

However, because we collected multiple urine samples per woman, we were able to use the EAR for iodine for pregnant women of 160 µg/L³ in conjunction with techniques described previously⁴ to estimate prevalence of inadequate and excessive iodine intakes. As described in our methods, we used statistical modeling to separate within-person variation from between-person variation and then removed the excess within-person variation. In addition, we used a complex transformation to approximate normality by using specialized software developed for dietary intake distribution estimation.

The WHO median UIC cut points are designed to identify populations at highest risk of iodine deficiency when resources are limited. In contrast, pregnancy cohort studies with multiple urine specimens per participant can use more sophisticated statistical methods that allow for more precise prevalence estimates. Although it is true that we do not have daily urine volume, a 24-hour urine collection is impractical for population research, and more importantly, it has been shown that spot UICs are a reasonable estimate of a 24-hour UIC.⁵ Furthermore, we found stable UICs across gestation even though glomerular filtration rate increases across pregnancy, giving some assurance that results were not impacted by large differences in urine volume.

The importance of iodine in brain development calls for attempts to improve precision when estimating population prevalence of inadequate intake. By using the techniques first described for use in pediatric populations⁴ and replicating it here in a pregnancy cohort, we have illustrated a method that can be used to characterize iodine status in different regions of the United States among different population subgroups with varied dietary patterns. Importantly, we now have a national consortium of pregnancy cohorts (<https://www.nih.gov/echo>) to which these methods could be applied. ■

Jean M. Kerver, PhD, MSc, RD
Department of Epidemiology and Biostatistics
Michigan State University College of Human Medicine
East Lansing, MI
kerverje@msu.edu

Elizabeth N. Pearce, MD
Section of Endocrinology, Diabetes, Nutrition and Weight Management
Department of Medicine
Boston University School of Medicine
Boston, MA

Michael R. Elliott, PhD
Department of Biostatistics
School of Public Health
University of Michigan
Ann Arbor, MI

Nigel Paneth, MD, MPH
Department of Epidemiology and Biostatistics
Michigan State University College of Human Medicine
East Lansing, MI
Department of Pediatrics and Human Development
College of Human Medicine
Michigan State University
East Lansing, MI

The authors report no conflict of interest.

REFERENCES

1. Verkaik-Kloosterman J, de Jong M, Ocké M. Assessing prevalence of inadequacy and excessive iodine intake: misinterpretation is lying in ambush. *Am J Obstet Gynecol* 2021;224:418.
2. World Health Organization. Urinary iodine concentrations for determining iodine status deficiency in populations. 2013. Available at: <https://www.who.int/vmnis/indicators/urinaryiodine/en/>. Accessed October 28, 2020.
3. Institute of Medicine (US) Panel on Micronutrients. Dietary reference intakes for vitamin A, vitamin K, arsenic, boron, chromium, copper, iodine, iron, manganese, molybdenum, nickel, silicon, vanadium, and zinc. 2001. Available at: <https://www.ncbi.nlm.nih.gov/books/NBK222330/>. Accessed November 30, 2020.
4. Zimmermann MB, Hussein I, Al Ghannami S, et al. Estimation of the prevalence of inadequate and excessive iodine intakes in school-age children from the adjusted distribution of urinary iodine concentrations from population surveys. *J Nutr* 2016;146:1204–11.
5. Perrine CG, Cogswell ME, Swanson CA, et al. Comparison of population iodine estimates from 24-hour urine and timed-spot urine samples. *Thyroid* 2014;24:748–57.

© 2020 Elsevier Inc. All rights reserved. <https://doi.org/10.1016/j.ajog.2020.11.023>

Coronavirus disease 2019 and its controversial results during pregnancy



TO THE EDITORS: It is with great interest that we read the article "Coronavirus Disease 2019 (COVID-19) and pregnancy: what obstetricians need to know," written by Rasmussen et al.¹ The article reported that, despite limited available data on the treatment of pregnant women with COVID-19, the serious clinical course of this disease might be avoided if the management of COVID-19 by healthcare

professionals is based on the recommendations for the initial pregnancy care of women with severe acute respiratory syndrome or Middle East respiratory syndrome.

