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Perinatal Behavioral Health, the COVID-19 Pandemic, and a Social Determinants of Health Framework

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ABSTRACT

The United States has greater prevalence of mental illness and substance use disorders than other developed countries, and pregnant women are disproportionately affected. The current global COVID-19 pandemic, through the exacerbation of psychological distress, unevenly affects the vulnerable population of pregnant women. Social distancing measures and widespread closures of businesses secondary to COVID-19 are likely to continue for the foreseeable future and to further magnify psychosocial risk factors. We propose the use of a social determinants of health framework to integrate behavioral health considerations into prenatal care and to guide the implementation of universal and comprehensive psychosocial assessment in pregnancy. As the most numerous and well-trusted health care professionals, nurses are ideally positioned to influence program and policy decisions at the community and regional levels and to advocate for the full integration of psychosocial screening and behavioral health into prenatal and postpartum care as core components.

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The construct of behavioral health expands on mental health to include substance use, behaviors, habits, and the wider set of forces that shape the conditions of daily life (American Public Health Association [APHA], 2014). The behavioral health status of the U.S. population falls well below that of other developed nations, with a 50% greater lifetime prevalence rate of any mental illness or substance use disorder (SUD; APHA, 2014). Critically, women experience greater prevalence of anxiety and mood disorders than men (APHA, 2014). The COVID-19 pandemic unevenly affects women, particularly the vulnerable population of pregnant women (Berthelot et al., 2020; Farewell et al., 2020). It is universally accepted that the conditions in which an individual is born, lives, learns, works, and ages affect health outcomes. These conditions are known as the social determinants of health (SDOH). In this commentary, we propose the use of an SDOH framework to integrate behavioral health care into prenatal care and to guide the implementation of universal and comprehensive psychosocial assessment in pregnancy.

Critical Problem

Women

Although the lifetime prevalences of behavioral health problems among women and men are similar, women have a greater lifetime prevalence of anxiety and mood disorders (APHA, 2014). Furthermore, women are twice as likely to experience symptoms of posttraumatic stress disorder (PTSD; Kilpatrick et al., 2013). This disparity may be related to the greater prevalence of women who report sexual assault victimization (42.4% women vs. 15.8% men; Kilpatrick et al., 2013). Compounding these statistics, emerging research on COVID-19–related outcomes showed sex/gender disparities. Women reported significantly greater symptoms of PTSD and emotion regulation difficulties related to the pandemic than men (Jiang et al., 2020; Liu et al., 2020). Reasons for these disparities are unknown but may be related to SDOH, such as increased rates of poverty among women, gender disparities in work environments (e.g., frontline health care workers), exposure to violence in the home, or caretaker roles (Thibaut & van Wijngaarden-Cremers, 2020).

The current global COVID-19 pandemic unevenly affects women, particularly the vulnerable population of pregnant women.

Pregnancy

The childbearing years represent a particularly high-risk life stage for behavioral health problems in women. Emotion dysregulation and psychopathology affect a large portion of women (Falah-Hassani et al., 2017; Wisner et al., 2013). Life stressors known to increase a pregnant woman's vulnerability to behavioral health problems can be grouped into four categories: emotional, financial, partner associated, and traumatic (Burns et al., 2015). Maternal outcomes related to these stressors may include mood disorders, complications such as hyperemesis and hypertensive disorders, and preterm labor (Grobman et al., 2018; Mukherjee et al., 2017). Poor infant outcomes related to these stressors may include insecure attachment and impaired cognitive and emotional development that may extend across the life course (Hoffman et al., 2017; Woolhouse et al., 2015). Furthermore, these stressors are associated with preterm birth and low birth weight, the leading causes of infant morbidity and mortality (Christian, 2012; Shapiro et al., 2013). Collectively, the intergenerational transmission of behavioral health disorders is a major public health problem that affects families and society at large, including health care, academic, occupational, economic, social welfare, and public safety systems (Austin, 2014).

