

CORRELATION BETWEEN NUMBER OF CESAREAN SECTION SURGERIES AND COUNTRY DEVELOPMENT

CORRELACIÓN ENTRE EL NÚMERO DE CIRUGÍAS DE CESÁREA Y EL DESARROLLO DE LOS PAÍSES

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ABSTRACT

This article presents a brief analysis of the correlation between the cesarean section surgery rate and the level of country development, with specific objectives to analyze the variations in cesarean rates in countries with different income and development levels; investigate the risks associated with cesareans and the underlying factors that influence their varied rates, such as health policies, cultural norms, and the quality of healthcare; and to examine the relationship between cesarean rates and maternal and neonatal mortality. Through a qualitative approach, analyzing data from the World Health Organization and relevant studies to compare cesarean rates in different economic and social development contexts, this study aimed to answer the following question: How do cesarean rates vary in relation to the development of countries and what are the implications of this variation for maternal and neonatal health? The study is crucial for understanding global disparities in maternal and neonatal health and for informing more effective health policies tailored to the specific needs of each developmental context. Through the investigation, it was observed that cesarean rates are a significant indicator of differences in country development and health policies. A qualitative understanding of these rates is essential to address challenges in maternal and neonatal health, highlighting the need for practices adapted to the specific context of each country to improve health outcomes globally.

Keywords: Cesarean. Pregnant women. Health services.

RESUMEN

El presente artículo ofrece un breve análisis sobre la correlación entre la tasa de cirugías de cesárea y el nivel de desarrollo de los países, con objetivos específicos de analizar las variaciones en las tasas de cesárea en países con diferentes niveles de ingresos y desarrollo; investigar los riesgos asociados con las cesáreas y los factores subyacentes que influyen en sus tasas variadas, como políticas de salud, normas culturales y calidad de la atención sanitaria; además de examinar la relación entre las tasas de cesárea y la mortalidad materna y neonatal. Mediante un enfoque cualitativo, analizando datos de la Organización Mundial de la Salud y estudios relevantes para comparar las tasas de cesárea en diferentes contextos de desarrollo económico y social, se buscó responder al siguiente cuestionamiento: ¿Cómo varían las tasas

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de cesárea en relación con el desarrollo de los países y cuáles son las implicaciones de esta variación para la salud materna y neonatal? El estudio es crucial para comprender las disparidades globales en la salud materna y neonatal y para informar políticas de salud más efectivas y adaptadas a las necesidades específicas de cada contexto de desarrollo. A través de la investigación, fue posible observar que las tasas de cesárea son un indicador significativo de las diferencias en el desarrollo de los países y en las políticas de salud. Una comprensión cualitativa de estas tasas es esencial para abordar los desafíos en la salud materna y neonatal, destacando la necesidad de prácticas adaptadas al contexto específico de cada país para mejorar los resultados de salud globalmente.

Palabras clave: Cesárea. Embarazadas. Servicios de salud.

1. INTRODUCTION

Cesarean section surgeries have become a critical aspect of global health, with their usage and prevalence revealing much about the state of maternal healthcare in various countries. According to the World Health Organization (WHO), the global rate of cesarean sections has been rising steadily, now accounting for over 21% of all childbirths, a figure that is projected to increase to nearly a third of all births by 2030 (World Health Organization). This increase in cesarean section surgeries is not uniform across the world, with significant discrepancies based on the development status of countries. In the least developed countries, the rate is as low as 5%, compared to 43% in regions like Latin America and the Caribbean (World Health Organization).

The purpose of this paper is to explore the correlation between the number of cesarean section surgeries and the level of country development through a qualitative lens. This investigation is significant, as cesarean sections, while essential in certain medical situations, carry risks such as heavy bleeding, infection, and complications in future pregnancies (World Health Organization). Furthermore, this paper aims to understand the underlying factors driving the varying rates of cesarean sections across countries, such as health sector policies, cultural norms, and the quality of healthcare (World Health Organization).

