2010

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10.3109/10826081003682172

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Substance Use & Misuse, 45:1474–1490

ISSN: 1082-6084 (print); 1532-2491 (online)
DOI: 10.3109/10826081003682172

informa
healthcare

Intervention Barriers

Health Professionals Addressing Alcohol Use with Pregnant Women in Western Australia: Barriers and Strategies for Communication

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The research collaboration includes the Telethon Institute for Child Health Research, Centre for Child Health Research, The University of Western Australia, Edith Cowan University, Curtin University of Technology, the University of Sydney, the Australian Paediatric Surveillance Unit, Drug and Alcohol Office Western Australia, the Department of Health Western Australia, the Kulunga Research Network and the Wongutha Birni Aboriginal Corporation. We acknowledge aboriginal and non-aboriginal women who participated in focus groups and in-depth interviews to inform the development of the resources for health professionals. We also acknowledge the health professionals (aboriginal health workers, allied health professionals, nurses working in the community, general practitioners, obstetricians and pediatricians) who participated in focus groups and in-depth interviews to inform the development of the resources for health professionals, and those who responded to the evaluation questionnaire. We greatly appreciate the time given and perspectives expressed by the Western Australian health professionals who participated and also thank those who assisted in recruitment of participants. We also acknowledge and thank the Alcohol and Pregnancy Steering Committee: participating investigators (Lynda Blum, Roslyn Giglia, Janet Hammill, Ray James (dec'd), Christine Jeffries-Stokes, Anne Mahony, Daniel McAullay, Anne McKenzie, and Raewyn Mutch), members of the Alcohol and Pregnancy Project Team (Melinda Berinson, Heather Monteiro), representatives of the Kulunga Research Network (Rani Param, Jennine Pickett (dec'd), Peta Gooda), members of the Aboriginal Community Reference Group (Rhonda Cox, Lyn Dimer, Michael Doyle, Paula Edgill, Laura Elkin, Dot Henry, Gloria Khan, Josie Maxted, Michael Wright), members of the Community and Consumer Reference Group (Pip Brennan, Kiely O'Flaherty, Jess Braithwaite (Health Consumers' Council), Jocelyn Boylen, Julie Whitlock).

Funding: We acknowledge the support of the Health Promotion Foundation of Western Australia (Healthway Project Grant 15177), the National Health and Medical Research Council (NHMRC)

Health professionals have an important role to play in preventing prenatal alcohol exposure. In 2006 qualitative data were collected from 53 health professionals working in primary care in metropolitan and regional Western Australia. Thematic analysis was used to elucidate barriers in addressing prenatal alcohol use and the strategies used to overcome them. Health professionals identified strategies for obtaining alcohol use information from pregnant women but they are not recognizing moderate alcohol intake in pregnant women. Study limitations are noted and the implications of the results are discussed. This research was funded by the Health Promotion Foundation of Western Australia.

Keywords alcohol; pregnancy; health professionals; antenatal care; Fetal Alcohol Spectrum Disorder

Introduction

Fetal exposure to alcohol can result in a range of lifelong impairments in cognitive, social and emotional functioning (Koren, Nulman, Chudley, and Loocke, 2003; Riley and McGee, 2005; Sokol, 2003). Alcohol can affect fetal development throughout pregnancy and the risk of adverse outcomes increases with increasing dose and frequency of alcohol exposure. A pattern of drinking in which women consume five or more standard drinks in one sitting results in high maternal and fetal blood alcohol content and increases the risk for poor fetal outcomes (Jacobson, Jacobson, Sokol, and Ager, 1998; Maier and West, 2001; Strandberg-Larsen et al., 2008). A safe level of alcohol exposure during pregnancy is not known for the fetus, and the evidence is inconclusive regarding the effects of low to moderate maternal alcohol consumption (Henderson, Gray, and Brocklehurst, 2007; Testa, Quigley, and Eiden, 2003).

Given the uncertainties in the available evidence, many national policies and clinical practice guidelines recommend that pregnant women abstain from alcohol (O'Leary, Heuzenroeder, Elliott, and Bower, 2007). The Australian Guidelines to Reduce Health Risks from Drinking Alcohol state that, "For women who are pregnant or planning a pregnancy, not drinking is the safest option"(National Health and Medical Research Council, 2009). Rates of alcohol use by pregnant women vary within and between countries, and measurement is often flawed by issues such as recall bias, underestimation and underreporting. However, data consistently show that although many women reduce their consumption or abstain from drinking alcohol during pregnancy, some do not. For example, in Western Australia 60% of non-indigenous women consumed alcohol during pregnancy, 15% consumed more than two standard drinks on a typical occasion, and 4% consumed five or more standard drinks on a typical occasion during pregnancy (Colvin, Payne, Parsons, Kurinczuk, and Bower, 2007). In the United Kingdom, 54.6% of 500 women living in Bristol had consumed alcohol during weeks 28–32 of their pregnancy (James, Greenwood, McCabe, Mahomed, and Golding, 1995), and in Canada, about 10% of pregnant women reported drinking alcohol following confirmation of pregnancy (Chalmers, Dzakpasu, Heaman, and Kaczorowski, 2008). Recent data from the United States of America indicate that 11.6%

Program Grant 353514, Enabling Grant 402784 and NHMRC Fellowships (CB 353628 and EE 457084).