Despite the devastating public health burden of maternal behavioral health disorders, many women who experience these disorders do not receive assistance or necessary treatment (Massachusetts General Hospital Center for Women's Mental Health, 2016; O'Hara & McCabe, 2013). Reasons for this may include underidentification, because there is no established universal screening protocol. Failure to identify at-risk women has negative implications for public health. This highlights the critical need for a life course screening perspective that incorporates behavioral health care into perinatal care.

Framework

Psychosocial assessment includes the evaluation of past and current psychological, social, and cultural risk factors that may increase susceptibility for adverse maternal and infant health

outcomes. Unlike screening for a particular diagnosis, psychosocial assessment is used to direct clinical decision making for the best care options and referral to relevant health care services and community resources (Austin, 2014). Thus, assessment and intervention are framed by the context in which an individual lives. According to *Healthy People 2030* (n.d.), SDOH are "the conditions in the environments where people are born, live, learn, work, play, worship and age that affect a wide range of health functioning and quality of life outcomes and risks" (para. 1). These SDOH include individual characteristics, such as language and literacy skills; life circumstances, such as neighborhood safety or food insecurity; and behavioral health factors, such as trauma history or access to social support (American College of Obstetricians and Gynecologists, 2018; *Healthy People 2030*, n.d.). Possible physical and social conditions for psychosocial assessment using an SDOH framework are presented in *Table 1*.

Although perinatal mental health screening guidelines have been published in several countries, not all promoted broad psychosocial assessment. However, there is a growing body of evidence to support the integration of screening for SDOH into routine clinical practice in primary care (Andermann, 2018; Garg et al., 2015; Meyer et al., 2020). Moreover, the American College of Obstetricians and Gynecologists (2018) recommended that reproductive health care providers screen for SDOH to facilitate patient-centered care that promotes effective communication, improves health outcomes, and minimizes health inequities. *Figure 1* illustrates a framework for screening for SDOH and the facilitation of universal psychosocial assessment and referral related to behavioral health during the perinatal period. The COVID-19 pandemic affects all aspects of this framework: it exacerbates adverse social determinants of health, limits access to health care, and impedes the delivery of community support services.

Background

The lifetime prevalence of behavioral health disorders for individuals residing in the United States is more than 50% (APHA, 2014). Importantly, significant symptoms are generally evident a full 2 years before an individual meets the criteria for medical diagnosis. On average, there

Table 1: Organizing Framework for Assessment of Social Determinants of Health

Determinants	Physical and Social Characteristics	
Individual characteristics	Race/ethnicity	
	Gender identification/sexual practices	
	Primary language	
	Life circumstances	
Life circumstances	Marital status	
	Family structure	
	Education attainment	
	Employment	
	Housing and neighborhood safety	
	Food security	
	Child care	
	Transportation	
	Behavioral health	History of and present mental illness
		Adverse childhood experiences
Interpersonal violence		
Life stress		
Social support		
Tobacco, alcohol, and substance use habits		

is a 10-year delay in the receipt of treatment (APHA, 2014). In particular, inadequate treatment has been described for women during pregnancy and the postpartum period. In a secondary analysis of data from the 2008 to 2012 National Surveys on Drug Use and Health, only 38.5% of women during pregnancy ($n = 4,600$) and 49.5% of women during the postpartum period ($n = 8,000$) who experienced serious psychological distress received mental health care (Glasheen et al., 2015).

Psychosocial risk factors that increase a woman's vulnerability to perinatal behavioral health disorders are common. However, substantial heterogeneity exists across populations, which makes identification of at-risk women particularly difficult without universal assessment programs (Austin, 2014). Risk factors that increase a woman's susceptibility to behavioral health disorders in pregnancy include adverse childhood experiences (ACEs; Atzl et al., 2019), discrimination, economic adversity, disparate access to medical care, lack of social support, intimate partner

violence (IPV), and substance use (Latendresse et al., 2015; Mukherjee et al., 2017). Clustering of these factors is prevalent among disadvantaged women (those of racial minorities, those with low socioeconomic status, and teens), which further increases the likelihood of adverse health outcomes (Latendresse et al., 2015; Ruyak et al., 2017). The COVID-19 pandemic has dramatically increased the risk of behavioral health disorders secondary to unprecedented worry surrounding infection, social isolation, and the unpredictable future.