The significance of understanding this correlation from a qualitative perspective is emphasized by the variations in cesarean section rates and their implications for maternal and neonatal health across different income categories of countries. For instance, in low-income

countries, a significant correlation has been found between cesarean section rates and reductions in neonatal and maternal mortality, whereas no such association was observed in medium- and high-income countries (World Health Organization). These findings highlight the importance of context-specific healthcare policies and practices in addressing the needs of mothers and newborns in different developmental settings.

In sum, this paper seeks to provide a comprehensive analysis of how the prevalence of cesarean sections reflects broader themes in global health, particularly in relation to country development, healthcare policies, and maternal and neonatal health outcomes.

2. CONCEPTUAL FRAMEWORK

2.1 DEFINING CESAREAN SECTIONS

Cesarean sections, a critical aspect of maternal healthcare, have been a part of human culture since ancient times, featuring in both Western and non-Western cultures. The procedure has evolved significantly throughout history. Initially, cesarean sections were primarily conducted to retrieve infants from mothers who were dead or dying, often driven by religious mandates or the state's interest in population growth (National Library of Medicine). The term "cesarean" itself has evolved over time, with its origins shrouded in myths, such as the surgical birth of Julius Caesar, although this is unlikely since the procedure was then performed only on dying or dead mothers. The term has Latin origins, possibly from the verb "caedere," meaning to cut. The modern understanding of cesarean sections as a surgical option in childbirth, intended to preserve both maternal and infant life, did not emerge until the nineteenth century (National Library of Medicine).

During the Middle Ages, despite being viewed as a period of scientific stagnation, there were efforts to save women's lives through cesarean sections. One of the first recorded instances of a successful cesarean section where both mother and child survived was in Switzerland in 1500 by Jacob Nufer, a sow gelder. This history highlights the evolving nature of cesarean sections as part of the broader history of childbirth and general medicine (National Library of Medicine).

2.2 UNDERSTANDING COUNTRY DEVELOPMENT

The concept of "country development" is complex and multi-faceted, lacking a universally accepted definition. Generally, developing countries are characterized by a lower average standard of living compared to developed countries. Various metrics, including economic size, government functionality, literacy rates, life expectancies, and human rights protections, have been used to categorize countries as developing or developed. However, in recent years, the binary classification of "developed vs. developing" has faced criticism and is being phased out in favor of more nuanced approaches, such as categorizing countries by region or terms like "Global North" and "Global South" (Britannica Money).

The term "developing country" gained prominence after World War II, particularly during the Cold War era, as part of a global effort to assist countries in achieving better standards of living. Development theory, as described by Walt W. Rostow in his 1960 book "The Stages of Economic Growth: A Non-Communist Manifesto," proposed that societies progress through linear and measurable stages of economic growth to become modern, "developed" countries. Despite the widespread use of this terminology, the lack of a single standard for judging whether a country is developing or developed has made this categorization highly subjective and increasingly controversial (Britannica Money).

3. REVIEW OF LITERATURE

3.1 GLOBAL TRENDS AND OBSERVATIONS

The global trends in cesarean section rates have been a subject of considerable research. According to a comprehensive analysis, cesarean section (CS) rates have been rising consistently across high-income, middle-income, and low-income countries. Data covering the period from 1990 to 2018 indicated that 21.1% of women worldwide gave birth via cesarean section, with significant regional variations. For example, rates were as low as 5% in sub-Saharan Africa but as high as 42.8% in Latin America and the Caribbean. Predictions for 2030

suggest that 28.5% of global births will be by cesarean section. This trend highlights an increasing reliance on CS, with potential implications for maternal and neonatal health globally (Faruk, Arafat, & Shanta, 2023; "Trends and projections of caesarean section rates: global and regional estimates," 2023).

3.2 SOCIOECONOMIC AND CULTURAL FACTORS

Socioeconomic and cultural factors play a significant role in influencing cesarean section rates. A study in Ethiopia, for instance, revealed that several factors such as the mother's age, type of residence, educational level, religion, and socioeconomic status are significantly associated with cesarean section deliveries. The study found that women in the age group of 31–40 were more likely to undergo CS, and those belonging to higher socioeconomic status and with higher educational levels also showed a higher propensity for cesarean sections. This study emphasizes the importance of demographic factors and highlights the impact of socioeconomic status and education on the decision for cesarean delivery (Faruk, Arafat, & Shanta, 2023).