Ethics approval: Ethics approval for this research was granted by the Western Australian Aboriginal Health and Information Ethics Committee, The Women's and Children's Health Service Ethics Committee, and the Edith Cowan University Ethics Committee.

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of pregnant women reported consuming alcohol in the past month (Substance Abuse and Mental Health Services Administration, 2008).

Health professionals have an important role to play in the prevention of prenatal alcohol exposure (Floyd, O'Connor, Bertrand, and Sokol, 2006; Hankin, 2002). Women expect health professionals to ask and advise them about alcohol use during pregnancy (Peadon et al., 2007) and interventions by health professionals can be effective in encouraging women to reduce their alcohol consumption before and during pregnancy (Chang, Wilkins-Haug, Berman, and Goetz, 1999; Hankin, 2002; O'Connor and Whaley, 2007). Despite this, a survey of health professionals in Western Australia showed that the majority did not routinely ask pregnant women about alcohol use or routinely provide them with information about the possible consequences (Elliott, Payne, Haan, and Bower, 2006; Payne et al., 2005). Health professionals also had limited knowledge about alcohol use during pregnancy and its effects, and did not feel well prepared to deal with the subject. Most wanted educational resources to help them address the effects of alcohol use during pregnancy (Elliott et al., 2006; Payne et al., 2005). Health professionals may also experience organizational and social barriers in addressing alcohol with pregnant women given that it can be a sensitive and complex issue for some women and may carry notions of judgment and stigma (Elliott et al., 2006; Finkelstein, 1994; Payne et al., 2005). Therefore, health professionals may require strategies to support them to address alcohol use with pregnant women.

Health professionals in Western Australia have identified a need for educational resources about the effects of alcohol use in pregnancy (Elliott et al., 2006; Payne et al., 2005). Our objective in this qualitative study was to identify the barriers that health professionals encounter in addressing alcohol use with pregnant women and to elucidate the strategies they use to overcome them. Data were specifically collected to inform the development of written resources on alcohol use in pregnancy appropriate for Western Australian health professionals to enhance their knowledge and support their practice with pregnant clients.

Methods

Participants

We conducted five focus groups and 19 in-depth interviews with 53 health professionals in Western Australia in 2006. Seventeen aboriginal health workers, 10 allied health professionals, 14 nurses, and 12 physicians (7 general practitioners, 2 obstetricians and 3 pediatricians) participated. This purposive sample was recruited to gain the perspectives of health professionals from a range of disciplines involved in antenatal care, about issues that were relevant to health professionals as a group. Health professionals were recruited from one metropolitan and two regional areas, and were working within state government departments, private practice and Aboriginal Community Controlled Health Organisations. It was important that a range of settings were represented given the potential for regional differences in the prevalence and patterns of alcohol consumption (Chikritzhs et al., 2003). Table 1 shows the participants by health professional group, regional area, and whether they participated in a focus group or in an in-depth interview.

Data Collection

On the basis of a review of national and international literature, the semi-structured topic guide (available on request) sought to explore health professionals'

Table 1
Participants by health professional group, regional area, and whether they participated in a focus group or in-depth interview

	Health professional group						
				Physicians			
Regional area	Aboriginal health workers	Allied health professionals	Community nurses	General practitioners	Obstetricians	Pediatricians	Total
Regional north	7 (FG)	1 (I)	3 (FG)	2 (I)	0	1 (I)	14
Regional east	3 (I)	1 (I)	2 (I)	1 (I)	1 (I)	1 (I)	9
Metropolitan	7 (FG)	8 (FG)	9 (FG)	4 (I)	1 (I)	1 (I)	30
Total	17	10	14		12		53

FG = participated in a focus group.
I = participated in an in-depth interview.

- beliefs, knowledge, and attitudes about alcohol use during pregnancy;
- experience of asking pregnant women about their alcohol consumption and giving advice about alcohol use during pregnancy;
- experience of communicating with women about the potential effects of alcohol use during pregnancy on the fetus;
- perceptions of barriers in addressing alcohol use with pregnant women;
- strategies for addressing alcohol use with pregnant women.

