RESS | REVISTA DO SUS

RESEACH NOTE

doi 10.1590/S2237-96222024v33e2023632.en

Trend of incompleteness of the Robson Classification variables in the Live Birth Information (SINASC) in the state of Paraná, Brazil, 2014-2020

Tendência de incompletude das variáveis da Classificação de Robson no Sistema de Informação sobre Nascidos Vivos (Sinasc) no estado do Paraná, 2014-2020

Tendencia de incompletitud de variables de Clasificación de Robson en el Sistema de Información de Nacidos Vivos en Paraná, 2014-2020

Larissa Pereira Falavina[1], Elizabeth Fujimori[1], Maicon Henrique Lentsck[2]

[1]Universidade de São Paulo, Programa de Pós-Graduação em Enfermagem, São Paulo, SP, Brazil

[2]Universidade Estadual do Centro-Oeste do Paraná, Departamento de Enfermagem, Guarapuava, PR, Brazil

ABSTRACT

Objective: To assess the incompleteness of the Robson Classification variables in the Live Birth Information System (*Sistema de Informação sobre Nascidos Vivos* - SINASC), in the state of Paraná, and its trend, 2014-2020. **Methods:** This was a time-series study that analyzed six variables, according to health macro-regions. Incompleteness was classified (percentage of "ignored" and "blank fields") as follows: excellent (< 1.0%); good (1.0-2.9%); regular (3.0-6.9%); poor (≥ 7.0%). Prais-Winsten regression was used to estimate trends. **Results:** A total of 1,089,116 births were evaluated. The variable "cesarean section before the onset of labor" was classified as poor in 2014 (39.4%) and 2015 (44.3%) in the state and in all macro-regions, but with a decreasing trend in incompleteness. The variables "gestational age" in the North and Northwest macro-regions, and "parity" and "number of fetuses" in the Northwest macro-region showed an increasing trend. **Conclusion:** Most of the variables evaluated showed low percentages of incompleteness with a decreasing trend, but there is a need to improve the completion of some variables.

Keywords: Cesarean Section; Health Information Systems; Descriptive Epidemiology; Vital Statistics

INTRODUCTION

Robson Classification[1] is a tool that classifies pregnant women into groups with a lower/higher chance of undergoing a cesarean section.[2-3] In 2015, the World Health Organization (WHO) proposed its use in all childbirth facilities.[4] High cesarean section rates pose a significant health problem, adversely effecting maternal and child health.[5]

Since 1990, Brazil has employed the Live Birth Information System (*Sistema de Informação sobre Nascidos Vivos* - SINASC), which collects data from the Live Birth Certificate (LBC). As of 2009, new fields were included in the LBC and, consequently, in the SINASC,[6-7] highlighting the number of weeks of gestation, fetal presentation, and labor induction, automatically generating the Robson Classification.

Studies on the quality of SINASC have shown good completion.[7-11] Studies conducted in the state of Paraná, between 1996 and 2018, found good information quality,[9-12] however, not all variables necessary to generate the Robson Classification were assessed, such as the onset of labor and fetal presentation. Paraná state has one of the highest cesarean section rates in the country (62.6%), while the state of Roraima has one of the lowest rates (35.2%).[13,14] In 2020, Paraná passed Law No. 20.127,[15] granting women the right to choose the type of delivery, which could impact these statistics.

The objective of this study was to assess the incompleteness of the Robson Classification variables in the SINASC, in the state of Paraná, and its trend from 2014 to 2020.

Study contributions	
Main results	The majority of variables showed a low percentage of incompleteness with a decreasing trend. It is essential to enhance the data completeness for the variables "cesarean section before the onset of labor" and "induced labor".
Implications for services	The low percentage of incompleteness in SINASC data contributes to the good quality of the Robson Classification, which can be used to reduce the high rates of caesarean sections.
Perspectives	Proposal of strategies to ensure good data quality, especially for variables with *regular* and *poor* completeness, involving training for data completion and professional qualification for the use of the Robson Classification.

METHODS

This was a time series study that analyzed seven variables from SINASC in Paraná, a state in southern Brazil with an estimated population of 11,597,484 inhabitants in 2021, which has one of the highest Human Development Index scores and it is one of the largest economies in the country.[16] It is organized into four Health Macro-regions (East, West, North and Northwest).[16] SINASC database, from 2014 to 2020, was used, available at the www.datasus.gov.br. Data extraction was performed using the TabWin tool (available on the website) on March 3, 2021.

