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An Environmental Scan of the Role of Nurses in Preventing Fetal Alcohol Spectrum Disorders

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ABSTRACT

Nurses are in an ideal position to talk to their patients of reproductive age about alcohol use and encourage the prevention of alcohol-exposed pregnancies. Effective conversations can be efficiently included in the clinical encounter to identify alcohol misuse and offer appropriate follow-up. This report presents results of an environmental scan of resources relevant to nursing professionals and nurses’ role in addressing alcohol misuse. Gaps in nursing education and practice guidelines with regard to defining the nursing role in preventing alcohol-exposed pregnancies were revealed. Findings identified a need to promote adoption among nurses of evidence-based preventive practices to prevent alcohol misuse.

Introduction

Alcohol use during pregnancy is a major public health issue (Green, McKnight-Eily, Tan, Mejia, & Denny, 2016). As the largest and most trusted health profession (Gallup, 2016), nursing professionals are ideally positioned to address the prevention of alcohol-exposed pregnancies. However, the extent to which nurses are prepared to take on this role is unclear.

The purpose of this report is to document the results of an environmental scan of the literature, resources, and policies relevant to nursing professionals and their role in preventing alcohol-exposed pregnancies and fetal alcohol spectrum disorders (FASDs). The environmental scan is operationalized as a review of relevant resources in the literature, professional association websites, and position statements relative to nursing professionals’ knowledge, skills, attitudes, and acceptance of their role in preventing at-risk alcohol use, AEPs and FASDs. The environmental scan was conducted by a workgroup of experts from nursing, research, and education. The expert workgroup agreed on the relevant search terms and an iterative resource review process that resulted in the identification of five categories which were then sorted into four themes. The methods section of this paper details the environmental scan process.

The goals of the environmental scan were to: (1) describe the current status of the knowledge, skills, attitudes, and acceptance of all nurses’ role in preventing at-risk alcohol use; and (2) identify gaps and opportunities for improving nursing practice with regard to preventing AEPs and FASDs.

Alcohol is the sole cause of fASDs

The consumption of alcohol, a known teratogen, during pregnancy is the leading cause of preventable, lifelong birth defects and disabilities, and can lead to the development of FASDs (NIAAA, 2015). Some diagnoses that fall along the FASD spectrum include: fetal alcohol syndrome (FAS), partial fetal alcohol syndrome (p-FAS), alcohol-related birth defects (ARBD), and alcohol-related neurodevelopmental disorders (ARND). Neurobehavioral disorder associated with prenatal alcohol exposure (ND-PAE) was recently added as a condition for further study in the Diagnostic and Statistical Manual of Mental Disorders Fifth Edition (DSM-V). Conditions across the FASD spectrum range in severity with regard to behavioral, cognitive, and physical impairments. Unfortunately, symptoms associated with FASDs often remain undetected until children enter the school system, when executive function and attention deficits become more apparent (Kingdon, Cardoso, & McGrath, 2016), thus delaying earlier access to assessment and treatment options.

While the prevalence of FASDs is difficult to determine, the Centers for Disease Control and Prevention (CDC) estimates that 1 in every 1,000 live births in the United States meet...
diagnostic criteria for FAS alone (CDC, 2015). Based on prevalence studies of school-aged children, experts estimate the full range of FASDs in the United States to be 2%–5% of the population (May et al., 2014). According to the CDC and the U.S. Surgeon General, there is no known safe amount of alcohol, safe type of alcohol, or safe time to drink alcohol during pregnancy (CDC, 2016). Despite this evidence, 7.6% of pregnant women and 51.5% of non-pregnant women of reproductive age report alcohol use within the last 30 days (Finer & Zolna, 2016). Non-pregnant women represent a large demographic in need of education, as prenatal alcohol exposure may be detrimental to the fetus even in the earliest weeks of pregnancy, before a woman is aware of her pregnancy status. Because 45.0% of U.S. pregnancies were unplanned (Finer & Zolna, 2016), and because the number of women who binge drink has increased significantly in the last 10 years (Slade et al., 2016), all women of reproductive age must be educated and counseled on alcohol use and/or adequate contraceptive measures in order to prevent AEPs and subsequent FASDs.