We employed a snowballing technique and used investigators' networks to recruit participants. Health professionals were invited to participate directly or through managers and key decision makers. Focus groups were stratified by health professional role, in line with the qualitative research principle of creating optimal homogeneity within and optimal heterogeneity between focus groups, so that participants will feel comfortable to offer a full range of opinions (Barbour, 2005). Focus groups were conducted with aboriginal health workers, allied health professionals, and community nurses in the metropolitan area, and with aboriginal health workers and community nurses in one regional area. In-depth interviews were conducted with community nurses, aboriginal health workers, and allied health professionals in the other regional area because of smaller numbers of primary health care staff in this area. Physicians (general practitioners, obstetricians, and pediatricians) participated in in-depth interviews. Initially, it was decided that physicians would participate in in-depth interviews instead of focus groups, as in-depth interviews would allow for a greater degree of flexibility in terms of when and where the health professional participated, and the time involved in participating is less. We considered that this flexibility and shorter duration would support the inclusion of physicians whose work demands, structures, and time commitments often prevent them from participating in this type of health research. However, in reviewing the data it became apparent that this mixed methodology design was a strength. By using both focus groups and in-depth interviews, data-collected provided an insight into the range of perspectives on the issue, as well as elucidating some of the nuances associated with some views, opinions, and experiences. For example, in-depth interviews provided insight into how a consultation with a pregnant women may progress, where as focus groups worked well to highlight different opinions about the role of the health professional in addressing alcohol use with pregnant clients. This was considered to be advantageous, given the objective was to collect data that could meaningfully inform the development of resources for a reasonably diverse audience of health professionals in Western Australia.

Metropolitan focus groups were conducted at a centrally based market research company after working hours. Participants received a cash reimbursement to cover personal expenses. In-depth interviews and focus groups in regional areas were conducted at times and venues nominated by participants. These participants preferred to participate during work hours and received a book voucher as a token of appreciation.

Two researchers (KF, HD) collected the data and checked the transcripts for accuracy. To ensure cultural sensitivity, an aboriginal researcher (HD) conducted all focus groups and in-depth interviews with aboriginal health professionals. Focus groups and in-depth interviews were audiotaped with permission and transcribed verbatim.

Data Analysis

A coding guide was developed through thematic analysis of the transcripts and with reference to the areas of interest identified through the literature review. Codes were added to the coding guide as new categories emerged with analysis of each transcript. Transcripts were

Table 2
Barriers and strategies for addressing alcohol use with pregnant women

Barriers	Strategies
• Perception that most women do not drink much alcohol during pregnancy • Perception that pregnant women know not to drink • Perception that women who drink at high-risk levels during pregnancy have other contextual issues that need to be addressed • Alcohol is not on the professionals' list of priorities in the antenatal consultation • The burden of consultation is huge • Perception that asking about alcohol could add to a woman's anxiety or guilt • Perception that asking about alcohol could appear judgmental • Lack of skills and resources to support women	• Ask about alcohol routinely • Include alcohol on a checklist of issues to address during antenatal care • Ask about alcohol within the context of health and everyday behavior • When asking a woman about alcohol, assume that she does drink alcohol and seek to quantify the amount and frequency of consumption

then recoded with reference to the complete coding guide. Throughout the thematic analysis process emerging categories and themes were discussed by researchers who collected the data (KF, HD) to ensure agreement with interpretation and grouping of data. Using the constant comparative method (Pope, Ziebland, and Mays, 2000), categories and themes were verified and deviances discussed by four researchers (KF, HD, JP, NH) involved in the development of the topic guide.

Results

The results from the five focus groups and 19 in-depth interviews relate to health professionals working in metropolitan and regional areas of Western Australia. Data were collected as part of formative research to underpin the development of written resources for health professionals. For this reason, we sought to elucidate common themes for all health professionals, rather than explore the differences that may exist between groups of health professionals. Results include substantiating quotes from health professionals who are identified by a unique number. The direct quotations have been selected for the concise way in which they capture the theme and provide insight into the perspectives of the participants. Table 2 summarizes the barriers health professionals perceive in addressing alcohol use with pregnant women and the strategies they use to overcome them.

Barriers in Addressing Alcohol Use with Pregnant Women

Barriers to addressing alcohol use with pregnant women were grouped into four themes:

1. How health professionals perceive their clients

Most women do not drink much alcohol during pregnancy. Some health professionals said that most of the pregnant women they cared for did not drink much alcohol during pregnancy

and that alcohol was "a very small problem with (their) patients." (health professional 49) They seldom raised the subject of alcohol with their pregnant clients as they felt that it was not relevant to most of the women who attended their service. Health professionals generally thought most pregnant women were "very switched on, health conscious, and want to do all they can to provide a better environment for their baby." (health professional 1) In some cases, health professionals felt that this reflected the socio-economic demographics of women who attended their service. Some health professionals noted that alcohol use was more of a concern for pregnant women living in particular areas, and particularly for groups such as aboriginal women and women who were poly-drug users.

