

Abstract

Purpose: Pregnant patients with substance use disorders (SUDs) may experience stigma and implicit and explicit bias from health care professionals when seeking prenatal care. This study explored the perceptions of health care professionals caring for pregnant women with SUDs and examined changes in their perceptions over time following attendance at an educational conference about SUDs.

Study Design and Methods: Evidence-based education was presented to health care professionals at a conference to reinforce the complex needs of pregnant women with SUDs. An adapted version of the Attitudes of Healthcare Providers Survey (AHPS) was administered at three intervals and assessed health care professionals' perceptions of pregnant women with SUDs. Data from the three time points were analyzed using repeated measures ANOVA.

Results: There was a significant decrease in mean AHPS scores between T1 (38.24 ± 8.93) and T2 (32.71 ± 7.77), $p < .05$, and then a significant increase in mean AHPS score between T2 and T3 (37.08 ± 8.45), $p < .05$. High mean scores on health care professionals' knowledge and competence were noted after the educational intervention but were not sustained over time.

Clinical Implications: Education cannot change health care professional perceptions of pregnant individuals with SUD. Health care professionals need access to additional clinical and community resources. Nurse leaders must continue to advocate for institutional and community resources to meet referral, treatment, and follow-up needs during pregnancy. Reducing perceptions of stigma and acknowledging the impact of implicit bias toward pregnant women with SUD may reduce barriers and improve their care.

Key words: Attitude of health personnel; Bias; Implicit; Pregnancy; Pregnant women; Social stigma; Substance-related disorders.

HEALTH CARE PROFESSIONALS' PERCEPTIONS OF CARING FOR PATIENTS WITH SUBSTANCE USE DISORDERS DURING PREGNANCY

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Substance misuse is a complex problem that has a negative effect on the health of the person using substances which then affects their family, friends, and community (American Academy of Pediatrics, 2017; Rizk et al., 2019). In the most recent national survey on drug use and health conducted in 2018, women were asked about their behaviors in the last month (Substance Abuse and Mental Health Services Administration, 2019). Approximately 5.4% pregnant patients reported using any illicit drug, 0.9% using opioids, and 4.7% using cannabis. Use of these substances differed by trimester, with higher rates reported in the first trimester than the last trimester. In 2018, 9.9% of pregnant women reported using alcohol and 11% reported smoking, use decreased from first trimester to third trimester (Substance Abuse and Mental Health Services Administration, 2019). Based on data from the National Inpatient Sample, from 2010 to 2017, maternal opioid use disorder and neonatal abstinence syndrome is increasing in the United States (Hirai et al., 2021). From 2010 to 2017, the estimated rate of neonatal abstinence syndrome, now known as neonatal opioid withdrawal syndrome, significantly increased by 3.3 per 1,000 birth hospitalizations from 4.0 to 7.3 and the estimated rate of maternal opioid disorder significantly increased by 4.6 per 1,000 birth hospitalizations from 3.5 to 8.2 (Hirai et al., 2021).

