

ORIGINAL ARTICLE

Characterization of late preterm and early term neonate

Ana María Mederos Herrera^{1*} 

¹“José Luis Miranda” University Pediatric Provincial Hospital, Santa Clara, Villa Clara, Cuba

*Ana María Mederos Herrera. anamederos94@gmail.com

Received: 11/13/2022 - Approved: 03/16/2023

ABSTRACT

Introduction: prematurity is the first cause of neonatal and infant morbidity and mortality and shows complications, both in early term and late preterm neonates.

Objective: to characterize the behavior of late preterm and early term neonates assisted at the Neonatology Service of the Mariana Grajales University Hospital of Gynecology and Obstetrics during the period from January to December 2019.

Methods: an observational, descriptive and cross-sectional research was carried out from January to December 2019; the population consisted of 519 neonates.

Results: maternal ages between 18 and 34 years of age predominated in both groups and the extreme ages in the early term group with respect to the late preterm group stood out. The most frequent neonatal morbidity in both groups was jaundice, physiological icterus aggravated by prematurity in the late preterm group and metabolic disorders in the early term group.

Conclusions: the early term group predominated over the late preterm group. Male gender and low birth weight were more frequent in the late preterm group and female gender and normal weight in the early term group and almost all the newborns were alive at medical discharge.

Key words: late preterm; early term; neonatal morbidity

RESUMEN

Introducción: la prematuridad es la primera causa de morbilidad y mortalidad neonatal e infantil y evidencia complicaciones, tanto en los neonatos a término precoces como los pretérmino tardío.

Objetivo: caracterizar el comportamiento de los neonatos pretérmino tardíos y a término precoces atendidos en el Servicio de Neonatología del Hospital Universitario Ginecoobstétrico “Mariana Grajales” durante el período de enero a diciembre de 2019.

Métodos: se realizó una investigación observacional, descriptiva y transversal desde enero a diciembre de 2019; la población quedó conformada por 519 neonatos.

Resultados: predominaron en ambos grupos las edades maternas entre los 18 y los 34 años de edad y sobresalieron las edades extremas en el grupo a término precoz respecto al pretérmino tardío. La morbilidad neonatal con mayor frecuencia en ambos fue la ictericia, el íctero fisiológico agravado por prematuridad, en el grupo pretérmino tardío y por trastornos metabólicos en los a término precoces.

Conclusiones: el grupo a término precoz predominó sobre el pretérmino tardío. El género masculino y el bajo peso fueron más frecuentes en los pretérmino tardíos y el

género femenino y el normopeso en los a término precoces y cerca de la totalidad de los recién nacidos estaban vivos al alta médica.

Palabras clave: pretérmino tardío; a término precoz; morbilidad neonatal

INTRODUCTION

Prematurity is considered the leading cause of neonatal and infant morbidity and mortality and is one of the most important health problems in society, especially in most industrialized societies.⁽¹⁾ Despite the potential risks of preterm delivery and post-term pregnancy, little attention has been given to delivery at term (AT) ; it has only recently been recognized that there is a difference in morbidity and mortality in newborns (NBs) at different times within the five-week gestational interval, classically considered term delivery. There is growing evidence demonstrating the existence of significant complications in both early term and late preterm fetuses⁽²⁾.

In order to correctly define the terms late preterm (LP) and early term (ET) neonates and to accept that they constitute a population at risk, it was necessary in 2005 for the World Health Organization (WHO) to publish a new classification of gestations according to weeks of amenorrhea, resulting in four categories: late preterm neonates, which are those born between 34.0 and 36.6 weeks and early term neonates, which are those born between 37.0 and 38.6 weeks.^(1,2)

An important issue in the prevention of late preterm delivery is the proper determination of gestational age. Some late preterm deliveries are the result of induced deliveries of fetuses that were incorrectly thought to be full term. Thus, elective induction performed for non-medical reasons should be avoided because of the increased risk of morbidity; however, if it is to be performed, it is extremely important to ensure that the gestational age is adequate to prevent preterm delivery and should only be performed if the gestational age is at least 39.0 weeks.⁽³⁾

