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Research Article

Causes, Consequences, and Social Impact of Early Pregnancy in Patients Treated at the Erasmo Meoz Cúcuta University Hospital in the Department of Norte de Santander, Colombia, Period 2017-2023

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Abstract

Introduction: Adolescent pregnancy occurs before optimal biological and socioeconomic maturity. It is influenced by multiple factors such as social inequality. In 2021, there was a global decline in teen births. In Colombia, it decreased in 2022 and finally remained in a steady rise from 2022 to 2023.

Objective: To determine the causes, consequences and social impact of early pregnancy in patients treated at the Erasmo Meoz University Hospital, Cúcuta, in the Department of Norte de Santander, Colombia, 2017-2023.

Methodology: An observational, descriptive, retrospective, cross-sectional study was carried out with a hypothetical deductive method, using descriptive statistics. 10780 cases were obtained and for validation.

Results: The group of adolescents over 14 years of age represent 96.67% and the youngest 3.33%, 65.95% are Venezuelan adolescents, 9.91% and 4.66% of newborns were underweight and short in height, respectively. 68.01% have insufficient prenatal controls. The prevalence of adolescent pregnancy of children under or equal to 14 years of age has increased since 2020.

Conclusion: Between 2017 and 2023, the increase in adolescent pregnancy in Cúcuta was influenced by the Venezuelan migration crisis. Most have insufficient prenatal care, but most do not require a cesarean section.

Keywords: pregnancy: adolescence; birth; migrant

Introduction

Adolescent or early pregnancy is categorized as a public health event due to biological and socioeconomic immaturity, and is influenced by factors such as social inequality, lack of opportunities, gender inequality, and lack of knowledge about sexual health (Rojas, 2021). According to the WHO, around the world an estimated sixteen million adolescents between the ages of 15 and 19 become mothers. Latin America and the Caribbean correspond to the second highest level of adolescent pregnancy, with an estimated 66.5 births per thousand young people aged 15 to 19 (Zegers-Hochschild et al., 2020).

Meanwhile, in Norte de Santander, department of Colombia, minors aged 10 to 14 years presented an increase in the age-specific fertility rate (TEFE) of 2.3 and adolescents aged 15 to 19 had 58.9 per 1000 live births, this in turn drastically decreases the quality and comfort in the lives of pregnant mothers (PAHO, 2020).

On its own, pregnancy already constitutes a high obstetric risk from

conception, especially for adolescents, since both the mother and the fetus are exposed to multiple complications throughout the development of gestation and childbirth. The complications and the risk that these may have depend on different factors, such as the age of the pregnant woman, the gestational stage, the organic characteristics of both the mother and her child, (Calderón et al., 2020). In the study by Patricia Ortiz, Beatriz Niño, Sonia Aguila, Patricia Ribeiro, students who were pregnant in different public educational institutions in Bucaramanga, capital of Santander, were analyzed, where 48 pregnant adolescents were registered and by 2014 and until the first half of 2015, they maintained their studies in 22 public schools in Bucaramanga (Ortiz, Rodgriguez, 2018).

The objective of this study was to determine the causes, consequences and social impact of early pregnancy in patients treated at the Erasmo Meoz University Hospital in Cúcuta, in the Department of Norte de Santander, Colombia, during the years 2017-2023, analyzing the social context of adolescent pregnancy in the population to be studied to understand the factors that determine its prevalence. The aim is to identify the immediate complications of childbirth in the children of these adolescents, the number of controls carried out to measure the conditions of prenatal care, and the proportion of vaginal births and those made through cesarean section. In the hypothesis approach, the following are sought: the damage caused by early pregnancy if it is mainly physical, such as preeclampsia, premature birth or macrosomia, compared to the psychological consequences; such as the high percentage of girls or adolescents who are pregnant and drop out of school.

Materials and Method

In this study, the Positivist Model was used with an empiricist-intuitive approach or quantitative research. Descriptive, observational and cross-sectional research.