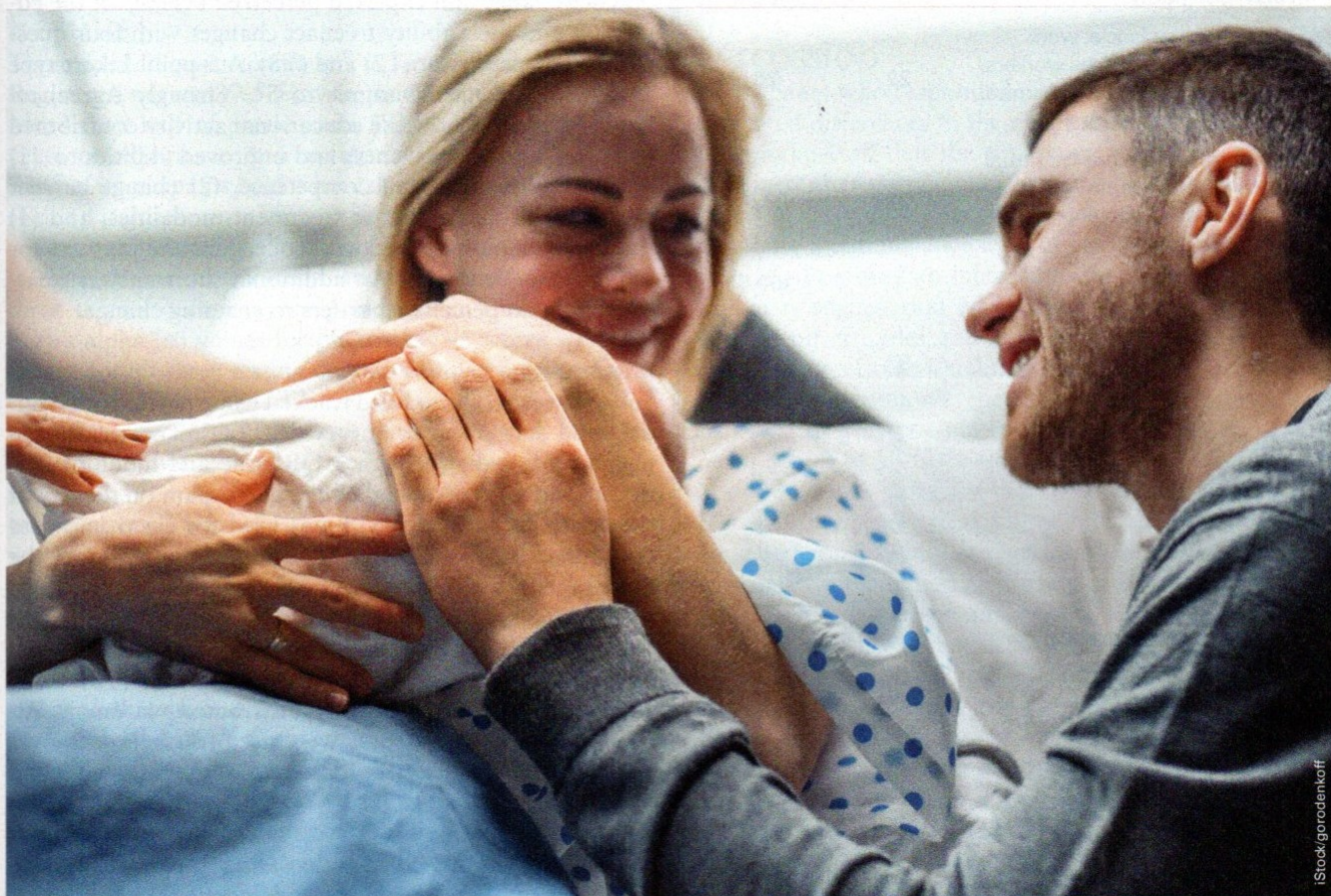
Drug overdose deaths and opioid-related deaths have substantially increased in the United States in the last 20 years (Hedegaard et al., 2019; Scholl et al., 2019). Biology, genomics, social factors, behavioral influences, and other health determinants strongly factor into the epidemiology of substance use disorders (SUDs; Amin et al., 2014).

Relationships and rapport developed with health care professionals during pregnancy visits establish a unique space for personal growth and health promotion (Fonti et al., 2016). One positive finding in the literature is the recurring theme of how powerful pregnancy is as a turning point. Evidence shows that pregnancy is a motivation to interrupt the addiction cycle (Nordenfors & Hojer, 2017). Pregnancy is an opportune time to seek and act on health advice, with a goal of improving health, and the health of the developing fetus and family.

Research confirms the negative effects of decreased engagement and lesser empathy when health care professionals hold stigmatizing beliefs (Ashford et al., 2018). Clinician awareness about the influence of personal attitudes including explicit and implicit bias and professional actions lessening the effects of stigma are essential. Negative attitudes toward those with SUDs affect the quality of care and patient engagement (Corrigan et al., 2017a; Renbarger et al., 2021). Societal attitudes further influence behaviors of health care professionals which jeopardizes therapeutic relationships and impedes care. The stigma of addiction leads to negative clinical outcomes and decreased well-being for those with SUDs worldwide (Corrigan et al., 2017b). In individuals with SUDs, it is estimated that 28% do not seek treatment due to perceptions of stigma (Substance Abuse and Mental Health Services Administration, 2019).