The Robson Classification, based on five characteristics, classifies pregnant women into ten groups: groups 1 to 4 – with a lower likelihood of cesarean section; group 5 – with some likelihood; and groups 6 to 10 – with a higher likelihood.[2,3]

In order to obtain the five obstetric characteristics that comprise Robson's Classification[1], it was necessary to assess the following variables: "onset of labor", which takes into account two variables from LBC/SINASC: "was labor induced?" and "did cesarean section occur before the onset of labor?"; "fetal presentation"; "parity", related to the variables "number of previous vaginal deliveries" and

"number of previous cesarean sections" from LBC/SINASC; "gestational age" and "number of fetuses". The names of each variable mentioned above are described in Box 1.

Incompleteness, assessed by the percentage of "ignored" and "blank fields", was classified using criteria employed in another study in Paraná,[9] which considered excellent (incompleteness < 1.0%); good (1%-2.9%); regular (3%-6.9%); and poor (≥ 7.0%).

The trend of incompleteness was estimated using Prais-Winsten regression, which corrects for residual temporal autocorrelation. The trend was interpreted as follows: stationary (p-value > 0.05); decreasing [p-value < 0.05 and negative regression coefficient (β1)] or increasing [p-value < 0.05 and positive regression coefficient (β1)]. The analyses were performed according to health macro-regions, using the Stata software, version 13. Although using publicly available secondary data, this study was approved by the Research Ethics Committee of the Escola de Enfermagem da Universidade de São Paulo (CAAE 58854522.1.0000.5392).

Box 1 – Characteristics used to compose the Robson Classification, their definitions and designations in the Live Birth Information System (Sistema de Informações sobre Nascidos Vivos - SINASC) database

Characteristics used in the Robson Classification	Definition	Variable designations in SINASC
Onset of labor[a]	Spontaneous, induced or cesarean section before the onset of labor.	STTRABPART = Was labor induced? STCESPARTO = did cesarean section occur before the onset of labor?
Fetal presentation	Position of the fetus in the womb: cephalic, breech or transverse.	TPAPRESENT = Type of fetal presentation.
Parity	Nulliparous: has never given birth. Multiparous: has given birth at least once.	QTDPARTNOR = Number of previous vaginal deliveries. QTDPARTCES = Number of previous caesarean sections.
Gestational age	Corresponds to the gestational age at birth.	SEMAGESTAC = Number of weeks of gestation.
Number of fetuses	Corresponds to the number of fetuses in that pregnancy: single, twins, triplets or more.	GRAVIDEZ = Type of pregnancy.

a) In order to obtain this variable, it was necessary to analyze two variables separately ("Was labor induced?" and "Did cesarean section occur before the onset of labor?"), as they cannot be combined, which justifies the analysis of six variables.

RESULTS

Between 2014 and 2020, a total of 1,089,116 births were registered on SINASC, in the state of Paraná. The highest percentages of poor incompleteness classification were observed in the variable "cesarean section before the onset of labor", especially in 2014 (39.4%) and 2015 (44.3%), both in the state and in all health macro-regions, with emphasis on the East and West health macro-regions, where poor or regular classification of incompleteness was observed for the variable "induced labor" until 2017. Other variables showed excellent and good percentages of incompleteness in all macro-regions (Table 1).

The variable "cesarean section before the onset of labor" showed a decreasing trend in incompleteness in all macro-regions (annual changes: -25.5% to -42.0%). The variable "induced labor" presented a decreasing trend in incompleteness in the East and West macro-regions. The variables "parity", "gestational age" and "number of fetuses" showed an increasing trend in incompleteness in the Northwest macro-region and "gestational age" in the North macro-region (Table 2).