Pregnant women know not to drink. Health professionals felt that most of their clients knew not to drink alcohol during pregnancy, or to drink only minimally, and that their choices about alcohol use during pregnancy reflected this knowledge. As a result, health professionals generally believed that they did not have a large role to play in advising women about alcohol use during pregnancy. However, some health professionals acknowledged that they were not directly asking their clients about their alcohol intake and hence were making an assumption that women knew to minimize alcohol consumption during pregnancy.

Women who drink at high-risk levels during pregnancy have other contextual issues that need to be addressed. Health professionals believed that they generally identified the minority of pregnant women who drank high levels of alcohol during pregnancy and whose pregnancies may be at risk of poor outcomes. They recognized that these women had a range of social and emotional factors that needed to be addressed, such as poly-drug use, homelessness, and abuse. Health professionals generally found it difficult to support these women as their needs were substantial and health professionals felt their ability to make a positive difference was limited. The relatively short period of pregnancy, during which women were most likely to have some health professional care, also restricted health professionals' ability to establish adequate support to enable a woman to reduce or cease her alcohol consumption.

Health professionals generally did not mention clients who consumed moderate levels of alcohol during pregnancy. The exception was when some health professionals discussed cases in which they had provided advice to women who drank alcohol in the early stages of pregnancy, before they knew they were pregnant.

Box 1: How health professionals perceive their clients

Pregnant women know not to drink

"Most of my patients are pretty well-informed. Well that's how it seems. . . but I haven't formally asked them about how much they're drinking, which I probably should do." (health professional 28)

Women who drink at high-risk levels during pregnancy have other contextual issues that need to be addressed

"I think with alcohol, more so than with other drugs, it is much more attached to the reasons why they are drinking, the relationship that they are in, the generational impact of violence in a family home, their stress levels. I think alcohol is used a great deal more as a stress mediator than what illicit drugs are." (health professional 12)

2. How health professionals prioritize their practice

Alcohol is not on the list of priorities. Health professionals identified several antenatal care issues, other than alcohol consumption, as having high priority. These included other health behaviors, such as diet and tobacco use. One health professional (27) said, "usually smoking in pregnancy is, I feel, more of a problem with my patients than alcohol." Furthermore, some spoke of the clinical issues pertinent to antenatal care that health professionals must address and which are often the focus of the consultation.

The burden of consultation is huge. Health professionals generally felt that their ability to address alcohol use with pregnant women was restricted by the number of other issues that needed to be addressed during a consultation and the time available. As one health professional (48) said, "the burden of consultation is huge." Some also spoke of a lack of time as a barrier to include questions and information about alcohol use within an antenatal consultation.

Box 2: How health professionals prioritize their practice

Alcohol is not on the list of priorities

"In my clinic I don't see (alcohol) as a leading cause. We have far more problems with drugs, cigarettes, blood pressure, sepsis. It's very low on our priorities." (health professional 49)

The burden of consultation is huge

"Say you came in and you were pregnant. I would say, great, do the urine test if you haven't already done it yourself at home, talk about what pregnancy means, 40 weeks is what to expect, this is what the care involves, there are the important dietary, alcohol, folic acid, exercise, and the triple testing, and where are you likely to go for your (delivery)? All that needs to be decided pretty much at the first appointment, so you can see how much information we are talking about, and this is why single things, no matter how important they are, fall off." (health professional 2)

3. Concern for the client and the health professional/client relationship

Asking about alcohol could add to her anxiety or guilt. Health professionals did not want to add to any shame, anxiety or guilt already felt by women who had consumed alcohol during pregnancy. Furthermore, they did not want to alienate women from their care provider or exacerbate the issue by alarming clients with advice and information about the risks for the fetus.

Some health professionals said that their role regarding alcohol use in pregnancy was often only in minimizing anxiety for women who had consumed alcohol in the early stages of pregnancy, before they knew they were pregnant. In these cases health professionals spoke of the importance of "mov(ing) them forward" (health professional 2) with information about what the women could do for the rest of their pregnancy to support the development of the fetus.

Asking about alcohol could appear judgmental. Health professionals generally did not want to appear judgmental by asking pregnant women about their alcohol use. It was important for them to have good rapport with their clients, and for some this was especially important to ensure that women continued to attend antenatal care.

Box 3: Concern for the client and the health professional/client relationship
Asking about alcohol could add to her anxiety or guilt
"I think you've got to tailor (the advice) a bit because if the woman is already pregnant and you're talking about this you could alarm her by telling her that the most dangerous time is already past and she's already been partying on a Friday night or whatever and she's starting to get worried unnecessarily." (health professional 28)
Asking about alcohol could appear judgmental
"I think it is hard to ask those kind of questions (about alcohol), because you don't want to be judgmental, and you don't want to come across as coming down on them, that they are a bad person, or anything like that." (health professional 46)

4. Health professionals' need for skills and resources to support their practice

Lack of skills and resources. For some health professionals a lack of skills and resources often prevented them from raising the subject of alcohol with pregnant women, "if I don't have the skills and I know I can't access a counselor who can help me, then why would I ask the questions?" (health professional 2).

