

Risk Factors for Immediate Postpartum Hemorrhage: Analysis of Events in an Urban Area of Chiapas, Mexico

Brisceyda Esmeralda Ruiz Santiago, Mariana Berenice Córdova Bustamante, Concepción Rosseau Reyes
Sor Juana Inés de la Cruz Institute of higher studies
Tuxtla Gutiérrez, Chiapas, México

Abstract:- This article shows the results of a study carried out at the Hospital of the Social Security Institute for State Workers, ISSSTE, Dr. Belisario Domínguez in the city of Tuxtla Gutiérrez, Chiapas, Mexico. The cross-sectional, descriptive, and analytical study was carried out by reviewing the medical records of women who entered the labor and expulsion room of the hospital. Among the main findings we have that the factors that are significantly related to immediate postpartum hemorrhage are: prolonged labor (22%), labor induction (26.6%), episiotomy (88.8%), placental retention (17.7%), Episiotomy with grade 3 trauma plus poorly repaired episiorrhaphy (26.6%).

Keywords:- Risk factors, postpartum hemorrhage, Chiapas México.

I. INTRODUCTION

To speak of maternal mortality (MM) is to speak of one of the main public health problems and one that has remained in this category for decades. Unfortunately, the MM continues to be high and mainly in the Latin American region, where health systems show limitations that prevent women from being guaranteed the right to safe motherhood. The foregoing makes the World Health Organization indicate attention to this problem and include it within the objectives of Sustainable Development, ODS, its main goal being "Guarantee a healthy life and promote well-being for all people, in all ages" and it is proposed to reduce the global indicator to 70 deaths per hundred thousand births, since this indicator is currently 211 maternal deaths per hundred thousand births (ODS, 2017).

In Mexico, the epidemiological surveillance of MM allows the collection of the necessary information for its analysis, enables the development of public health programs and the formulation of recommendations, which have the purpose of improving coverage and quality of care. According to data from the World Health Organization (WHO), each year there are about 14 million cases of hemorrhage associated with pregnancy and at least 128,000 of these women die (Uribe, 2007). Most of these deaths occur within the first four hours postpartum (Kacmar et al, 2003).

The WHO mentions that each year there are 50,000 maternal deaths (MM) in the world. In the region of the Americas alone, 30,000 deaths have been reported, most of them avoidable with timely surgical medical treatment (Martínez et al, 2004; Uribe, 2007).

In Mexico, and throughout the world, maternal and child health programs are aimed at reducing MM and preventing risks is one of the major priorities of health systems. Therefore, the identification of the causes and associated factors is of paramount importance (UNLM, 2015).

For Mexico, the MM ratio should have decreased by 2.7 points annually to meet the SDGs, but this has not been achieved and prospective studies are not encouraging to achieve this global commitment (Morales-Andrade et al, 2018). Chiapas, Mexico currently ranks first in MM at the national level, hence the importance of this study and its findings, emphasizing the importance of preserving the lives of women at the local, national and global levels (Camacho and Reyes, 2019).

The records in the literature consider that the main causes of MM are serious hemorrhages at any obstetric moment and although, currently, there are effective uterotonics, as well as surgical techniques and mechanisms that reduce these hemorrhages and postpartum infections, the reality is that they continue a high number of women dying from this cause (Hogan et al 2010; WHO, 2015).

Postpartum hemorrhage (PPH) is one of the most frequent obstetric complications and is one of the three leading causes of maternal mortality in the world. This can be defined as blood loss greater than 500 ml after a vaginal delivery or 1,000 ml after a cesarean section. Among the causes of PPH we find uterine atony, traumas/lacerations, retention of products of conception and coagulation disorders, the most frequent being atony. Diagnosis is clinical and treatment must include general measures of life support and other more specific measures of an etiological nature. advantages, it is potentially avoidable in most cases if an adequate active and systematic prevention strategy is followed in the delivery phase of all births (Karlsson and Pérez, 2009).