Nurses are well-suited to identify and address at-risk alcohol use and prevent AEPs

The nursing role has a history of preventing disease by encouraging patients to change their behavior in ways that will improve their health and the health of their families (Kempainen, Tossavainen, & Turunen, 2012; Platt et al., 2016). In addition, given the presence of nurses in nearly every type of healthcare practice, they are ideally positioned to identify at-risk women and deliver evidence-based advice and interventions to promote an alcohol-free pregnancy. In order for identification, intervention, and education to become standards of nursing care, adequate and readily-available resources are needed to ensure nurse proficiency in standardized implementation practices in addressing alcohol use, AEPs and FASDs.

In 2014, the CDC funded a grant initiative that brought together universities and national health professional organizations to form discipline-specific workgroups to address AEP and FASD prevention through dissemination of evidence-informed training and practice-based interventions. The Nursing Workgroup consists of researchers from the University of Alaska Anchorage, the University of California San Diego, and the University of Pittsburgh School of Nursing. The goal of the Nursing Workgroup is that nurses will routinely use evidence-based/evidence-informed strategies with all patients, including women of childbearing age, to identify and address alcohol use to prevent negative health consequences, including AEPs and FASDs. The environmental scan presented in this report was a preliminary step for the Nursing Workgroup to review the research on nursing knowledge, skills, and attitudes related to alcohol use and prevention of AEPs, identify available resources to promote adoption of evidence-based interventions, and understand the gaps. By understanding the current environment, the Nursing Workgroup is better positioned to recommend strategies to address barriers to, and promote the adoption of, a standard of nursing care to address at-risk alcohol use and prevent AEPs.

Methods

The environmental scan was conducted over a four-month period (from December 2014 through March 2015) by expert members of the Nursing Workgroup. Team members included representatives from the following disciplines: nursing, psychology, education, and epidemiology. An initial set of relevant search terms was agreed upon, and additional terms were added throughout the iterative search process to ensure an exhaustive review of the evidence-based practices to prevent alcohol misuse and AEPs (Substance Abuse and Mental Health Administration [SAMHSA], 2013; U.S. Preventive Services Task Force [USPSTF], 2013; Velasquez et al., 2010), as well as the broader topic of nursing and alcohol use. Search terms included: nursing/nurse; screening and brief intervention (SBI); screening, brief intervention, and referral to treatment (SBIRT); Project CHOICES (a CDC-developed program formerly referred to as the Changing High-Risk Alcohol Use and Increasing Contraception Effectiveness Study); brief intervention; lifestyle counseling; alcohol; practice change; FASD; provider attitude; bias; stigma; and stereotypes toward alcohol. Published literature was retrieved through searches of CINAHL, PubMed, and Academic Search Premier.

Existing practice guidelines, policy statements, and position statements related to alcohol use/misuse, pregnancy, and/or nursing were identified by direct contact with national nursing organizations involved in women's health as well as other nursing organizations. Search terms were applied to organizational websites to identify relevant training recommendations, educational materials or training resources. EndNote® X7 (Clarivate Analytics, 2016) was utilized in addition to a secure “cloud” platform to facilitate ease of resource sharing among the Workgroup partners and eliminate physical distance barriers.

Once resources were identified, they were sorted into five categories: journal articles (n = 92); conference presentations, workshops, or posters (n = 32); existing courses or materials (n = 35); practice guidelines (n = 6); and nursing organization position papers (n = 7). Fourteen national organizations’ websites were reviewed for applicable policy or position statements (13 nursing, 1 public health). All materials were evaluated by one Nursing Workgroup team member on their relevance to the Workgroup’s stated goal and reviewed by a second team member to ensure inter-rater consistency. Discrepancies in ratings were noted and further discussed with the entire Nursing Workgroup on conference calls to reach consensus regarding ratings. A compilation of all dually-reviewed and accepted materials was then entered into a Microsoft Excel (2010) spreadsheet and redistributed to the Workgroup for secondary analysis. Secondary rating criteria included determining the extent that the materials were likely to be: (a) effective for patients who could benefit from alcohol screening, education, intervention, and/or referral; (b) adopted by nursing professionals; (c) accessible and feasible for nurses in practice settings to implement with fidelity (i.e., considering format, adaptation requirements, staff burden, and costs); and (d) sustainable (i.e., continue to influence practice behaviors and patient outcomes over the long-term). Table 1 provides detail on the variables reviewed and the ratings applied to each resource.
Results