Late preterm infants have a morbidity rate six to seven times higher than those born at term;⁽⁴⁾ this risk is significantly increased in infants with other associated risk factors. Late preterm infants, compared with full-term infants, carry a very high cost.⁽³⁾

There is sufficient evidence to state that PTs are at increased risk of neurodevelopmental deficits, with a relationship inversely proportional to their gestational age. The factors involved are multiple and can be attributed, in part, to Genetics and Epigenetics, but in preterm infants neurodevelopment up to term age is achieved outside the uterus and is likely to be disrupted by environmental change.^(2,3)

Globally, there is a progressive increase in late preterm births. Of the 65 countries for which WHO has reliable data, 63 have reported increased rates of preterm births in recent years, which varies from country to country.⁽⁵⁾ In developed countries such as the United States and Canada and in Europe, 18% more preterm births have been reported in the last decade, and 11.5% are late preterm.⁽⁶⁾ Late preterm births even reach 8.5% of all births and 71% of preterm newborns in the United States have increased from 10.6% in 1990 to 12.2% in 2009.⁽⁵⁾ In Canada they constitute 9% of all births. At the Hospital de

la Fe in Valencia, Spain, 8.3% of preterm births were reported, and 5.9% were late preterm.⁽⁷⁾

In countries such as Uruguay and Bolivia, an incidence of late preterm of 9% was reported.⁽⁶⁾ At the Hospital "Cayetano Heredia" in Peru, an incidence of 3.2% was reported in 2010.⁽³⁾ In Cuba, the rate of late preterm experienced an increase in the last decade, from 2.9% in 2005 to 5.3% in 2014.⁽⁶⁾

With respect to early term births in the United States and France they represent 23% and 20%, respectively. In Peru, in 2008, this figure reached 22.3%.⁽⁸⁾ In 2013, in a private clinic in Cali, Colombia, 39.8% corresponded to this group of children. In Cuba, the rate of early term also increased by 32.8%.⁽⁹⁾

The aim of this work is to characterize the behavior of late preterm and early term neonates attended at the Neonatology Service of the "Mariana Grajales" University Hospital of Gynecology and Obstetrics during the period from January to December 2019

METHODS

An observational, descriptive and cross-sectional research was carried out from January to December 2019, which included all the late preterm and early term newborns attended in the Neonatal Care Unit (NCU) of the Neonatology Service of the "Mariana Grajales" Gynecology and Obstetrics University Hospital of Santa Clara City, Villa Clara Province. The study population consisted of 519 late preterm and early term newborns (n=519); it was not necessary to select a sample because it was possible to work with the entire population to be studied (n=519).

In order to obtain the information, a documentary review was carried out from the Hospital Statistics Department, from the delivery book, from the pediatric medical records and from the service's continuous morbidity and mortality records. The results were summarized in tables and figures; absolute and relative frequencies were used as summary measures for qualitative data and the arithmetic mean, standard deviation and the same for quantitative data to measure the association between variables.

RESULTS

In the "Mariana Grajales" Hospital, during the period from January to December 2019, 519 neonates were admitted to the Neonatal Intensive Care Unit out of 5 151 neonates born alive in the institution: 234 were late preterm neonates, which meant 45.1% of the total neonates admitted and 4.5% of the total live births and 285 were early term, which meant 54.9% of the neonates admitted and 5.5% of the total live births.

Of the neonates admitted, 220 (42.4%) were male and 299 (57.6%) were female. Of the late preterm infants, 119 (50.9%) were male and 184 (64.6%) were female, a highly significant result.

Table 1 shows the distribution of the groups studied according to maternal age, with a higher incidence in both groups of mothers between 18 and 34 years of age (203 of 234 women, 86.8%) in the late preterm group and 80% (228 of

285 women) in the early term group; in the latter group the extreme ages were more prevalent.

In the late preterm group the mean value and standard deviation were 26.7 ± 5.8 years; for the early term group 26.7 ± 6.8 years.

