

Increase in the cesarean rate: an issue of global priority

Abstract

Cesarean section (CS) is a surgical intervention to prevent or treat potentially harmful maternal or perinatal complications. Its appropriate use has the clinical objective of reducing the excess risk of maternal and neonatal morbidity and mortality. The global increase over the last 30 years of the value of 10-15% recommended by the WHO would be driven by the indication of CS subject to non-medical determinants. On the other hand, this increase was significantly higher in countries with higher socioeconomic levels, better educational level of women, higher levels of urbanization, higher density of doctors and lower fertility.^{3,4} In Argentina, the rate of CS has increased from 28.2 to 35.7% between 2010-18. The **objectives** were to describe births and the relationships between type of birth and non-medical or socioeconomic variables. The study was carried out based on the data of all the births that occurred in healthcare establishments in the province during the period 2016-17-18 in Mendoza. Births by CS were 47,010, which gave a cesarean section rate in the analyzed period of 49.84%. Since our interest was to describe CSR according to non-medical variables, we considered the variables as ownership of the establishment (state or private health); the level of education of the mother; the type of health insurance of the mothers (social security, or state), the age of the mother, among others. The monitoring of the cesarean section rate levels in the countries, together with multicomponent interventions to channel its indication to a rational use, would imply great gains for the health of women and families, while optimizing the use of resources and reducing of unnecessary medical practices

Keywords: cesarean section - disparities- cesarean ratio- socioeconomic determinants

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Thomas Carlos,¹ Alvarez Jorgelina²

¹Public Health pediatrician, Instituto de Salud Pública y Gestión Sanitaria, Argentina

²Associate Professor Public Health at School of Medicine, National University of Cuyo, Argentina

Correspondence: Alvarez Jorgelina, School of Medicine, National University of Cuyo, Argentina, Tel 549261-4196761, Email a.jorgelina@gmail.com

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Abbreviations: CS, cesarean; WHO, world health organization; UNICEF, united nations children's fund; CSR, cesarean section rate

Introduction

Cesarean section (CS) is a surgical intervention to prevent or treat potentially harmful maternal or perinatal complications. Its appropriate use has the clinical objective of reducing the excess risk of maternal and neonatal morbidity and mortality, due to defined causes. Since 2000, there have been warnings about the sustained increase in the indication of SC and the upward trends in births using this procedure.¹

Thus, for example, a study, WHO - UNICEF, found that 18.6% of births in the world are performed by CS. In the period 1990-2014 the rate increased to an annual average of 4.4%. The largest increase was recorded in Latin America with an absolute increase of 19.4% in the indicated period.²

The global increase over the last 30 years of the value of 10-15% recommended by the WHO would be driven by the indication of CS subject to non-medical determinants. On the other hand, this increase was significantly higher in countries with higher socioeconomic levels, better educational level of women, higher levels of urbanization, higher density of doctors and lower fertility.^{3,4} In Argentina, the rate of CS has increased from 28.2 to 35.7% between 2010-18. This increase would imply that the decision of SC is not based solely on the need and medical indication, but is subject to factors that are they try to meet.

Due to this problem, we set out to investigate the behavior of the cesarean section rate (CSR) in the province of Mendoza, Argentina. Mendoza is a province of 1.8 million inhabitants whose population represents the diversity and general characteristics of the Argentine

population. The objectives were to describe births in the province of Mendoza and the relationships between type of birth and non-medical or socioeconomic variables.

Material and methods- results

The study was carried out based on the data of all the births that occurred in healthcare establishments in the province during the period 2016-17-18. A total of 94,320 births in the province of Mendoza were included, which represented 99.9% of live births in that period. Births by CS were 47,010, which gave a cesarean section rate in the analyzed period of 49.84%. Since our interest was to describe CSR according to non-medical variables, we considered the variables as ownership of the establishment (state or private health); the level of education of the mother; the type of health insurance of the mothers (social security, or state), the age of the mother, among others. CSR was 69.9% in private establishments and 32.7% in public ones; a higher rate of cesarean sections was observed the higher the level of education, from 26.8% for those who never attended to 68.2% for women with tertiary or university education; y a much higher value of cesarean sections was obtained in women who have social security coverage (67.2%) compared to women with state coverage (32.9%). Regarding age, we obtained a significant increase in CSR at older mothers.

Discussion

Since the indication for CS seeks to reduce the risk of maternal and neonatal death, studies have shown that an increase in the cesarean section rate above 10% was not associated with decreases in maternal and neonatal mortality.⁵ The optimal CS rate, that is, the percentage of births achieved by cesarean section among all live births that results in the best health outcomes, is difficult to establish, since it would imply knowing the medical need of the population. global cesarean

section rate reached 50%, doubling the maximum rate suggested by the WHO, between 10-15%.¹

A recent alert from the WHO warns again about the upward trend in SC rates in the world, based on another study.^{6,7}

In terms of the director of the Department of Sexual and Reproductive Health and Research of the WHO, Ian Askew «*Caesarean sections are absolutely critical to save lives in situations in which vaginal deliveries would pose risks, so all health systems must guarantee the timely access ...But not all C-sections being performed right now are medically necessary. Unnecessary surgical procedures can be harmful, both for a woman and her baby.*»

The Sustainable Development Goals contain among their goals for the year 2030 “to reduce the global maternal mortality rate to less than 70 per 100,000 live births and neonatal mortality to at least 12 per 1,000 live births”, the achievement of these goals involves Topics such as quality and safe birth care.⁸

On the other hand, it is noted that among the factors that could explain an increase in CSR are socioeconomic determinants such as educational level (the higher the educational level of the mothers, the higher the CSR), health coverage and age. The monitoring of the CSR in relation to these factors is necessary for, among other things, the commitments assumed with international organizations.

Conclusion

The monitoring of the cesarean section rate levels in the countries, together with multicomponent interventions to channel its indication to a rational use, would imply great gains for the health of women and families, while optimizing the use of resources and reducing of unnecessary medical practices. Many aspects are at stake, among them, the information provided to women before births, the safety of patients at the time of procedures, as well as that of newborns, that is, factors known as non-medical determinants of the indication of cesarean sections.

Acknowledgments

None.

Conflicts of interest

The authors declare that they have no conflicts of interest on the subject addressed.

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