



ISSN: 2230-9926

Available online at <http://www.journalijdr.com>

IJDR

International Journal of Development Research
Vol. 10, Issue, 02, pp. 33752-33753, February, 2020



RESEARCH ARTICLE

OPEN ACCESS

RELATIONSHIP BETWEEN WEIGHT AND GESTATIONAL AGE: NEONATE IDENTIFICATION CURVE IN THE POPULATION OF PARAÍBA

Claudio Teixeira Regis*¹, Rozileide Martins Simões Candeira¹, Katia Suely Queiroz Silva Ribeiro¹, Renata Grigorio dos Anjos¹, Juliana Soares de Araujo¹, Carlindo Maxshweel Querino da Silva², and João Agnaldo do Nascimento¹

¹Federal University of João Pessoa – UFPB

²University Center of João Pessoa – UNIPÊ

ARTICLE INFO

Article History:

Received 19th November, 2019

Received in revised form

21st December, 2019

Accepted 08th January, 2020

Published online 27th February, 2020

Key Words:

Growth curve. Newborn.

Gestational Age. Birth Weight.

*Corresponding author:

Claudio Teixeira Regis,

ABSTRACT

The present work aims to construct the relationship curves between birth weight and gestational age. This is an exploratory, descriptive study with a quantitative approach. The data used come from the database for screening congenital heart disease performed, with the collection occurring in 12 maternity hospitals that congregate the largest number of births in the state of Paraíba. Although existing references are used in relation to the formatting of growth curves that relate weight and gestational age, the construction of growth curves needs to have their values adjusted to the reality of the study population, considering their characteristics.

Copyright © 2020, Claudio Teixeira Regis et al. This is an open access article distributed under the Creative Commons Attribution License, which permits unrestricted use, distribution, and reproduction in any medium, provided the original work is properly cited.

Citation: Claudio Teixeira Regis, Rozileide Martins Simões Candeira, Katia Suely Queiroz Silva Ribeiro et al. 2020. "Relationship between weight and gestational age: neonate identification curve in the population of paraiba", *International Journal of Development Research*, 10, (02), 33752-33753.

INTRODUCTION

first reported growth curve is attributed to Count Philibert Gueneau de Montbeillard (1720–1785), in which he plotted the weight of each of his children, from the six months of life after birth, until the age of 18 years old. The identification of variations in fetal growth has been reported in the 1960s with the work presented by Lubchenco and collaborators (1963). Still in the 60s, the American Academy of Pediatrics recognizes the classification considering parameters such as intrauterine growth, weight and gestational age. (SEGRE; GALLETTO; BERTAGNON, 2001). Since then, growth curves have been important instruments in neonatal units. Countless authors started to present intrauterine growth curves, becoming classic those of Lubchenco et al (1963), Williams et al (1982.). Therefore, using the birth weight / gestational age ratio, the newborn's weight can be categorized as small for gestational age when found below the 10th percentile, suitable for gestational age when it is between the 10th and 90th percentiles and large if it is above the 90th percentile.

Thus, neonatologists can readily identify and anticipate clinical problems more frequently related to a given category, as they are associated with an intrauterine growth pattern. The classification of a newborn according to a growth curve should preferably refer to the one constructed with data from the population to which the individual belongs, since, when classifying a particular newborn in a curve constructed with a different population, the measurement it may be covered by a serious error. On the other hand, the percentile curves need periodic review, due to changes in population miscegenation and the socioeconomic factors that act over time in a given population (SEGRE; COLLETTO; BERTAGNON, 2001). The present work aims to construct the relationship curves between birth weight and gestational age taking as a reference a significant sample of the population of Paraíba. It is an exploratory, descriptive study, with a quantitative approach, with an analytical basis that proposes to build an individualized curve according to the characteristic of the target population. The researched public consists of all children from the State of Paraíba who were born in the public

health service and who underwent screening for congenital heart disease through arterial pulse oximetry, thus complying with the protocol recommended by the Brazilian Society of Pediatric Cardiology according to the protocol national (MEDEIROS, 2015). Children born after 34 weeks and six days of gestational age, and who did not undergo special care after birth, such as the use of oxygen, covering the period from January 2012 to December 2017, constituted the database composed by 87,672 records. The data used come from the database for screening congenital heart disease performed, with the collection occurring in 12 maternity hospitals that congregate the largest number of births in the state of Paraíba and make up the telemedicine network (REDE CUIDAR) financed by the state management and that provides assistance in pediatric cardiology and maternal and child health (neonatology and obstetrics), making a total coverage of about 80% of births in the state's public health network. The records were made on a printed form that compose medical records and fed an electronic database.

RESULTS AND DISCUSSION

The database consists of data on neonates including sex, weight and gestational age, totaling 87,672 instances. Although the existing references regarding the formatting of growth curves that relate weight and gestational age are based on the construction of growth curves, their values must be adjusted to the reality of the study population, considering their characteristics. According to the Ministry of Health, the indicator that best depicts what occurs during the fetal phase is the child's birth weight, understanding that newborns with birth weights below 2,500 grams may be due to prematurity and / or intrauterine growth deficit; and above this value, generally classified as having low birth weight (BRASIL, 2012). Despite the significant advance in neonatology, the prevalence of premature births has been a cause for concern, both in Brazil and abroad, not only as regards the demands for better quality care, but also with regard to the increase in hospital costs (SILVA; FARAH; FONSECA, 2017).