Four themes emerged from the secondary analysis of the materials: (1) evidence for nurse intervention effectiveness; (2) nursing professionals’ knowledge, skills, and attitudes (KSAs); (3) barriers to nursing professionals addressing at-risk alcohol use; and (4) identified gaps, opportunities, and implications for practice. A discussion of each theme follows:

Theme 1: Evidence for effectiveness of nursing interventions

Relevant materials were examined and assessed to determine the effectiveness of alcohol interventions conducted by nursing and other healthcare professionals. Most studies were cross-sectional or single-site evaluations, with very few experimental designs reported in the literature. A review of eleven brief intervention studies found significant reductions in drinking among patients who had received brief interventions (Clossick et al., 2014). A randomized clinical trial conducted in South Africa determined that nurse practitioner-led motivational interviewing resulted in significantly lower scores on the Alcohol, Smoking, and Substance Involvement Screening Test (ASSIST) (Mertens, Ward, Bresick, Broder, & Weisner, 2014). A randomized clinical trial conducted among patients who had received brief interventions (Clossick et al., 2014). Another study from an emergency department in Poland identified that significant reductions in number of drinking days per week were sustained at a one-year follow up (Cherpitel et al., 2010). Finally, Platt et al. (2016) found that alcohol education interventions delivered by nurses had the most positive effect on reducing quantity of alcohol consumption.

Theme 2: Nursing professionals’ knowledge, skills, and attitudes (KSAs)

Nineteen of the articles examined included information regarding nursing KSAs and challenges to facilitating brief intervention for alcohol use. Studies included baccalaureate nursing students, emergency department nurses, inpatient medical-surgical nurses, nurse practitioners, and nurse midwives. Across all specialties and credential levels, providing education and training in conducting alcohol SBI had a positive impact on both nursing attitudes and self-efficacy (Braxter et al., 2014; Broyles et al., 2013), suggesting that alcohol SBI education is critical in both undergraduate education and continuing education for nursing professionals (Burns et al., 2012; Finnell, 2012; Groves et al., 2010; Kane et al., 2014). Nursing students also indicated that training is “definitively relevant” to their career (Mitchell et al., 2013; Puskar et al., 2013), demonstrating that engagement of nursing students is not a barrier for education on this topic. Training included in-person and online didactic sessions, simulations, and clinical experiences. Articles highlighted the benefit of tailoring trainings to the nursing role while promoting inter-professional education (Broyles et al., 2013; Finnell, 2012; Gill & O’May, 2011; Johnson et al., 2010; Tanner, Wilhelm, Rossie, & Metcalf, 2012).

Of the 35 training resources identified, 11 were determined to be “directly” or “somewhat relevant” to the goal of the Nursing Workgroup. Trainings differed in emphasis, modality, length, and competency level. Relevant trainings were categorized as follows: General FASD and CHOICES trainings and SBI/SBIRT trainings. The FASD trainings were primarily focused on reducing drinking among women of childbearing age and/or promoting the utilization of effective and safe contraception in order to prevent AEPs. Specialized CHOICES trainings exist and are ideal for school nurses as well as community-based nurse providers (Adams, 2014; Gillen, Stevens, Bird, & Langland, 2013; Wilton, 2014). SBI/SBIRT trainings focused on the identification of patients at-risk for substance misuse, implementation of brief
intervention techniques, and the utilization of referrals when applicable. The target audience of most of the SBI/SBIRT trainings reviewed were nurses, specifically both undergraduate and graduate nursing students, nurse anesthetists, and emergency department registered nurses (ENA, 2014; Hagle, Mitchell, Lindsay, & Talcott, 2014; University of Pittsburgh School of Nursing, 2014). In addition, the Association of Women’s Health, Obstetric, and Neonatal Nurses (AWHONN) and the FASD Prevention Project offer training tools and a webinar regarding alcohol use during pregnancy (AWHONN, 2014).

