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Characterization of pregnant women with preterm birth. Hospital "Fe del Valle Ramos" of Manzanillo

Caracterización de gestantes con parto pretérmino. Hospital "Fe del Valle Ramos" de Manzanillo

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ABSTRACT

Introduction: the most critical and high-risk period of human life is that which corresponds to intrauterine life, including childbirth. The World Health Organization defines preterm delivery as birth before 37 weeks of gestational age.
Objective: to characterize the pregnant women with preterm delivery attended at the "Fe del Valle Ramos" Gynecobstetric Hospital in 2019.
Methods: a descriptive, retrospective and cross-sectional study was carried out on preterm delivery in pregnant women admitted to the "Fe del Valle Ramos" Hospital in Manzanillo, Granma in 2019. The universe was constituted by 244 pregnant women who had a preterm delivery and a sample of 151 patients was selected by means of non-probabilistic intentional sampling. Descriptive statistics were used for data analysis by calculating absolute and relative percentage frequencies.
Results: pregnant women between 15 and 19 years of age predominated (37,7 %). The most frequent gestational age was 32 and 33,6 weeks (62,9 %). Gestational hypertensive disease was predominant during pregnancy (50,2 %) and previous abortions were the most important obstetric history (49,6 %). Most of the children were born with low birth weight (77,5 %).
Conclusions: age younger than 20 years, the presence of diseases such as hypertensive disorders of pregnancy, gestational diabetes, anemia and vaginal infection play an important role in the development of preterm labor, so it is necessary to identify and treat them early.

Keywords: Preterm Birth; Gestational Age; Low Weight; Gestational Hypertension.

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RESUMEN

Introducción: el período más crítico y de mayor riesgo del ser humano es aquel que corresponde a la vida intrauterina, incluyendo el parto. La Organización Mundial de la Salud define al parto pretérmino como el nacimiento anterior al cumplimiento de las 37 semanas de edad gestacional.
Objetivo: caracterizar las gestantes con parto pretérmino atendidas en el hospital Ginecobstétrico "Fe del Valle Ramos" en el año 2019.
Métodos: se realizó un estudio descriptivo, retrospectivo y transversal sobre el parto pretérmino en gestantes ingresadas en el Hospital "Fe del Valle Ramos" de Manzanillo, Granma en el año 2019. El universo estuvo constituido por 244 gestantes que tuvieron un parto pretérmino y se seleccionó una muestra de 151 pacientes mediante el muestreo no probabilístico intencional. Para el análisis de los datos se empleó estadística descriptiva mediante el cálculo de frecuencias absolutas y relativas porcentuales.
Resultados: predominaron las gestantes entre 15 y 19 años (37,7 %). La edad gestacional más frecuente fue la de 32 y 33,6 semanas (62,9 %). La enfermedad hipertensiva gestacional fue la predominante durante el embarazo (50.2 %) y los abortos anteriores fueron el antecedente obstétrico más destacado (49,6 %). La mayoría de los niños nacieron con bajo peso (77,5 %).
Conclusiones: las edades inferiores a los 20 años, la presencia de enfermedades como los trastornos hipertensivos del embarazo, la diabetes gestacional, la anemia y la infección vaginal juegan un rol importante en el desarrollo del parto pretérmino por lo que es necesario identificarlos y tratarlos de forma precoz.

Palabras clave: Parto Pretérmino; Edad Gestacional; Bajo Peso; Hipertensión Gestacional.

INTRODUCTION

The most critical and risky period for a human being is that of intrauterine life, including childbirth. The conditions of an individual at birth have a definitive impact on his or her physical and intellectual development throughout his or her life, which justifies the priority that must be given to measures that allow for the best possible conditions for the newborn. These objectives can only be achieved through care that ensures optimal health conditions for women, from the preconception period, during labor monitoring and in labor itself.[1,2,3]

Preterm birth (PB) is defined as birth before 37 weeks of gestational age. PP is associated with multiple factors, including socioeconomic and cultural factors, medical and obstetric complications during pregnancy, poor obstetric history, and tobacco and drug use habits.[4,5]

