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1. [Lubusky M.](#), Kacerovsky M., Parizek A., Krofta L., Stranak Z., Jirova J., Dusek L.
Newborn weight reference charts in the Czech Republic
(LF UP, FN Olomouc; LF UK, FN Hradec Králové; 1. LF UK, VFN, Praha; 3. LF UK, ÚPMD, Praha; ÚZIS
ČR)

Newborn weight reference charts in the Czech Republic

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Objective

The relationship between birth weight and gestational week, or degree of maturity, are the basic determinants of the newborn's viability and its postnatal adaptation. Based on the classification in a given centile of birth weight, the most common problems and complications that are most likely to occur in a given category of newborns can be predicted. National growth tables will thus enable the classification of newborns as eutrophic, hypotrophic or hypertrophic based on national data.

The aim of the work was to create nationwide/national newborn weight reference charts in the Czech Republic.

Methods

Individual data on birth weight and gestational age for the six-year period 2016-2021 were used to calculate the growth charts, mainly due to the need for a sufficient number of births in the early gestational weeks. A total of 667,081 newborns were included in the calculation. According to the pattern of the INTERGROWTH-21st newborn weight standards, the 3rd, 5th, 10th, 50th, 90th, 95th and 97th weight centiles for the given gestational age in weeks and days, separately for boys and girls, were determined from the average values for the indicated six-year period.

Results

Czech national reference charts assume birth weight values of 0.31 to 4.53 kg for boys and 0.30 to 4.38 kg for girls. In contrast, the international standards have a smaller range of birth weight, taking on values of 0.44 kg to 4.54 kg for boys, 0.42 kg to 4.37 kg for girls.

Centile values of the birth weight of extremely and severely premature newborns acquire lower values in the Czech national reference charts compared to the international INTERGROWTH-21st standards. Also, these standards are slightly fluctuating due to the lower number of births in these early gestational weeks.

National reference charts of birth weight are, on the other hand, higher for full-term newborns compared to international standards. The birth weight of boys from 38+0 weeks and days to 41+5 weeks and days is higher in all indicated centiles compared to international standards, for girls we observe higher values from 38+4 weeks and days to 42+1 weeks and days. The Czech reference charts for birth weight exceed the international INTERGROWTH-21st standards in these cases by approximately 3 percent.

Conclusion

The Czech national reference charts are currently publicly available in static form on the website of the administrator of the National Health Information System of the Czech Republic. For practical use, we are planning to complete the development of an interactive application that will enable immediate comparison and determination of the corresponding weight centile after entering the parameters of a specific newborn.

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OUTPUT AND PERCENTIL CALCULATOR

Percentily porodní hmotnosti u narozených v ČR (datový souhrn)

Národní registr reprodukčního zdraví: Datové souhrny

Autor: Ústav zdravotnických informací a statistiky ČR

Vztah porodní hmotnosti a gestačního týdne jsou základními determinanty viability novorozence a jeho poporodní adaptace. Na základě zařazení do daného percentilu porodní hmotnosti lze předvídat nejčastější problémy a komplikace, které u dané kategorie novorozenců mohou nejpravděpodobněji nastat. Celostátní standardní růstové tabulky tak umožní na národních datech zařazení novorozence mezi eutrofické, hypotrofické či hypertrofické novorozence.

- [Datový souhrn](#) (xlsx, 230 kB)
- [Metodický popis](#) (pdf, 530 kB)
- Autoři: Jitka Jírová, Hana Davidová, Jiří Jarkovský, Marek Lubušký, Daniel Klimeš, Martin Komenda, Ladislav Dušek
- Datum schválení poradou vedení ÚZIS ČR: 14. 10. 2024
- Citace: Jírová J., Davidová H., Jarkovský J., Lubušký M., Klimeš D., Komenda M., Dušek L. Porody podle mezinárodní Robsonovy klasifikace v porodnicích ČR. *Národní zdravotnický informační portál* [online]. Praha: Ministerstvo zdravotnictví ČR a Ústav zdravotnických informací a statistiky ČR, 2024. Dostupné z: <https://www.nzip.cz/data/2142-novorozenci-hmotnost-percentily-datovy-souhrn>. ISSN 2695-0340.

RŮSTOVÉ TABULKY NOVOROZENCŮ Kalkulátor percentilu

Pro zobrazení percentilu porodní hmotnosti zadajte pohlaví dítěte, gestační stáří a porodní hmotnost v kilogramech (s desetinnou tečkou).

1. Pohlaví <input type="radio"/> dívky <input checked="" type="radio"/> chlápci	2. Gestační stáří <input type="radio"/> 39+1 <input type="radio"/> 39+2 <input type="radio"/> 39+3 <input type="radio"/> 39+4 <input checked="" type="radio"/> 39+5 <input type="radio"/> 39+6 <input type="radio"/> 40+0 <input type="radio"/> 40+1 <input type="radio"/> 40+2 <input type="radio"/> 40+3 <input type="radio"/> 40+4 <input type="radio"/> 40+5 <input type="radio"/> 40+6 <input type="radio"/> 41+0	3. Hmotnost <input type="text" value="3,72"/>	PERCENTIL 74
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Zdroj dat: Národní registr reprodukčního zdraví, modul Rodiček

The data summary is available on the website

www.nzip.cz



CONCLUSION

Czech national reference tables are currently publicly available in static form on the website of the administrator of the National Health Information System of the Czech Republic. For practical use, we have prepared an interactive visualization that enables immediate comparison and determination of the corresponding weight centile after entering the parameters of a specific newborn. The data summary is also published for further free use.

