Clinical Obstetrics, Gynecology and Reproductive Medicine

Research Article ISSN: 2059-4828

Obstetrician-Gynecologists' referral practices for substance use during pregnancy

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Abstract

Objectives: Substance use during pregnancy is a major health concern. Ob-gyns are in a unique position to encourage patients to receive treatment. Providing appropriate referrals is crucial to providing patients with the care they need, for the health of the mother and child. This study seeks to understand how and where pregnant patients are referred for substance use, and if these referrals are dependent on type of drug or other factors. Understanding provider practices and beliefs regarding substance use referral will help to better educate ob-gyns on how to care for these patients.

Methods: An online questionnaire was disseminated to a random sample of American College of Obstetricians and Gynecologists (ACOG) members asking about practice patterns for pregnant patients with substance use.

Results: Most physicians inquire about substance use from their patients as part of the prenatal appointment. However, marijuana and illegal drugs are asked about less frequently than tobacco and alcohol, and referrals are not always offered. The inconsistency of referrals is primarily due to patient refusal and the lack of referral resources. When patients are referred, it is typically to MFMs or addiction specialists; most physicians report follow up on the referral at their next appointments.

Conclusions: Providers may not be receiving adequate training to manage marijuana or other illicit drug use among pregnant women. Given increasing marijuana use and prescription drug misuse over the past few years, it is important for physicians to be aware of screening and referral recommendations for these substances.

Introduction

Substance use during pregnancy is a major public health concern given the potential negative maternal and child health implications. Marijuana is the most common illicit drug used [1] and use rates have been increasing over the past decade [2-3]. Opioid misuse is also a growing problem for this population, with over 20% of Medicaid-enrolled women filling an opioid prescription during pregnancy between 2000 and 2007 [4]. Prescription drug use during pregnancy has increased by 60% in the last 30 years, with about half of all pregnant women taking at least one prescription, but little information is available on misuse of these prescriptions [5]. Recent national survey data show that approximately 8% of pregnant women reported past-month illicit drug use, 7% reported past-month alcohol use, and 13% reported past month cigarette smoking [6]. Screening for substance use is widely recommended for obstetricians when caring for pregnant patients [7-10], yet little is known about referral and treatment practices once substance use has been identified or how these practices may vary depending on the type of substance.

Ob-gyns are in a unique position to address substance use and refer pregnant women to treatment. In general, women have been shown to face more barriers to receiving treatment for substance use and are therefore less likely to seek treatment for substance use issues than men [11-12]. However, women are more likely to benefit from and access treatment for substance use during pregnancy [13-14], giving ob-gyns a unique opportunity to encourage treatment-seeking for the benefit of both mother and child.

Screening for substance use in pregnant patients is a difficult task; the stigma associated with prenatal substance use, fear of being punished or having their child taken from them by protective services, and experiencing negative consequences or judgement have been found to be barriers for disclosing substance use during pregnancy [15-17]. On the provider side, referral resources are not always up to date or known to providers; information concerning the threshold of substance use for negative perinatal outcomes may be lacking [18]; and providers may not always receive adequate training in management of substance use in general, given that ob-gyns report receiving a median of three curricular hours during residency programs [19]. Providers also believe that patients may deny any substance use and/or resist referrals to treatment, making it difficult to manage substance use in these patients [20].

If screening is conducted and treatment is warranted, there are various forms of treatment available to pregnant patients, many of which are specific to the type of substance being used. However, with the barriers that exist, patients may not be receiving proper referrals. Few studies have explored the complexities of treatment referrals for this population. This study seeks to understand how and where patients are referred, and if these referrals are dependent on type of drug or other factors. It is hypothesized that referral practices may be straightforward

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Key words: *substance use, pregnancy, referrals, ob-gyn*

Received: March 05, 2018; **Accepted:** June 28, 2018; **Published:** July 02, 2018

for substances such as tobacco, where screening and brief intervention recommendations have been outlined by the US Preventive Services Task Force (USPSTF), and less clear for substances such as marijuana, where there are fewer guidelines surrounding screening and treatment.