The identification of risk factors is of great help to prevent PPH; but it must be remembered that 2/3 of the cases occur in women without any of these factors. That is why we must act systematically and universally in the delivery phase of all births through active behavior, which can be summarized in the following steps: a) Administration of a uterotonic, oxytocin being the choice; b) Clamping and early section of the umbilical cord; c) Gentle and sustained traction and d) Uterine massage after delivery (Allan, 2008).

II. METHODS

The descriptive and analytical cross-sectional study was carried out from November 2019 to June 2020 at the Hospital of the Social Security Institute for State Workers, ISSSTE, Dr. Belisario Domínguez in the city of Tuxtla Gutiérrez, Chiapas, Mexico.

The study was carried out by reviewing the medical records of women who entered the labor and expulsion room of the hospital, obtaining a sample of 45 patients chosen through discrimination of inclusion and exclusion criteria, starting from the analysis period November 2019- June 2020, being these:

- Inclusion criteria: clinical records of women who have been admitted to the labor and expulsion room of the Dr. Belisario Domínguez hospital of the ISSSTE, Tuxtla Gutiérrez Chiapas, Mexico, period November 2019- June 2020.
- Exclusion criteria: medical records of women who have been admitted to the labor and expulsion room of the Dr. Belisario Domínguez hospital of the ISSSTE, Tuxtla Gutiérrez Chiapas, Mexico, period November 2019- June 2020.

III. DISCUSSION

The average age of the women who made up the sample is 30 years, with two gestations in 80% of the cases and the remaining percentage with a single gestation. They did not present risk factors during pregnancy, with application of oxytocin in all cases, intrauterine massage in all cases, controlled traction in 70% of cases and presence of postpartum hemorrhage (PPH) in 18% of cases.

Age at the extremes of life represents a risk for pregnancy, pregnancy in adolescents and patients over 35 years of age increases morbidity and mortality in each of them. Regarding the average age of the MM (28 years), these results are consistent with those found by Mejía et al (2013). On the other hand, in a study conducted in Mexico, and contrary to studies where the average age is higher (36 years) or, in a range of 40 to 49 years, as recorded by Donoso et al (2014). The patients in this study, older than 35 represent 20%, minimum age of 24 years and maximum of 39.

Also, within the results of this study, it is indicated that the risk factors that showed significance were:

- Prolonged labor (in 22% of cases)
- Labor induction (in 27% of cases)
- Episiotomy (in 89% of cases)
- Placental retention (in 8% of cases)
- Episiotomy with grade three trauma plus episiotomy episiorrhaphy poorly repaired (27% of cases).

18% of the sample presented postpartum hemorrhage from a sample of 45 women, with this we can affirm that the incidence of PPH is high, currently placing Chiapas as the first place in maternal death at the national level according to the statistics of the Maternal Mortality Observatory (2019). The most common cause of PPH was uterine atony (tonus) in

5 of the 8 cases, 2 due to retention of placental remains, and 1 case due to trauma in which an episiotomy was performed.

18% of the population presented postpartum hemorrhage from a sample of 45 women, with this we can affirm that the incidence of PPH is high, currently placing Chiapas as the first place in maternal death at the national level according to the statistics of the Maternal Mortality Observatory (2019). The most common cause of PPH was uterine atony (tonus) in 5 of the 8 cases, 2 due to retention of placental remains, and 1 case due to trauma in which an episiotomy was performed.

Regarding the context, the women who comprised the sample are inhabitants of Tuxtla Gutiérrez, Chiapas, an urban city that represents the state capital. The socioeconomic level impacts in Mexico, especially in the southeast, where the state of Chiapas is located, and we find poverty in pregnant patients with a high percentage of extreme poverty up to 70%.

The educational level, related to socioeconomic inequality, the type of population, ethnicity and the poor health system in Mexico is also a factor to consider as a key element of the context in which this study is presented. All this directly affects the care that the patient can have during her pregnancy. The occupation of pregnant patients is domestic activities being housewives, mostly (70%) and none have any professional occupation.

