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Addressing the Social Determinants of Health: A Call to Action for School Nurses

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Abstract

Social determinants of health (SDOH), the conditions in which children are born, grow, live, work or attend school, and age, impact child health and contribute to health disparities. School nurses must consider these factors as part of their clinical practice because they significantly and directly influence child well-being. We provide clinical guidance for addressing the SDOH when caring for children with three common health problems (obesity, insufficient sleep, and asthma). Given their unique role as school-based clinical experts, care coordinators, and student advocates, school nurses are well suited to serve as leaders in addressing SDOH.

Keywords

health disparities; best practices/practice guidelines; cultural issues; community; asthma; obesity

What Are the Social Determinants of Health (SDOH)?

Children's health is influenced by multiple factors including individual characteristics (e.g., genetics, family history) and individual health behaviors (e.g., receiving required immunizations, eating healthy foods; World Health Organization, 2008). However, child health is also significantly impacted by social and economic factors—often referred to as SDOH. SDOH are the conditions in which people are born, grow, live, work or attend school, and age (Healthy People 2020, 2017b; World Health Organization, 2017). SDOH fall into five key categories: economic stability, education, health and health care, social and community context, and neighborhood and built environment (Healthy People 2020, 2017b).

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Authors' Note

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Examples of SDOH include poverty or food insecurity, educational quality, literacy, access to primary care, culture, exposure to neighborhood violent crime, and access to green spaces. Many school nurses have observed the impact of such factors on children's health. For example, a child who witnesses violence at home may present to the school nurse with complaints of headache and gastrointestinal distress due to somatization of stress. Or, a school nurse may counsel a child with diabetes about glucose control, yet the child reports that his or her mother cannot afford to purchase the healthy foods that the nurse is recommending. Such examples illustrate just two of the many ways SDOH can impact child health outcomes; Table 1 provides additional examples of how SDOH can promote or hinder child well-being.

Why Are the SDOH Important?

SDOH are at the forefront of discourse about health care and have received considerable attention from clinicians, researchers, and policy makers. Recent initiatives focused on SDOH include the World Health Organization Commission on the SDOH, the MacArthur Foundation Network on Socioeconomic Status and Health, and the Robert Wood Johnson Foundation Commission to Build a Healthier America (Braveman, Egerter, & Williams, 2011). In addition, a Healthy People 2020 (2017b) objective focuses on addressing SDOH.

The attention to SDOH arises from data that demonstrate their significant impact on health outcomes. While it is difficult to isolate the effect of SDOH, studies have suggested that social and environmental factors account for 75% of population health (Centers for Disease Control and Prevention, 2014; Dignan, 2001) and up to 50% of health outcomes, with medical care contributing to only 10–15% (McGovern, Miller, & Hughes-Cromwick, 2014). However, this may be underestimated because SDOH also indirectly impact health outcomes by impacting behaviors (Song et al., 2011). For example, receiving vaccines (a health behavior) impacts health outcomes; however, access to health care (an SDOH) impacts ability to receive vaccines. If a parent cannot request time off from work due to financial hardship, lacks health insurance, or lacks a means of transportation to a clinic, his or her child may be less likely to receive vaccinations. Because of this relationship between SDOH and health behavior, SDOH have been referred to as the “causes of the causes” (Braveman & Gottlieb, 2014, p. 19) and are considered a key contributor to health disparities (Woolf & Braveman, 2011).

Despite the direct and significant impact on health outcomes, SDOH are often overlooked by the traditional healthcare system. Much of the training for health-care providers focuses only on the physiological factors that impact health (Braveman & Gottlieb, 2014; Lathrop, 2013; Lipman, 2017). In addition, providers rarely receive adequate training in addressing SDOH (Bachrach, Pfister, Wallis, & Lipson, 2015). This is illustrated by a recent national survey by the Robert Wood Johnson Foundation (2011); 85% of physicians noted the importance of social factors such as adequate housing and access to nutritious foods on health, but 80% did not feel confident in their ability to help patients meet these needs.

Why Are School Nurses Well Suited to Address the SDOH

Nursing practice, from the era of Florence Nightingale and continuing through modern times, has given considerable attention to how social and environmental factors influence health (Lathrop, 2013). Intervening on SDOH is an essential role of school nursing practice as articulated in the National Association of School Nurses' (2016) Code of Ethics. School nurses are ideally positioned to address SDOH. They are easily accessible to children who may face barriers accessing traditional health care, which eliminates the need for the parents to take time off from work, make an appointment, or travel. Additionally, school nurses often understand families' SDOH-related barriers because they have a long-term relationship with children and families. As student advocates and often the only clinician present in schools, school nurses can play a key role in addressing SDOH that impact a child's well-being.