Individual Risk Factors for Women

Race and ethnicity. It is undeniable that race and ethnicity affect the pregnancy experience and birth outcomes. All underrepresented groups in the United States are at increased risk of maternal, fetal, and neonatal morbidity and mortality (Alhusen et al., 2016; Pruitt et al., 2020; Wang et al., 2020), but startlingly, Black women have a three times greater rate of maternal mortality than non-Hispanic White women (Petersen et al., 2019). The experience of racism and the resulting mental health issues may be key for understanding these disparities.

Structural racism creates living conditions and a social milieu that foster chronic stress, which has implications for health across the life course (Chinn et al., 2020). In particular, chronic stress was hypothesized to promote epigenetic changes that lead to poor birth outcomes (Willis et al., 2014). Racial discrimination and segregation were linked to low birth weight (Alhusen et al., 2016) and preterm birth (Alhusen et al., 2016; Lorch & Enlow, 2015). Unsurprisingly, depression (Grote et al., 2010) and anxiety (Ding et al., 2014) during pregnancy were also associated with poor birth outcomes, and the prevalence of perinatal depression and anxiety was greater among Black and Hispanic women than among White women in the United States (Mukherjee et al., 2016). Such mental health disparities have been related to the experience of discrimination (Ertel et al., 2012; Walker et al., 2012). Worldwide, indigenous women are at greater risk for perinatal depression, anxiety, and substance use related to a history of colonization and ongoing systemic racism (Owais et al., 2020)

Hispanic and Black pregnant women have disproportionate rates of COVID-19 infection (Blitz et al., 2020). In one study, Hispanic and

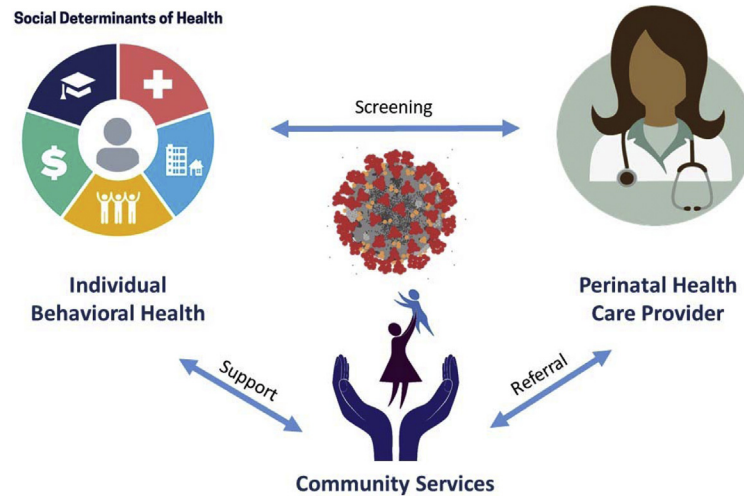


Figure 1. A social determinants of health framework for perinatal behavioral health during the COVID-19 pandemic. The COVID-19 pandemic affects all aspects of this framework: it exacerbates social determinants of health, limits access to health care, and impedes the delivery of community support services. The social determinants of health image at the top left of the figure is from “Social Determinants of Health,” by *Healthy People 2030*, n.d., <https://health.gov/healthypeople/objectives-and-data/social-determinants-health>. The remaining images in the figure are copyright by Can Stock Photo Inc.

Black women were at increased risk of developing severe or critical COVID-19 (Brandt et al., 2020). Many of the health conditions that predispose an individual to severe COVID-19 are associated with the stress of structural racism and socioeconomic disadvantages faced by members of communities of color. During the pandemic, Black pregnant women reported a greater likelihood of having their employment affected and reported more worry about the financial burden of the pandemic than White pregnant women (Gur et al., 2020). Regarding pregnancy, they reported greater concern than White women related to access to prenatal care, the birth experience, and support in the postpartum period (Gur et al., 2020). Therefore, the COVID-19 pandemic has highlighted significant inequities in SDOH among pregnant women of color, many of which are also linked to perinatal behavioral health.