Theme 3: Nursing professionals’ barriers to addressing at-risk alcohol use

Although many of the aforementioned studies reflect commendable FASD prevention efforts and strategies, barriers to the provision of alcohol SBI still persist. One study completed at a San Francisco medical center identified limited time, inadequate training, and lack of provider confidence as barriers to implementation (Satre et al., 2012). Another study completed in the U.K. identified the same barriers, in addition to system-barriers and patient-barriers, such as time constraints and defensive reactions, respectively (Groves et al., 2010). The environmental scan identified six practice guidelines related to addressing alcohol use and pregnancy; yet none were nurse-specific guidelines. Additionally, general FASD trainings presented an overview of FASD, but once more, none of the identified resources were specifically targeted toward nurse education. Clearly, the paucity of clinical and practical guidelines regarding alcohol SBI and FASDs highlights the need for more resources on this subject.

Theme 4: Identified gaps, opportunities, and implications for practice

Research

Effectiveness research of nurse-delivered alcohol SBI in the U.S. is limited, especially with respect to primary care settings. General practice nurses working in the U.K. were studied with inconclusive outcomes (i.e., no differences between treatment and usual care (Kaner, Lock, Heather, McNamee, & Bond, 2003; Lock & Kaner, 2004; Lock et al., 2006). In addition, there are limited studies of SBI/SBIRT effectiveness that exist for diverse patient groups. One study discussed the use of focus groups to adapt web-based version of SBIRT to be culturally-appropriate for American Indian and Alaska Native women (Gorman et al., 2013). Studies of other groups (e.g., ethnic/racial minorities, adolescents, older patients) and their reactions to screening and/or intervention are missing in the nursing literature.

Training

The environmental scan identified several important knowledge gaps related to alcohol use and healthy pregnancies (Gill & O’May, 2011). Because nurses are in a key position to screen and intervene for alcohol use, SBI education and training should be included in nursing student curricula (Braxter et al., 2014) and continuing education for nursing professionals (Finnell, 2012; Groves et al., 2010). While our scan identified a number of trainings in FASDs as well as evidence-based prevention strategies, such as alcohol SBI/SBIRT and CHOICES, few were targeted to nursing professionals or students; and nurses continue to indicate a lack of confidence in intervening to prevent alcohol misuse (Johnson et al., 2010; Payne et al., 2014). Thus, training and opportunities to acquire experience are important for encouraging counseling in practice (Chun, Spirito, Rakowski, D’Onofrio, & Woolard, 2011).

Policy and position statements

There is also a gap with regard to policy and position statements that recommend adoption of SBI for prevention purposes. While recommendations exist for primary care clinicians...
few nursing-specific practice guidelines have been developed. For example, the American Nurses Association (ANA, 2011) developed a position statement regarding substance use during pregnancy and, in 2015, AWHONN opposed punitive actions against pregnant women who use substances; however, neither of these organizations have clear policies regarding alcohol SBI implementation or FASD prevention (ANA, 2011; AWHONN, 2014; AWHONN 2015). Of the national nursing organizations reviewed in our scan, only three, the Emergency Nurses Association (ENA), the International Nurses Society on Addiction (IntNSA), and the American Psychiatric Nurses Association (APNA), endorsed SBIRT in published position papers (APNA, 2012; ENA, 2009; Stroble & Broyles, 2012, 2013). This dearth of policy statements in the nursing community highlights opportunities for the expansion of knowledge on both alcohol SBI and FASD prevention, particularly as policy or best practice statements have been found to be a useful tool in the promotion of evidence-based practices (Ring, Malcom, Coull, Murphy-Black, & Watterson, 2005).