Furthermore, research indicates that cesarean section rates are not just influenced by medical necessity but are also a product of non-medical factors such as maternal request, convenience, and monetary considerations. The variation in cesarean delivery rates across countries, ranging from less than 10% to over 15%, underscores the influence of non-medical factors. This trend suggests a shift in women's attitudes toward childbirth, with a growing preference for cesarean deliveries for non-medical reasons, particularly in high-income countries (Faruk, Arafat, & Shanta, 2023).

4. THEORETICAL PERSPECTIVES

4.1 HEALTHCARE SYSTEMS AND MATERNAL CARE

The evolution of healthcare systems profoundly impacts maternal care choices, including cesarean sections. Theories from various perspectives increase understanding of maternal behaviors throughout pregnancy and postpartum. For instance, psychosocial theories

such as Rubin's tasks of pregnancy, prenatal attachment, and pregnancy as a liminal phase significantly influence the decisions and experiences of mothers during the perinatal period. These theories emphasize that nurses and healthcare providers can provide more sensitive and holistic care when guided by a deep understanding of the psychosocial aspects of pregnancy and childbirth, including decisions related to cesarean sections (Improving Perinatal Care Through Theory Application, PubMed).

4.2 DEVELOPMENT THEORIES

Two primary development theories help explain variations in cesarean section rates across countries: Modernization Theory and Dependency Theory.

Modernization Theory: This theory posits that the health patterns of developing countries will eventually follow those of the developed world. According to Modernization Theorists, developing countries are undergoing an 'epidemiological transition' associated with economic development and rising GDP. Before this transition, infectious diseases are prevalent, and mortality rates, including infant mortality, are high. As countries progress through industrialization, urbanization, and economic growth, improvements in nutrition, hygiene, and sanitation lead to better health outcomes. This theory suggests that as countries develop, improvements in healthcare, including maternal care and childbirth practices, should follow (Theories of Development applied to Health, ReviseSociology).

Dependency Theory: This theory offers a contrasting view, suggesting that the efforts of developing countries to improve health, including maternal care, may be hindered by developed countries. Dependency theorists argue that exploitation by developed nations keeps developing countries in a state of poverty, limiting their ability to invest in healthcare. Issues such as the 'brain drain,' where medical professionals from developing countries migrate to developed nations for better opportunities, and the high costs of pharmaceuticals imposed by Western corporations, contribute to the challenges faced by developing countries in improving healthcare standards. This theory implies that external factors, including global economic and political dynamics, significantly influence healthcare choices in developing countries, including the rates and practices of cesarean sections (Theories of Development applied to Health, ReviseSociology).

4.2.1 Case Studies

4.2.1.1 Comparative Analysis

Case studies from various countries offer insights into how levels of development correlate with cesarean section practices, revealing the influence of healthcare policies, cultural practices, and women's healthcare rights.

Brazil: Brazil has one of the highest rates of cesarean sections in the world. Efforts to address this issue began in one hospital in Sao Paulo province. A key strategy was to gain consensus among hospital leaders, insurers, doctors, and nurses on reducing cesarean rates. They focused on de-medicalizing the labor experience, creating a peaceful environment for natural delivery, and incorporating midwives into the healthcare team. These efforts led to a significant reduction in cesarean rates and a shift towards more natural deliveries (Why Do Some Countries Do More C-Sections than Others? Commonwealth Fund).

India: In India, a collaborative effort across ten hospitals aimed to increase cesarean rates, which were initially very low (around 4%). The collaborative shared knowledge and solutions, which resulted in increasing the cesarean section rate to about 10%. This increase was significant, considering the initial low rates and the need for more cesarean sections in specific cases (Why Do Some Countries Do More C-Sections than Others? Commonwealth Fund).