Health interventions may successfully decrease or modify substance use in pregnancy (Renbarger et al., 2021). Yet, health care professionals are often ill prepared to effectively intervene. For a patient with a SUD, pregnancy is a window in which they are more likely to participate successfully with treatment options (Kennedy-Hendricks et al., 2016; Nordenfors & Hojer, 2017). Education has been identified as the most important factor in altering stigma perception (Corrigan et al., 2017a). Education about SUD influences health care professional attitudes and lessens social stigma (Corrigan et al., 2017b; Kennedy-Hendricks et al., 2016). Education alone, however, does not change practice. Awareness of the stigma surrounding SUDs involves attitudinal identification and personal awareness. Some believe that education will reduce these biases and increase empathy (Ashford et al., 2018). However, biases remain, regardless of education about various topics (Pentecost et al., 2021). This purpose of this project was to examine efficacy of education and bias recognition among health care professional caring for pregnant people with SUDs.

Pregnancy is an opportune time for nurses to encourage positive choices that affect behavioral changes.



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Accurate assessment of substance use is complicated by reliability of self-reporting (Ko et al., 2018). Several measures have been used to gauge attitudes and beliefs on sensitive subjects that correspond to patient-perceived stigma by health care professionals (Ashford et al., 2018; Drake et al., 2018). However, these measurement or bias tools are not specific to pregnancy and SUDs.

Study Design and Methods

Project Design

We used a repeated measures exploratory design to investigate whether participation in education about substance abuse and prevention changed health care professionals' perceptions about caring for pregnant individuals with SUDs and evaluate whether educational content on SUDs changed their knowledge, competence, or practice.

TABLE 1. PARTICIPANT DEMOGRAPHIC DATA

Factor	Total Sample	Valid Percent
Position		
N	89	100%
Registered nurse	33	37.5
Obstetrician	3	3.4
Family practice physician	4	4.5
Certified nurse midwife	3	3.4
Nurse practitioner	2	2.3
Other caregiver (social work, child protective services workers, occupational therapists, chemical dependency counselors)	22	25
Community member (regional health district employees, Department of Social and Human Services)	21	23.9
Missing	1	100.0
Length of practice		
N	87	100%
0–5 years	46	52.9
6–10 years	8	9.2
11–15 years	6	6.9
16–20 years	8	9.2
20+ years	19	21.8
Missing	2	100.0
Highest level of education		
N	89	100%
High school diploma or GED	2	2.2
Some college education	5	5.6
Associate degree	17	19.1
Baccalaureate graduate	34	38.2
Graduate degree	31	34.8

Participants and Settings

Survey participants were attendees recruited at a conference comprised of multidisciplinary health care professionals and community members who engage with the population of pregnant individuals with SUDs (Table 1). The conference was held at MultiCare Deaconess Hospital, in Spokane, Washington, in response to a community needs assessment by the Spokane Regional Health District that identified eight targeted needs for health care professional education. Participants were informed that the survey was voluntary and confidential, and their survey participation inferred their consent. The research university's Human Research Protection Program deemed this project exempt.

Survey Measures

The Attitudes of Healthcare Professionals Survey (AHPS) includes 20 questions with five response categories (1 = Strongly Disagree to 5 = Strongly Agree; Fonti et al., 2016). The survey explored attitudes and feelings about substance use and personality characteristics of those who use substances. This tool was adapted for pregnancy based on the original AHPS tool that was used to measure neonatal nurses' attitudes toward illicit drug use in pregnancy (Fonti et al., 2016; Jenkins, 2013). Survey scores were ranked into three categories: low bias range (0–40); moderate bias range (41–69); and high bias range (70–100) using cumulative results from the 5-point Likert-type scale (Fonti et al., 2016).

Postconference evaluation explored anticipated difficulties health care professionals perceived in implementing practice change and explored perceived benefits of the education and their ability to enact changes with four questions on the survey at (T2) and (T3). A 5-point Likert-type Scale (1 = Strongly Disagree to 5 = Strongly Agree) response measured how the educational activity contributed to professional effectiveness and improved abilities to: (1) increase knowledge and competence, (2) change current practice, (3) identify better treatment modalities, and (4) share information learned with colleagues and partners for improved patient care. An additional short-answer question explored perceived barriers to enacting change.

Procedures

Surveys were collected and tracked using participants' initials and date of birth. Survey distribution was either on paper or digitally through a QR code and mode of participation was determined by the participant on the day of the conference. Qualtrics™ was used for electronic data collection. The first survey (T1) was given just prior to the morning start of conference and included demographic questions related to practice and education in conjunction with the AHPS. The survey was given immediately post conference (T-2) and 60 days post conference (T3). Post-conference (T3) surveys were distributed via email. Although identifying features were used to track data over time, all participants were unknown to the research team.