IV. CONCLUSION

- From this study, its results, and their analysis, we can conclude as follows:
- The average age of the reviewed cases does not constitute a risk factor for PPH
- 18% of the sample had postpartum hemorrhage
- Within the factors related to postpartum hemorrhage, and in order of frequency, the following were identified:
 - Episiotomy
 - Episiotomy with grade three trauma plus poorly repaired episiorrhaphy episiotomy.
 - Labor induction
 - Prolonged labor
 - Placental retention

REFERENCES

- [1.] Allan J. (2008). Causes and treatment of postpartum haemorrhage. Disponible en <http://www.uptodate.com>
- [2.] Camacho CFJ; Reyes GFI (2019). Factores de riesgo para histerectomía obstétrica en el Hospital de San Felipe Ecatepec, San Cristóbal de Las Casas, Chiapas, México. *Ocronos. Revista Médica y de Enfermería – ISSN n° 2603-8358.*
- [3.] Donoso, E, Carvajal JA, Vera C y JA Poblete. 2014. La edad de la mujer como factor de riesgo de mortalidad materna, fetal, neonatal e infantil. *Rev. Med. Chile.* 142: 168-174.
- [4.] Hogan MC, Foreman KJ, Naghavi M, Ahn SY, Wang M, Makela SM, et al. (2010). Maternal mortality for 181 countries, 1980-2008: a systematic analysis of

- progress towards Millennium Development Goal 5. *Lancet*. 2010;375:1609-23.
- [5.] Kacmar J, Bhimani L, Boyd M, Shah-Hosseini R, Peipert JF. (2003). Route of delivery as a risk factor for emergent peripartum hysterectomy: A case-control study. *ACOG*. 102(1):141-5.
- [6.] Karlsson H y Pérez Sanz C (2009). Hemorragia postparto. *Anales Sis San Navarra vol.32 supl.1 Pamplona*.
https://scielo.isciii.es/scielo.php?script=sci_arttext&pid=S1137-66272009000200014
- [7.] Martínez E, Romeu M, Mateos S, Lobo P. (2004). Placenta Percreta, Rotura Uterina e Histerectomía Obstétrica. *Clin Invest Gin Obst*; 31:266-8.
- [8.] Mejía M, Ortiz V, Laureano E, Alcántara H, López Z, y Gil H, E. (2013). Aspectos sociales de la muerte materna: análisis de 5 años en el Hospital General de Occidente: Jalisco, México. *Revista chilena de obstetricia y ginecología*, 78(6).
- [9.] Morales-Andrade E, Ayala-Hernández MI, Morales-Valerdi HF, Astorga-Castañeda M y Castro-Herrera GA (2018). Epidemiología de la muerte materna en México y el cumplimiento del Objetivo 5 del Desarrollo del Milenio, hacia los objetivos de desarrollo sostenible. *Rev Esp Méd Quir*. 2018;23
- [10.] ODS (2017). Objetivos de desarrollo sostenible. 17 objetivos para transformar nuestro mundo [Internet]. Organización de las Naciones Unidas 25 de septiembre 2015. Disponible en: <http://www.un.org/sustainabledevelopment/es/la-agenda-de-desarrollo-sostenible/>
- [11.] OMS (2015). Organización Mundial de la Salud. Evolución de la mortalidad materna: 1990-2015: Estimaciones de la OMS, el UNICEF, el UNFPA, el Grupo del Banco Mundial y la División de Población de las Naciones Unidas. Disponible en: <http://www.who.int/reproductivehealth/publications/monitoring/maternal-mortality-2015/es/> 7
- [12.] Uribe R. (2007). Histerectomía obstétrica Concepto e Importancia. *Ginec Obst Mex*; 64:23.
- [13.] UNLM (2015). Us-National Library of medicine. Medical subjectheading, consultado. <https://www.nlm.nih.gov/mesh/meshhome.html>