These case studies highlight the complex interplay between healthcare system policies, provider training and attitudes, and cultural norms in influencing cesarean section rates. They also show how targeted interventions and collaborative efforts can bring about significant changes in cesarean practices, aligning them more closely with medical needs and women's rights.

5. DISCUSSION

5.1 SYNTHESIS OF FINDINGS

Global Trends: Cesarean section (C/S) rates have increased worldwide, with variations across regions and income levels. A study encompassing 166 countries from 2000 to 2015 found that C/S rates and neonatal mortality rates (NMR) are inversely correlated in Africa, Europe, South-East Asia, and the Western Pacific. In contrast, a direct correlation was observed in America, and no correlation in the Eastern Mediterranean.

Socioeconomic Factors: The socioeconomic status of a country impacts healthcare system capabilities, as reflected in the Human Development Index (HDI). Financial motivations, such as higher per case income from C/S compared to vaginal delivery and weak health payment systems, especially in lower middle-income countries, contribute to higher C/S rates.

Maternal and Neonatal Health: In low-income countries, higher C/S rates are associated with reductions in NMR and maternal mortality. However, no such association exists in medium- and high-income countries. This discrepancy suggests that in developed countries, other factors besides the availability of C/S may be influencing maternal and neonatal outcomes.

Community and Cultural Factors: A study analyzing six countries (Bangladesh, Colombia, Dominican Republic, Egypt, Morocco, and Vietnam) found that women of higher socio-economic backgrounds and those with better access to antenatal services were more likely to undergo a C/S. Interestingly, women who exchanged reproductive health information with friends and family were less likely to experience a C/S.

5.2 BROADER IMPLICATIONS

Global Health: The findings underscore the need for context-specific healthcare policies. In low-income countries, increasing access to C/S could significantly improve maternal and neonatal outcomes. Conversely, in high-income countries, the focus might need to shift towards understanding and addressing the high rates of C/S and their implications for maternal and neonatal morbidity.

Women's Rights: The influence of socioeconomic and cultural factors on C/S rates highlights the importance of women's autonomy and informed decision-making in childbirth.

Ensuring that women have access to comprehensive reproductive health information and services is crucial for their empowerment.

Healthcare Policies: There is a need for healthcare systems to balance the medical necessity of C/S with the risks associated with its overuse, especially in high-income countries. For developing countries, the focus should be on improving access to essential healthcare services, including C/S, for high-risk pregnancies. Simultaneously, addressing the financial incentives and systemic issues that drive high C/S rates is critical.

In conclusion, the correlation between C/S rates and country development is multifaceted, influenced by economic, social, and cultural factors. Tailoring healthcare policies to address these diverse needs and challenges is essential for improving maternal and neonatal health outcomes globally.

6. CONCLUSION

In conclusion, the relationship between cesarean section rates and country development is complex and multifaceted. Key insights from academic research indicate that cesarean section rates are influenced by socioeconomic factors, healthcare systems, and cultural norms. While low-income countries may benefit from increased access to cesarean sections for high-risk pregnancies, high-income countries face challenges related to the overuse of this procedure.

6.1 RECOMMENDATIONS FOR POLICY AND PRACTICE

Contextualized Healthcare Policies: Policymakers should tailor healthcare policies to the specific needs of their country, considering income levels and cultural factors. This includes ensuring access to necessary cesarean sections in low-income countries and addressing the overuse of the procedure in high-income countries.

Women's Empowerment: Promote women's autonomy and informed decision-making in childbirth by providing comprehensive reproductive health information and services.

6.2 FUTURE RESEARCH DIRECTIONS

Qualitative Studies: Further qualitative research is needed to explore the intricate cultural and societal factors that influence cesarean section decisions in different countries.

Healthcare System Analysis: Investigate the impact of healthcare system structures and financial incentives on cesarean section rates to inform policy changes.

Long-Term Outcomes: Examine the long-term maternal and neonatal health outcomes associated with cesarean sections to better understand their implications.

Global Disparities: Explore the disparities in access to safe cesarean sections between low- and high-income countries, with a focus on addressing healthcare inequalities.

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