Purpose

Given the significant impact of SDOH on child health, it is imperative that school nurses consider SDOH in their clinical practice. The purpose of this article is to provide concrete guidance for understanding, identifying, and addressing SDOH in school nursing practice using three common childhood health problems—obesity, insufficient sleep, and asthma—as case studies.

Methods

Case Study 1: Obesity

Childhood obesity, defined as a body mass index (BMI) at or above the 95th percentile for age and sex (Ogden, 2010), is one of the nation's greatest health threats. Nationally, school nurses will see this condition in nearly one fifth (17%) of their student population (Ogden et al., 2016). Despite decreases in obesity rates in the preschool population, rates in school-age children remain steady and rates in adolescents are increasing (Ogden et al., 2016). The high prevalence of childhood obesity is concerning because of the association with multiple physiological and metabolic diseases (Daniels, 2006), poor psychosocial health and peer relationships (Puhl & King, 2013), and increased healthcare costs (Finkelstein, Graham, & Malhotra, 2014; Trasande, Liu, Fryer, & Weitzman, 2009). Treatment of obesity during childhood is of critical importance because 80% of obese adolescents will remain obese as adults (Simmonds, Llewellyn, Owen, & Woolacott, 2016) and experience the many negative health and economic consequences of adult obesity (Wang, McPherson, Marsh, Gortmaker, & Brown, 2011).

Obesity risk is influenced greatly by social and environmental factors (Walter, Mejía-Guevara, Estrada, Liu, & Glymour, 2016), contributing to the obesity disparities experienced by children from racial/ethnic minority groups and low-income households (Alvarado, 2016; National Center for Health Statistics, 2016; Ogden, Lamb, Carroll, & Flegal, 2010; Singh, Siahpush, & Kogan, 2010). Chronic childhood stress, such as that related to poverty, housing insecurity, violence in the home or the neighborhood, or fear of deportation, increases risk of childhood obesity (Gundersen, Mahatmya, Garasky, & Lohman, 2011). Children who live in

areas of high poverty have access to fewer healthy grocery stores, more fast-food restaurants, fewer parks and fitness facilities, and limited safe areas to exercise (Black, Macinko, Dixon, & Fryer, 2010; Newman, Howlett, & Burton, 2014; Watson, 2016). Experiencing racism also increases the risk of excess weight gain (Cozier, Wise, Palmer, & Rosenberg, 2009). Because social and environmental factors such as these contribute to obesity and obesity disparities, they must be considered when working with a child and family to reach a healthy body weight (Schroeder, Kulage, & Lucero, 2015).

Case Study 2: Insufficient Sleep

Sleep is essential for optimal health, well-being, and school performance (Astill, Van der Heijden, Van Ijzendoorn, & Van Someren, 2012; Dewald, Meijer, Oort, Kerkhof, & Bogels, 2010). School performance worsens with insufficient sleep due to the impact of sleep on working memory, emotional regulation, hyperactivity, and mood (Baum et al., 2014; Born & Wilhelm, 2012; Hoffman & McNaughton, 2002; Lo, Ong, Leong, Gooley, & Chee, 2016; Paavonen et al., 2009). Eating habits, physical activity, obesity, risk-taking behaviors, suicide risk, and car crashes are also associated with sleep in youth (Franckle et al., 2015; McKnight-Eily et al., 2011; Pizza et al., 2010; Wheaton, Olsen, Miller, & Croft, 2016). Recognizing that sleep affects a broad range of health, social, behavioral, and academic outcomes, Healthy People 2020 (2017a) established a national objective to increase the proportion of high school students reporting sufficient sleep.

Achieving sufficient sleep during childhood and adolescence is impacted by SDOH. Poverty contributes to poor housing conditions, such as inadequate heating, that limit the likelihood that youth will achieve sufficient sleep (Barazzetta & Ghislandi, 2017). In addition, poverty is associated with unfavorable neighborhood characteristics such as vandalism, street noise, and street rubbish that lead to poor sleep quality in children (Barazzetta & Ghislandi, 2017). Furthermore, poverty is associated with psychosocial factors such as having a lower self-perceived social standing in the school community, which is increasingly linked with insufficient sleep in adolescents (Jarrin, McGrath, & Quon, 2014). Moreover, Black children and children from low-income households exposed to adverse social conditions, such as marital conflict, are at greater risk of insufficient sleep than their White and higher income counterparts (Kelly & El-Sheikh, 2011, 2016). Therefore, improving sleep in youth hinges on addressing the economic, environmental, and social factors that affect sleep.