Prematurity and its consequences are one of the main causes of mortality in children under five years of age in the world.[6] At a global level, the incidence of premature birth corresponds to around 10 %. Its prevalence in Chile is 10 %, in Spain it is 12,8 % and in Europe it is around 5,8 %.[7,8]

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According to data provided by the WHO, out of a total of 65 countries, 63 have recorded an increase in preterm birth rates in recent years. In developed countries such as the United States, Canada and those in Europe, in the last decade, they have recorded 18 % more preterm births, and 11,5 % are late preterm births.[9,10] In 2019, nearly 900,000 children died as a result of complications related to preterm birth. It is estimated that, in 2020, 13,4 million children were born well before 37 weeks of gestation. This is equivalent to more than 1 in 10 births.[11]

In Cuba, before 2017, preterm births represented 8 to 9 % of births. Despite a slight increase in the incidence rate until 2018, prematurity remained below 3 % of live births. By 2019 and compared to previous years, there was an increase in cases of preterm births that represented between 4 and 4,8 % of total births.[12]

In the "Mariana Grajales" Gynecological-Obstetric Hospital of Santa Clara-Villa Clara, Cuba, a total of 15,731 births were recorded in the last three years, of which 6.7% were preterm, figures higher than the national rate.[12]

The "Fe de Valle Ramos" hospital in Manzanillo, Granma province, has shown significant improvement in recent years. In 2021, the rate was 4,7 % for a total of 160 PP. By 2022, the rate decreased to 4,1 % for a total of 133 cases. In the time elapsed this year until October, 78 cases had been registered.

Early identification of risk factors for preterm birth before or after pregnancy, serves health personnel to prevent prematurity and reduce maternal and infant morbidity and mortality. It also constitutes a health problem for both health institutions and the family due to the high socioeconomic impact, which is why it is necessary to implement measures to reduce prematurity. For this reason, the objective of this research isto characterize pregnant women with preterm birth treated at the "Fe del Valle Ramos" Gynecological and Obstetric Hospital in 2019.

METHODS

A descriptive, retrospective and cross-sectional study was carried out on the characterization of preterm birth in pregnant women admitted to the "Fe del Valle Ramos" Hospital in Manzanillo, Granma in 2019. The universe consisted of 244 pregnant women who had a preterm birth and a sample of 151 patients was selected through intentional non-probabilistic sampling.

Inclusion criteria: pregnant women admitted to the "Fe del Valle Ramos" Hospital in Manzanillo who had a preterm birth in 2019.

Exclusion criteria: pregnant women with incomplete medical records and those transferred to other hospitals in the province.

Variables to be studied: Maternal age in years (less than 15; 15 to 19; 20 to 24; 25 to 29; 30 to 34; more than 34). Gestational age at delivery (28 to 31,6 weeks; 32 to 33.6 weeks; 34 to 36,6 weeks). Diseases associated with pregnancy (anemia; urinary tract infection; preeclampsia; gestational diabetes; vulvovaginitis; eclampsia; arterial hypertension; arterial hypertension with preeclampsia or eclampsia added on; transient or late hypertension). Obstetric history (abortion: induced or spontaneous; history of preterm delivery; short intergenital period; parity; vaginal infections). [Birth weight of the newborn (extremely low weight: less than 1000 grams; very low weight 10001-1500 grams and low weight 1501-2449 grams; 2001-2500 grams].

Empirical and general theoretical methods were used to guide the process of constructing scientific knowledge according to the objectives of the proposed research. The sources for obtaining information were designed based on the analysis of clinical histories. The data were recorded manually, processed automatically through the Microsoft Excel 2016 program for Windows, from which the statistical analysis was performed and organized into frequency tables where the behavior of the variables studied was reflected in order to facilitate their understanding.

The research was conducted in compliance with the basic ethical principles: autonomy, beneficence, non-maleficence and justice. The data acquired from the sources were treated in accordance with the ethical guidelines established in the Declaration of Helsinki, guaranteeing confidentiality and anonymity in all cases. The study was conducted with the approval of the Ethics Committee and Scientific Council of the institution.