Overall, health professionals did not appear confident in their ability to make a real difference to pregnant women who were consuming high levels of alcohol. Their perceived inability to support women was two-fold. Firstly, health professionals lacked confidence in their own skill in supporting women who were drinking alcohol at levels of high risk. Secondly, if health professionals mentioned the availability of other resources such as specialized clinics and drug and alcohol counselors, they also lacked confidence regarding the efficacy of these resources and referral options. They felt the availability and effectiveness of interventions for women drinking at high-risk levels during pregnancy were limited and were conscious of the risk of alienating a woman from antenatal care providers by raising the potentially sensitive topic of alcohol use.

Box 4: Health professionals' need for skills and resources to support their practice
Lack of skills and resources
"Maybe it would be easier (to ask a client about their alcohol consumption) if you knew what to do if the question was answered. If you were well resourced, knew how to facilitate it, give the right information, in the right way." (health professional 37)
"The things that would make it easy by far (to ask a client about their alcohol use) would be knowing that there are adequate resources to actually do something about it. . . In a way, why raise it if you can't support or do something very concrete about it?" (health professional 35)

Strategies for Addressing Alcohol Use with Pregnant Women

Health professionals spoke of four key strategies that they had found to be effective.

1. Ask routinely

Some health professionals felt that it supported their practice with pregnant women to ask about alcohol use routinely instead of asking only women who exhibit particular risk factors. This normalizes the topic and reduces the possibility that a client would feel that the questions were judgmental. In addition, these health professionals felt that when questions about alcohol use were part of routine practice, they could be more easily and quickly addressed.

2. Include alcohol on a checklist of issues to address during antenatal care

Some health professionals spoke of the value of having questions about alcohol included on a checklist for use with all pregnant women, or within a patient information system that prompted health professionals to ask all clients about their alcohol use. This would ensure that the questions were standard and would enable collection of information that could be recorded and followed up at a subsequent consultation.

3. Ask within a context of health and everyday behavior

Health professionals spoke of the strategy of bringing up alcohol use within a set of questions about health behavior. They felt that this helped to introduce the questions in a way that was empathetic and assisted in maintaining rapport with their clients. Some health professionals spoke of putting questions about alcohol consumption into a context of everyday behavior that clients could relate and easily respond to, such as drinking after work or on a Friday night out with friends.

4. When asking, assume that women do drink alcohol and seek to quantify their consumption

Some health professionals expressed the view that a pregnant client would be more likely to divulge accurate information about alcohol use if their question assumed consumption—not 'do you drink alcohol?' but 'how much alcohol do you drink?' Furthermore, some health professionals felt that the accuracy of women's responses to questions about alcohol might be enhanced if they sought to accurately quantify the amount that a woman was drinking and the frequency of her consumption, for example, 'do you drink alcohol every day?'

Box 5: Strategies for addressing alcohol use with pregnant women

Ask routinely

"I often say, 'we ask all the women these questions so don't feel like we are putting you on the spot particularly. We ask all the women the same stuff.'" (health professional 46)

"All women that come to (the clinic) are asked about alcohol and tobacco and other drugs, often in a fairly informal way. It is certainly one of the standard questions that is required to fill in the admission form that women have when they come into the clinic." (health professional 29)

Ask within a context of health and everyday behavior

"I wouldn't just say, 'Do you drink?'. I would explain that I need a little background information on you and I'm going to ask you a few questions about your general health. 'Do you smoke?' and then, 'Do you drink? How much? How often?'" (health professional 28)

"I associate it with their normal activities, like 'What about when you're relaxing after work, or at the end of the day? How many drinks would you have on a Friday night if you were counting them? If it was not a normal night, and you were having a bit of a big night, how many would you have then?'" (health professional 37)

When asking, assume that women do drink alcohol and seek to quantify their consumption

"(*I would say*), 'how much would you say you drink?' (*She might say*), 'Oh not much at all.'

'So would you drink everyday?' 'Oh no it might be 2 days a week.' 'On those days would it be like 15 cans or 5 cans?' It's naming a few things that are less likely to under-estimate reality." (health professional 35)

Discussion

Health professionals loosely categorized pregnant women into two groups according to what they perceived to be the woman's level of alcohol consumption. The first group, the majority, comprise women who consume a small amount of alcohol or do not drink alcohol at all during pregnancy. Health professionals generally felt that it is unnecessary to ask or advise these women about alcohol use: first, health professionals perceive minimal risk to the fetus; second, they think women are already aware that alcohol consumption should be minimized during pregnancy; and third, a range of other antenatal issues have greater priority within a consultation. Health professionals identified a second group of pregnant women consuming high levels of alcohol during pregnancy and whose consumption is usually related to a range of complex social and emotional factors. Health professionals thought that it was difficult, within their capacity and available resources, to support these women to reduce their consumption or abstain from alcohol during pregnancy.