Case Study 3: Asthma

Asthma, a chronic lung disease, affects over 6 million children under the age of 18 (Centers for Disease Control and Prevention, 2017). In the United States, more than 14 million school days per year will be missed due to asthma (Egginton et al., 2013). School-aged children spend most of their wakeful day in the school setting, and if they are not able to attend school, their learning is affected. Although asthma is a chronic disease with no cure, there are preventive measures that can be taken to manage symptoms including medication, environmental assessment, and stress relief (Asthma and Allergy Foundation of America, 2015). There is agreement among stakeholders that asthma is a complex disease that requires collaboration to support self-management and self-advocacy and reduce emergency room visits (Foley, Dunbar, & Clancy, 2014).

Asthma is directly influenced by SDOH, and many asthma-related health disparities exist (Lynn, Oppenheimer, & Zimmer, 2014). Urban children from low-income areas experience higher asthma morbidity due to inadequate medical care and poor medication adherence (Basch, 2011), behavioral or emotional problems (Cicutto et al., 2016), and household or environmental exposure to cockroaches, cats, dogs, mice, dust mites, and mold (Huffaker & Phipatanakul, 2014). Family turmoil, community violence, noise, and crowding may also play a role in asthma management for urban youth (Koinis-Mitchell et al., 2007). More frequent emergency department visits stem from medical access disparities (Camargo, Ramachandran, Ryskina, Lewis, & Legoretta, 2007) and children whose parents have less education or low literacy have more frequent emergency department visits (Basch, 2011). Inadequate preventive care may further contribute to asthma morbidity among urban youth (Blaakman, Cohen, Fagnano, & Halterman, 2014). Children from low-income households and racial/ethnic minority groups are less likely to receive medications such as inhaled corticosteroids that are recommended for some children with asthma on a daily basis (Akinbami, Moorman, Garbe, & Sondik, 2009). Given the impact of such social and environmental factors on asthma, school nurses must consider SDOH when helping a child to manage asthma.

Results

There are multiple ways for school nurses to address SDOH when working with children to manage illness and to promote optimal health and well-being. Broad recommendations are presented below, with specific examples related to obesity, sleep, and asthma.

Provide Care in a Culturally Competent Manner

It is necessary for school nurses to be aware of children's culture and deliver care to families in a culturally sensitive manner. For example, school nurses caring for children with obesity can educate students and families about healthy recipes that include traditional cultural foods. School nurses can also be aware that cultural groups differ in their perception of a healthy body weight and parental perceptions should be elicited. Some parents may find a suggestion that a child has "obesity" to be offensive or insulting; culturally sensitive language should be used and education should focus on helping building healthy habits (not weight loss). Cultural groups also differ in their perception of appropriate sleep practices (Jenni & O'Connor, 2005; Jenni & Werner, 2011). These sleep practices may be at odds with Western sleep hygiene recommendations such as avoiding daytime naps (Airhihenbuwa, Iwelunmor, Ezepeue, Williams, & Jean-Louis, 2016; Jenni & Werner, 2011). Numerous and widely varying cultural attitudes toward sleep practices limit the school nurses' ability to become expert on these cultural differences. However, the school nurse can provide culturally sensitive sleep recommendations by assessing the cultural norms of sleep practices adopted by the child's family and acknowledging his or her own cultural norms of sleep practices (Jenni & Werner, 2011). If school nurses require additional training in cultural competency, they can seek out resources such as those available from the National Association of School Nurses (2013b) or the American Nurses Association (2017).

Consider Literacy Levels and English Language Proficiency

When communicating health information, school nurses must consider families' literacy levels and English proficiency and make accommodations as needed. Multiple clinical resources can guide nurses in assessing literacy levels (e.g., Cornett, 2009; Weiss & Yox, 2012). Once literacy limitations are identified, school nurses can take action to adjust their clinical care as appropriate. For example, school nurses working with families on asthma action plans can spend extra time with parents who have limited English proficiency to ensure their understanding; this supports the ability to incorporate the parents' input into the plan and serve as a true collaboration among health-care providers, the school nurse, and the family. For parents with limited literacy, school nurses can provide updates about asthma, obesity management, and sleep hygiene via in-person conversation rather than via written communication and can minimize clinical jargon (e.g., BMI z-score, pulmonary function). If school nurses need additional guidance in tailoring education for parents with low literacy or limited English proficiency, resources from the National Institutes of Health can be helpful (National Institutes of Health, n.d.; U.S. National Library of Medicine, 2017).