Previously, inclusion and exclusion criteria were established, the inclusion criteria were: Women between 10 and 19 years of age who are pregnant or mothers; adolescent mothers with comorbidities, mothers who have attended their pregnancy, childbirth and/or cesarean section at the Erasmo Meoz University Hospital; Women with pregnancy, childbirth and/or cesarean section in the period 2017-2023; women from any of the municipalities of Norte de Santander, Colombia. Exclusion criteria: Women who died for reasons unrelated to early pregnancy; A woman who has moved to another department; women with cognitive deficits that make them unable to respond to the instrument independently. The variables studied were: race, age, body mass index, level of education, socioeconomic status, nationality, municipality of origin, maternal and neonatal consequence; measured with nominal and ratio scales, respectively, and their data were obtained from the review of medical records.

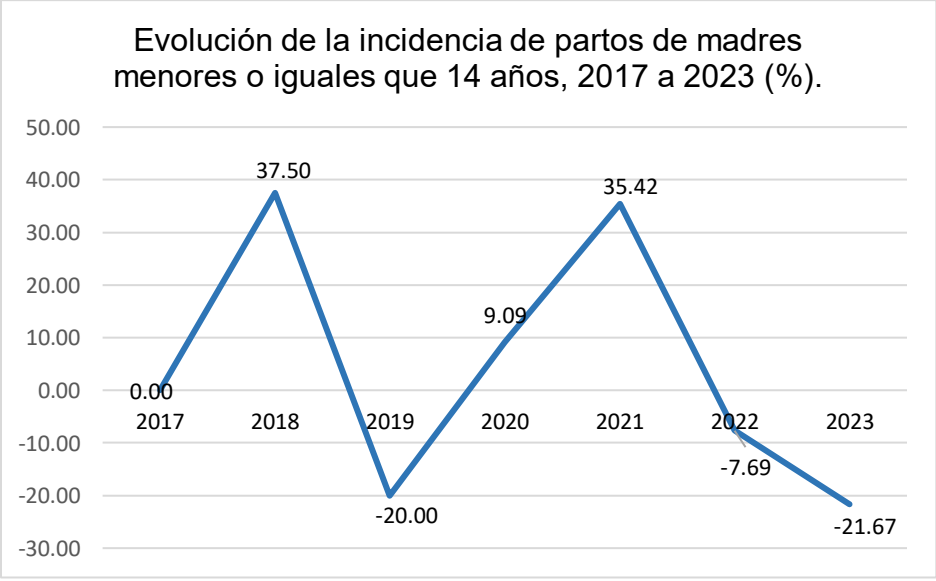
We started from a population that included the number of women between the age of 10-19 years who became mothers during the 2017-2023 time interval at the Erasmo Meoz University Hospital, Department of Norte de Santander, Colombia, data obtained from the Hospital's database with a total number of births filtered by the referred age from 2017 to 2023 of 10780. For sampling, a random or probabilistic sampling method was used, with the technique of stratified sampling with proportional affixation, using the year as a stratification variable, with confidence levels above 90% and predetermined sampling errors of less than 5%. Relationship measures, such as Odd Ratio, were calculated. In addition to the collection of data or information, the Departmental Institute of Health (IDS) of Norte de Santander was used as a source in the period of 2017-2023, and review of medical records of the Erasmo Meoz University Hospital through the collection of information for research. As a collection technique: description, surveys, review of bibliographic information (with other sources such as Scielo Databases, Pubmed) and health and safety records.

Results

Through the review of medical records performed on patients of the Erasmo Meoz Hospital, information was acquired and analyzed. After obtaining the data, tables and graphs were developed to show the results obtained from the information previously provided, which include the data necessary to answer the objectives and the research question. As for the non-categorical data, the most relevant descriptive statistics are taken into account for their characterization.

In the same way, an inferential analysis was carried out with statistical conclusions about the population parameters based on the results obtained through the sample information. To achieve this, confidence intervals were constructed for the important parameters.

In the period of 2017-20023, 10421 births were registered in people over 14 years of age, while the remaining 359 are under 14, for a total sample of 1780 patients treated at the Erasmo Meoz Hospital. Graph 2 shows the incidence of adolescent pregnancy in the youngest age group, with a prevalence that has been increasing since 2019 and peaking in 2023 and an incidence that peaked in 2021.