Table 1 – Percentage of incompleteness of variables from the Live Birth Information System (SINAN) used to compose the Robson Classification, according to health macro-regions, state of Paraná, Brazil, 2014-2020

Macro-regions/variables	2014	2015	2016	2017	2018	2019	2020
East							
Cesarean section before the onset of labor.	47.6	53.6	8.2	8.5	5.9	7.2	10.0
Induced labor	11.8	11.7	7.1	8.3	6.7	5.8	6.9
Fetal presentation	3.0	2.3	1.4	1.3	0.6	0.6	1.0
Parity	0.8	0.6	0.8	0.2	0.3	0.3	0.5
Gestational age	1.5	1.2	1.0	1.0	0.5	0.6	0.8
Number of fetuses	0.1	0.1	0.2	0.1	0.1	0.1	0.1
West							
Cesarean section before the onset of labor.	34.7	37.2	2.0	2.4	3.1	2.0	1.6
Induced labor	4.2	3.9	4.0	4.0	3.3	3.8	3.5
Fetal presentation	3.2	3.6	3.1	1.4	0.2	0.4	0.3
Parity	0.1	0.2	0.1	0.7	0.1	0.2	0.2
Gestational age	0.5	0.6	1.7	0.6	0.3	0.4	0.5
Number of fetuses	0.1	0.1	0.1	0.1	0.1	-	0.1
North							
Cesarean section before the onset of labor	31.4	34.3	2.8	3.1	2.8	3.8	4.6
Induced labor	1.1	1.4	1.6	3.1	2.4	1.4	1.4
Fetal presentation	1.1	1.2	1.2	1.5	0.9	0.6	0.7
Parity	2.7	3.5	3.4	1.1	0.8	0.4	0.4
Gestational age	0.4	1.2	1.0	1.2	1.1	1.3	1.3
Number of fetuses	0.1	0.1	0.1	0.1	0.1	0.1	0.1

To be continued

Continuation

Table 1 – Percentage of incompleteness of variables from the Live Birth Information System (SINAN) used to compose the Robson Classification, according to health macro-regions, state of Paraná, Brazil, 2014-2020

Macro-regions/variables	2014	2015	2016	2017	2018	2019	2020
Northwest							
Cesarean section before the onset of labor	24.9	32.8	4.7	2.3	1.5	1.8	1.4
Induced labor	0.2	0.7	0.6	0.9	0.5	0.5	0.6
Fetal presentation	0.6	0.8	0.7	0.3	0.5	0.4	0.4
Parity	0.1	0.1	-	0.1	2.7	0.3	1.1
Gestational age	0.2	0.4	0.3	0.4	0.4	0.5	0.5
Number of fetuses	-	0.1	0.1	0.1	0.1	0.1	0.1
Paraná state							
Cesarean section before the onset of labor	39.4	44.3	5.6	5.5	4.2	4.7	6.1
Induced labor	7.0	6.9	4.6	5.4	4.4	3.8	4.3
Fetal presentation	2.3	2.1	1.6	1.2	0.6	0.5	0.7
Parity	0.9	0.9	1.0	0.4	0.7	0.3	0.5
Gestational age	0.9	0.9	1.0	0.9	0.5	0.7	0.8
Number of fetuses	0.1	0.1	0.1	0.1	0.1	0.1	0.1

a) Classification: excellent (< 1.0%); good (1.0% to 2.9%); regular (3.0% to 6.9%); poor (≥ 7.0%).

Table 2 – Trend of incompleteness of the variables from SINASC used for the Robson Classification, average annual percentage change and confidence interval according to health macro-regions, state of Paraná, Brazil, 2014-2020

Variables	Annual change[a]	95%CI[b]	Trend
Cesarean section before the onset of labor			
East	-27.5	-44.3;-5.7	Decreasing
West	-41.7	-56.0;-22.7	Decreasing
North	-25.5	-42.8;-2.9	Decreasing
Northwest	-42.0	-55.5;-24.5	Decreasing
Paraná state	-32.3	-48.8;-10.8	Decreasing
Induced labor			
East	-10.0	-13.6;-6.3	Decreasing
West	-2.3	-3.1;-1.5	Decreasing
North	-10.4	-14.0;44.7	Stable
Northwest	2.3	-7.7;13.5	Stable
Paraná state	-6.0	-6.7;-5.2	Decreasing

To be continued

Continuation

Table 2 – Trend of incompleteness of the variables from SINASC used for the Robson Classification, average annual percentage change and confidence interval according to health macro-regions, state of Paraná, Brazil, 2014-2020