However, there is a third group of women who were not identified by our sample of health professionals: the 15% of pregnant women in Western Australia who drink at moderate levels defined as more than two and less than five standard drinks on a typical occasion. (Colvin et al., 2007). There is some evidence that this level of alcohol use is associated with increased risks to the fetus (Jacobson and Jacobson, 1999; Jaddoe et al., 2007). Our results suggest that health professionals are not aware of this group of women, perhaps because they are not asking all pregnant women about their alcohol use and are missing opportunities to prevent the adverse effects of prenatal exposure to alcohol in those women who consume moderate levels of alcohol on a typical occasion in pregnancy, as well as in those who may infrequently consume high levels of alcohol during pregnancy. There is potential for health professionals to effectively support these pregnant women to reduce their consumption or abstain from alcohol by using strategies such as brief intervention and motivational interviewing (Floyd et al., 2006).

Our study shows that barriers in addressing alcohol in pregnancy are similar to those identified elsewhere: health professionals are concerned about being perceived as being judgmental and are constrained by a lack of consultation time (Mengel, Searight, and Cook, 2006). Although they may not consider alcohol consumption as a priority in a busy antenatal consultation, many health professionals say they lack knowledge about the risks of alcohol use during pregnancy (Payne et al., 2005). We conclude that some health professionals underestimate the importance of asking and advising pregnant women about alcohol consumption.

The strategies that health professionals nominated to help them communicate with pregnant women and assist in identifying women at risk were to: routinely ask *all* pregnant women about alcohol use, to include alcohol on a checklist of issues to address during antenatal care, and ask within the context of health and everyday behavior. These strategies help to normalize and standardize questions, thus lowering the possibility that questions will be perceived by clients as judgmental and increasing the likelihood that they will be asked. These results support the recommendation that a standardized tool, such as AUDIT, AUDIT-C, T-ACE, or TWEAK be used to screen for alcohol use before and during pregnancy (Bradley et al., 2007; Chang et al., 1999). These tools are quick to administer, are effective in detecting alcohol misuse amongst women, and are more effective in identifying alcohol misuse than alcohol consumption assessment conducted without a tool (Chang et al., 1999; Goransson, Magnusson, and Heilig, 2006). Furthermore, recording of the results of alcohol consumption screening efforts may assist health professionals at a later stage in identifying and evaluating children requiring follow-up for developmental assessment.

This research represents the perspectives and experiences of 53 health professionals from the metropolitan and two regional areas in Western Australia. A strength of formative

research and qualitative inquiry is that they provide rich insight into the circumstances of the participants, but generalizability is limited. The value of these findings for other health professionals is that they highlight potential barriers and strategies for addressing alcohol consumption with pregnant clients and identify areas in which health professionals could be better supported.

We have reported on results pertinent to health professionals' practice with pregnant women. However, prenatal alcohol exposure may occur before pregnancy is confirmed. Another limitation of our results is that they do not address health professionals' role with women of childbearing age and the barriers that may exist for prevention efforts prior to pregnancy or before women know that they are pregnant. However, our results support other research (Mengel et al., 2006; Tough, Tofflemire, Clarke, and Newburn-Cook, 2006; Tsai, Floyd, Green, and Boyle, 2007) that suggests that prevention efforts would be enhanced by health professionals routinely asking all women of childbearing age about their alcohol use, both before and during pregnancy.

This study has found that health professionals are not recognizing the group of pregnant women who drink alcohol at moderate levels. Health professionals identified some relatively simple strategies to ensure that they seek information from all pregnant women about alcohol use. Educational interventions should promote health professionals' awareness of their role in identifying and advising women who consume moderate levels of alcohol during pregnancy. Health professionals should be encouraged, possibly through the inclusion of a series of validated questions about alcohol, to routinely ask *all* pregnant women about their alcohol consumption.

To increase alcohol screening and intervention efforts, health professionals must first be supported by comprehensive, up-to-date materials about the consequences of alcohol use in pregnancy. Written resources for health professionals about alcohol use during pregnancy, incorporating findings from this study have recently been developed and evaluated in Australia. They are available from www.ichr.uwa.edu.au/alcoholandpregnancy.

Declaration of Interest

The authors report no conflict of interest. The authors alone are responsible for the content and writing of this paper.