Graph 2: Evolution of the incidence of births to mothers younger than or equal to 14 years of age, 2017 to 2023 (%).

The mean age is around 17.41 years, They have a coefficient of variation (CV) of 8.22%, which indicates high homogeneity in the ages. It is observed that the minimum and maximum age is 11 and 19 years, respectively. 65.95% of mothers with early pregnancy are of Venezuelan nationality. Chi-Square

tests of independence and Odds Ratios were applied to verify the existence of a relationship between both conditions.

Regarding marital status, although 78.50% claim to have a partner at the time of delivery, there were 1461 records without information in this area. Mothers over 14 years of age live with a partner with an OR 2.63 times more likely; Colombian mothers are more likely to live together without a partner and similarly mothers who reside in urban areas. At the level of study reached by the adolescents, it was found that 1490 records had no information. It is evident that 70.03% reached a maximum school level of basic secondary school.

Regarding the complications that the children of these women may have presented at the time of their birth, those data that were indicative of prematurity and low birth weight or height were taken into account. Most of the newborns (89.35%) were the product of full-term pregnancies and only 10.63 are preterm. Most of the neonates had adequate weight and height for gestational age (Table 8).

Category	Patients	%
Short stature	502	4.66
Normal size	9576	88.83
High Size	702	6.51
Total	10780	100

Table 8: Categories of newborn size.

Although 32% of the adolescents had five or more prenatal consultations, which is considered adequate, the vast majority (68%) did not have adequate prenatal check-ups, among which 14.71% did not have any consultations, despite this, vaginal births predominated over cesarean sections, so it is intuited that the vast majority of adolescents did not have indications to perform a cesarean section (Table 9).

Variables	Cesarean delivery			Parto vaginal			P
	READ	OR	LS	READ	OR	LS	
Older than 14 years	0.53	**0.66**	0.82	1.22	**1.52**	1.89	0.0001 **
Built-up area	0.68	**0.77**	0.88	1.14	**1.30**	1.47	0.0001 **

LI: lower limit of confidence. LS: upper limit of confidence. OR: Odd Ratio. P: level of significance (ns, 10%, *5% or **1%).

Table 9: Relationship of the type of delivery with age group and area of residence. Estimation of Odd Ratio with a 95% CI reliability.

Patients over 14 years of age and those who reside in urban areas have the highest chances of having vaginal delivery, with OR of 1.52 and 1.30, respectively.

Discussion

The results show that the majority of cases (96.67%) correspond to adolescents over 14 years of age, with the mean age being 17 years and 5 months. Most of these adolescents were of Venezuelan nationality, living in urban areas and had a partner.

In 2022, a study revealed that 2199 Venezuelan adolescents enrolled in Sisbén IV, aged between 10 and 19 years, were pregnant. This report highlighted the prevalence of adolescent mothers with a low level of education, especially among those residing in Venezuela (National Administrative Department of Statistics (DANE)., 2021). The HUEM data reflect a similar pattern, as 65.95% of the adolescent mothers served were Venezuelan, with a slight majority residing in Colombia, although many still lived in Venezuela. In terms of schooling, of the verifiable records, 78.03% had reached at least secondary education.

Regarding the place of residence, most of the adolescents attended by the HUEM lived in urban areas (83.63%). However, DANE had observed an increase in births in adolescents under 15 years of age in rural areas, reaching 80.4% throughout the country. Regarding marital status, most adolescents had a partner at the time of delivery, although there was a slight majority of Venezuelans without a partner compared to Colombian women (National Administrative Department of Statistics, 2022).

Adolescent girls under 14 were less likely to have a partner, suggesting that their pregnancies could be related to nonconsensual or unprotected relationships. A study by the CES University in Medellín reinforces this idea by finding a correlation between sexual abuse and teenage pregnancy (Restrepo Martinez & Trujillo Numa, 2016), although there is not enough information in this research to establish a direct connection.

