



Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

## Erratum to systematic review and critical evaluation of quality of clinical practice guidelines on the management of SARS-CoV-2 infection in pregnancy



Raffaella Di Girolamo, MD; Asma Khalil, MD, PhD; Giuseppe Rizzo, MD, PhD; Giulia Capannolo, MD; Danilo Buca, MD; Marco Liberati, MD, PhD; Ganesh Acharya, MD, PhD; Anthony O. Odibo, MD, PhD; Francesco D'Antonio, MD, PhD

The publisher regrets that the authors' corrections regarding structural errors in [Tables 1](#) and [2](#) were not incorporated during the proofing stage. There seems to be some overlap between these tables and the supplementary tables. Furthermore, [Table 3](#) and [Figure 1](#) were incorrect. Please refer to the corrected table and figure files below. ■

**Cite this article as:** Di Girolamo R, Khalil A, Rizzo G, et al. Erratum to systematic review and critical evaluation of quality of clinical practice guidelines on the management of SARS-CoV-2 infection in pregnancy. *Am J Obstet Gynecol MFM* 2022;4:100683.

2589-9333/\$36.00

© 2022 Elsevier Inc. All rights reserved.

<http://dx.doi.org/10.1016/j.ajogmf.2022.100683>

**TABLE 1**  
**General characteristics of the CPGs included in the quantitative analyses of systematic review**

First author or society	Year	Country	Title	Society	Scope	Date of publication	Number of revisions	Method of development
CAPWHN, <sup>6</sup> 2020	2020	Canada	Suggestions for the care of the perinatal population	Canadian Association of Perinatal and Women's Health Nurses	National	2020	0	Expert opinion, methods not reported
Chawla, <sup>11</sup> 2020	2020	India	Perinatal-neonatal management of COVID-19 infection	Federation of Obstetric and Gynaecological Societies of India, National Neonatology Forum of India, and Indian Academy of Pediatrics	National	2020	0	Review of literature, expert panel consensus, GRADE
Elwood, <sup>12</sup> 2020	2020	Canada	Committee Opinion No. 400: COVID-19 and pregnancy	The Society of Obstetricians and Gynaecologists of Canada	National	2021	2	Review of literature, expert panel consensus, methods not reported
CDC, <sup>13</sup> 2020	2020	United States	COVID-19 vaccines while pregnant or breastfeeding	Centers for Disease Control and Prevention	National	2021	3	Methods not reported
ACOG, <sup>14</sup> 2020	2020	United States	COVID-19 vaccination considerations for obstetric—gynecologic care	American College of Obstetricians and Gynecologists	National	2021	3	Review of literature, expert panel consensus, methods not reported
Miller, <sup>15</sup> 2020	2020	United Kingdom	Society for Maternal-Fetal Medicine and Society for Obstetric and Anesthesia and Perinatology labor and delivery COVID-19 consideration	The Society for Maternal-Fetal Medicine	National	2021	7	Expert opinion, methods not reported
RANZCOG, <sup>16</sup> 2020	2020	Australia	Coronavirus disease (COVID-19) in pregnancy: a guide for resource-limited environments	The Royal Australian and New Zealand College of Obstetricians and Gynaecologists	National	2020	3	Review of literature, expert panel consensus, methods not reported
NSW, <sup>18</sup> 2020	2020	Australia	Guidance for maternity, newborn care and infant feeding, medicine management for pregnant patients with COVID-19	New South Wales Government Health	Local	2021	3	Review of literature, expert panel consensus, methods not reported
Quebec Group, <sup>19</sup> 2020	2020	Canada	Guidelines for the management of the pregnant woman with COVID-19 admitted to the intensive care unit (ICU)	Quebec Maternal-Fetal Medicine Group	Local	2020	0	Expert panel consensus, methods not reported
Government of India, <sup>20</sup> 2021	2021	India	Guidelines on operationalization of maternal health services during COVID-19 pandemic	Maternal Health Division Ministry of Health and Family Welfare	National	2021	0	Methods not reported

(continued)