RÉSUMÉ

Le corps médical abordant le sujet de la consomation d'alcool avec les femmes enceintes en autralie occidentale: obstacles et strategies de communication

Le corps médical joue un rôle important pour la prévention de l'exposition prénatale à l'alcool. En 2006, des données qualitatives ont été receuillies auprès de 53 responsables des soins primaires dans un nombre de centres urbains et régionaux de l'australie occidentale. Des analyses de thèmes ont été utilisées en vue de dévoiler les obstacles qui se présentent au moment d'addresser le problème de la consomation d'alcool pendant la grossesse et les stratégies à mettre en place pour les surmonter. Ces mêmes responsables ont identifié les stratégies nécéssaires à obtenir des femmes enceintes certains renseignements concernant leur consomation d'alcool mais n'ont pu dévoiler la consommation d'alcool modérée de ces femmes. Les limitations de cette recherche sont notées et les implications de ces résultats sont discutées. Cette recherche à été financée par la "fondation pour la promotion de la santé de l'australie occidentale" ou "Health Promotion Foundation of Western Australia.

RESUMEN

Profesionales de la salud tratan el uso del alcohol en embarazadas de Australia Occidental: obstáculos y estrategias para la comunicación

Los profesionales de la salud tienen una importante función en la prevención del contacto prenatal con el alcohol. En 2006 se recolectaron datos cualitativos de 53 profesionales de la salud que trabajaban en la atención primaria en Australia Occidental, en áreas metropolitanas y regionales. Se utilizó un análisis temático para elucidar obstáculos al tratar el uso prenatal del alcohol y las estrategias para superarlo. Los profesionales de la salud identificaron estrategias para obtener información sobre el uso del alcohol en embarazadas, pero no reconocen un uso moderado del alcohol en las embarazadas. Se observan las limitaciones del estudio y se elabora sobre los resultados. Esta investigación fue financiada por la Fundación para el Fomento de la Salud de Australia Occidental (Health Promotion Foundation of Western Australia).

THE AUTHORS

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Glossary

Focus group: An organized discussion on a specific topic with a group of participants, which is led by a trained facilitator. The discussion is often semi-structured and purposefully seeks to gather a wide range of views and perceptions on the area of inquiry.

Formative research: Research that aims to inform the development of interventions, products, and communication materials.

In-depth interview: An interview conducted with a participant or dyad with the aim of exploring the participant's views, experiences, narratives, and attitudes with regards to a specific topic. In the case of formative research, an in-depth interview is often directed by a semi-structured interview guide that outlines the broad lines of questioning to be explored with each participant and allows for comparability.

Prenatal alcohol exposure: Exposure of the fetus to alcohol following maternal alcohol consumption during pregnancy.

Thematic analysis: A process whereby descriptive data is sorted and grouped into themes and categories. The themes and categories may be dictated by the topic of interest or area of inquiry, or may 'emerge' and become apparent through analysis of the data.

References

Barbour, R. (2005). Making sense of focus groups. *Medical Education*, 39:742–750.

Bradley, K. A., DeBenedetti, A. F., Volk, R. J., Williams, E. C., Frank, D., Kivlahan, D. R. (2007). AUDIT-C as a brief screen for alcohol misuse in primary care. *Alcoholism: Clinical and Experimental Research*, 31:1–10.

Chalmers, B., Dzakpasu, S., Heaman, M., Kaczorowski, J. (2008). The Canadian maternity experiences survey: an overview of findings. *Journal of Obstetrics and Gynaecology Canada*, 30:217–228.

Chang, G., Wilkins-Haug, L., Berman, S., Goetz, M. A. (1999). Brief intervention for alcohol use in pregnancy: a randomized trial. *Addiction*, 94:1499–1508.

Chikritzhs, T., Catalano, P., Stockwell, T., Donath, S., Ngo, H., Young, D., et al.et al. (2003). *Australian Alcohol Indicators 1990–2001 Patterns of alcohol use and related harms for Australian states and territories*. Perth: National Drug Research Institute, Turning Point.

Colvin, L., Payne, J., Parsons, D. E., Kurinczuk, J. J., Bower, C. (2007). Alcohol consumption during pregnancy in non-Indigenous West Australian women. *Alcoholism: Clinical and Experimental Research*, 31:276–284.

Elliott, E., Payne, J., Haan, E., Bower, C. (2006). Diagnosis of foetal alcohol syndrome and alcohol use in pregnancy: a survey of paediatricians' knowledge, attitude and practice. *Journal of Paediatrics and Child Health*, 42:698–703.

Finkelstein, N. (1994). Treatment issues for alcohol- and drug-dependent pregnant and parenting women. *Health & Social Work*, 19:7–15.

Floyd, R. L., O'Connor, M. J., Bertrand, J., Sokol, R. (2006). Reducing adverse outcomes from prenatal alcohol exposure: a clinical plan of action. *Alcoholism: Clinical and Experimental Research*, 30:1271–1275.