Material and methods

Survey design and participants

The Research Department at the American College of Obstetricians and Gynecologists (ACOG) developed a survey of provider practice patterns and opinions about substance use referral for pregnant women. The survey was pilot tested by maternal and child health researchers and clinicians and adjusted as necessary prior to distribution. The study was approved by the ACOG Institutional Review Board.

A random sample of 600 ACOG members who practice within the United States were invited to participate in the survey via email in March 2017. Of these 600, 200 were randomly chosen from the Collaborative Ambulatory Research Network (CARN). The members of CARN are practicing ob-gyns who have volunteered to receive and participate in several survey-based studies each year. The additional 400 participants were selected using proportionate, stratified sampling from a database of current ACOG Fellows and Junior Fellows.

The survey was administered online through Qualtrics Software (Qualtrics, Provo, UT) and sent via email to the participants. The email consisted of a cover letter informing participants about the survey topic, providing instructions on how to complete the survey online, and stating that participation was voluntary and that survey completion would be considered informed consent. Respondents could opt out of the survey by clicking a link or emailing the research department at ACOG. Individuals who were non-responsive were sent reminder emails each week; six reminder emails were sent between March 2017 and May 2017.

Survey questions

The final survey consisted of 14 questions regarding provider practice patterns and opinions about substance use referral for pregnant women, and eight demographic questions (provider's primary specialty, age, gender, race, location, type of practice, and years of practice post-residency). Providers were asked how they manage pregnant patients who report substance use, where they refer these patients, how they determine and manage referrals, barriers for referrals, and about referral resources. Providers were asked three different questions pertaining to specific substances: how they collect information for the use of that substance, what factors play a role in determining whether to refer a patient based on the substance used, and their ability to provide an appropriate referral for that substance.

Data analysis

Statistical analyses were performed using IBM SPSS Statistics 24.0 (IBM Corp©, Armonk, NY). Summary descriptive statistics were calculated for continuous, ordinal data, and categorical data. Chi-squared tests were used to examine categorical data, while ANOVA tests were used to compare continuous variables. Results were considered statistically significant at $p < .05$. Unless otherwise noted, all percentages are excluding missing data. The variable "ability to refer" was calculated by combining the six provider ratings for how providers would rate their ability to refer patients for six substances, and averaging these scores. These scores were on a Likert scale ranging from 1-5, with 1 being "poor" and 5 being "excellent." Each of these ratings for the six substances were highly correlated with one another ($p < .01$, Pearson Correlation Coefficient > 0.3), giving us cause to create this new composite score variable.

Results

Response rates

A total of 600 ACOG members were contacted through email to participate in the survey. Six of these participants did not have valid email addresses, while 327 never opened the study emails. Thirty-five participants declined to participate, leaving 232 possible respondents. One-hundred-seventeen surveys were completed by respondents for a 50.4% response rate. Of these respondents, 68 were CARN members (69.4% response rate), while 49 were non-CARN members (36.6% response rate). Given that this study focused on providers who treat pregnant patients, we removed 18 physicians who practiced gynecology only, leaving 99 participants. Twenty-two respondents did not complete the survey (less than 25% of questions answered) and were removed from analyses. The final number of participants included in analyses was 77.

Demographics

Most participants practiced general obstetrics and gynecology (85.7%), while 14.3% practiced obstetrics only. The average age for physicians was 50.3 years (SD=11.4), with 17.8 years (SD=11.2) of practice. The majority were female (72.4%), White (75.7%), and/or either part of an ob-gyn partnership/group or university full-time faculty with a practice (40.8% and 26.3%, respectively). Location of practices varied from urban to mid-sized towns, but only 1.3% reporting a rural practice. Additional demographic information can be found in Table 1.

