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Current Resources for Evidence-Based Practice, November 2020

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ABSTRACT

An extensive review of new resources to support the provision of evidence-based care for women and infants. The current column includes a discussion of diversity in the maternity care workforce and commentaries on reviews focused on burnout in midwifery and a cross-national comparison of guidelines for uncomplicated childbirth.

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Diversifying the Maternity Care Workforce May Ameliorate Racial Disparities in Maternal–Child Health Outcomes

In a recently published, intriguing article, [Greenwood and colleagues \(2020\)](#) used hospital discharge data from Florida, 1992–2015, to explore whether racial concordance between newborn and pediatrician during hospitalization at birth was associated with infant death during the initial hospital stay. By studying pediatricians and newborns specifically, the authors were able to eliminate the effects of verbal communication with the patient and any potential biases held by the patient, if we assume humans are indeed born bias-free. Thus, any differences in outcomes would ostensibly be related to physician bias, physician practice, and so forth. To the extent that parents with learned biases still communicate with physicians with learned biases, the distinction is not entirely clean, but it is nonetheless a unique approach.

[Greenwood et al. \(2020\)](#) reported that racial concordance between pediatricians and newborns was associated with a reduction in the known racial disparity around neonatal deaths. Black newborns always died at higher rates than White newborns, but if newborns were cared for by Black pediatricians or neonatologists, this disparity was somewhat ameliorated. Specifically, if cared for by White physicians, Black neonates

experienced an excess of 430 mortalities per 100,000 births, compared with White neonates, but if cared for by Black physicians, this rate was reduced to an excess of 173 mortalities per 100,000 births. This interaction between race of newborn and race of physician was not affected by whether the physician was board certified. The reduction in disparities effect was stronger in hospitals in which there were more Black neonates. Available data suggested this was because of poorer performance by White physicians in these hospitals rather than better performance by Black physicians. A similar pattern of results was seen for racial concordance of childbearing women and their obstetricians, but given low numbers of maternal mortalities, this part of the analysis was underpowered and there were no statistically significant differences.

This analysis has limitations. Hospitalized newborns are invariably cared for by more than one physician and by other nonphysician members of maternity care teams. Furthermore, newborn race was available in the dataset, but physician race was not. The researchers relied on internet searches and images to assign race to physicians. Nonetheless, this research by [Greenwood and colleagues \(2020\)](#) is an intriguing first step that lends weight to the idea that diversifying the maternity care workforce may be one piece of the puzzle necessary to address the vast racial disparities in maternity care outcomes in the United States. [Greenwood et al. \(2020\)](#) cautioned that

merely providing all infants with physicians who looks like them may help but will be insufficient, because of heterogeneity in physician practice patterns and outcomes. Additional efforts beyond just patient/physician race matching will be necessary.

Greenwood et al. (2020) did not speculate about possible mechanisms for the observed pattern of data. However, from the extensive literature on unconscious biases in the workplace, wherein without realizing it, we all tend to gravitate towards and reward people who are more like ourselves (i.e., homosocial reproduction; Pager & Shepherd, 2008; Rivera, 2012), it is possible a similar unconscious mechanism is at work in maternity care. Alternatively, perhaps culturally shared, lived experiences—assuming that an epigenetic or other life-course mechanism affects the health of neonates—allow Black physicians to genuinely provide better, more intuitive care to Black infants.

Regardless, diversifying the maternity care workforce would almost certainly improve maternal-child health in the United States in other ways. The concept of community-based participatory research explicitly calls for the inclusion of members of the target population in planning and conducting research. Why would we not do the same in the provision of maternity care? Not just including consumers and advocates but emphasizing diversity at all levels, up to and including physicians and administrators? A growing literature on diversity in science exists and suggests that better solutions to problems stem from having a diverse team working together to address them:

The ability to see the problem differently, not simply “being smart,” often is the key to a breakthrough. As a result, when groups of intelligent individuals are working to solve hard problems, *the diversity of the problem solvers matters more than their individual ability*. Thus, *diversity is not distinct from enhancing overall quality—it is integral to achieving it*. (Gibbs, 2014, paragraph 7)

The current racial and ethnic disparities in rates of maternal and infant death in the United States are certainly “hard problems.” Ensuring that a diverse group of professionals as possible is at the table and participates meaningfully in addressing this problem should be a top priority for all of us who work in this field.