Life Circumstances

Socioeconomic inequalities and living conditions. The experience of living in poverty was associated with greater prevalence of perinatal depression, and a prevalence of as great as 50% was observed among some groups of low-income women (Cubbin et al., 2015). Women living in low-resource settings frequently and increasingly experience adverse maternal and infant outcomes. For example, material hardship,

defined by cumulative exposure to low household income, food insecurity, unstable or unsafe housing, and/or transportation difficulties, was associated with increased risk of anxiety and depression among pregnant women residing in upstate New York (Katz et al., 2018). Poverty and food insecurity often go hand in hand, and approximately 35% of poor women and 20% of near-poor women reported food insecurity during pregnancy in one multisite study (Braveman et al., 2010). Women who had food insecurity in pregnancy and the postpartum period had greater rates of depression, anxiety, and low self-esteem (Casey et al., 2004; Ivers & Cullen, 2011).

The built environment (the environment created by humans in which human activity occurs) can also have a significant positive or negative effect on mental health in the perinatal period. Neighborhood characteristics such as housing damage, property disorder, vacancies, and nuisances were linked to perceived stress or depression in pregnant women (Messer et al., 2013). Residential noise pollution during pregnancy, particularly at night, was predictive of greater risk of postpartum depression requiring hospitalization (He et al., 2019). Neighborhood safety and witnessed violence have also been associated with mental health disorders such as anxiety, depression, and PTSD (de Mendoza et al., 2015). On a positive note, proximity to green space around the home reduced the risk for perinatal depression (McEachan et al., 2016).

The COVID-19 pandemic has greatly exacerbated the influence of these social factors on the mental health of pregnant women. Evidence links the built environment and neighborhood factors with increased risk for COVID-19 infection. For example, the risk of COVID-19 transmission among pregnant women in New York City was greater in neighborhoods and buildings with large household membership, overcrowded conditions, and low socioeconomic status (Emeruwa et al., 2020). Massive unemployment and the resulting food insecurity have required many families to wait in long lines at food distribution centers (Pérez-Escamilla et al., 2020). Access to childcare has become a major challenge; many women must care for their children at home and also balance work responsibilities (Corbett et al., 2020). As a result, it is not surprising that those with lower household income and less education have experienced greater psychological distress in response to the COVID-19 pandemic (Berthelot et al., 2020).

Maternal Behavioral Health Risk Factors

ACEs/trauma. In a recent examination of data from the 2015 to 2017 Behavioral Risk Factor Surveillance System from the Centers for Disease Control and Prevention, nearly one in six adult participants reported four or more ACEs during their lifetime (Merrick, 2019). The magnitude of this public health problem was first appreciated when results of the seminal study conducted by Felitti et al. (1998) showed that individuals who experienced four or more ACEs, compared to those who reported none, were at greater risk of developing chronic diseases such as obesity and diabetes and that these individuals were at a 4- to 12-fold increased risk of SUD, depression, and suicidality. A more recent systematic review and meta-analysis reported consistent results. Specifically, individuals with four or more ACEs compared to individuals reporting none were at increased risk of chronic disease, problematic alcohol use, sexual risk taking, mental health problems, interpersonal violence, and self-directed violence (Hughes et al., 2017). Additionally, ACEs can be antecedents to adverse pregnancy and infant outcomes (Madigan et al., 2017). Specifically, a maternal history of ACEs has been linked to increased rates of perinatal depression and anxiety (Letourneau et al., 2019), PTSD (Atzl et al., 2019), altered stress reactivity (Thomas et al., 2018), and poor emotional health in their children (Robinson et al., 2019).

Approximately 10% of women develop PTSD at some point in their lifetime (U.S. Department of Veterans Affairs, 2019). Although the prevalence of PTSD among women during pregnancy (3.3%) and the postpartum period (4%) was reported to be lower than among women in the general population, estimated rates can be as great as 19% in high-risk groups, such as women with histories of a traumatic birth, ACEs, sexual/physical violence, or history of severe pregnancy complications (Yildiz et al., 2017). Thus, PTSD is one of the most prevalent conditions in pregnancy.