Multicenter study carried out by Castro, Leite and Guinsburg (2016) points out that neonatal mortality in the first 24 hours of life is high in very low birth weight preterm newborns in the capitals of the Northeast region, when compared to that of more developed regions of the world. Brazil and developed countries. Among the risk factors associated with neonatal death, the male gender (Itabashi, 2005; Tyson *et al.*, 2008; Kent, Wright, Abdel-Latif, 2012), birth weight less than 1000 grams (Itabashi, 2005; Horbar 2012) and gestational age less than 28 weeks (Almeida, 2008; Itabashi 2005; Bader 2010). The literature assumes that such variables are predisposing to neonatal deaths, indicating that biological characteristics are related to this individual's vulnerability (CASTRO, 2014). Despite the limitations, these percentile curves are an integral part of the definition of high probability of pathological states of pregnancy, namely in relation to intrauterine growth restriction (IUGR) or fetal macrosomia; where the 10th percentile is often cited as a cutoff value for further investigation and distinction of the constitutionally small benign condition of the newborn, but little has been emphasized that this value (and that of all percentiles in general) varies widely between populations and depends, for

the same reason, from the consulted table or reference (SANTOS, 2014).

REFERENCES

- Almeida MF, Guinsburg R, Martinez FE, Procianoy RS, Leone CR, Marba ST, Rugolo LM, Luz JH, Lopes JM: Fatores perinatais associados à morte precoce de prematuros nascidos na Rede Brasileira de Centros de Pesquisa Neonatal. *J Pediatr (Rio J)*. 2008, 84: 300-307.
- Bader D, Kugelman A, Boyko V, Levitzki O, Lerner-Geva L, Riskin A, Reichman B, Israel Rede Neonatal: Fatores de risco e ferramenta de estimativa para a morte de bebês extremamente prematuros: um estudo nacional. *Pediatrics*. 2010, 125: 696-703. 10.1542 / peds.2009-1607.
- Brasil. Ministério da Saúde. Secretaria de Vigilância em Saúde - Departamento de Análise de Situação de Saúde. Brasil 2011: uma análise da situação de saúde e a vigilância da saúde da mulher. Brasília: Ministério da Saúde; 2012.
- Castro ECM, Leite AJM, Almeida MFB, Guinsburg R. Fatores perinatais associados a óbitos neonatais precoces em prematuros de muito baixo peso ao nascer no nordeste do Brasil. *BMC Pediatrics*, 14, número do artigo: 312. 2014.
- Castro ECM, Leite AJM, Guinsburg R. Mortalidade com 24 horas de vida de recém-nascidos pré-termo de muito baixo peso da Região Nordeste do Brasil. *Rev Paul Pediatr*. 2016;34(1):106-113.
- Horbar JD, Carpenter JH, Texugo GJ, Kenny MJ, Soll RF, Morrow KA, Buzas JS: Mortalidade e morbidade neonatal em lactentes de 501 a 1500 gramas de 2000 a 2009. *Pediatrics*. 2012, 129: 1019-1026. 10.1542 / peds.2011-3028.
- Itabashi K, Horiuchi T, Kusuda S, Kabe K, Itani Y, Nakamura T, Fujimura M, Matsuo M: Taxas de mortalidade de bebês com baixo peso ao nascer nascidos no Japão em 2005. *Pediatrics*. n. 123 pág. 445-450. 2009.
- Kent AL, Wright IMR, Abdel-Latif ME: A mortalidade e os resultados neurológicos adversos são maiores em bebês prematuros do sexo masculino. *Pediatrics*. 2012, 129: 124-131. 10.1542 / peds.2011-1578.
- Medeiros AL, *et al.* Oximetria de pulso em triagem de cardiopatias congênitas: conhecimento e atuação do enfermeiro. *Cogitare Enfermagem*, v. 20, n. 3, 2015.
- Paulo Sérgio Lucas da Silva, MD, MSc*, Daniela Farah, PharmD, MSc, Marcelo Cunio Machado Fonseca, MD, PhD. Revisiting unplanned extubation in the pediatric intensive care unit: What's new? *Heart & Lung (2017)* 1-8. <http://dx.doi.org/10.1016/j.hrtlng.2017.08.006>
- SANTOS, Érica S. M.; OLIVEIRA, A. C.T; BERENCHTEIN, B. Protocolo de desmame em neonatologia. *Ruep - Revista Unilus Ensino e Pesquisa*, São Paulo, v. 11, n. 24, p. 30-35, Ano 2014.
- Segre C; Colletto G, Bertagnon J. Curvas de crescimento intra-uterino de uma população de alto nível socioeconômico Intrauterine growth curves in a high-income population. *J Pediatr (Rio J)* v. 77, n. 3, 169-74. 2001.
- Tyson et al, 2008; JE, Parikh NA, Langer J, Green C, Higgins RD, Instituto Nacional de Saúde Infantil e Desenvolvimento Humano Rede de Pesquisa Neonatal: Cuidados intensivos para prematuridade extrema - indo além da idade gestacional. *N Engl J Med*. 2008, 358: 1672-1681. 10.1056 / NEJMoa073059.)