Table 1. Maternal age

Maternal age (years)	Study groups				p
	Late preterm		To early term		
	No.	%	No.	%	
< 18	14	5.9	30	10.5	0.121
18 - 34	203	86.8	228	80.0	
≥ 35	17	7.3	27	9.5	
Total	234	100	285	100	

Source: study data
Student's t-test: 0.907

The distribution of the study groups according to nutritional assessment and birth weight is shown in Figure 1. The highest incidence was in the late preterm group, with low birth weight (131 neonates, representing 55.9% of the total) and in the early term group (102 neonates were normal weight, for 96.1%). The nutritional evaluation was similar in both groups: 199 (85%) late preterm neonates and 188 (65.9%) early term neonates of adequate weight for their gestational age, a very significant result.

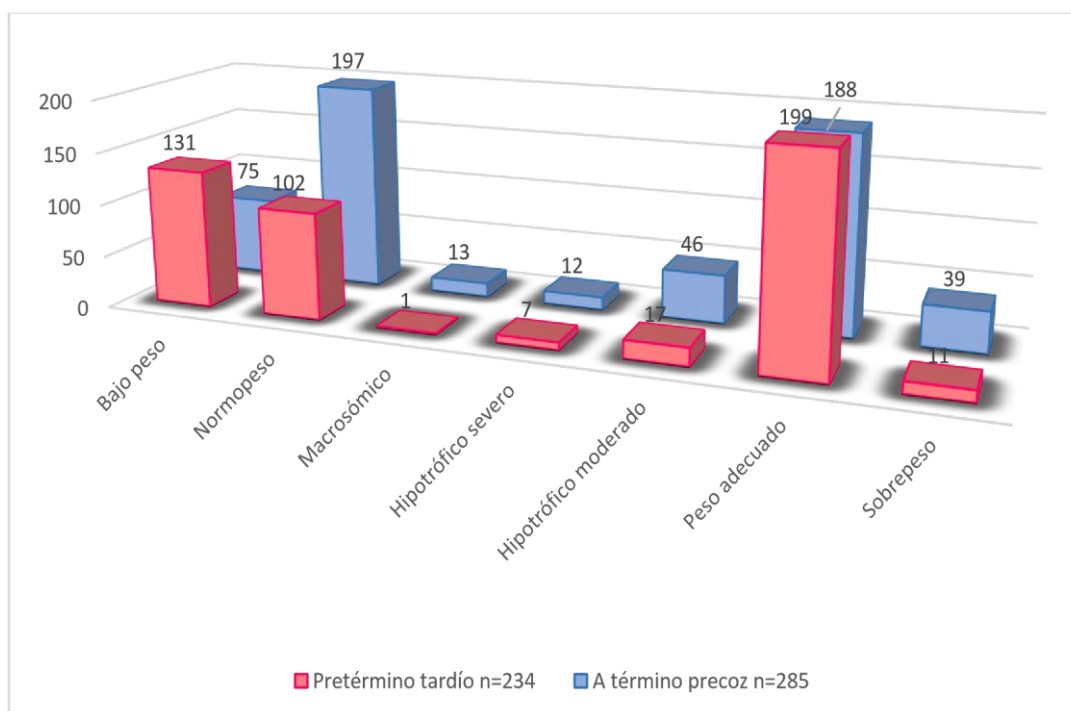


Figure 1. Distribution of late preterm and early term neonates according to birth weight and nutritional assessment
 $p < 0,001$

Table 2 shows the distribution of the groups studied according to intensive care and hospital stay. Intensive care was not necessary in 82.5% of the late preterm and 87.7% of the early term babies. There were significant differences in hospital stay, with less than 7 days in 37.6% of the late preterm and 58.6% of the early term.

Table 2. Distribution of late preterm and early term neonates according to intensive care and hospital stay

Variables	Indicator	Study groups				p
		Late preterm		To early term		
		No.	%	No.	%	
Neonatal intensive care	Yes	41	17.5	35	12,3	p=0.093
	No	193	82.5	250	87.7	
Hospital stay	< 7 days	88	37.6	167	58.6	p<0.001
	7 - 15 days	61	26.1	84	29.5	
	> 15 days	85	36.3	34	11.9	

Regarding the distribution of the study groups according to neonatal morbidity, Table 3 shows that jaundice prevailed in both groups, with 69.2% in the late preterm and 60.4% in the early term group, physiological icterus aggravated by prematurity was the most frequent in the late preterm group with 50.8% and physiological icterus aggravated by metabolic disorders in the early term group with 28%. In second place, in order of frequency, infections with 36.3%