TABLE 1

## General characteristics of the CPGs included in the quantitative analyses of systematic review (continued)

First author or society	Year	Country	Title	Society	Scope	Date of publication	Number of revisions	Method of development
Indian Council of Medical Research, <sup>21</sup> 2020	2020	India	Guidance for management of pregnant women in COVID-19 pandemic	National Institute for Research in Reproductive Health	National	2020	0	Expert panel consensus, methods not reported
Bahtiyar, <sup>22</sup> 2021	2021	United States	Fetal interventions in the setting of the coronavirus disease 2019 pandemic: statement from the North American Fetal Therapy Network	North American Fetal Therapy Network	National	2021	0	Expert opinion, methods not reported
Poon, <sup>25</sup> 2020	2020	NS	ISUOG Interim Guidance on coronavirus disease 2019 (COVID-19) during pregnancy and puerperium: information for healthcare professionals – an update	International Society of Ultrasound in Obstetrics and Gynecology	International	2020	1	Review of literature, expert panel consensus, methods not reported
Bourne, <sup>26</sup> 2020	2020	NS	ISUOG Consensus Statement on rationalization of early-pregnancy care and provision of ultrasonography in context of SARS-CoV-2	International Society of Ultrasound in Obstetrics and Gynecology	International	2020	1	Review of literature, expert panel consensus, methods not reported
RCOG, <sup>27</sup> 2020	2020	United Kingdom	Guidance for antenatal screening and ultrasound in pregnancy in the coronavirus (COVID-19) pandemic	Royal College of Obstetricians and Gynaecologists	National	2021	1.2	Review of literature, expert panel consensus, methods not reported
RCOG, <sup>28</sup> 2021	2021	United Kingdom	Guidance for rationalising early pregnancy services in the evolving coronavirus (COVID-19) pandemic	Royal College of Obstetricians and Gynaecologists	National	2021	2	Expert panel consensus, methods not reported
RCOG, <sup>29</sup> 2021	2021	United Kingdom	Coronavirus (COVID-19) infection and pregnancy	Royal College of Obstetricians and Gynaecologists	National	2022	14.3	Expert panel consensus, searching through literature
HIS, <sup>31</sup> 2020	2020	United Kingdom	COVID-19 position statement: maternal critical care provision	Healthcare Improvement Scotland	National	2020	2	Expert opinion, methods not reported
SIGO and AOGOI, <sup>32</sup> 2021	2021	Italy	Interim guidance on pregnancy, childbirth, breastfeeding and care of infants (0-2 years) in response to the COVID-19 emergency	Italian Society of Gynaecology and Obstetrics and Association of Italian Hospital Gynaecologists and Obstetricians	National	2021	2	Review of literature, expert panel consensus, methods not reported

GRADE, Grading of Recommendations Assessment, Development and Evaluation; NS, not specified.

Di Girolamo. Management of SARS-CoV-2 infection in pregnancy. *Am J Obstet Gynecol MFM* 2022.

**TABLE 2**  
**AGREE-ment score was showed**

ID AGREE II	Domain 1 (items 1–3)	Domain 2 (items 4–6)	Domain 3 (items 7–14)	Domain 4 (items 15–17)	Domain 5 (items 18–21)	Domain 6 (items 22–23)	OA1	OA2
CAEP.CA <sup>5</sup>	86%	0%	0%	24%	32%	29%	0%	Y (n=0) YWM (n=0) N (n=2)
CAPWHN <sup>6</sup>	86%	43%	21%	48%	32%	64%	43%	Y (n=0) YWM (n=2) N (n=0)
AAFP <sup>7</sup>	86%	0%	0%	24%	32%	29%	0%	Y (n=0) YWM (n=0) N (n=2)
CPS <sup>8</sup>	86%	43%	21%	48%	32%	64%	43%	Y (n=0) YWM (n=2) N (n=0)
AAP <sup>9</sup>	43%	38%	38%	48%	50%	50%	43%	Y (n=0) YWM (n=2) N (n=0)
CDC <sup>10</sup>	90%	81%	59%	90%	61%	43%	71%	Y (n=2) YWM (n=0) N (n=0)
FOGSI, NNF, and IAP <sup>11</sup>	86%	76%	64%	67%	57%	43%	71%	Y (n=2) YWM (n=0) N (n=0)
SOGC <sup>12</sup>	90%	57%	70%	57%	57%	43%	57%	Y (n=1) YWM (n=1) N (n=0)
CDC <sup>13</sup>	90%	81%	59%	90%	61%	43%	71%	Y (n=2) YWM (n=0) N (n=0)
ACOG <sup>14</sup>	90%	57%	70%	62%	54%	43%	57%	Y (n=1) YWM (n=1) N (n=0)
SMFM <sup>15</sup>	86%	43%	54%	86%	67%	50%	71%	Y (n=2) YWM (n=0) N (n=0)
RANZCOG <sup>16</sup>	86%	62%	64%	52%	54%	36%	57%	Y (n=1) YWM (n=1) N (n=0)
FIGO <sup>17</sup>	81%	38%	59%	67%	43%	64%	43%	Y (n=0) YWM (n=2) N (n=0)
NSW <sup>18</sup>	86%	48%	27%	52%	61%	57%	43%	Y (n=0) YWM (n=2) N (n=0)
Quebec Group <sup>19</sup>	43%	38%	38%	48%	50%	50%	43%	Y (n=0) YWM (n=2) N (n=0)
GOI <sup>20</sup>	86%	43%	21%	48%	32%	64%	43%	Y (n=0) YWM (n=2) N (n=0)