Variables	Annual change[a]	95%CI[b]	Trend
Fetal presentation			
East	-19.0	-26.8;-10.4	Decreasing
West	-35.0	-45.7;-22.1	Decreasing
North	-1.3	-19.8;21.5	Satable
Northwest	-10.4	-14.3;-6.3	Decreasing
Paraná state	-20.4	-26.6;-13.7	Decreasing
Parity			
East	-13.5	-22.3;-3.8	Decreasing
West	5.3	-15.4;31.1	Stable
North	-24.8	-40.6;-4.9	Decreasing
Northwest	63.0	7.7;146.7	Increasing
Paraná state	-8,8	-19.5;3.2	Stable
Gestational age			
East	-1.9	-20.2;1.9	Decreasing
West	-5.9	-30.2;26.8	Stable
North	12.9	3.8;22.8	Increasing
Northwest	11.4	8.9;13.9	Increasing
Paraná state	-0.1	-5.9;6.0	Stable
Number of fetuses			
East	2.8	-10.7;18.3	Stable
West	-5,4	-10.1;-0.5	Decreasing
North	8.0	-1.2;18.2	Stable
Northwest	3.1	1.7;4.5	Increasing
Paraná state	2.1	-4.9;9.6	Stable

a) Average annual percentage change of incompleteness rates of variables calculated from the β1 of the Prais-Winsten generalized linear regression model. b) 95%CI: 95% confidence interval.

DISCUSSION

In an unprecedented approach, the quality of data completion for variables comprising the Robson Classification in the SINASC system in Paraná state was assessed. Among the key findings, the variable "cesarean section before the onset of labor" stood out with poor incompleteness, but a decreasing trend, indicating improvement in data completion. "Induced labor" showed poor and regular classification in the East and West macro-regions, respectively, but with a decreasing trend in incompleteness. It is noteworthy that poor incompleteness was related to the highest percentage of information that was not filled in, left blank or ignored.[9-11] Three variables showed an increasing trend in incompleteness in two health macro-regions (Northwest and North).

The poor incompleteness of the variable "cesarean section before the onset of labor" in all macro-regions in 2014 and 2015 could be partially justified by the fact that these were the first years of assessing this variable, which was included in SINASC in 2011. However, a national analysis found regular completion (70-90%) of this variable in 2015, but good completion (90-95%) of other variables included in 2011,[7] indicating the need for periodic training to improve data completion in LBC and SINASC.

The persistence of higher percentages of incompleteness in the East and West macro-regions throughout the study period may be linked to regional disparities within the state, such as the low prenatal care coverage in regions with lower socioeconomic status, found in some health macro-regions of the state. This reveals that economic factors impact health investment and professional training.[17,18]

In order to enhance the generation of the Robson Classification in the SINASC system, aiming to contribute to the reduction of cesarean section rates, it is essential to improve the filling in of the variables "cesarean section before the onset of labor" and "induced labor", which are related to the characteristic "onset of labor". It is worth highlighting that only one study evaluating the data completion quality of these variables was identified in the literature, and found similar results.[7] Therefore, further studies on data completion quality of these variables should be conducted.

Most of the variables analyzed showed very low percentage of incompleteness, corroborating the results of a national study that assessed SINASC data for over 3 million births that occurred in 2002, where Paraná state presented low percentages.[8] In fact, a study that evaluated the quality of other variables on the SINASC, in Paraná, over a 22-year period (1996 to 2018), showed very low incompleteness percentage in the state,[12] recommending the use of this information system.[19,20] In addition, the law passed in Paraná in 2020,[15] may have contributed to an increase in cesarean section rates in the state, leading to reflection on crucial aspects, such as legislation and political decisions that strongly influence health indicators.

The results obtained represent an advancement compared to previous studies conducted in the state of Paraná,[8,9,12] between 1996 and 2018, as they analyzed all the variables necessary for the automatic generation of the Robson Classification in SINASC. Despite being one of the information systems with the most satisfactory quality in the country,[8-11,21-23] analyses stratified by health macro-regions in the state revealed significant differences, emphasizing the need for training and periodic evaluations related to this topic.

In 2009, the completion of "gestational age" variable was changed to completed weeks of gestation. According to a literature review that analyzed studies published from 2010 to 2018, this variable shows the highest percentages of incompleteness.[21] In Mato Grosso, there was an increasing trend of incompleteness for this variable in 2011-2012,[10] as observed in the North and Northwest macro-regions of Paraná, a result also observed in the Northeast region of Brazil, even with the use of a different scale.[24]

The "number of fetuses" showed an incompleteness percentage below 1% in all the years studied, similar to findings in Recife.[25] However, the increasing trend in incompleteness for this variable, as well as for the variable "parity" identified in this study, indicates the need for attention to these variables.