RESULTS

A preponderance of pregnant women with preterm birth was observed between the ages of 15 and 19 (37,7 %), followed by patients over 34 years of age (28,4 %). (Table 1)

Table 1. Distribution of pregnant women with preterm birth, according to maternal age groups.

Maternal age	No	%
Under 15 years old	4	2,6
From 15 to 19 years old	57	37,7
From 20 to 24 years old	14	9,3
From 25 to 29 years old	12	7,9
From 30 to 34 years old	21	13,9
Over 34 years old	43	28,4
Total	151	100

Source: Medical records.

Regarding gestational age at delivery, pregnant women between 32 and 33.6 weeks predominated with 62.9%. (Table 2)

Table 2. Distribution of pregnant women with preterm birth, according to gestational age at delivery. Fe del Valle Ramos Gynecological and Obstetric Hospital.

Gestational age at delivery	No	%
28 to 31.6 weeks	14	9,3
32 to 33.6 weeks	95	62,9
34 to 36.6 weeks	42	27,8
Total	151	100

Source: Medical records.

According to the diseases associated with pregnant women with preterm birth, patients with gestational hypertensive disease stood out (50,2 %). (Table 3)

Table 3. Distribution of pregnant women with preterm birth, according to diseases associated with pregnancy.

Diseases	No	%*
Gestational hypertensive disease	95	50,2
Anemia	38	20,1
Urinary infection	25	13,2
Gestational diabetes	27	14,2
Vulvovaginitis	54	28,5

Source: Medical records. *Total number of pregnant women=151.

The most frequent obstetric history was induced abortion and vaginal infections with 49,6 % and 43,0 % respectively. (Table 4).

Table 4. Distribution of pregnant women with preterm birth, according to obstetric history.

Obstetric history	No	%*
Abortion	75	49,6
Vaginal infections	65	43,0
Short intergenic period.	56	37,0
Parity (more than one birth)	40	26,4
History of preterm birth	38	25,1
Miscarriage	21	13,9

Source: Medical records. *Total number of pregnant women=151.

In Table 5, a predominance of newborns with weight between 1501 and 2499 grams was observed, for 77,5 %.

Table 5. Distribution of pregnant women with preterm birth, according to newborn weight. Fe del Valle Ramos Gynecological and Obstetric Hospital. 2017.

Weight of the newborn	No	%
Less than 1000 grams	3	2,0
From 1001 to 1500 grams	31	20,5
From 1500 to 2499 grams	117	77,5
Total	151	100

Source: Medical records.

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DISCUSSION

In the study, pregnant women between 15 and 19 years of age predominated. Opposite results were shown by the research of Vila A et al.,[13] where ages between 35 and 39 years stood out at 34,7 %; while Cecilia Paredes E et al.,[14] refer to a preponderance of ages between 20 to 24 years (35,3 %). Similarly, the research of Ortega V et al.,[15] showed a predominance of patients between 20 and 25 years of age (62%). Other authors found a superiority of ages between 20 and 34 years.[3,12]

The authors consider that women under 20 years of age have a high probability of having a premature birth and therefore a child with low birth weight, because their reproductive system is not fully developed and a series of complications can occur during the gestation period.

As for the gestational age of the patients, the majority were pregnant between 32 and 33,6 weeks. This result is due to the appearance of diseases specific to pregnancy that led the mothers to have their child before 34 weeks of gestation. Among the diseases worth highlighting are hypertensive disorders and gestational diabetes.

The results of the research by Ortega V et al.,[15] were opposite. In their study carried out in the basic hospital of Baba-Ecuador, a higher percentage of pregnant women were found who were between 34 and 36 weeks, for 48 %. Similarly, Ahumada J et al,[16] in their research on the "Risk factors for preterm birth in Bogotá-Colombia" preterm births predominated between 32 and 36,6 weeks.

The Spanish Society of Gynecology and Obstetrics classifies premature birth as follows:[2]

- ❖ Extremely premature: a premature newborn delivered before 28,0 weeks of gestation. This represents 5 % of preterm births.
- ❖ Severely premature: a baby born between 28,0 and 31,6 weeks of gestation. This represents 15 % of premature births.
- ❖ Moderately premature: born between 32,0 and 33,6 weeks of gestation (20% preterm births).
- ❖ Mild preterm: between 34,0 and 36,6 weeks (60 % preterm births).