(continued)

TABLE 2

## AGREE-ment score was showed (continued)

ID AGREE II	Domain 1 (items 1–3)	Domain 2 (items 4–6)	Domain 3 (items 7–14)	Domain 4 (items 15–17)	Domain 5 (items 18–21)	Domain 6 (items 22–23)	OA1	OA2
ICMR <sup>21</sup>	86%	0%	0%	24%	32%	29%	0%	Y (n=0) YWM (n=0) N (n=2)
NAFTN <sup>22</sup>	43%	38%	38%	48%	50%	50%	43%	Y (n=2) YWM (n=2) N (n=0)
EBCOG <sup>23</sup>	90%	57%	59%	52%	54%	43%	43%	Y (n=0) YWM (n=2) N (n=0)
ISIDOG <sup>24</sup>	43%	43%	21%	48%	32%	29%	43%	Y (n=0) YWM (n=2) N (n=0)
ISUOG <sup>25</sup>	90%	81%	59%	52%	61%	43%	71%	Y (n=2) YWM (n=0) N (n=0)
ISUOG <sup>26</sup>	90%	57%	70%	62%	54%	57%	57%	Y (n=1) YWM (n=1) N (n=0)
ISUOG <sup>27</sup>	86%	76%	64%	67%	57%	43%	71%	Y (n=2) YWM (n=0) N (n=0)
RCOG <sup>28</sup>	90%	57%	70%	57%	57%	50%	71%	Y (n=2) YWM (n=0) N (n=0)
RCOG <sup>29</sup>	90%	76%	59%	48%	61%	64%	71%	Y (n=2) YWM (n=0) N (n=0)
RCOG <sup>30</sup>	90%	81%	59%	90%	61%	43%	71%	Y (n=2) YWM (n=0) N (n=0)
HIS <sup>31</sup>	86%	43%	21%	48%	32%	64%	43%	Y (n=0) YWM (n=2) N (n=0)
SIGO and AOGO <sup>32</sup>	90%	71%	59%	52%	61%	29%	57%	Y (n=1) YWM (n=1) N (n=0)
Average score for each domain <sup>a</sup>	81%	51%	44%	56%	49%	47%	50%	
Standard deviation for each domain	16%	24%	23%	18%	12%	12%	21%	

AAP, American Academy of Family Physicians; AAP, American Academy of Pediatrics; ACOG, American College of Obstetricians and Gynecologists; AGREE II, Appraisal of Guidelines, Research and Evaluation; AOGOI, Association of Italian Hospital Gynaecologists and Obstetricians; CAEP, CA, Canadian Association of Emergency Physicians; CAPWHN, Canadian Association of Perinatal and Women's Health Nurses; CDC, Centers for Disease Control and Prevention; CPS, Canadian pediatric Society; EBCOG, European Board and College of Obstetrics and Gynaecology; FIGO, International Federation of Gynaecology and Obstetrics; FOGSI, Federation of Obstetric and Gynaecological Societies of India; GOI, Government of India; HIS, Healthcare Improvement Scotland; IAP, Indian Academy of Pediatrics; ICMR, Indian Council of Medical Research; ISIDOG, International Society of Infectious Diseases in Obstetrics and Gynecology; ISUOG, International Society of Ultrasound in Obstetrics and Gynecology; N, no; NAFTN, North American Fetal Therapy Network; NNF, National Neonatology Forum of India; NSW, New South Wales Government Health; OA1, overall guideline assessment 1; OA2, overall guideline assessment 2; RANZCOG, The Royal Australian and New Zealand College of Obstetricians and Gynaecologists; RCOG, Royal College of Obstetricians and Gynaecologists; SIGO, Italian Society of Gynaecology and Obstetrics; SMFM, Society for Maternal-Fetal Medicine; SOGC, Society of Obstetricians and Gynaecologists of Canada; Y, yes; YWM, yes with modifications.