Connect to Resources

School nurses should be aware of the support programs available to address barriers related to SDOH. For example, school nurses can connect families who have barriers to obtaining clinical obesity treatment (e.g., nutritionist sessions, bariatric surgery evaluation) with resources for applying for publicly provided insurance such as the Children's Health Insurance Program. School nurses can also suggest that eligible families apply for the Supplemental Nutrition Assistance Program (often called SNAP or food stamps) to receive financial support for purchasing healthy foods. Additionally, pertaining to asthma, school nurses can consider a family's ability to afford safe housing because housing quality (e.g., presence of mold, vermin) impacts asthma morbidity (Thornton et al., 2016). If a need for safer housing is identified, school nurses can refer families to a housing mobility program. These programs help low-income families access safe and affordable housing, which leads to health benefits that can support asthma management (Thornton et al., 2016). Access to counseling services is important for improving sleep in children from underserved populations. Better coping strategies protect sleep in racial/ethnic minority youth exposed to social and economic adversities. School nurses can refer youth at risk of insufficient sleep to counseling services and advocate for more school-based counseling services in targeted areas (El-Sheikh, Kelly, Sadeh, & Buckhalt, 2014; Jarrin et al., 2014). If nurses require additional guidance about relevant resources, they can consult colleagues such as social workers and school counselors; they are often knowledgeable about support programs and can be excellent partners for school nurses to help children enroll.

Consider Access to Economic Resources

School nurses should consider access to economic resources when suggesting resources for health management. For instance, when counseling children and families about obesity treatment, school nurses can suggest free or low-cost programs for physical activity that are offered through local recreation centers. School nurses can also consider families' health insurance status, as it relates to the ability to afford medications for conditions such as

asthma. For example, school nurses can discuss with families whether they need assistance with acquiring additional medication for their child with asthma during the school day. Often, an insurance company will only issue one inhaler at a time, and if the school needs an additional inhaler, the parent may be faced with out of pocket costs. School nurses can act as an advocate and stock albuterol in the nurse's office to alleviate financial burden to families (American Lung Association, 2014)

Upstream Approaches and Policy Change

School nurses should also consider addressing the conditions that create the harmful effects of SDOH. Through “upstream” interventions and policy change, nurses can address a problem at its root cause—before it causes negative health effects. An upstream approach focuses on removing structural barriers to good health by improving access and increasing opportunities (Brownson, Seiler, & Eyler, 2010; National Collaborating Centre for Determinants of Health, n.d.). For example, if a neighborhood lacks safe and well-maintained areas for physical activity, a school nurse could help organize a school community service “park clean up” to remove litter, rake leaves, and repaint a local playground. Or, school nurses concerned about asthma management in schools can encourage school district staff to participate in Environmental Protection Act trainings on indoor air quality in schools; this can help ensure that even schools in areas with poor air quality have safer indoor air. School nurses looking for guidance on understanding and employing upstream interventions can consult the peer-reviewed literature for multiple resources on this topic (e.g., Amaro, 2014; Butterfield, 2017; Williams, Costa, Odunlami, & Mohammed, 2008).

School nurses should consider how they can advance policies that address SDOH and promote equitable opportunities for all children. Of note, relevant policies include not only federal law but all local and school policies. Some school nurses may choose to meet with their national senators and representatives, other may focus on advocating with their town council or school board. Through work with their local or national professional organization, school nurses can advocate for policies that promote student health. For example, school nurses motivated to reduce obesity in their school can advocate for shared use agreements with local community groups to allow for community use of school resources (e.g., gyms, playground) after school hours. They can also advocate for schoolwide Breakfast After the Bell to increase access to free- or reduced-price nutritious school meals. Pertaining to asthma, school nurses can advocate for stricter regulations on hazardous air pollutants in the school environment, such as school policies prohibiting car idling during pickup and drop-off periods. For improving sleep, school nurses can advocate for delaying middle and high school start times until after 8:30 a.m. (National Association of School Nurses & Society of Pediatric Nurses, 2015; Wahlstrom et al., 2014), increasing school day outdoor time with short outdoor breaks between classes and during lunch (Harada, Morisane, & Takeuchi, 2002), and incorporating sleep education throughout health and drivers education curriculums. For nurses who are new to policy and advocacy, professional organizations at the national, state, and local level can provide excellent resources and ways to get involved (American Nurses Association, 2016; National Association of School Nurses, 2013a; National League for Nursing, 2017; Start School Later).