Table 3. Distribution of late preterm and early term neonates according to selected morbidity

Neonatal morbidity	Preterm late (n=234)		To term early (n=285)	
	No.	%	No.	%
Respiratory diseases	16	6.8	18	6.3
Respiratory distress secondary to pulmonary edema	10	4.2	6	2.1
Persistent neonatal arterial hypertension	3	1.3	6	2.1
Airway blockage	3	1.3	6	2.1
Cardiovascular disease	6	2.5	5	1.7
Congenital heart disease	5	2.1	3	1.0
Hypertrophic cardiomyopathy	1	0.4	2	0.7
Hematologic disorders	21	8.9	25	8.7
Anemia	15	6.4	18	6.3
Polyglobulia	1	0.4	1	0.4
Thrombocytopenia	5	2.1	6	2.1
Neurological diseases	9	3.8	6	2.1
Hypoxic-ischemic encephalopathy	2	0.9	5	1.7
Cerebral hemorrhage	7	2.9	1	0.4
Metabolic disorders	51	21.7	47	16.5
Symptomatic early neonatal hypocalcemia	27	11.5	27	9.5
Hypoglycemia	15	6.4	10	3.5
Hyperglycemia	9	3.8	10	3.5
Genetic diseases	5	2.1	3	1.0
Chromosomopathy	5	2.1	3	1.0
Infectious	85	36.3	80	28.0
Early-onset sepsis	60	25.6	58	20.3
Sepsis of late onset	25	10.6	22	7.7
Icterus	162	69.2	172	60.4
Physiological icterus aggravated by prematurity	119	50.8	0	0.0
Physiologic icterus aggravated by metabolic disorders	10	4.2	77	27.0
Physiological icterus aggravated by oxytocin	12	5.1	26	9.1
Physiological Icterus aggravated by being the child of a diabetic mother	16	6.8	17	5.9
ABO* isoimmunization	5	2.1	6	2.1
Hyperbilirubinemia	0	0.0	46	16.1

*Hemolytic disease of the newborn

in the late preterm group and 28% in the early term group, with early onset sepsis standing out with 25.6% and 20.3% respectively and, in third place, metabolic disorders in the late preterm group, with 21.7%, and the early term group, with 16.5%; symptomatic early neonatal hypocalcemia was the most frequent in both groups, with 11.5% and 9.5%, respectively.

DISCUSSION

Clinical investigations have traditionally focused on preterm neonates born before 32.0 weeks of gestational age because of the increased risk of morbidity and mortality, so they are evaluated more carefully;⁽¹⁰⁾ little attention is given to term delivery, which is why in 2005 the World Health Organization published a new classification of gestations according to weeks of amenorrhea⁽¹¹⁾ and recognized that there is a difference in morbidity and mortality in newborns born at different times within the five-week gestational interval, classically considered term delivery.⁽¹²⁾ Not all newborns are physiologically mature and capable of a successful transition to the extrauterine environment, an important priority for health care professionals, such as Obstetrics and Neonatology Specialists, who consider those born between 34.0 and 36.6 weeks to be at similar risk to those exposed to 37.0 and 38.6 week neonates.⁽¹³⁾

Late preterm births represent 8.5% of the total number of births and early term births 18.7%;⁽¹⁴⁾ which is higher than that obtained in the study (4.5% in late preterm and 5.5% in early term).

In a study carried out in Mexico, 210 late preterm infants (7.6%) and the same number of early term newborns were analyzed, for a 1-1 ratio;⁽⁸⁾ a result slightly higher than that obtained in this study, but with similar behavior between the two groups, which differ by 1%.

In another study⁽³⁾ male neonates were more frequent with 54.8% in the late preterm group and 54.6% in the early term group; this result is similar to that of another study⁽¹⁵⁾ which obtained 53.5% and did not show statistically significant differences between the two groups. In this study the author found a predominance of the male sex only in the late preterm group. Another study⁽¹⁶⁾ shows a greater predominance of the female sex (52.7%) than the male sex (47.3%) in both groups; this result coincides with those of this study in the group of early term NBs.