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From Cochrane Database of Systematic Reviews (CDSR) Issues 11–12 (2019)

Systematic Reviews in CDSR: Women's Health

- Antibiotic therapy for pelvic inflammatory disease
- Behavioural activation therapy for depression in adults
- Fluid and pharmacological agents for adhesion prevention after gynaecological surgery
- Interventions commonly available during pandemics for heavy menstrual bleeding: An overview of Cochrane Reviews
- Metformin versus the combined oral contraceptive pill for hirsutism, acne, and menstrual pattern in polycystic ovary syndrome
- Oral versus intra-vaginal imidazole and triazole anti-fungal treatment of uncomplicated vulvovaginal candidiasis (thrush)
- Psychological therapies for women who experience intimate partner violence
- Wheat flour fortification with iron for reducing anaemia and improving iron status in populations

Systematic Reviews in CDSR: Fertility, Contraception, and ART

- Antioxidants for female subfertility
- Endometrial injection of embryo culture supernatant for subfertile women in assisted reproduction
- GM-CSF (granulocyte macrophage colony-stimulating factor) supplementation in culture media for women undergoing assisted reproduction
- Number of embryos for transfer following in vitro fertilisation or intra-cytoplasmic sperm injection

Systematic Reviews in CDSR: Pregnancy and Birth

- Aspirin (single dose) for perineal pain in the early postpartum period
- Home versus inpatient induction of labour for improving birth outcomes
- Induction of labour at or beyond 37 weeks' gestation
- Interventions for non-tubal ectopic pregnancy
- Interventions for preventing postpartum constipation
- Mechanical and surgical interventions for treating primary postpartum haemorrhage
- Pharmacological interventions for treating intrahepatic cholestasis of pregnancy
- Setting and techniques for monitoring blood pressure during pregnancy
- Techniques for preventing hypotension during spinal anaesthesia for caesarean section

Systematic Reviews in CDSR: Infant Health and Breastfeeding

- Early fortification of human milk versus late fortification to promote growth in preterm infants
- Education of family members to support weaning to solids and nutrition in later infancy in term-born infants
- Fat supplementation of human milk for promoting growth in preterm infants
- Head midline position for preventing the occurrence or extension of germinal matrix-intraventricular haemorrhage in preterm infants
- Stem cell-based interventions for the prevention of morbidity and mortality following hypoxic-ischaemic encephalopathy in newborn infants

- Use of reflective materials during phototherapy for newborn infants with unconjugated hyperbilirubinaemia

Systematic Reviews in CDSR: Nursing Practice

- Mobile technologies to support healthcare provider to healthcare provider communication and management of care
- Printed educational materials: Effects on professional practice and healthcare outcomes
- Psychological interventions to foster resilience in healthcare students
- Routine Health Information System (RHIS) improvements for strengthened health system management
- Targeted client communication via mobile devices for improving maternal, neonatal, and child health
- Targeted client communication via mobile devices for improving sexual and reproductive health

Systematic Reviews in CDSR: SARS-CoV-2/COVID-19

- Signs and symptoms to determine if a patient presenting in primary care or hospital outpatient settings has COVID-19 disease

Evidence-Based Reviews from Other Sources

Recent Evidence-Based Reviews: Women's Health

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Recent Evidence-Based Reviews: Fertility, Contraception, and ART

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- ### Recent Evidence-Based Reviews: Infant Health and Breastfeeding
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Recent Evidence-Based Reviews: Nursing Practice

- DeNicola, N., Grossman, D., Marko, K., Sonalkar, S., Butler Tobah, Y. S., Ganju, N., ... Lowery, C. (2020). Telehealth interventions to improve obstetric and gynecologic health outcomes: A systematic review. *Obstetrics & Gynecology*, 135(2), 371–382. <https://doi.org/10.1097/AOG.0000000000003646>
- McFarland, A. K., Jones, J., Luchsinger, J., Kissler, K., & Smith, D. C. (2020). The experiences of midwives in integrated maternity care: A qualitative metasynthesis. *Midwifery*, 80, 102544. <https://doi.org/10.1016/j.midw.2019.102544>
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- Suleiman-Martos, N., Albendín-García, L., Gómez-Urquiza, J. L., Vargas-Román, K., Ramirez-Baena, L., Ortega-Campos, E., & De La Fuente-Solana, E. I. (2020). Prevalence and predictors of burnout in midwives:

A systematic review and meta-analysis. *International Journal of Environmental Research and Public Health*, 17(2), 641. <https://doi.org/10.3390/ijerph17020641>

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Featured Reviews: McFarland, A. K., Jones, J., Luchsinger, J., Kissler, K., & Smith, D. C. (2020). The experiences of midwives in integrated maternity care: A qualitative metasynthesis. *Midwifery*, 80, 102544. <https://doi.org/10.1016/j.midw.2019.102544>

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In these articles, the authors addressed issues that pertain to work-related quality of life for midwives. Suleiman-Martos and colleagues (2020) conducted a meta-analysis of studies about symptoms of and contributors to burnout among midwives. They included 14 studies from Australia, Canada, and Europe that included data from 8,958 midwives. The overall prevalence of burnout-related symptoms was 50%, and prevalence of burnout was higher among younger, less experienced, and single midwives. Burnout was inversely related to salary and amount of autonomy/professional recognition by hospital colleagues. Prevalence of burnout was lower among midwives employed in a caseload midwifery model, even though such models require 24-hour availability and often longer hours.

McFarland and colleagues (2020) presented results from a meta-synthesis of qualitative studies. They included eight studies from Europe, Australia, and the United States on midwives' professional experiences practicing in integrated, hospital-based maternity care services. The studies included more than 187 midwives. Not all sample sizes were reported, but qualitative studies are usually small. Three overall themes

emerged: *Professional Dissonance* ("the reality of practice does not meet professional expectation"), *Functioning Through Risk* ("labor management decisions [in the midwives' hospitals] were made based on heightened perceptions of risk rather than on the trust in the normalcy essential to midwifery") and *Practicing Down* ("the long-term effect of being pushed to practice outside and beneath the midwifery model while lacking effective avenue for recourse"; McFarland et al., 2020, pp. 4–6).

Comment: I read the Suleiman-Martos et al. (2020) article first, and my initial thought about the finding that burnout was more common in younger/less experienced midwives was, "This is just selection bias." In other words, those midwives prone to burnout do not continue practicing long enough to become older/more experienced midwives. However, after reading the McFarland et al. (2020) article, I think this issue is more complicated. McFarland et al. (2020) reported numerous circumstances under which newly trained midwives suffered more than their more experienced colleagues, and these circumstances were mostly related to the fact that midwifery training remains idealized. Once in practice, however, midwives discover a large disconnect between what they learned in training and the realities of practicing in a risk-based, medicalized model. More experienced midwives described having been forced to acclimate and abandon many midwifery principles to survive in obstetrician-focused practices. Presumably, midwives who were unable or unwilling to acclimate left practice, which circles back to the idea of selection bias driving the appearance of burnout among younger midwives.

The finding that caseload midwifery was associated with lower rates of burnout persisted even when controlling for hours worked or 24-hour availability shift requirements. Perhaps this is related to the extensive findings by McFarland et al. (2020) about midwives in integrated practices being forced to conform to non-midwifery models of care, and midwives prefer more the increased autonomy found within caseload models. Alternatively, perhaps it has more to do with the fact that midwives in a caseload model are responsible for fewer patients overall.

We must consider that most of the research summarized by Suleiman-Martos et al. (2020) and McFarland et al. (2020) was not conducted in the United States. With our much lower reliance on

midwives, these results may not be generalizable to our circumstances. However, given the struggles around the autonomy of advanced practice nurses in the United States (Kaiser Family Foundation, 2015) and our similarly high rates of burnout among midwives (Williams, 2018), it seems likely that these results are a reasonable starting point for discussions of practice environments in the United States.

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Featured Review: Zhao, Y., Lu, H., Zang, Y., & Li, X. (2020). A systematic review of clinical practice guidelines on uncomplicated birth. *British Journal of Obstetrics & Gynaecology*, 127(7), 789–797. <https://doi.org/10.1111/1471-0528.16073>

Uncomplicated birth is the latest in a series of terms, including *normal birth*, *physiologic birth*, and others, meant to draw attention to the overuse of unnecessary interventions during the perinatal period (Downe & Byrom, 2019). Overuse of cesarean is perhaps the most important of these (Boerma et al., 2018; Downe & Byrom, 2019; Sandall et al., 2018; Wiklund et al., 2018), but overuse of numerous additional medical technologies remains rampant, including induction of labor (Declercq et al., 2013; Seijmonsbergen-Schermers et al., 2020), continuous electronic fetal monitoring (Alfirevic et al., 2017; Sartwelle & Johnston, 2018), inaccurate diagnostic and prognostic tests (Faron et al., 2020), routine amniotomy (Declercq et al., 2013; Smyth et al., 2013), and many more (Downe & Byrom, 2019). The opposite idea is standard midwifery practice: most women can be supported to give birth without such interventions, and indeed they will have better outcomes without them.