Analysis

Initial analysis involved calculating means, standard deviation, and frequencies for demographic character-

TABLE 2. REPEATED SURVEY MEASURES ACROSS TIME ADAPTED ATTITUDES OF HEALTHCARE PROVIDERS SURVEY

	T1 (n = 89)		T2 (n = 76)		T3 (n = 38)	
	M	SD	M	SD	M	SD
AHPS total score*	38.24	8.93	32.71	7.77	37.08	8.45
Postconference evaluation						
I have increased my knowledge and competence in treating patients with substance use disorders	-	-	4.38	.84	4.26	.74
I plan to change my current practice	-	-	3.70	.83	3.66	1.03
I identify better treatment modalities	-	-	4.18	.70	4.23	.65
I will share information learned with colleagues and partners for improved patient care	-	-	4.51	.66	4.46	.61

M = Mean. SD = Standard deviation. T1 = Preconference. T2 = Immediately postconference. T3 = 2 months postconference. AHPS = Attitudes of Healthcare Providers Survey. *Significant differences between T1 and T2; T2 and T3 ($p < .05$).

istics and for the survey measures at each of the three testing occasions. Analysis of Variance (ANOVA) compared mean attitude scores over the three time points. Tests for skewness, kurtosis, and sphericity indicated a normal distribution and no violations of ANOVA assumptions. Participants ($n = 3$) were excluded when missing more than one answer of the 21 questions on the AHPS. Scale reliability at each testing occasion was examined using Cronbach's alpha (α), with $\alpha \geq .70$ indicating a reliable instrument (Nunnally & Bernstein, 1994).

Results

There were 89 participants at T1, 76 at T2, and 38 at T3. Registered nurses (37.5%) were the most prevalent group. More than half of participants (52.9%) reported 0 to 5 years of experience in a maternity care setting. Nearly 73% of participants held a baccalaureate degree or higher (Table 1).

Descriptive statistics including means and standard deviations of the AHPS items and total scores across the three testing occasions are presented in Table 2. Cronbach's alpha (α) values for the total scale scores were excellent for all three testing occasions indicating a reliable scale, with T1 $\alpha = .84$; T2 $\alpha = .85$; and T3 $\alpha = .87$. Repeated measures ANOVA determined change in variables across time that showed a significant within subjects' effect, $F(2,54) = 34.71$, $p < .001$, where AHPS scores decreased from T1 to T2, and then increased at T3. There were no significant differences in APHS scores between T1 and T3 ($p = .327$). Mauchly's test of Sphericity was not significant ($p = .14$), indicating sphericity is assumed for the repeated measures ANOVA test. Longitudinal analysis was possible for 38 participants; they engaged in the survey at all three time points. This sample group represented an estimated 25% of conference attendees and 32% of the initial survey respondents at T1. Bonferroni post hoc tests found that T1 AHPS scores significantly differed from T2 AHPS scores (mean difference = 7.64, $SE = .97$, $p = .000$) and T2 AHPS scores significantly differed from T3 scores (mean difference = -5.82, $SE = .78$, $p = .000$). There were

no significant differences in APHS scores between T1 and T3 ($p = .327$).

In the postconference evaluation (Table 2), participants reported the conference enabled them to identify better treatment modalities, increased knowledge, and competence, and increased perceived ability to make practice changes at both postconference assessment points T2 and T3. Selected comments included in Table 3 report barriers to implementing change in practice. Most recurring responses related to lack of time and resources and lack of empathy on the part of colleagues as barriers to change.

Discussion

Participants who responded at all three time points demonstrated differences in their attitudinal scores over time. It was expected that the conference education would be sustained after participants returned to their professional practice. Sixty days post conference, the AHPS scores did not show a maintenance level of lower attitudinal scores. Instead, there was an increase in the mean AHPS score. This may suggest that when using education as an intervention on attitudes and behaviors, over time there is a diminishing effect. Qualitative comments provided by participants post conference supported this notion. Consistent with previous published studies using the AHPS, mean scores at all three time periods fell within the low attitude of bias category that was defined (Fonti et al., 2016). Lower numerical scores indicate lower personal bias. Perhaps this finding suggests those who attended the conference already had an affinity or increased sensitivity when caring for pregnant patients with SUDs. Another possible inference is that explicit bias might have been already identified by participants, because of their previous awareness on addiction and pregnancy and the need for special care considerations. There is need for continued support in practice after education is obtained (Corrigan et al., 2017a, 2017b).