Adverse behavioral outcomes, such as problems with emotion regulation, increased stress, and PTSD, were related to the experience of traumatic events such as disasters and epidemics (Tucker et al., 2012). Similarly, women who experienced disasters were at increased risk of depression, anxiety, and PTSD during pregnancy and the postpartum period (Engel et al., 2005; Harville, Xiong, Pridjian, Elkind-Hirsch, & Buekens, 2009; Tees et al., 2010). Emerging research on outcomes related to COVID-19 supports that women were disproportionately affected and reported significantly greater symptoms of PTSD related to the pandemic than men (Liu et al., 2020). Researchers also reported an increase in the prevalence of depression, anxiety, and thoughts of self-harm in pregnant women assessed after the COVID-19 pandemic announcement compared to those assessed before the pandemic announcement (Wu et al., 2020). During the perinatal period, symptoms of PTSD were associated with preterm birth, low birth weight (N. Cook et al., 2018), and impaired infant emotion self-regulatory ability (Bosquet-Enlow et al., 2011).

Intimate partner violence. IPV can be described as physical violence, sexual violence, stalking, or psychological aggression perpetrated by a current or former intimate partner (Chisholm et al., 2017). Globally, it is estimated that 30% of women ages 15 years and older experienced physical and/or sexual IPV during their lifetimes (Devries et al., 2013). Pregnancy appears to be a time of particularly great risk. In an analysis of data from the 2004 to 2011 National Pregnancy Risk Assessment Monitoring System, Masho et al. (2019) found that approximately 4% of women reported physical abuse 12 months before their most recent pregnancy, and 3% reported abuse during the pregnancy. However, among samples of high-risk pregnant women

(low socioeconomic status, SUD), researchers found that the prevalence of IPV ranged from 19% (Alhusen et al., 2013) to 80% (Bailey & Daugherty, 2007). Notably, analysis of data from the Behavioral Risk Factor Surveillance System survey supported disparities in IPV related to state of residence, race/ethnicity, income, and education (Breiding et al., 2008).

Globally, countries are reporting dramatic increases in domestic violence during the COVID-19 pandemic, and the United States is included in this trend (Campbell, 2020). The social distancing measures and economic hardships of COVID-19 may further exacerbate these disparities and place women at greater risk for IPV (Campbell, 2020; Cohen et al., 2020). Contributing factors likely include prolonged periods of isolation with unemployed partners, reduced income, and separation from support systems (Campbell, 2020).

IPV during pregnancy has been associated with adverse maternal and infant outcomes. For example, the experience of IPV during pregnancy was associated with increased rates of the use of substances, including tobacco, alcohol, and marijuana (Bailey & Daugherty, 2007). Moreover, in a cohort of pregnant women, 41% of the infants born to women who experienced IPV had at least one adverse neonatal outcome, and there was a fourfold increase in risk of giving birth to a small-for-gestational-age infant (Alhusen et al., 2013).

Social support. A woman's perception of social support and satisfaction with social support affect her health and the health of her infant. In a large sample of primigravid women in the United Kingdom, perceived social support had a significant effect on maternal well-being and prenatal perceptions of parenting abilities (Ginja et al., 2018). Of note, findings from this study showed that the use of technology (text messages, phone calls, smart phone use, and social media) did not have a significant effect on well-being or parenting self-efficacy (Ginja et al., 2018). Similarly, in a small sample of Australian women during pregnancy and the postpartum period, the perception of social support was negatively associated with symptoms of depression, anxiety, and parenting stress (Milgrom et al., 2019). Furthermore, findings of some studies suggested that women who lacked social support were also more likely to give birth to low-birth-weight infants (Paredes Mondragón et al., 2019). Additionally, in a large Canadian community cohort study,

greater social support during pregnancy was a protective factor for age-appropriate development for children in at-risk environments (McDonald et al., 2016).

