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BRIEF ORIGINAL

Research on labor pain: a bibliometric analysis of Latin American contributions, 2011-2021

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bibliometrics; gynecology; obstetrics; labor pain; Latin America (Source: MeSH - NLM).

ABSTRACT

Objective. To analyze the scientific production on labor pain in Latin America. **Methods.** A bibliometric analysis was conducted using the PubMed, Scopus, and Virtual Health Library databases. Articles published between January 2011 and December 2021 were collected, identifying the frequency and type of publications, temporal distribution, and main contributing countries. **Results.** A total of 731 scientific articles related to labor pain were reviewed. Original articles constituted the majority of publications across all databases. Brazil, Colombia, and Chile emerged as the leading contributors in the region. The temporal distribution of publications revealed fluctuations, with a notable increase in 2019. **Conclusions.** Research on this topic remains limited across the region, underscoring the need to foster greater collaboration and funding to address this issue more broadly and equitably.

Investigación en dolor del trabajo de parto: análisis bibliométrico de la contribución latinoamericana, 2011-2021

Palabras clave:
bibliometría; ginecología; obstetricia; dolor de parto; América Latina (Fuente: DeCS - BIREME).

RESUMEN

Objetivo. Analizar la producción científica en el ámbito del dolor en el trabajo de parto en Latinoamérica. **Métodos.** Se realizó un análisis bibliométrico utilizando las bases de datos PubMed, Scopus y la Biblioteca Virtual en Salud, recopilando artículos publicados desde enero de 2011 hasta diciembre de 2021 e identificando la frecuencia y tipo de publicaciones, la distribución temporal y los principales países contribuyentes. **Resultados.** Se revisaron 731 artículos científicos relacionados con el dolor en el trabajo de parto. Se hallaron que los artículos originales constituyen la mayoría de las publicaciones en todas las bases de datos consultadas. Brasil, Colombia y Chile emergen como los principales contribuyentes en la región. La distribución temporal de las publicaciones muestra fluctuaciones, con un incremento significativo en 2019. **Conclusiones.** La investigación sobre este tema es limitada en toda la región, lo que resalta la necesidad de promover una mayor colaboración y financiamiento para abordar esta problemática de manera más amplia y equitativa.

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INTRODUCTION

Pain is a complex experience encompassing psycho-affective, social, cultural, and physical aspects. It is defined as an unpleasant sensory and emotional experience, with or without actual or potential tissue damage in body structures [1,2]. Labor pain is a unique presentation of acute pain, considered one of the most significant and painful events in a woman's life. Although labor is recognized as a process that involves severe pain, the importance of pain relief during this stage is emphasized [3,4]. Furthermore, pain during labor can have adverse physiological consequences for both the mother and fetus, such as transient hypoxemia, disruption of the feto-placental unit, and increased risk of complications like pulmonary aspiration and stress. Despite its physiological nature, labor pain presents significant risks to both the mother and fetus [5].

Bibliometrics is a method that quantifies data based on measurable characteristics observed in scientific publications. A marked difference has been noted in the volume of Latin American publications due to multiple factors, and there is a growing effort to promote equity in the representation of Latin American countries within global scientific literature [6,7]. However, the trend of research on labor pain in this region remains largely unknown. To provide more accurate and relevant information—essential for planning future research and policy strategies—this study aimed to analyze Latin American research on pain during labor between 2011 and 2021 using bibliometric methods.

METHODS

A bibliometric analysis was conducted using data available from three major bibliographic databases recognized for their coverage of peer-reviewed scientific literature: PubMed, Scopus, and the Virtual Health Library (VHL) [8]. A structured search strategy was designed using Medical Subject Headings (MeSH) descriptors: "Labor Pain" and "Analgesia", along with alternative terms such as "Childbirth Pain", "Obstetric Pain", "Pain Management in Labor", "Obstetric Analgesia", "Non-pharmacological Analgesia", and "Epidural Analgesia." These terms were combined using Boolean operators AND, OR, and NOT to broaden and refine search results.

For example, the query: ("Labor Pain" OR "Childbirth Pain" OR "Obstetric Pain") AND ("Analgesia" OR "Pain Management in Labor" OR "Obstetric Analgesia") NOT ("Animal Studies") was used to exclude non-relevant research. The search was limited to publications from January 2011 to December 2021, and only those with at least one author affiliated with a Latin American institution were included.