Maternal age is considered a risk factor for late preterm delivery when it is younger than 18 or older than 35 years;^(13,14) however, an article showed that there was no association between maternal age groups, late PT and early TA, because those younger than 18 years represented 13% and those older than 35 years 11.9%.⁽¹⁵⁾ These results are close to those of the present study.

As for the average age in the maternal history, the average age was 29.7 ± 5.9 years in both groups and no differences were shown with respect to the investigation because an average age of 26.7 ± 5.8 years was predominant in the late preterm infants and 26.7 ± 6.8 in the early preterm infants.⁽¹²⁾ In other studies no significant differences were found between the groups in terms of average age.⁽⁵⁾

Late preterm newborns had a higher risk of low birth weight than early term infants with 61.5%.⁽¹⁵⁾

In another investigation⁽⁵⁾ the average weight was 2.7 kg in the late preterm group and 3.3 kg in the early term group, as well as a median of 2.6 kg and 3.3 kg respectively, results that do not coincide with those of this investigation. As for the early term group,⁽⁹⁾ low birth weight prevailed, with a high significance, compared to the others at term, which does not correspond with the research, in which the majority was normal weight.

Regarding nutritional evaluation, in a three-year study carried out in Ecuador⁽⁸⁾ the largest population of late preterm infants (69%) were born with adequate weight, and it was also observed that there is a tendency to an increase in late preterm infants born with adequate weight and a decrease in late preterm infants born with low weight. In the work of Osredkar⁽²⁾, 87.5% of the early term neonates were classified as children of adequate weight for their gestational age, results that coincide with those of this research.

In a study⁽¹²⁾ of the 33.8% of preterm preterm infants, 6.4% required admission to the Neonatal Intensive Care Unit (NICU) of the Hospital Nacional "Cayetano Heredia" and only 0.2% of the 14.4% at term required these services, which showed that the need for admission to the NICU is 30 times greater in PT than in AT, that is, that the frequency is inversely proportional to gestational age, a result that does not correspond to those of this study.

Other studies showed that 58.6%,⁽⁵⁾ 40.9%⁽⁷⁾ and 11.3%⁽⁸⁾ of late preterm babies required intensive care, while in another study⁽⁴⁾ the need for intensive care was 8.8% higher in the early term group than in other term groups. These results do not correspond with those of this work or with those of any of the aforementioned studies. Another study⁽¹⁴⁾ showed that 9.6% of late preterm infants required intensive care compared to early term infants.

In a national study, most of the late preterm newborns had a hospital stay of between 16 and 30 days (32.5%) and, in term newborns, the group with a hospital stay of less than seven days predominated (79.8%). When comparing both groups, there was a greater risk of late preterm newborns having a hospital stay of more than seven days, distributed in the group between seven and 15 days.⁽¹⁵⁾ These results do not correspond to those found by the author of this study.

In another study⁽¹⁰⁾ 61.5% of early term infants required at least three days of hospital stay; another⁽¹²⁾ presented the same results. Ruíz⁽³⁾ describes in his study that the average length of hospitalization of these infants was 7.4 days, with a median of 2.5 days.

Coincidentally with what was found in a Mexican report⁽¹⁴⁾ in late preterm infants, hyperbilirubinemia is one of the alterations that was related to higher risk, with a relative risk (RR) of 1.7; this condition, if not detected, can generate neurological alterations. Torres⁽¹⁵⁾ assures that jaundice is the most common clinical condition.

A Colombian article⁽¹⁵⁾ states that jaundice was present in 31.9% of late preterm and in 23.7% of early term, with a difference of 8.2% of this condition in early preterm. Data similar to those of this study, but with the difference that 9.2% of the early term patients have a higher prevalence of jaundice.

In another study⁽¹⁶⁾ the incidence of jaundice in late preterm had a significant difference with term newborns, but not with early term newborns, which coincides with this study, although in this one only two groups of studies are shown.