However, no consensus exists regarding exactly what an uncomplicated (normal, physiologic) birth is. Because the gamut of possible interventions during the perinatal period runs from scheduled cesarean without labor to position changes and other tactics taught in midwifery schools, no global definition of uncomplicated birth currently exists. In this systematic review, Zhao et al. (2020) collected 11 clinical guidelines from around the world

(including *Guidelines for Perinatal Care*, jointly published by the American Academy of Pediatrics (AAP) and the American College of Obstetricians and Gynecologists (ACOG; 2017) and compared recommendations for management of uncomplicated birth.

Most of the guidelines promoted self-directed pushing, not routinely using amniotomy or episiotomy, encouraging eating and drinking during labor if tolerated, intermittent auscultation rather than continuous fetal heart rate monitoring, and encouraging women to have companions during labor (Zhao et al., 2020, Table 1). The most consensus (10 of 11 guidelines) promoted the routine use of uterotonics during the third stage of labor (Zhao et al., 2020). There was not consensus among the guidelines regarding waterbirth, time of admission to the labor ward, frequency of vaginal examinations, optimal timing of cord clamping or breastfeeding initiation, and many others (Zhao et al., 2020, Table 2).

Comment: Active management of the third stage of labor has become standard of care, but recent evidence suggests uterotonics may not work as anticipated in women who received no synthetic oxytocin during labor (Erickson et al., 2019). In other words, as hemorrhage prophylaxis during the third stage of labor, synthetic oxytocin might be another step in the cascade of obstetric interventions that is only necessary because of interventions used earlier in labor. It will be interesting to see how this specific issue plays out; as we have learned from other now-ubiquitous interventions in maternity care, once a clinical practice is widely adopted, it is difficult to divest ourselves of it even when evidence does not support its use, for example, routine screening ultrasound (Declercq et al., 2013; Ewigman et al., 1993; Siddique et al., 2009), and continuous electronic fetal monitoring (Alfirevic et al., 2017; Declercq et al., 2013; Sartwelle & Johnston, 2018).

From our perspective here in the United States, it is more interesting to look at where the various guidelines differ. The AAP and ACOG guidelines (2017) are called out often by Zhao and colleagues (2020) for advancing a position not necessarily in line with evidence-based, uncomplicated birth. Specifically, AAP and ACOG (2017) advocated for earlier cord clamping (30–60 seconds), earlier admission to the hospital (during latent stage), and less frequent intermittent auscultation of the fetal heart rate during the second stage (every 15 minutes, compared to every

5–10 advocated by others; possibly because ACOG is assuming all women in the United States will have continuous monitoring?). As midwives and intrapartum nurses practicing in the United States and relating to the issue of burnout discussed earlier in this column, it must be difficult to reconcile the official AAP and ACOG guidelines with what we know is likely best for women and infants. On the flip side, *AAP and ACOG (2017)* advocated for an earlier start to breastfeeding (within 1 hour) and a longer hospital stay (48 hours) than some of our global colleagues.

One final note: I am very familiar with the literature on waterbirth. *Zhao et al. (2020)* mischaracterized the *AAP and ACOG guidelines (2017)* for waterbirth and incorrectly stated that labor in water is not recommended. On the contrary, the two most recent AAP and ACOG guidelines about this topic state that labor in water is safe (*ACOG, 2016; AAP, 2014*); they object vehemently to *waterbirth*. Thus, perhaps the entirety of the *Zhao et al. (2020)* article should be taken with a grain of salt. Who knows whether other slight errors were included that would affect interpretation? I nearly did not cover this review when I realized the error on water immersion in labor but opted to note the discrepancy instead because this topic meshed so nicely with the earlier one on midwifery practice and burnout.

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