Goransson, M., Magnusson, A., Heilig, M. (2006). Identifying hazardous alcohol consumption during pregnancy: implementing a research-based model in real life. *Acta Obstetricia et Gynecolgica Scandinavica.*, 85:657–662.

Hankin, J. R. (2002). Fetal alcohol syndrome prevention research. *Alcohol Research and Health*, 26:58–65.

Henderson, J., Gray, R., Brocklehurst, P. (2007). Systematic review of effects of low-moderate prenatal alcohol exposure on pregnancy outcome. *British Journal of Obstetrics and Gynaecology*, 14:243–252.

Jacobson, J. L., Jacobson, S. (1999). Drinking moderately and pregnancy. *Alcohol Research and Health*, 23:25–30.

Jacobson, J. L., Jacobson, S. W., Sokol, R. J., Ager, J. W., Jr. (1998). Relation of maternal age and pattern of pregnancy drinking to functionally significant cognitive deficit in infancy. *Alcohol Clinical and Experimental Research*, 22:345–351.

Jaddoe, C., Bakker, R., Hofman, A., Mackenbach, J., Moll, H., Steegers, E., et al. (2007). Moderate alcohol consumption during pregnancy and the risk of low birth weight and preterm birth. The Generation R Study. *Annals of Epidemiology*, 17:834–840.

James, D., Greenwood, R., McCabe, R., Mahomed, K., Golding, J. (1995). Alcohol consumption during pregnancy in Bristol. *Journal of Obstetrics and Gynaecology*, 15:84–87.

Koren, G., Nulman, I., Chudley, A. E., Loocke, C. (2003). Fetal alcohol spectrum disorder. *CMAJ Canadian Medical Association Journal*, 169:1181–1185.

Maier, S. E., West, J. R. (2001). Drinking patterns and alcohol-related birth defects. *Alcohol Research and Health*, 25:168–174.

Mengel, M., Searight, R., Cook, K. (2006). Preventing Alcohol-exposed Pregnancies. *Journal of the American Board of Family Medicine*, 19:494–505.

National Health and Medical Research Council. (2009). *Australian guidelines to reduce health risks from drinking alcohol*. Canberra: National Health and Medical Research Council.

O'Connor, M. J., Whaley, S. E. (2007). Brief intervention for alcohol use by pregnant women. *American Journal of Public Health*, 97:252–258.

O'Leary, C., Heuzenroeder, L., Elliott, E. J., Bower, C. (2007). A review of policies on alcohol use during pregnancy in Australia and other English-speaking countries, 2006. *Medical Journal of Australia*, 186:466–471.

Payne, J., Elliott, E., D'Antoine, H., O'Leary, C., Mahony, A., Haan, E., et al. (2005). Health professionals' knowledge, practice and opinions about fetal alcohol syndrome and alcohol consumption in pregnancy. *Australian & New Zealand Journal of Public Health*, 29:558–564.

Peadon, E., Payne, J., Bower, C., Elliott, E., Henley, N., D'Antoine, H., et al. (2007). Alcohol and pregnancy: women's knowledge, attitudes and practice. *Journal of Paediatrics and Child Health*, 43:A12.

Pope, C., Ziebland, S., Mays, N. (2000). Analysing qualitative data. *British Medical Journal*, 320:114–117.

Riley, E. P., McGee, C. L. (2005). Fetal alcohol spectrum disorders: an overview with emphasis on changes in brain and behavior. *Experimental Biology and Medicine*, 230:357–365.

Sokol, R. J. (2003). Fetal alcohol spectrum disorder. *Journal of the American Medical Association*, 290:2996–2999.

Strandberg-Larsen, K., Nielsen, N. R., GronbXk, M., Andersen, P. K., Olsen, J., Andersen, A. M. N. (2008). Binge drinking in pregnancy and risk of fetal death. *Obstetrics and Gynecology*, 111:602–609.

Substance Abuse and Mental Health Services Administration. (2008). *The NSDUH report: alcohol use among pregnant women and recent mothers: 2002–2007*. Rockvile, MD.

Testa, M., Quigley, B. M., Eiden, R. D. (2003). The effects of prenatal alcohol exposure on infant mental development: a meta-analytical review. *Alcohol and Alcoholism*, 38:295–304.

Tough, S., Tofflemire, K., Clarke, M., Newburn-Cook, C. (2006). Do women change their drinking behaviors while trying to conceive? An opportunity for preconception counseling. *Clinical Medicine and Research*, 4:97–105.

Tsai, J., Floyd, L., Green, P., Boyle, C. (2007). Pattern and Average Volume of Alcohol Use Among Women of Childbearing Age. *Maternal Child Health Journal*, 11:437–445.