One limitation of this study is the use of secondary data, subject to the reliability of information filled in by professionals, which may include errors and difficulties in data completion. Despite this, the study of the variables that generate the Robson Classification in the SINASC system and its analysis is fundamental, as it enables the identification of the groups of pregnant women most likely to undergo cesarean section, contributing to the implementation of strategies aimed at reducing cesarean section rates.[2,26]

Thus, the evaluation of the incompleteness of the Robson Classification variables in the SINASC system in the state of Paraná and its trend stands out as a strong point, as it showed that the majority of variables presented low percentages of incompleteness and a decreasing trend, although, improvement in the completion of the "parity", "gestational age" and "number of fetuses" variables, is still necessary. These variables showed an increasing trend especially in the Northwest macro-region. This diagnosis can support the implementation of public policies by directing strategies for the continuous improvement of SINASC, through periodic analyses and training for those involved. It is worth highlighting that in addition to having an information system with adequate completion, success in reducing cesarean sections requires political will, along with the implementation of comprehensive measures, legislation and public policies.

AUTHOR CONTRIBUTIONS

Falavina LP and Fujimori E collaborated with the study conception and design, analysis and interpretation of the results, drafting and critical reviewing of the manuscript content. Lentsck MH collaborated with the analysis and interpretation of the results, drafting and critical reviewing of the manuscript content. All authors have approved the final version of the manuscript and declared themselves to be responsible for all aspects of the work, including ensuring its accuracy and integrity.

CONFLICTS OF INTEREST

The authors declare they have no conflicts of interest.

ASSOCIATE ACADEMIC WORK

Article derived from an ongoing doctoral thesis entitled Robson c*lassification in the state of Paraná: a study of births and obstetric nurses' knowledge*, to be submitted by Larissa Pereira Falavina to the Postgraduate Program in Nursing at the Escola de Enfermagem da Universidade de São Paulo in 2024.

FUNDING

This work received financial supported from the Coordination for the Improvement of Higher Education Personnel/Ministry of Education (Coordenação de Aperfeiçoamento de Pessoal de Nível Superior/ Ministério da Educação - CAPES/MEC) – Finance Code 001.

Corresponding author: Larissa Pereira Falavina | larissafalavina@usp.br
Received on: 24/07/2023 | **Approved on:** 31/10/2023
Associate editor: Thaynã Ramos Flores