Another author⁽¹⁾ placed jaundice in first place, with 58.4% in late preterm and 45.5% in early term; aggravated physiological jaundice was the most prevalent in both cases, with 27.2% and 24%, respectively, which agrees with this study. Among the complications that followed jaundice, with similar behavior, were those related to the immune system. In one study⁽¹⁵⁾ a higher risk of early-onset infections was observed in preterm newborns, affecting 27.2% of these children and 15.9% of early term newborns. In another⁽¹⁶⁾ no cases of early neonatal sepsis were observed. Pérez,⁽¹⁴⁾ in his study, showed that 57.6% of all newborns presented neonatal sepsis, a result that does not correspond to that of the investigation.

In a study⁽⁶⁾ it was shown that late PTs presented a higher risk of metabolic disorders, with a ratio of 9.0% *versus* 2.2%; results that do not correspond to those of the study because they constitute the third cause of morbidity in both groups, with the same behavior in terms of the number of cases.

CONCLUSIONS

The early term group predominated over the late preterm group and the children of mothers between 18 and 34 years of age predominated. The great majority of the late preterm infants were male with low birth weight, while the early term infants were female and normal weight; intensive care was not necessary and the hospital stay was less than seven days. Morbidity was similar for both groups and jaundice, early onset sepsis and metabolic disorders prevailed.

BIBLIOGRAPHIC REFERENCES

1. Zavala Farías MR. Factores de riesgo y perfil clínico epidemiológico de dificultad respiratoria en recién nacidos pretérmino en Piura, 2019 [thesis]. Trujillo: Universidad Privada Antenor Orrego; 2019 [cited 11/21/2021]. Available at: <https://repositorio.upao.edu.pe/handle/20.500.12759/8909>
2. Osredkar D, Verdenik I, Gergeli AT, Gersak K, Lucovnik M. Apgar score and risk of cerebral palsy in preterm infants: a population-based cohort study. *Neuropediatrics* [Internet]. 2021 [cited 11/21/2021];52(4):310-315. Available at: <https://pubmed.ncbi.nlm.nih.gov/34162009/>. <https://doi.org/10.1055/s-0041-1729181>
3. Martín Ruiz N, García Íñiguez JP, Rite Gracia S, Samper Villagrasa MP. Estudio prospectivo de factores perinatales asociados a hipoglucemia precoz en el neonato prematuro tardío y a término. *An Pediatr (Barc)* [Internet]. 2022 [cited 10/20/2022];96(3):230-241. Available at: <https://www.analesdepediatria.org/es-estudio-prospectivo-factores-perinatales-asociados-articulo-S1695403321001703>. <https://doi.org/10.1016/j.anpedi.2021.04.002>
4. Pérez González JA, Martínez Lemus O, Jiménez Abreu SE, Rodríguez Díaz H. Caracterización del prematuro tardío durante los años 2015-2016. *Panorama Cuba y Salud* [Internet]. 2018 [cited 11/21/2021];13(3):65-70. Available at: <https://www.medigraphic.com/pdfs/cubaysalud/pcs-2018/pcs183i.pdf>
5. García Reymundo M, Demestre X, Calvo MJ, Ginovart G, Jiménez A, Hurtado JA. Prematuro tardío en España: experiencia del Grupo SEN34-36. *An Pediatr (Barc)* [Internet]. 2018 [cited 11/21/2021];88(5):246-252. Available at: <https://www.analesdepediatria.org/es-prematuro-tardio-espana-experiencia-del-articulo-S1695403317302072>. <https://doi.org/10.1016/j.anpedi.2017.05.006>