Empowering School Nurses to Address the SDOH

In order for school nurses to be in a position to address SDOH, certain school-level factors must be addressed. There must be adequate infrastructure to allow nurses to devote time and energy to tasks beyond the day-to-day requirements. In addition, school nurses must be empowered to act by those in leadership positions in their school such as school principals and nurse managers. Insofar as school nurses are often the only clinicians in a school, their priorities, language, and training differ from the majority of their colleagues. School nurses, similar to many of their healthcare provider peers, may need additional training to feel comfortable understanding and addressing SDOH. Organizations such as the National Association of School Nurses as well as school nursing leadership can assist staff nurses in this area. School nurse educators can embed SDOH into curriculum for nurses pursuing graduate degrees in school nursing or school nurse certification. If empowered, there is great potential for school nurses to address SDOH in their clinical practice and improve health for the most vulnerable children. While such efforts require commitment beyond direct clinical care, they are integral to promoting upstream changes that support children's abilities to engage in health behaviors.

Conclusion

In conclusion, the SDOH have a substantial impact on child health and health disparities. School nurses, because of their accessibility to children, long-term relationship with children and families, role as student advocates, and presence as a clinical expert in the school setting, are ideally poised to intervene upon SDOH in their practice. As illustrated by the case studies on obesity, insufficient sleep, and asthma, school nurses have multiple opportunities to address SDOH in the clinical practice. With a greater focus on SDOH, nurses can serve as leaders in promoting health and addressing health disparities, with the goal of improving the health of all children.

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Table 1.**Examples of SDOH and Potential Impacts on Health.**

Social Determinant	Example of Potential Health Impact	Rationale
Economic SDOH		
Access to job opportunities	A child receives health insurance through his parent's employer	Forty-nine percent of Americans receive health insurance through their employer-sponsored coverage (Kaiser Family Foundation, 2017)
Availability of affordable safe housing	A child lives in an old home that is in disrepair; as a result, the child is exposed to lead-based paint and is found to have elevated blood lead levels during her annual physical exam	Living in a home with chipping lead-based paint (common in homes built before 1978) increases a child's risk of elevated blood lead levels (Carrel et al., 2017; McClure, Niles, & Kaufman, 2016)
Education SDOH		
Quality of local schools	An adolescent hopes to be the first in her family to go to college; she enrolls in a first-generation college preparation program that is offered by her high school	College education is associated with improvement in many adult health outcomes (Braveman, Cubbin, Egerter, Williams, & Pamuk, 2010; Goldman & Smith, 2011)
Literacy	A parent with limited health literacy cannot read instructions on a prescription bottles and is unsure of how much medication to give his child	Poor health literacy increases likelihood for medication errors (Harris et al., 2017; Mira, Lorenzo, Guilbert, Navarro, & Pérez-Jover, 2015)
Health and health-care SDOH		
Access to care	A child with a rare congenital heart defect lives near a leading academic medical center; her parents must drive only 15 min to receive care from an expert pediatric cardiologist	Children living in low-income and rural communities are less likely to have access to pediatric subspecialty care (Mayer, 2008; Ray, Kahn, Miller, & Mehrotra, 2016)
Health insurance	A parent loses his job; because he no longer has employer-provided health insurance, he cancels his child's upcoming routine well child visit at which she was supposed to receive vaccinations	Insured children are more likely to receive recommended health care (Flores et al., 2017; Larson, Cull, Racine, & Olson, 2016)
Social and community context		
Community support	A parent facing economic challenges is struggling to afford food; after hearing of her struggle, her faith-based organization holds a food drive for families in need	Community cohesion can contribute to better health by providing social support and relevant resources to children and families (Egan, Tannahill, Petticrew, & Thomas, 2008; Gordeev & Egan, 2015)
Language	A parent has limited English proficiency and therefore does not understand the pediatrician's instructions about how to best manage his child's asthma	Families with limited English proficiency may face barriers to engaging in and accessing child health care (DuBard & Gizlice, 2008; Eneriz-Wiener, Sanders, Barr, & Mendoza, 2014)
Neighborhood and built environment SDOH		
Access to public transportation	A parent and child ride safe, reliable, and affordable public transit to reach their pediatrician's office	Inadequate or unreliable transportation impede access to child health services (Syed, Gerber, & Sharp, 2013)
Crime and violence in local community	A young child is afraid to exercise at a local playground because it has been the site of violent confrontations between older teenagers	Neighborhood crime can limit a child's ability to engage in healthy behaviors, cause emotional and psychosocial distress, and increase biological markers of stress (Datar, Nicosia, & Shier, 2013; Theall, Shirliff, Dismukes, Wallace, & Drury, 2017; Violence, Listenbee, & Torre, 2012)

Note. SDOH = social determinant of health.