A higher proportion of infants born to adolescent mothers in this study were full-term (89.35%) and with adequate weight and height (88.58% and 88.83%). However, 68.01% of the mothers had fewer than five prenatal visits (Tuñon et al., 2023). These results contrast with studies from countries such as Argentina and Peru, where it is evident that adolescent mothers whose prenatal controls were insufficient have an important relationship with the low birth weight that their children came to present (Norabuena Huerta, 2024).

Among the limitations of this study is its retrospective temporality, which generates limitation in the availability of required data with greater selection bias; Likewise, a study limited to a population of only one public hospital was carried out, without being able to compare locally with other care centers, including private centers. In addition, a cross-sectional study was carried out, without subsequent follow-up to give continuity to each case; It is recommended in the future to develop prospective, longitudinal studies, with greater breadth in the population studied between public and private sectors.

Conclusions

Between 2017 and 2023, in Cúcuta, the increase in teenage pregnancy was influenced by the border situation with Venezuela and the migration crisis, as 65.95% of cases involved Venezuelan adolescents, many of whom travel from Venezuela to give birth in Colombia. Most of these young women do not receive the adequate number of prenatal check-ups, as only 32% have at least 5 consultations, and 14.71% do not receive any prenatal care. Despite the lack of prenatal care, almost all newborns are the product of full-term pregnancies, which have both adequate weight and height for gestational age, therefore, it is interpreted that adolescent pregnancy in this population is not associated with problems of low birth weight or height. Regarding the types of delivery, there is a greater number of vaginal births (66.29%) than cesarean sections (33.71%).

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References

1. Calderón, L. V. M., Rueda, D. G. C., Arias, P. F. V., & Peralta, D. F. G. (2020). Pregnancy and its complications in the adolescent mother. RECIMUNDO, 4(3), Article 3.
2. Cubo-Abert, M., Centeno-Mediavilla, C., Franco-Zabala, P., Merced-Vázquez, C., Castellví, J., García, Á., Gil-Moreno, A., & Xercavins, J. (2022). Risk Factors for Progression or Persistence of Squamous Intraepithelial Lesions Diagnosed During Pregnancy. Journal of Lower Genital Tract Disease, 16(1), 34.
3. National Administrative Department of Statistics. (2022). National Administrative Department of Statistics (DANE). (2022). Technical Bulletin: Vital Statistics—Births, Fourth Quarter of 2022 (Preliminary).
4. National Administrative Department of Statistics (DANE). (2021). Characterization of fertility in women from Venezuela. National Administrative Department of Statistics.
5. Norabuena Huerta, D. G. (2024). Association between insufficient prenatal care and low birth weight in neonates of adolescent mothers at the Huaraz Hospital "Víctor Ramos Guardia" in the years 2021 and 2022. Institutional Repository - URP. https://repositorio.urp.edu.pe/handle/20.500.14138/7480.
6. PAHO. (2020). Comprehensive health care model for women, newborns, and children at the first level of care.
7. Ortiz, Rodgriguez, A., Pilar. (2018). Characterization of pregnant adolescents enrolled in public educational institutions in Bucaramanga, Colombia.
8. Restrepo Martinez, & Trujillo Numa. (2016). Sexual abuse and neglect as risk factors for adolescent pregnancy. 3(45), 158-165.
9. Rojas, M. E. M. (2021). A narrative review of adolescent pregnancy and the social determinants of health in Mexico. Revista Salud y Bienestar social [5(1).
10. Tuñon, S. A., Delgado, A. A., Villarino, P. N., Carná, S. R., Nocita, S. D., Trave, F. P., Bollo, A. R. B., Ravazzini, L., Dionicio, M., & Calcagno, M. de L. (2023). Relationship between maternal factors and low birth weight of full-term newborns in a Maternal and Child Hospital of Low Complexity in La Matanza, Buenos Aires, Argentina. ReDSal, 2(1),
11. Zegers-Hochschild, F., Crosby, J. A., Musri, C., de Souza, M. do C. B., Martinez, A. G., Silva, A. A., Mojarra, J. M., Masoli, D., & Posada, N. (2020). Assisted reproductive techniques in Latin America: The Latin American Registry, 2017. JBRA Assisted Reproduction, 24(3), 362-378.