Pregnant women with SUDs can be successful in recovery with sustained support. Empowering health care professionals to be knowledgeable, supportive resources

strengthen communities (American Hospital Association, 2022). Without backing from community stakeholders and employers, health care professionals who care for pregnant people with addiction may not receive the necessary allotted time needed for appointments to forge connections and outline available community support, if it indeed exists, in their community. This inability and lack of resources affect health care professional perceptions as their feelings of optimism and positive support may wane with frustrations in balancing and managing care (Radcliffe, 2011).

Limitations

This longitudinal comparison was limited by decreased response rate (Saiepour et al., 2019), a moderate sample size, and a carryover effect inherent in within-subject designs. The AHPS has not been validated to determine if it can compare different groups of health care professional. Differences in length of practice caring for pregnant individuals with a history of SUDs may have variable impacts on attitudes and implicit or explicit bias.

Clinical Implications

For sustainable change in health care, professionals must acknowledge their perceptions about pregnancy

and addiction through both personal exploration and by evaluating their community assets (American Hospital Association, 2022). Personal understanding of biases and the constructs in which health care professionals function creates an opportunity to practice with intention. Being mindful of biases and limitations is the first step; acting to overcome these when providing patient care is the next essential part of creating sustainable change in patient care. Evaluating the community support structure and available referral services through community needs assessments can help define the scope and better determine where efforts can be directed (Berkowitz & Nagy, 2022). The environment in which nurses work, the pervasive attitudes of peers, and work culture, whether supportive or nonsupportive, when acknowledging the range of needs of patients with substance use disorder are factors promoting a supportive health care service for those with SUDs (Drake et al., 2018).

Education alone cannot create change in health care professional perceptions of pregnant individuals who experience SUDs. Practitioners need access to additional clinical resources. By advocating for institutional and community resources to meet the referral, treatment, and follow-up needs during pregnancy, nursing leaders can empower

TABLE 3. RESPONSES FOR BARRIERS IMPEDING CARE FOR PREGNANT PATIENTS WITH SUDS

What barriers to implementing changes in your treatment of patients with addiction disorders have you encountered since the conference?
Lack of time and resources
<i>Time to properly interview patients and to know if follow up has taken place</i>
<i>... taking the time to make a meaningful connection</i>
<i>It's hard to remember a lot of what is taught. Hopefully I will have time to review slides once they become available</i>
<i>Lack of adequate resources and services for these patients</i>
<i>Mostly services related, services are not available or difficult to establish</i>
<i>Treatment that is siloed, need better integration of services</i>
<i>Finances- limitations forced on us by an antiquated reimbursement system</i>
<i>Lack of MAT prescribers</i>
<i>Consistent advocacy for community resources across multiple staff. Sharing information with other staff members will help ensure patients do not get mixed messages</i>
Stigma
<i>My colleagues continue to lack empathy toward the mothers of these newborns</i>
<i>We see a small number of women who are pregnant as a Chemical Dependency Professional. I believe that this is because of the stigma of using while pregnant so women do not seek help</i>
<i>Those who do not feel pregnant women with substance abuse issues are worth of help and change</i>
<i>Community stigma and funding for adequate programs that address complex family trauma in addition to the substance misuse</i>
<i>That I am 'one' part of the team, and if not careful we can unintentionally cripple the process of supporting a woman with substance abuse disorder</i>
<i>I work in the ER. Providers can be biased. I'm going to educate them to overcome this. I too was somewhat biased before this excellent conference</i>
<i>Judgmental providers who refuse to treat the whole patient</i>

SUGGESTED CLINICAL IMPLICATIONS

- Pregnancy is an opportune time for nurses to encourage positive choices that affect behavioral changes.
- Nurses are in a unique position to build rapport with patients to build trust and foster security.
- Nurses with awareness of bias toward substance use during pregnancy can help pregnant women receive supportive care.
- Stigma from health care professional is one of the largest barriers for substance using individuals seeking care during pregnancy. Nurses must recognize their role in reducing barriers.
- It is important for nurses and other health care professionals to identify and use necessary support, education, and practice improvement plans to enact sustainable changes in work culture.

those who serve this vulnerable group. Reducing perceptions of stigma and acknowledging the impact of implicit bias toward pregnant women with SUDs may improve their care.

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