The article indicated that pregnant women and their fetuses are particularly susceptible to poor outcomes, owing to the physiological changes that occur during pregnancy, which render pregnant women more vulnerable to serious

infections.¹ This information is corroborated by a systematic review of 108 cases, in which it was found that although the majority of mothers were discharged without major complications, serious maternal morbidity rates were reported.² However, these 2 publications differ from another article in which it was concluded that there were no serious complications—in the observed pregnant women—in addition to those complications already described in the nonpregnant female population.³ To date, the susceptibility of pregnant women to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) infection and its associated complications has been a very controversial topic that remains unresolved.

The authors characterized the current pandemic as an unprecedented global health crisis. As a consequence of this situation, academic circles try to gather as much information about SARS-CoV-2 as possible. The lack of conclusive information regarding the prevention and treatment of SARS-CoV-2 infections prevents the development of a single strategy for the management of the infected population, whether pregnant or not.

However, taking into account that the basis of care for any pregnant woman is to prevent the disease spread by standard interventions, basic health measures must be put in place to prevent minor respiratory complications from becoming fatal. This requires aggressive implementation of an outbreak control and management model as soon as the virus reaches the community.⁴ In addition, surveillance of COVID-19 cases should include more detailed information on the health status of pregnant women in addition to maternal and fetal outcomes to ensure accurate data collection. ■

Fernanda Volpato
Laura G. dos Santos
University of Southern Santa Catarina
Block D
787 Ave. José Acácio Moreira
Tubarão, Santa Catarina 88704-240
Brazil
lauragoedel1@hotmail.com

Eliane M. dos Santos
University of Southern Santa Catarina
Tubarão, Santa Catarina
Brazil

The authors report no conflict of interest.

This work did not receive financial support.

REFERENCES

1. Rasmussen SA, Smulian JC, Lednicky JA, Wen TS, Jamieson DJ. Coronavirus disease 2019 (COVID-19) and pregnancy: what obstetricians need to know. *Am J Obstet Gynecol* 2020;222:415–26.
2. Zaigham M, Andersson O. Maternal and perinatal outcomes with COVID-19: a systematic review of 108 pregnancies. *Acta Obstet Gynecol Scand* 2020;99:823–9.
3. Li N, Han L, Peng M, et al. Maternal and neonatal outcomes of pregnancy women with COVID-19 pneumonia: a case-control study. *Clin Infect Dis* 2020. [Epub ahead of print].
4. Takemoto MLS, Menezes MO, Andreucci CB, et al. The tragedy of COVID-19 in Brazil: 124 maternal deaths and counting. *Int J Gynecol Obstet* 2020. [Epub ahead of print].

© 2020 Elsevier Inc. All rights reserved. <https://doi.org/10.1016/j.ajog.2020.11.020>

Coronavirus disease 2019 and pregnancy



TO THE EDITORS: We appreciate the interest in our work and the opportunity to respond to the issues raised by Volpato et al.¹ Since the online publication of our paper on February 24, 2020,² data from many additional studies have been published, addressing the effects of coronavirus disease 2019 (COVID-19) on the pregnant woman and her fetus. For example, updates on surveillance data from the United States on COVID-19 and pregnancy were recently published: these data show that among over 400,000 women of childbearing age with symptomatic COVID-19, pregnant women were more likely to be admitted to an intensive care unit, to require invasive ventilation, to receive extracorporeal membrane oxygenation, and to die than nonpregnant women.³ Infants born to these women also seem to be at increased risk: among nearly 4000 infants born to women with COVID-19 during pregnancy in 16 jurisdictions in the United States, infants born to severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2)—infected women were more likely to be born preterm (12.9% were preterm, compared with a national estimate of 10.2%).⁴ These data

are consistent with a large systematic review that suggests that infants born to mothers with COVID-19 are at a 3-fold increased risk of preterm birth and of neonatal intensive care unit admission.⁵ These findings emphasize the importance of implementation of COVID-19 prevention measures in pregnant women and the importance of collecting data on SARS-CoV-2—infected pregnant women and their infants. ■

Sonja A. Rasmussen, MD, MS
Department of Pediatrics
College of Medicine
University of Florida
1600 SW Archer Rd.
Box 100296
Gainesville, FL
Department of Obstetrics and Gynecology
College of Medicine
University of Florida
Gainesville, FL