6. Martínez HS, Díaz M, Rencoret G. El prematuro tardío, ¿qué sabemos desde el punto de vista perinatal? Rev Chil Obstet Ginecol [Internet]. 2022 [cited 10/20/2022];87(1):40-47. Available at: https://www.scielo.cl/scielo.php?script=sci_arttext&pid=S0717-75262022000100040. <http://dx.doi.org/10.24875/rechog.21000023>
7. Salas Venturo TC. Manejo expectante versus manejo activo en embarazos pretérmino tardío con ruptura prematura de membranas en el Servicio de Obstetricia del Hospital Regional Docente de Cajamarca marzo 2021 a marzo 2022 [thesis]. Cajamarca: Universidad Nacional de Cajamarca; 2022 [cited 20/10/2022]. Available at: <https://repositorio.unc.edu.pe/handle/20.500.14074/4996>
8. Morán R, Vaamonde L, Rey G. Hallazgos histopatológicos placentarios en nacimientos de pretérmino y término precoz. Ginecol Obstet Méx [Internet]. 2021 [cited 11/21/2021];89(8):595-602. Available at: https://www.scielo.org.mx/scielo.php?pid=S0300-90412021000800003&script=sci_arttext. <https://doi.org/10.24245/gom.v89i8.5619>
9. Venkatesh KK, Manuck TA. Maternal body mass index and cervical length among women with a history of spontaneous preterm birth. J Matern Fetal Neonatal Med [Internet]. 2020 [cited 11/21/2021];33(5):825-830. Available at: <https://pubmed.ncbi.nlm.nih.gov/30049238/>. <https://doi.org/10.1080/14767058.2018.1505856>
10. Raghavan R, Dreibelbis C, Kingshipp BL, Wong YP, Abrams B, Gernand AD, et al. Dietary patterns before and during pregnancy and birth outcomes: a systematic review. Am J Clin Nutr [Internet]. 2019 [cited 11/21/2021];109(Suppl_7):729S-756S. Available at: <https://pubmed.ncbi.nlm.nih.gov/30982873/>. <https://doi.org/10.1093/ajcn/nqy353>
11. Liu X, Huang D, Wang Y, Gao Y, Chen M, Bai Y, et al. Birth and birth-related obstetrical characteristics in southwestern China associated with the current adjustment of family planning policy: a 7-year retrospective study. Sci Rep [Internet]. 2020 [cited 11/21/2021];10(1):15949. Available at: <https://pubmed.ncbi.nlm.nih.gov/32994428/>. <https://doi.org/10.1038/s41598-020-73039-7>
12. Stewart DL, Barfield WD, Committee on Fetus and Newborn, Cummings JJ, Adams-Chapman IS, Wright Aucott S. Updates on an At-Risk Population: Late-Preterm and Early-Term Infants. Pediatrics [Internet]. 2019 [cited 11/21/2021];144(5):e20192760. Available at: <https://publications.aap.org/pediatrics/article/144/5/e20192760/38233/Updates-on-an-At-Risk-Population-Late-Preterm-and>. <https://doi.org/10.1542/peds.2019-2760>
13. Besser L, Sabag-Shaviv L, Yitshak-Sade M, Mastrolia SA, Landau D, Beer-Weisel R, et al. Medically indicated late preterm delivery and its impact on perinatal morbidity and mortality: a retrospective population-based cohort study. J Matern-Fetal Neonatal Med [Internet]. 2019 [cited 11/21/2021];32(19):3278-3287. Available at: <https://pubmed.ncbi.nlm.nih.gov/29621920/>. <https://doi.org/10.1080/14767058.2018.1462325>
14. Pérez Ramírez RO, Lona Reyes JC, Ochoa Meza CA, Gómez Ruiz LM, Ramos Gutiérrez RY, Camarena Pulido EE, et al. Morbimortalidad neonatal en un entorno de baja adherencia a corticosteroides prenatales. An Pediatr (Barc) [Internet]. 2019 [cited 11/21/2021];91(2):105-111. Available at: <https://www.analesdepediatria.org/es-morbimortalidad-neonatal-un-entorno-baja-articulo-S1695403318305411>. <https://doi.org/10.1016/j.anpedi.2018.11.011>
15. Torres Muñoz J, Jiménez Fernández CA, Ortega RR, Marin Cuero DJ, Mendoza DM. Factors Associated With Late Prematurity in the University Hospital of Valle Cali,

Colombia During 2013–2014. *Front Public Health* [Internet]. 2020 [cited 11/21/2021];8:200. Available at:

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7366421/>.

<https://doi.org/10.3389/fpubh.2020.00200>

16. Álvarez García Y. Morbilidad del prematuro tardío [thesis]. Valladolid: Universidad de Valladolid; 2020 [cited 11/21/2021]. Available at:

<https://uvadoc.uva.es/handle/10324/41325>

CONFLICT OF INTEREST

The author declares that she has no conflict of interest.