMUNICATE TO NEONATOLOGY)**		
ASK BACHELOR OF OBSTETRICS **Are the essential supplies for the care of the mother available?**	***8.***	Sterile gloves	Yes □	No □
	9.	Antiseptics for hand washing and patient preparation according to institutional protocol	Yes □	No □
	10.	Uterotonics, preferably oxytocin	Yes □	No □
	11.	Oxygen source	Yes □	No □
ASK THE OBSTETRICIAN GYNECOLOGIST **12. If necessary, is there an assistant to care for the mother during the expulsive period?**			Yes □	No □ Not applicable □
ASK THE NURSING GRADUATE **Are essential supplies available for the newborn care?**	***13.***	Clean towel	Yes □	No □
	14.	Sterile scissors to cut the cord	Yes □	No □
	15.	Rubber ligation, plastic clip or sterile umbilical tapes	Yes □	No □
	16.	Heat source	Yes □	No □
	17.	Suction device	Yes □	No □
	18.	Auto Inflatable/Resuscitator Bag with T-Piece/Mask	Yes □	No □
	19.	Source of oxygen/ Compressed air	Yes □	No □
ASK THE DOCTOR FOR IMMEDIATE CARE OF NEWLY BORN **20. If necessary, is an assistant available for the immediate care of the newborn?**			Yes □	No □ Not applicable □
ASK THE OBSTETRICIAN GYNECOLOGIST **21. Patient goes to cesarean section?**			Yes □	No □

_____ _____ _____
BACHELOR OF OBSTETRICS **OBSTETRICIAN GYNECOLOGIST** **Neonatology**

THIRD MOMENT: BEFORE LEAVING THE IMMEDIATE PUERPERIUM ROOM

ASK THE OBSTETRICIAN GYNECOLOGIST

1. Was a directed delivery with oxytocin performed?	Yes □	No □
2. Was delayed cord clamping performed?	Yes □	No □
3. Was the umbilical cord traction maneuver performed during delivery?	Yes □	No □
4. Is the uterus contracted?	Yes □	No □
5. Was uterine massage performed?	Yes □	No □
6. Was skin-to-skin contact performed?	Yes □	No □
7. Does the mother require antibiotics?	Yes □	No □
8. Is the mother's bleeding more than 1000 mL?	Yes □ No □	
9. If the bleeding was more than 1000 mL, was the Red Alert activated?	Yes □ No □ Not Apply □	

10. *ASK THE PATIENT*
Did you start breastfeeding and skin-to-skin contact in the first hour?
(If both mother and newborn are in good health))
Yes □
No □, specify the reason _____
_____

ASK THE PATIENT
11. Mention 3 warning signs in the puerperium (bleeding with clots, dizziness, cold sweating, permanent abdominal pain, severe headache, visual or hearing problems, epigastric pain)
No □
Yes □
1 .....
2 .....
3 .....

Observations_____
_____
_____

_____ _____
BACHELOR OF OBSTETRICS **OBSTETRICIAN GYNECOLOGIST**

FIGURE 2: VAGINAL CHILDBIRTH CHECKLIST (PART 2)

Is a safety checklist necessary for vaginal birth?

In this way, systematized care is achieved, the report improves communication between the care team and the patient, decision making is favored, risks of probable complications are identified, and delivery care is standardized.

Conclusion

We consider the VBSC to be a valuable tool for optimizing safety and quality in vaginal delivery care, the success of which will depend on how it is integrated into clinical practice.

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