The COVID-19 pandemic has resulted in unprecedented measures to slow the spread of the virus; these measures include social distancing, travel restrictions, closure of community resources, and transition from in-person events to virtual events. In general, people reported a variety of negative emotional responses to quarantine, including anger, confusion, and symptoms of PTSD (Brooks et al., 2020). Isolation may be particularly challenging for pregnant women. Pregnancy is perceived as a time when women can rely on their communities for social support and to help celebrate pregnancy as a rite of passage. Isolation and loneliness reduce the excitement and positive feelings about pregnancy (Farewell et al., 2020). During the postpartum period, women typically rely on friends and relatives for assistance with meals, newborn care, and care for other children. Fear of infection may significantly limit the number of visitors. Limited child care options may also restrict return to work for some families (Farewell et al., 2020).

Pregnant women also confronted significant changes to perinatal care during the pandemic. Less support may be available during prenatal care, birth, and the postpartum period. With an increase in the number of telehealth visits, pregnant women have less face-to-face time with their prenatal care providers and may receive less continuity of care as a result. As noted earlier, technology does not mitigate the negative effects of low social support on maternal well-being (Ginja et al., 2018). During labor, many hospitals have limited the number of support people permitted, and some have eliminated visitors entirely (Arora et al., 2020). Anxiety around the uncertainty of health care system guidelines creates stress for many families (Farewell et al., 2020). For example, in a sample of 336 pregnant women, anxiety about the COVID-19 pandemic was great, and 70% reported concerns for the fetus, 68.7% reported concerns about going to prenatal care visits, 59.2% reported concerns about self-infection, and 55.4% reported concerns about the birth (Taubman-Ben-Ari et al., 2020). During the postpartum period, women are leaving the hospital sooner and have less access to postpartum support, especially psychological care for postpartum depression (Bornstein et al., 2020; Diamond et al., 2020).

Perinatal mood disorders. Perinatal mood and anxiety disorders are the most common complications of pregnancy. Researchers estimated that approximately 12% to 22% of pregnant women experience symptoms of depression or anxiety during pregnancy (Dennis et al., 2017; Sinesi et al., 2019; Woody et al., 2017). Predisposing factors included a personal or family history of mental health disorders, lack of social or partner support, history of exposure to violence or abuse, financial difficulty, SUD (Dadi et al., 2020), and stressful life events (Ko et al., 2017). Pregnancy-specific risk factors included unplanned or undesired pregnancy; history of traumatic birth, including stillbirth or neonatal loss (Dadi et al., 2020); and ongoing health problems of the newborn (Ko et al., 2017).

Perinatal mood and anxiety disorders are associated with adverse outcomes in mothers and infants. Women with perinatal depression are more likely to engage in risky health behaviors such as poor nutrition, substance use, or limited attendance at prenatal care (Klawetter et al., 2020). Perinatal depression was also linked to a variety of poor pregnancy outcomes, including gestational diabetes (Lee et al., 2020), hypertensive disorders (Shay et al., 2020), preterm birth, and low birth weight (Jarde et al., 2016). After birth, women affected by perinatal mood and anxiety disorders were at risk for postpartum depression (Aris-Meijer et al., 2019; Grigoriadis et al., 2018), anxiety (Aris-Meijer et al., 2019), psychosis, and suicide (Van Niel & Payne, 2020).

Women's psychological distress during pregnancy may also have lifelong implications for offspring. In various studies, researchers found that psychological distress affected fetal (Wu et al., 2020) and infant brain development (Dean et al., 2018), child socioemotional development (Madigan et al., 2018), child cognitive and language development (Tarabulsky et al., 2014), and psychological functioning (Hoffman et al., 2017). A woman's behavior is affected by postpartum mood disorders, and researchers have reported decreased responsiveness to the infant, lower likelihood of maternal-infant bonding (Hoffman et al., 2017), and failure to initiate or maintain breastfeeding (Dias & Figueiredo, 2015). Infanticide is a small but real risk (Van Niel & Payne, 2020).