Articles in English, Spanish, and Portuguese were considered to capture most of the region's scientific output. No exclusion criteria were applied based on research type (basic, translational, clinical, or experimental). Extracted data included details such as publication year, article type, database source, journal name, and country of origin of authors or institutions. All collected data were exported and organized in Microsoft Excel 2016 for analysis.

This study did not require ethics committee approval, as it did not involve human subjects, biological models, or medical record manipulation. Ethical handling of information was ensured by maintaining data confidentiality and adhering to principles of scientific integrity.

RESULTS

A total of 731 scientific articles related to labor pain published in Latin America between 2011 and 2021 were reviewed. Of these, 31 articles were indexed in PubMed, 242 in Scopus, and 458 in VHL. According to article type, original research articles accounted for the majority across all databases (see Figure 1). Regarding publication year, 2011 had the fewest publications, while 2019 recorded the highest volume of scientific output (see Figure 2). Brazil, Colombia, and Chile were identified as the countries with the largest number of contributions in the Scopus and VHL databases (see Figure 3).

The journals with the highest number of publications on labor pain were Acta Paulista de Enfermagem and Archives of Gynecology and Obstetrics, each with four articles.

DISCUSSION

The bibliometric study conducted made it possible to identify trends in research on labor

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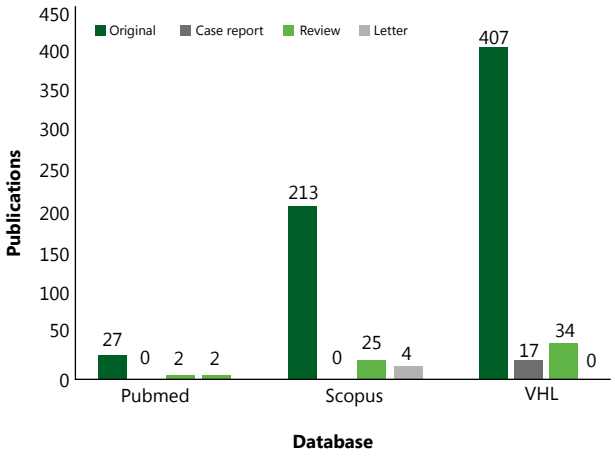

Figure 1. Publications on labor pain by database, 2011-2021

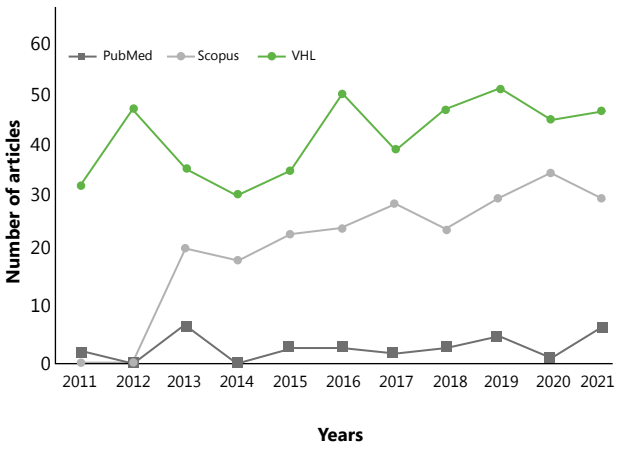

Figure 2. Articles published per year on labor pain in PubMed, Scopus, and VHL, 2011-2021

pain in Latin America between 2011 and 2021. The results show that original research articles represent the majority of publications, reflecting a strong focus on primary research and the generation of new knowledge about labor pain in the region. However, when analyzing scientific output from a geographical perspective, it was observed that the participation of Latin American authors in certain international journals remains limited. This situation is consistent with findings from other bibliometric studies that have reported disparities in scientific production among continents, as well as persistent patterns of inequality in authorship [9].