<sup>a</sup> A cutoff for high-quality clinical practise guidelines (CPGs) of  $\geq 60\%$  for all 6 AGREE II domains was selected in consideration of the limitations associated with the development of rapid guidelines. The cutoffs for low quality and moderate quality are  $<40\%$  and  $40\%$  to  $60\%$ , respectively. The cutoffs for high quality are  $>60\%$ .

Di Girolamo. Management of SARS-CoV-2 infection in pregnancy. *Am J Obstet Gynecol MFM* 2022.

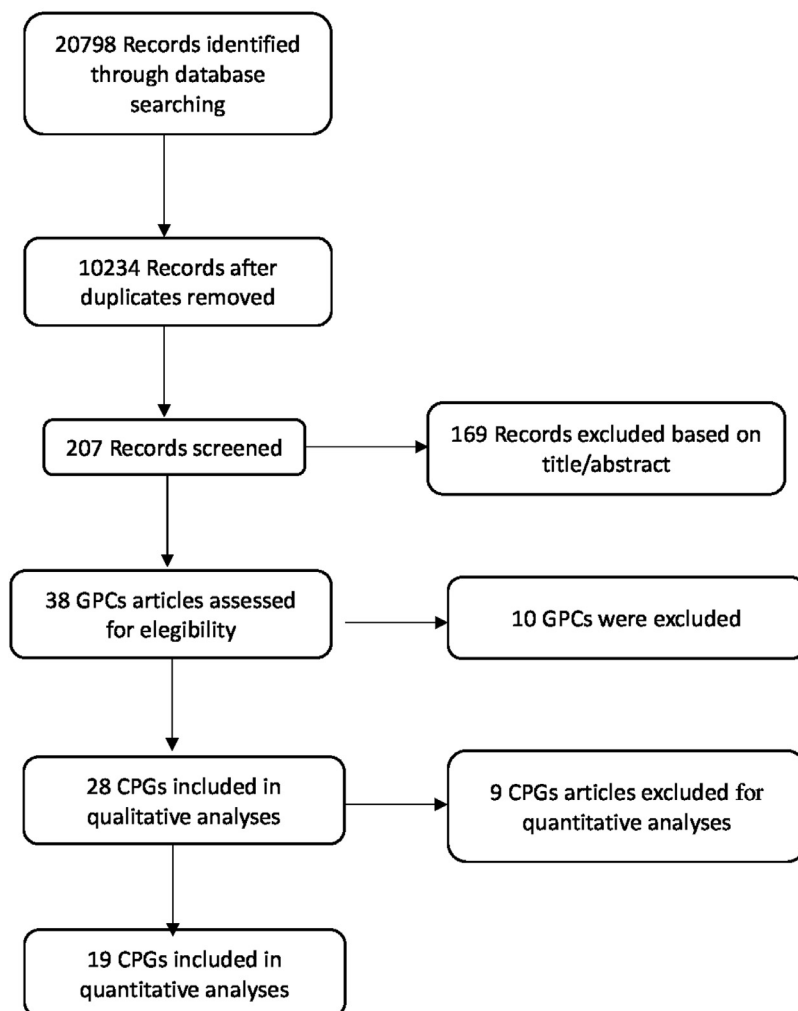
**TABLE 3**  
**Graphic description of issues addressed by eligible rapid guidelines for antenatal care management of pregnant women with COVID-19**