The COVID-19 pandemic represents a ubiquitous source of stress with unique ramifications for pregnant women. Pregnant women may be

A social determinants of health framework can facilitate the identification and assessment of women who are vulnerable to mental illness during pregnancy and the postpartum period.

particularly vulnerable to the development of psychiatric symptoms under pandemic conditions, especially in the setting of preexisting mental health problems (Berthelot et al., 2020). During pregnancy and the postpartum period, women worldwide reported more clinically significant symptoms of depression and anxiety during the COVID-19 pandemic than similar groups of women before the pandemic (Berthelot et al., 2020; Zanardo et al., 2020). The increase in mental health symptoms and severity is potentially attributable to multiple factors. First, pregnancy may predispose to a more complicated course of COVID-19 infection (Thompson et al., 2020). Although pregnant women reported significant health anxiety for themselves, they harbored even greater anxiety for others, including family members, children, and their fetuses (Corbett et al., 2020). Fear of vertical transmission and risk to the fetus was at the forefront of their minds, and women reported fear related to structural anomalies, fetal growth restriction, and preterm birth (Mappa et al., 2020). Thus, COVID-19 pandemic-associated stress could result in adverse birth outcomes, even among the uninfected (Zanardo et al., 2020).

Substance use disorder. SUD during pregnancy is complex and associated with a perpetuating cycle, which makes it difficult to determine cause and effect. The most common substances used during pregnancy are tobacco, alcohol, marijuana, and cocaine (J. L. Cook et al., 2017). However, there has been an alarming increase in the use of opioids in pregnancy in recent years. The number of women admitted to hospitals for labor and birth with opioid use disorder quadrupled from 1999 to 2014 (Centers for Disease Control and Prevention, 2018). In addition, poly-substance use occurs in an estimated half of all pregnancies complicated by substance use (J. L. Cook et al., 2017). A full 48% of pregnant women who reported the nonmedical use of opioids in the past 30 days also reported concurrent alcohol use (Kozhimannil et al., 2017). Maternal SUD is associated with preterm birth, low birth weight, extended hospital stays, and greater mortality (Hwang et al., 2017). Furthermore, infants born to

Nurses are ideally positioned to influence program and policy decisions that promote integration of psychosocial screening and behavioral health into perinatal care.

women with SUD are more likely to have cardiac, respiratory, neurologic, or feeding problems (Hwang et al., 2017). Prenatal alcohol exposure is associated with a spectrum of mild to severe disabilities, including cognitive and behavioral abnormalities collectively known as fetal alcohol spectrum disorder (Hoyme et al., 2016). Importantly, traumatic events, such as COVID-19 and social isolation, are associated with increased alcohol abuse (Stanton et al., 2020).

These findings highlight the importance of investigating the timing and accumulation of psychosocial risk factors in pregnant and postpartum women. COVID-19 has further exacerbated the risks to this vulnerable population. Therefore, in response to this overwhelming evidence, we propose the implementation of universal psychosocial assessment during prenatal care using the SDOH as a framework.

Discussion

Substantial evidence supports the critical role of SDOH in health inequity. In addition, chronic stress is linked to adverse behavioral and biological outcomes for women and their infants. Moreover, social distancing measures and widespread closures of businesses secondary to COVID-19 are likely to continue for the foreseeable future. This may further magnify psychosocial risk factors, including economic hardship, limited resources, and behavioral health disorders.

Although numerous screening tools for factors influenced by SDOH health exist, many are used to screen for single factors as opposed to screening for multiple SDOH. As discussed previously, evidence supports the clustering of risk factors in vulnerable women. Several tools have been developed for identifying SDOH in the primary care setting, including the National Association of Community Health Centers' Protocol for Responding to and Assessing Patients' Assets, Risks, and Experiences tool (National Association of Community Health Centers, 2019) and the Centers for Medicare & Medicaid Services Accountable Health Communities' Health-Related

Social Needs Screening Tool (Centers for Medicare & Medicaid Services, 2020). Comprehensive screening tools and programs should be easy to implement and acceptable to women and providers. Findings from a study conducted in Canada suggested that providers who are given specific tools to increase their comfort asking patients about SDOH were more likely to report having helped patients than those who were not provided a standardized format (Naz et al., 2016).