Hypertensive disorders were the most frequent diseases during pregnancy. The authors consider that gestational hypertension requires stopping it before term for the benefit of the mother, so it is considered necessary to promote adequate nutritional habits and to recognize the warning signs in a timely manner in order to impose the established therapeutic management. Rather than avoiding the disease, which seems difficult at the present time, the physician's attention should be directed at discovering the risk area in which the condition can develop and detecting the initial signs and mild forms of the disease to avoid the development of severe forms.[17]

However, in the research by Cecilia E et al.,[14] cervicovaginal infections were the most common pregnancy-associated diseases in 71,2 % of the study population. Similarly, Ortega V et al.,[15] showed that these infections represented 51 % of the cases. These results differed from those of the present study.

The causes of PP are diverse, among which we can find uterine overdistension, infection, premature changes in the cervix, maternal psychosocial stress, decidual hemorrhage and vascular disorders such as uteroplacental ischemia, among others. However, the main triggers are infection and inflammation, which represent 50 % of cases of preterm births.[18]

Acero P and Zúñiga A,[18] believe that during pregnancy the microbiome of the urogenital tract may undergo changes due to urinary infections, sexually transmitted infections or physiological changes inherent to pregnancy. This is because during pregnancy a state of transient immunodeficiency occurs, where there are transformations in the vaginal flora, which becomes susceptible to being colonized by various germs among which are Chlamydia trachomatis, Neisseria gonorrhoeae and Treponema pallidum, which are associated with PP.

Regarding obstetric history, pregnant women with induced abortions stood out. This result coincided with the thesis carried out by Fernández L et al.,[6] where 53,4 % of the patients had presented at least one previous abortion. However, Ahumada J et al.,[16] showed opposite results, since 73,2 % of the women did not present previous pregnancy interruptions.

Abortion is a potential risk factor for triggering preterm births, due to the cervical changes that occur with each abortion and which subsequently lead to cervical incompetence, which makes it impossible to complete the pregnancy, with delivery occurring before 37 weeks. [6,14]

The authors consider that although in the present study the most frequent obstetric history was abortion, special attention should be paid to patients with high parity, those who had a short intergenital period, previous preterm births and vaginal infections. All these factors have a high probability of the pregnant woman having a PP and even more so when the woman has several antecedents of these in her obstetric history.[2,14,16]

In the study, newborns with a birth weight between 1501 and 2499 grams predominated. There is a direct proportional relationship between PP and low birth weight, which is due to the fact that the fetus gains more weight at the end of pregnancy, and since this is not possible in preterm birth, the child is born without the ideal weight that it needs and is born underweight.

In the research by Santos L et al.,[19] on the "Characterization of premature live births in a municipality in the northeast of Brazil" low birth weight newborns stood out by 55,3 %. A result similar to that obtained in the present study.

The authors believe that improving prenatal care favors the normal growth and development of the child, especially when the mother is healthy or when maternal deficiencies are eliminated.

CONCLUSIONS

Preterm birth continues to be a challenge in the Manzanillo community, and it is everyone's job to contribute to its reduction, which is why it is necessary to know and modify the risk factors that require it. Ages under 20 years, the presence of diseases such as hypertensive disorders of pregnancy, gestational diabetes, anemia and vaginal infection play an important role in the development of preterm birth, which is why it is necessary to identify and treat them early.

Conflict of Interest
No conflict of interest declared.

Authors' Contribution
YRH: conceptualization, data curation, formal analysis, investigation, methodology, resources, supervision, validation.
IYRR: conceptualization, data curation, formal analysis, investigation, methodology, resources, supervision, validation.

YMP: conceptualization, investigation, methodology, software, validation, visualization, writing–original draft, writing–review and editing.
SYNV: conceptualization, investigation, methodology, software, validation, visualization, writing–original draft, writing–review and editing.

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