Table 1. Respondent demographics

Demographic	N (%)
Primary Specialty	
General Ob-Gyn	66 (85.7%)
Obstetrics Only	11 (14.3%)
Practice Location	
Urban - inner city	16 (21.1%)
Urban - non-inner city	21 (27.6%)
Suburban	21 (27.6%)
Mid-sized town	17 (22.4%)
Rural	1 (1.3%)
Gender	
Male	21 (27.6%)
Female	55 (72.4%)
Race/ethnicity	
American Indian or Alaska Native	1 (1.4%)
Black or African American	7 (9.5%)
Hispanic or Latino	3 (4.1%)
Native Hawaiian or Other Pacific Islander	0 (0%)
Asian	11 (14.9%)
White	56 (75.7%)
Current Practice	
Solo private practice	5 (6.6%)
ob-gyn partnership/group	31 (40.8%)
Multi-specialty group	9 (11.8%)
University full-time faculty and practice	20 (26.3%)
HMO/Staff Model	3 (3.9%)
Other	8 (10.5%)

Collecting patient substance use information

The majority of participants reported asking patients directly about tobacco, alcohol, marijuana, other illicit drugs, and prescription drug use as part of the appointment. Counseling during the prenatal visit (77.8%) or referring a patient to treatment (15.3%) were the most common responses when asked about the physician's first choice in managing a patient's substance use during pregnancy. When asked to estimate the percentage of patients who are referred to treatment that have reported substance use in the past month, physicians reported that 54.4% of patients were referred (SD=38.5, median=60, range=0-100). Most respondents (70.7%) reported not having a social worker or case manager on-site that handles patient referrals.

Substance use referral practices

Only 2.8% of respondents said they do not refer prenatal patients for substance use treatment. Type of substance (81.9%) and severity, as determined by physician (73.6%) or self-report (61.1%), were the most common factors participants reported as playing a role in where they refer patients with substance use issues, while only 5.6% said that age of first use was a factor.

The most common response to the question about follow-up with patients who screen positive for substance use was to ask directly about it at the next appointment (79.7%), while only 2.9% said they do not follow up with patients after referrals have been made.

When asked where and how often providers refer pregnant patients with reported substance use, providers reported "always" or "most of the time" referring patients to Maternal Fetal Medicine Specialists (MFMs; 48.5%), addiction specialists (43.5%), treatment programs outside his/her institution (36.8%), and outpatient treatment facilities (32.9%). Providers "rarely" or "never" referred patients to Inpatient treatment (91.3%), Group treatment (91.2%), or Psychiatrists (81.4%). Physicians expressed that patient refusal (80.3%) and the lack of referral resources (74.6%) were the most common barriers to referring prenatal patients for substance use treatment.

The most common ways that participants reported learning about local referral resources was through established clinic relationships (44.3%) and medical staff word of mouth (36.4%). Only 17.8% of participants reported being "very familiar" with the substance use treatment facilities to which they refer prenatal patients, and 34.2% were not familiar at all with these facilities. Almost half (46.5%) of respondents were unsure how often their prenatal substance use referral resources are updated.

Substance use referral practices by substance type

To further examine substance use referral practices, we explored physician responses by substance type (Table 2).

Tobacco: Most providers (78.9%) reported that they ask patients directly about their tobacco use as part of the prenatal appointment, and 14.5% use self-report questionnaires to collect this information. The majority (57.8%) also rated their ability to provide an appropriate referral for tobacco use as either "excellent" or "good," while 26.8% rated this ability as either "fair" or "poor."

When deciding the top factors that play a role in determining whether the provider will refer a patient for tobacco use treatment, frequency of use and the presence of related comorbidities were the most common responses (53.7% and 46.3%, respectively). Number of substances (35.8%) and duration of use (32.8%) were also identified as top factors when considering referrals for tobacco use.

Alcohol: Similar to tobacco, the majority of providers (77.6%) ask directly as part of the appointment about alcohol use during pregnancy. Almost half (49.3%) rated their ability to provide a referral for alcohol use during pregnancy as "excellent" or "good", while 28.2% rated this ability as either "fair" or "poor."

Frequency of use was the most common factor for providers when determining whether they would refer a patient for alcohol (73.1%), while number of substances (50.7%), duration of use (47.8%), presence of related comorbidities (41.8%), and type of substance (40.3%) were also top factors.