Increasingly, the examination of best practices to align psychosocial assessment with clinical screening is occurring in health care institutions. For example, New York Presbyterian Hospital implemented universal screening for SDOH to identify unmet needs. Using technology and waiting room screening, 13,273 patients were screened between September 2018 and August 2019. Of these patients, 1,939 were identified with previously undetected needs, highlighting the importance of asking very specific, targeted questions (Meyer et al., 2020). Furthermore, the authors identified critical resource gaps, which led to the formation of community partnerships to fill those needs. Although deemed feasible and sustainable, program implementation was not without challenges, including workflow issues and technology challenges. Garg et al. (2015) found similar results in pediatric primary clinics, with systematic screening leading to greater referral to community resources for children and their families with identified needs. Therefore, it is recommended that partnerships of patients, providers, and community stakeholders be formed to guide the adoption of psychosocial assessments that are responsive to community needs (Meyer et al., 2020). Furthermore, the use of an SDOH framework goes beyond screening to the development of partnerships between clinicians and agencies to link women with appropriate community resources, as illustrated in Figure 1 (Davidson & McGinn, 2019).

Although much of our knowledge regarding initiatives to implement psychosocial screening during pregnancy comes from international sources (Beyond Blue, 2020), these programs are increasingly considered in the United States because of persistent disparities in maternal and infant morbidity and mortality. For example, in California, the Black Infant Health Program includes psychosocial assessment for client-centered life planning, support groups, and

complimentary case management, which when combined, link women with education, information, social support, and resources. This ultimately empowers women to build on their assets and develop health-promoting life skills (California Department of Public Health, 2020). Similarly, the Nurse-Family Partnership program, a community health program that uses specially trained nurses for home visits, has been working to decrease health disparities in first-time mothers for more than 40 years (Nurse Family Partnership, 2020; Olds, 2006).

Implications

Pregnancy presents an ideal time for implementing psychosocial assessment using an SDOH framework. As the most numerous and well-trusted health care professionals, nurses are ideally positioned to influence program and policy decisions at the community and regional levels and to advocate for full integration of psychosocial screening and behavioral health as a core component of prenatal and postpartum care. To facilitate this, clearly outlined screening protocols incorporating valid and reliable tools that are acceptable to women and providers need to be developed (Austin, 2014). In addition, training programs would ensure the competency and comfort of providers (Naz et al., 2016). A collaborative process involving patients, providers, and community stakeholders could accomplish the development of referral and support networks.

We must also give consideration to broad public health policies. Policy implications include the promotion of prevention through a comprehensive psychosocial assessment program and the development of protective asset-based programs that promote resilience against the inequalities associated with SDOH (Felitti & Anda, 2010). Thus, the development of community partnerships and referral systems is critical. Community-based efforts are just as important as large-scale efforts. Locally based intervention programs that address community-specific issues such as social support and community resources can lead to significant health improvement (Ziersch, 2005).

To close the gap, research is needed to determine if screening for multiple domains of social risk will lead to clinically relevant health outcomes and a reduction in health inequities. Furthermore, research examining the use of an SDOH framework for psychosocial assessment of women during pregnancy and the postpartum period is

needed in a community-based participatory fashion to address contextual factors of the specific population.

Conclusion

The behavioral health status of the United States is far worse than that of other countries. Pregnancy and the postpartum period represent a time of great risk. Critically, COVID-19 disproportionately affects the vulnerable population of pregnant women, further escalating the risk of adverse health outcomes for women and their infants. The SDOH provides a framework to scaffold the integration of behavioral health and psychosocial assessment into prenatal care. Nurses, in addition to their commitment to advancing health, are directly involved in the care of women and children and are therefore uniquely suited to lead the effort to scaffold the integration of psychosocial assessment and behavioral health care into prenatal care using the SDOH as a framework.

CONFLICT OF INTEREST

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