**Systems change**

To ensure implementation of alcohol SBI, healthcare systems should establish mandatory, universal screening with access to validated screening tools, utilization of performance measures, and identification of in-house content experts for alcohol SBI quality monitoring (Bratherton, 2014; Fleisher, 2011; Groves et al., 2010; Jones, Telenta, Shorten, & Johnson, 2011; Miller, Lanham, Welsh, Ramanadhan, & Terplan, 2014; O’Brien, 2014; O’Brien, Leonard, & Deering, 2012; Payne et al., 2011). Furthermore, our scan provided encouraging evidence that the utilization of alcohol SBI is not limited to any particular nurse specialty or setting. In-patient hospital units (Broyles, Kraemer, Kengor, & Gordon, 2013; Broyles, Rosenberger, Hanusa, Kraemer, & Gordon, 2012; Groves et al., 2010; Knopf, 2012), emergency departments (O’Brien et al., 2012; Slain et al., 2014), antenatal/prenatal care settings (Fleisher, 2011; Krans, Moloci, Housey, & Davis, 2014; Li et al., 2012; Skagerstrom, Johansson, Holmqvist, Envall, & Nilsen, 2012), and primary care settings (Baird, 2012; Klimas et al., 2014; Tanner et al., 2012) were all identified as potential locations for the successful implementation of alcohol SBI. However, competing demands faced by healthcare organizations, concerns about reimbursement, difficulties related to modifying electronic health records to support SBI, and other constraints must be addressed for implementation to be sustained.

The Nursing Workgroup promotes alcohol SBI toward the goal that it becomes the standard of practice for all practicing registered and advanced practice nurses. Additionally, current and upcoming policies may provide motivation for healthcare providers to begin consistent implementation of alcohol SBI. For example, the Joint Commission requires that SBIRT be implemented with psychiatric inpatient units (Broyles & Gordon, 2010) while the World Health Organization (WHO) promotes the utilization of the Alcohol Use Disorders Identification Test (AUDIT), a validated alcohol screening tool (Obot, 2003).

**Recommendations**

The environmental scan identified existing literature and resources for nurses, gaps, and opportunities for promoting the role of nurses in preventing AEPs and FASDs. Specific strategies for addressing implementation barriers were beyond the scope of this environmental scan (Johnson, Jackson, Guillaume, Meier, & Goyder, 2011). However, several activities that nurses could support were identified. Nurses could serve as champions within healthcare systems; therefore, partnering with professional nursing associations may promote broader adoption of alcohol SBI/SBIRT and/or CHOICES within healthcare practices and for future research (Holleman, Eliers, Van Vliet, & Van Achterberg, 2006; Shaw et al., 2012). Specific recommendations include: (1) disseminate clear nursing practice guidelines with evidence-based recommendations for patients that promote alcohol abstinence during pregnancy; (2) encourage national nursing organizations to develop position statements or endorse existing statements regarding prevention of AEPs as appropriate to their practice area (e.g., national nursing organizations related to psychiatric nursing could sign on to the existing APNA statement); (3) encourage adoption of evidence-based practices with customization of materials so that they are appropriate for identified target populations and nursing settings; (4) provide training and practice-based implementation approaches to develop brief intervention skills among nurses; and (5) develop and encourage distribution of fact sheets and patient education materials pertaining to alcohol use and health, reducing risks for AEPs, and information on FASDs that nurses can use with their patients in numerous, diverse settings.

**Discussion**

The purpose of this project was to document the current environment relevant to nursing professionals’ knowledge, skills, attitudes, and acceptance of their role in preventing at-risk alcohol use, AEPs, and FASDs. Findings from the environmental scan suggest that nursing practice guidelines, education, and adoption of evidence-based practices, such as alcohol SBI/SBIRT and/or CHOICES are opportunities for increased focus. Since conducting the environmental scan, the Nursing Workgroup has begun taking strategic steps to facilitate the above recommendations derived from the environmental scan by partnering with national nursing organizations, local nursing coalitions, and universities to reach nursing professionals and students, develop a champion’s network, and address the identified gaps. One example outcome from this work was the recent publication of two position statements on Prevention of Alcohol-Exposed Pregnancies, one issued by the National Association of Nurse Practitioners in Women’s Health (NPWH, 2016) and another by the American College of Nurse-Midwives (ACNM, 2017). These professional nursing organizations plan to offer additional resources and trainings to their members. We believe that collaborations with the nursing profession to increase knowledge and skills, and changes within healthcare systems to adopt evidence-based interventions, such as alcohol SBI/SBIRT, is a path towards sustainable practice change (Platt et al., 2016).

**Declaration of interest**

The authors have no conflicts of interest to disclose.
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References


Substance Abuse and Mental Health Services Administration (SAMHSA). (2013). *Screening, brief intervention, and referral to treatment training programs: Implementation guide.* Rockville, MD: SAMHSA.