Marijuana: Most providers (68.4%) reported asking about marijuana use during pregnancy directly as part of the appointment, while 13.2% reported using self-report questionnaires, and 11.8% reported using universal drug screening. Fewer than one-third of providers (31%) rated their ability to provide appropriate referrals for prenatal patients with marijuana use as either "excellent" or "good," whereas almost half (47.9%) rated this ability as either "fair" or "poor."

Frequency of use (56.7%), number of substances (46.3%), and duration of use (35.8%) were reported as the top factors for providers when determining whether to refer patients to treatment for marijuana use.

Illicit Drugs

A smaller majority of providers (65.3%) ask patients directly about illicit drugs during prenatal appointments as the most common method of collecting this information, while 14.7% of providers used

Table 2. Referral factors by substance type

	Tobacco	Alcohol	Marijuana	Other Illicit Drugs	Prescription Drugs
	N[1] (%[2])	N (%)	N (%)	N (%)	N (%)
Number of Substances	24 (35.8%)	34 (50.7%)	31 (46.3%)	46 (68.7%)	39 (58.2%)
Type of Substance	13 (19.4%)	27 (40.3%)	22 (32.8%)	50 (74.6%)	50 (74.6%)
Duration of Use	22 (32.8%)	32 (47.8%)	24 (35.8%)	24 (35.8%)	26 (38.8%)
Frequency of Use	36 (53.7%)	49 (73.1%)	38 (56.7%)	33 (49.3%)	42 (62.7%)
Presence of Related Comorbidities	31 (46.3%)	28 (41.8%)	19 (28.4%)	19 (28.4%)	23 (34.3%)
Availability of Local Facilities	10 (14.9%)	22 (32.8%)	13 (19.4%)	25 (37.3%)	21 (31.3%)
Insurance Type	4 (6.0%)	11 (16.4%)	7 (10.4%)	13 (19.4%)	15 (22.4%)
Pregnancy Trimester	9 (13.4%)	14 (20.9%)	12 (17.9%)	14 (20.9%)	16 (23.9%)
No In-house Support	3 (4.5%)	10 (14.9%)	9 (13.4%)	13 (19.4%)	17 (25.4%)

1.N is the number of respondents who chose this answer as a top factor for determining a referral for substance use treatment
2.% is the percentage of respondents who chose this answer out of all who answered the question; 67 respondents out of 77 answered this question.

universal drug screening and 13.3% used self-report questionnaires. Almost one-third of providers (32.4%) rated their ability to provide cocaine treatment referrals for prenatal patients as "moderate", 40.8% rated their ability as "excellent" or "good," while 26.8% rated their ability as "fair" or "poor."

Frequency of use (49.3%), availability of local facilities (37.3%), and duration of use (35.8%) were the most common factors for providers in determining referrals for illicit drug use treatment.

Prescription drugs and opioids

Most providers (73.7%) ask about prescription drug use as part of the prenatal appointment. When asked about their ability to provide appropriate referrals for patients with opioid use, 47.9% rated this ability as "excellent" or "good," while only 25.4% rated their ability as "fair" or "poor."

The type of substance reported was the most common factor for determining whether a prenatal patient is referred to treatment for prescription drug use (74.6%), with frequency of use (62.7%), and number of substances reported (58.2%) also being top factors for referral.

Ability to refer

Providers had an average score of 3.2 on the "Ability to Refer" scale, with scores ranging from 1 to 5. A provider's perceived ability to refer was significantly and positively correlated with the percent of patients in the past month with substance use that were referred to treatment (p=.008). Using this variable, it was also found that the more often a provider referred a patient with substance use to a psychiatrist (F=3.73, p=.009) or nutritional counseling (F=3.41, p=.014), the higher they rated their ability to refer patients for substance use treatment.