REFERENCES

1. Robson MS. Classification of caesarean sections. Fetal Matern Med Rev. 2001;12(1):23-39. doi: 10.1017/S0965539501000122
2. Soares KB, Klein VCG, Lima J, Gadenz L, Paulo LE, Konopka CK. Gestational risk as a determining factor for cesarean section according to the Robson Classification Groups. Rev Bras Ginecol Obstet. 2021;43(2):84-90. doi: 10.1055/s-0040-1718446
3. Betran AP, Torloni MR, Zhang JJ, Gulmezoglu AM, WHO Working Group on Caesarean Section. WHO Statement on Caesarean Section Rates. BJOG. 2016;123(5):667-70. doi: 10.1111/1471-0528.13526
4. Robson M, Hartigan L, Murphy M. Methods of achieving and maintaining an appropriate caesarean section rate. Best Pract Res Clin Obstet Gynaecol. 2013; 27(2):297-308. doi: 10.1016/j.bpobgyn.2012.09.004
5. Kongwattanakul K, Thamprayoch R, Kietpeerakool C, Lumbiganon P. Risk of Severe Adverse Maternal and Neonatal Outcomes in Deliveries with Repeated and Primary Cesarean Deliveries versus Vaginal Deliveries: A Cross-Sectional Study. J Pregnancy. 2020 May 4;2020:9207431. doi: 10.1155/2020/9207431
6. Ministério da Saúde (BR). Coordenação Geral de Informações e Análise Epidemiológica. Consolidação do Sistema de Informação sobre Nascidos Vivos – 2011 [Internet]. 2011 [citado em 2 de novembro de 2023]. Disponível em: http://tabnet.datasus.gov.br/cgi/sinasc/Consolida_Sinasc_2011.pdf
7. Ministério da Saúde (BR). Secretaria de Vigilância em Saúde. Saúde Brasil 2017: Uma análise da situação de saúde e os desafios para o alcance dos objetivos de desenvolvimento sustentável. [Internet]. 2018 [citado em 29 de setembro de 2023]. Disponível em: https://bvsms.saude.gov.br/bvs/publicacoes/saude_brasil_2017_analise_situacao_saude_desafios_objetivos_desenvolvimento_sustetantavel.pdf
8. Romero DE, Cunha CB. Avaliação da qualidade das variáveis epidemiológicas e demográficas do Sistema de Informações sobre Nascidos Vivos. Cad Saúde Pública. 2007;23(3):701-14. doi: 10.1590/S0102-311X2007000300028
9. Silva GF, Aidar T, Mathias TAF. Qualidade do Sistema de Informações de Nascidos Vivos no Estado do Paraná, 2000 a 2005. Rev Esc Enferm USP. 2011; 45(1):79-86. doi: 10.1590/S0080-62342011000100011
10. Stevanato JM, Gaíva MAM, Mathias TAF. Análise da qualidade do sistema de informações sobre nascidos vivos. Ciênc Cuid Saúde. 2017;16(2):1-8. doi: 10.4025/ciencuidsaude.v16i2.36509
11. Silvestrin S, Buriol VCS, Silva CH, Goldani MZ. Avaliação da incompletude da variável escolaridade materna nos registros das Declarações de Nascidos Vivos nas capitais brasileiras – 1996 a 2013. Cad Saúde Pública. 2018;34(2):e00039217. doi: 10.1590/0102-311X00039217
12. Mello AV, Silva ZP. Health indicators and data quality: an analysis of the information system on live births (sinasc) in Paraná, Brazil (1996-2018). Saúde (Santa Maria). 2021;47(1):e63542. doi:10.5902/2236583463542
13. Paris GF, Monteschio LVC, Oliveira RR, Latorre MRDO, Pelloso SM, Mathias TAF. Tendência temporal da via de parto de acordo com a fonte de financiamento. Rev Bras Ginecol Obstet. 2014;36(12):548-54. doi: 10.1590/So100-720320140005038
14. Ministério da Saúde (BR). Departamento de Informática do SUS. Tabnet. [Internet]. 2022 [citado em 16 de fevereiro de 2023]. Disponível em: https://datasus.saude.gov.br/informacoes-de-saude-tabnet/.

15. Brasil. Lei nº 20.127, de 15 de janeiro de 2020. [Internet]. 2020 [citado em 29 de setembro de 2023]. Disponível em: https://www.legislacao.pr.gov.br/legislacao/pesquisarAto.do?action=exibir&codAto=230653&indice=1&totalRegistros=1&dt=30.8.2023.21.39.12.897.
16. Instituto Paranaense de Desenvolvimento Econômico e Social. Ipardes. Estatísticas [Internet]. Paraná; 2023 [citado em 5 de abril de 2023]. Disponível em: https://www.ipardes.pr.gov.br/.
17. Farjado S, Cunha LAG. Paraná: Desenvolvimento e diferenças regionais. Ponta Grossa (PR): Atena, 2021.
18. Melo EC, Mathias TAF. Spatial distribution and self-correlation of mother and child health indicators in the State of Parana, Brazil. Rev. Latinoam Enferm. 2010;18(6):1177-86. doi: 10.1590/S0104-11692010000600019
19. Doldan RV, Costa JSD, Nunes MF. Associated factors and infant mortality in the municipality of Foz do Iguaçu, State of Paraná, Brazil – a case control study. Epidemiol Serv Saúde. 2011;20(4):491-8. doi: 10.5123/S1679-49742011000400008
20. Predebon KM, Mathias TAF, Aidar T, Rodrigues AL. Socio-spatial inequality expressed by indicators from the Information System on Live Births (SINASC). Cad Saude Publica. 2010;26(8):1583-94. doi: 10.1590/S0102-311X2010000800012
21. Pedraza DF. Sistema de informações sobre nascidos vivos: uma análise da qualidade com base na literatura. Cad Saúde Colet. 2021;29(1):143-52. doi: 10.1590/1414-462X202129010106
22. Szwarcwald CL, Leal MC, Esteves-Pereira AP, Almeida WS, Frias PG, Damacena GN, et al. Avaliação das informações do Sistema de Informações sobre Nascidos Vivos (SINASC), Brasil. Cad Saúde Pública. 2019;35(10):e00214918. doi: 10.1590/0102-311X00214918
23. Oliveira MM, Andrade SSCA, Dimech GS, Oliveira JCG, Malta DC, Rabello Neto DL, et al. Evaluation of the National Information System on Live Births in Brazil, 2006-2010. Epidemiol Serv Saúde. 2015;24(4):629-40. doi: 10.5123/S1679-49742015000400005
24. Silva RC, Oliveira CM, Ferreira KS, Bonfim CV. Live birth information system variable completeness evaluation in the Northeast Brazilian States, 2000 and 2009. Epidemiol Serv Saúde. 2013, 22(2):347-52. doi: 10.5123/S1679-49742013000200016
25. Romaguera AA, Guimarães ALS, Oliveira CM, Cardoso MD, Bonfim CV. Concordância e completude dos dados sobre nascidos vivos e óbitos infantis. Acta Paul Enferm. 2020;33:1-8. doi:10.37689/acta-ape/2020AO0309
26. Correa-Junior MD, Santos B, Roveda JRC, Silva L, Guimaraes LS, Goncalves SCL. Improving the management of high-risk pregnancies with the use of the Robson Classification. Rev Bras Ginecol Obstet. 2020;42(8):448-53. doi: 10.1055/s-0040-1713910