Guideline	CAPWHN <sup>6</sup>	FOGSI, NNF, and IAP <sup>11</sup>	SOGC <sup>12</sup>	CDC <sup>13</sup>	ACOG <sup>14</sup>	SMFM <sup>15</sup>	RANZCOG <sup>16</sup>	NSW <sup>18</sup>	GMFMQ <sup>19</sup>	GOI <sup>20</sup>	ICMR <sup>21</sup>	NAFTN <sup>22</sup>	ISUOG <sup>25</sup>	ISUOG <sup>26</sup>	RCOG <sup>27</sup>	RCOG <sup>28</sup>	RCOG <sup>29</sup>	HIS <sup>31</sup>	SIGO <sup>32</sup>
Year	2020	2020	2020	2020	2020	2020	2020	2020	2020	2021	2020	2021	2020	2020	2020	2021	2022	2020	2021
Maternal hospitalization criteria for COVID-19						X		X	X		X					X			X
Maternal hospitalization criteria for obstetrical conditions	X		X							X			X	X				X	
Ultrasound scan soon after recovery										X	X		X		X		X		X
Monthly surveillance during pregnancy after recovery			X					X		X			X						X
Specific recommendations against invasive procedures												X							
Use of antenatal anticoagulation with LMWH						X			X	X	X		X				X	X	X
Send placenta to histopathology								X											
Corticosteroids for COVID-19 symptoms			X			X			X	X							X		
Other supportive therapies during labor	X	X	X			X	X	X	X	X	X						X	X	X
Continuous fetal electronic monitoring		X	X				X	X	X		X						X		
Induction of labor at 39 weeks						X				X									
Indication for cesarean delivery for COVID-19 symptoms										X	X						X		
Shortening of the second stage of labor							X				X								
Active pushing										X									
Postpartum care: is use of LMWH encouraged?																		X	
Vaccine booster			X	X	X	X												X	

ACOG, American College of Obstetricians and Gynecologists; CAPWH, Canadian Association of Perinatal and Women's Health Nurses; CDC, Centers for Disease Control and Prevention; FOGSI, Federation of Obstetric and Gynaecological Societies of India; GOI, Government of India; HIS, Healthcare Improvement Scotland; IAP, Indian Academy of Pediatrics; ICMR, National Institute for Research in Reproductive Health; ISUOG, International Society of Ultrasound in Obstetrics and Gynecology; LMWH, low-molecular-weight heparin; NAFTN, North American Fetal Therapy Network; NNF, National Neonatology Forum of India; NSW, New South Wales Government Health; RANZCOG, The Royal Australian and New Zealand College of Obstetricians and Gynaecologists; RCOG, Royal College of Obstetricians and Gynaecologists; SIGO, Italian Society of Gynaecology and Obstetrics; SMFM, Society for Maternal-Fetal Medicine; SOGC, Society of Obstetricians and Gynaecologists of Canada.

Di Girolamo. Management of SARS-CoV-2 infection in pregnancy. Am J Obstet Gynecol MFM 2022.

**FIGURE 1**  
**PRISMA flow chart**



CPG, Clinical practise guideline.

Di Girolamo. Management of SARS-CoV-2 infection in pregnancy. *Am J Obstet Gynecol MFM* 2022.

## Supplementary materials

Supplementary material associated with this article can be found in the online version at [doi:10.1016/j.ajogmf.2022.100683](https://doi.org/10.1016/j.ajogmf.2022.100683).

## Author and article information

From the Department of Obstetrics and Gynecology, Center for Fetal Care and High-Risk Pregnancy, University of Chieti, Chieti, Italy (Drs Di Girolamo, Capannolo, Buca, Liberati, and D'Antonio); Fetal Medicine Unit, St. George's Hospital, London, United Kingdom (Dr Khalil); Department of Obstetrics and Gynaecology, Fondazione Policlinico Tor Vergata, Università degli Studi di Roma Tor Vergata, Rome, Italy (Dr Rizzo); Department of Clinical Science, Intervention and Technology, Karolinska Institute and Center for Fetal Medicine, Karolinska University Hospital, Stockholm, Sweden (Dr Acharya); Women's Health and Perinatology Research Group, Department of Clinical Medicine, University of Tromsø – The Arctic University of Norway, Tromsø, Norway (Dr Acharya); Department of Obstetrics and Gynecology, University Hospital of North Norway, Tromsø, Norway (Dr Acharya); Divisions of Maternal-Fetal Medicine and Clinical Research, Department of Obstetrics and Gynecology, Washington University School of Medicine, St. Louis, MO (Dr Odibo). The authors report no conflict of interest.

Corresponding author: Francesco D'Antonio, MD, PhD.  
[francesco.dantonio@unich.it](mailto:francesco.dantonio@unich.it)