Percent referred differences

Physicians who reported always referring prenatal patients with substance use problems to a psychologist also reported a higher percentage of patients being offered referrals for substance use in their practice than those who only sometimes or never refer to a psychologist (F=2.556, p=.047). The same pattern was true for physicians who reported always or most of the time referring prenatal patients to outpatient treatment (F=2.78, p=.034) or to inpatient treatment (F=3.387, p=.023).

Participants who reported that time was a barrier for referring patients for substance use also reported a lower percentage of referred patients (F=8.290, p=.005). Physicians who reported frequency of use as a factor for determining referral for alcohol (F=11.976, p=.001) and marijuana (F=5.291, p=.025) users also reported higher percentages of referred patients who were referred. Those who reported that the type of insurance a patient has is a factor in determining *where* to refer a patient reported a higher percentage of patients being referred (F=5.757, p=.019). The better the physician reported their ability to refer a patient for tobacco (F=4.259, p=.004) and marijuana (F=3.051, p=.023), the higher the percentage of patients were referred for substance use.

Discussion

Results indicate that the majority of physicians inquire about substance use from their pregnant patients as part of the prenatal appointment but certain substances are asked about less frequently than others (i.e., marijuana and other illicit drugs) and referrals are not always offered. This may be indicative of an unmet need given that about half of patients who are reporting substance use are not being referred. The lack or inconsistency of referrals is mostly due to patient refusal and the lack of referral resources-- two issues that could be addressed in part with improvements in training and resources. When patients are referred, it is typically to MFMs or addiction specialists and most follow up on the referral at their next appointments. This suggests that providers who are equipped with referral resources follow up on the progress of their patient. If this is the case, then the lack of resources plays a crucial role in preventing pregnant patients from receiving appropriate care.

Of note is the variability of how a physician responds to substance use depending on the substance reported. Most providers reported being more capable of providing an appropriate referral for tobacco than any other substance, which is in line with previous studies [21]. The comfort level in referring for marijuana and illicit drugs is much lower, resulting in a potential missed opportunity to intervene with these patients. One possible reason for this is that USPSTF screening recommendations are clear when it comes to tobacco use during pregnancy, provides strong guidance to use the 5A's, and there is a strong evidence base for negative maternal and neonatal health implications resulting from tobacco use during pregnancy [22-23]. On the other hand, USPSTF has stated that there is insufficient evidence to screen for illicit drugs during pregnancy, and thus no formal recommendation exists.

Fewer than one third of physicians rated their ability to provide appropriate referrals in this population as "excellent" or "good." Providers may not be receiving adequate training to manage marijuana or other illicit drug use among pregnant women. One aspect of training worth highlighting is how to address patient refusal of a referral. There is a great deal of stigma around substance treatment during pregnancy, and state policy and the criminalization of prenatal substance use may also serve as a deterrent. Patient refusal may also be due to insufficient education being provided. Research is inconclusive on the harms of marijuana use during pregnancy, but as the potency of marijuana increases and prevalence rates increase, it is important for physicians to be able to educate their patients on why a recommendation for cessation has been put into place. There is also a need for physicians to better understand local referral resources so that there is less need to rely on medical staff word of mouth.

Though this study adds to our understanding of how ob-gyns may refer pregnant patients who use substances, limitations to this study should be mentioned. The sample size is small and thus may not be generalizable to a larger population. In addition, there may have been some selection bias in that those who chose to participate in the survey may have more interest in the study topic. That said, the findings provide a compelling case for stronger efforts to address the referral practices for substance use during pregnancy, specifically around marijuana and other illicit drugs.

Implications for practice and/or policy

Our results highlight several opportunities for reaching more pregnant women who report using specific substances. With the increasing prevalence of marijuana use in pregnant women over the past decade,[2] more emphasis should be placed on screening among pregnant women, particularly among cigarette smokers who have high rates of co-use, and identifying the appropriate referrals.

Conclusions

Additional research around co-use of marijuana and tobacco is needed to provide a strong evidence base for screening and

intervention recommendations. There are relatively high prevalence rates during pregnancy and potential additive health effects [24], and existing tobacco interventions may need to be modified to incorporate addressing marijuana use.

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