RESUMO

Objetivo: *Avaliar a incompletude das variáveis da Classificação de Robson no Sistema de Informação sobre Nascidos Vivos (Sinasc) do Paraná e sua tendência, 2014-2020.* ***Métodos:*** *Estudo de séries temporais que analisou seis variáveis, segundo macrorregionais de saúde. Classificou-se a incompletude (percentual de campos "ignorados" e "em branco") em: excelente (< 1,0%); bom (1,0-2,9%); regular (3,0-6,9%); ruim (≥ 7,0%). Utilizou-se regressão de Prais-Winsten para estimar tendências.* ***Resultados:*** *Foram avaliados 1.089.116 nascimentos. A variável "cesárea antes do trabalho de parto iniciar" classificou-se como ruim, em 2014 (39,4%) e 2015 (44,3%), no estado, e em todas as macrorregionais, porém com tendência decrescente de incompletude. As variáveis "idade gestacional" no Norte e Noroeste, e "paridade" e "número de fetos" no Noroeste apresentaram tendência crescente.* ***Conclusão:*** *A maioria das variáveis avaliadas mostrou baixos percentuais de incompletude com tendência decrescente, mas é preciso melhorar o preenchimento de algumas variáveis.*

Palavras-chave: *Cesárea; Sistemas de Informações em Saúde; Epidemiologia Descritiva; Estatísticas Vitais*

RESUMEN

Objetivo: *Evaluar la incompletitud de las variables de la Clasificación de Robson en el Sistema de Información de Nacidos Vivos (SINASC) de Paraná y su tendencia, 2014-2020.* ***Métodos:*** *Estudio de series temporales que analizó seis variables, según macrorregiones de salud. La incompletitud (percentaje de campos "ignorados" y "en blanco") se clasificó como: excelente (< 1,0%); buena (1,0-2,9%); regular (3,0-6,9%); mala (≥ 7,0%). Se utilizó la regresión de Prais-Winsten para estimar tendencia.* ***Resultados:*** *Se evaluaron 1.089.116 nacimientos. "Cesárea antes del inicio del trabajo de parto" se clasificó como mala en 2014 (39,4%) y 2015 (44,3%) en Paraná y en todas las macrorregiones, pero con tendencia decreciente de incompletitud. Las variables "edad gestacional", "paridad" y "número de fetos" mostraron tendencia creciente.* ***Conclusión:*** *La mayoría de las variables evaluadas mostraron porcentajes bajos de incompletitud, con una tendencia decreciente, pero es necesario mejorar el cumplimiento de algunas variables que mostraron una tendencia creciente de incompletitud.*

Palabras clave: *Cesárea, Sistemas de Información en Salud; Epidemiología Descriptiva, Estadísticas Vitales.*