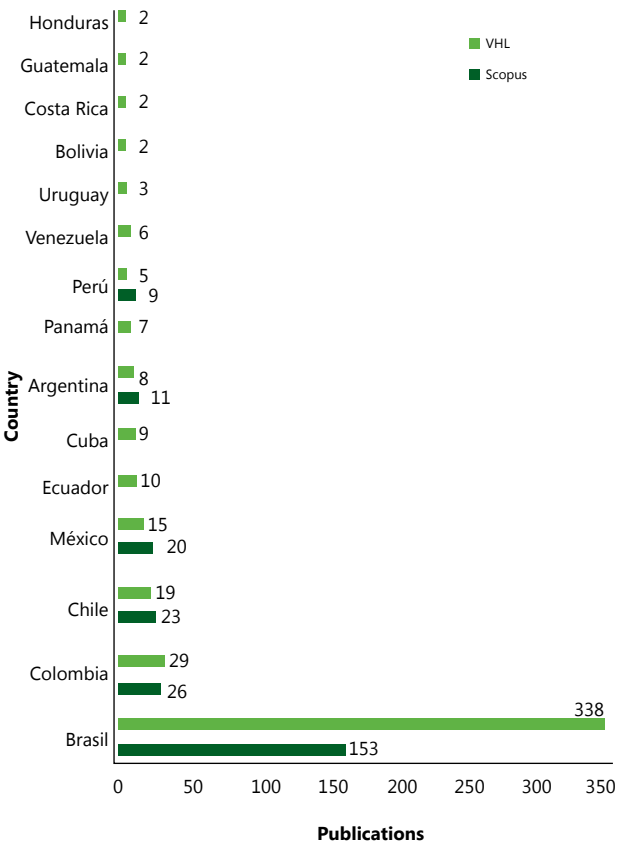

Figure 3. Articles published on labor pain by country in VHL and Scopus, 2011-2021

This bibliometric analysis on labor pain in Latin America reveals limited scientific production in this field during the study period compared with global-level bibliometric studies. For instance, Yu et al. in 2023 [10] analyzed over 4,000 articles published between 2002 and 2021 in the Web of Science database, identifying the United States as the main contributor, followed by the United Kingdom and Canada. In that study, the only Latin American country among the top 20 contributors was Brazil, ranking 18th. Other countries, such as China, have also shown greater interest in this topic, likely due to policy factors such as the "second-child policy," which has led to a higher volume of publications on labor analgesia over a 30-year period (1988–2018) [11].

In this study, Brazil, Colombia, and Chile emerged as the Latin American countries with the greatest contribution to research on labor pain. This geographical concentration may be influenced by factors such as the availability of resources, research infrastructure, and collaborative networks between academic institutions and healthcare centers in these countries [12].

The bibliometric analysis conducted identified a fluctuating trend in Latin American scientific production related to labor pain during the studied decade. 2019 represented a turning point, showing the highest number of publications, which indicates a growing interest and focus on this field of study during that year. An aspect that deserves exploration in future bibliometric analyses is the impact of the pandemic period on scientific production in different research areas, including maternal health and labor analgesia. This corresponds to the year before the global declaration of the COVID-19 epidemiological emergency [13]. In the field of labor analgesia, although no specific data were found in the consulted sources regarding a decrease in publications during the pandemic, it is reasonable to consider that the health crisis may have affected research in this area [14].

During the pandemic, many resources and efforts were redirected toward the care of COVID-19 patients and related research, which likely led to a temporary decline in other study areas. In addition, restrictions and social distancing measures may have limited the execution of clinical trials and observational studies related to labor analgesia [14,15].

Regarding the study's limitations, it is acknowledged that it did not include other relevant bibliometric indicators, such as co-citation and keyword co-occurrence clusters or emerging terms. Nevertheless, the conducted analysis is valuable in highlighting research gaps in this field within the region, confirming it as a topic of increasing interest in the current research landscape.

In conclusion, the results of this study emphasize the need for greater attention and resources dedicated to research on labor pain in Latin America. The lack of scientific production in this area may have significant implications for maternal and fetal care in the region, underscoring the importance of addressing this topic more systematically and broadly in future studies and research initiatives.

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Authorship contribution

JAD-V, MFUR, WDC-G, LFRR, ARLT: Conceptualization, data interpretation, formal analysis, writing – original draft, and writing – review & editing.

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Conflict of interest statement

The authors declare no conflict of interest.