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Review article

Barriers to screening pregnant women for alcohol or other drugs: A narrative synthesis

Helen T. Oni[a,*], Melissa Buultjens[a], Mohamed E. Abdel-Latif[b], M. Mofizul Islam[a]

[a] Department of Public Health, La Trobe University, Health Sciences Building 2, Bundoora, VIC 3086, Australia
[b] Canberra Hospital, Building 11, Level 2, Yamba Drive, Garran, ACT 2605, Australia

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ABSTRACT

Background: Maternal alcohol or other drug use during pregnancy is associated with a range of adverse health outcomes for mothers and their unborn child. The antenatal period presents an opportunity for health professionals to offer routine screening for alcohol or other drugs, to then provide intervention and referral for treatment and/or specialised support services. However, literature indicates that limited screening practices currently exist in maternity care settings.
Aim: To identify barriers to screening pregnant women for alcohol or other drugs in maternity care settings, from the perspectives of healthcare professionals.
Methods: A comprehensive literature search was conducted in October 2017 to identify relevant studies. Seven databases that index health and social sciences literature, and google scholar, were searched. Eligible articles were subjected to critical appraisal. Extracted data from the eligible studies were synthesised using narrative synthesis.
Findings: Nine studies were eligible for this review. The review identified seven key barriers to screening for alcohol or other drugs in pregnancy, *namely* competing priorities and time constraint; lack of adequate screening skills and clear protocol; relationship between healthcare providers and pregnant women; healthcare providers' perceptions; under-reporting or none/false disclosure; inconclusive evidence regarding the risk of alcohol or other drug use in pregnancy; and concerns about guilt and anxiety.
Conclusions: The narrative review revealed a range of barriers to screening for alcohol or other drugs in pregnancy. Further research in minimising the barriers is required to establish women-centred, evidence-base screening practices.

Statement of significance

Problem

Alcohol or other drug use during pregnancy is a serious public health concern due to adverse impacts on the developing fetus and maternal health.

What is already known

Health professionals play a major role in the routine screening, counselling, and referral of substance-using pregnant women for treatment and/or specialised support services. However literature suggests that many do not prioritise screening in antenatal care.

What this paper adds

To our knowledge, this is the first review that systematically summarises studies on the barriers to screening women during pregnancy regarding alcohol or other drug use in maternity care settings from the healthcare providers' perspectives.

1. Background

Maternal alcohol or other drug use is associated with adverse neonatal/child outcomes, including fetal alcohol syndrome, and an increased risk of spontaneous abortion, stillbirth, low birthweight, prematurity, congenital anomalies.[1,2] Further, there is a potential

* Corresponding author.
E-mail address: 18872315@students.latrobe.edu.au (H.T. Oni).

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lifelong biopsychosocial effect on infants of mothers who use alcohol or other drugs in pregnancy.[1–4] The use of alcohol or other drugs can also impair a woman's role as a parent, partner or spouse, and is correlated with domestic violence, thus can create an unsafe environment for the physical, mental and emotional development of children.[3] As the evidence suggests, in Australia no statistically significant difference was identified in the proportion of pregnant women abstaining from alcohol between 2013 (53%) and 2016 (56%).[5] The recent estimate shows about 1 in 4 pregnant women consumed a similar amount of alcohol before and after they were aware of their pregnancy.[5] Estimates from the National Survey on Drug Use and Health — USA show among women who are pregnant, 16.4% continue to smoke; 11.6% and 4.5%, respectively, are current alcohol and binge drinkers; and 5.1% use illegal drug (s).[6] Although some women stop using these substances during pregnancy, many continue to use.[7]

In recent years, clinical practice guidelines have been developed to facilitate early detection of alcohol or other drug use, and provide interventions and specialist support.[3,8] To date, administration of brief screening tools (e.g., Drug Abuse Screening Test 10, and Alcohol Use Disorders Identification Test — Consumption (AUDIT-C)) have been considered the most efficient method to detect alcohol or other drug use.[9] To this effect, it is considered best-practice to screen every pregnant woman routinely, using a recommended validated tool such as AUDIT-C,[10,11] and refer for treatment and/or specialised support services afterward – if deemed necessary.

Screening and interventions to reduce the risks of alcohol or other drug exposed pregnancy can be initiated during routine antenatal care.[10] Although health professionals in maternity care settings can play a major role in screening, counselling and referral to specialised care, literature shows that many do not make this part of their antenatal consultation practices.[12–14] While existing research has identified obstacles that women who use alcohol or other drugs in pregnancy encounter when negotiating antenatal care,[15] little research has been conducted from the perspectives of primary care workers (e.g., midwives who provide clinical care and support to pregnant women). Therefore, this review aims to identify barriers to screening pregnant women for alcohol or other drugs in maternity care settings, from the perspectives of healthcare professionals.

2. Methods

A comprehensive literature search was conducted in October 2017 to identify studies that reported on barriers to routine screening pregnant women for alcohol or other drugs in primary care settings, from the perspectives of healthcare professionals. Studies were identified by searching comprehensive electronic databases, CINAHL, Cochrane Library, MEDLINE Ovid, PsycARTICLES, EMBASE Ovid, PsycINFO, Web of Science and Google Scholar using different combinations of keywords. These databases were selected because they comprise extensive maternity related literature. Population, Intervention, Comparison and Outcomes (PICO) approach[16] was used to generate groups of medical subject heading (MeSH) search terms and keywords: (1) population: primary healthcare professionals, (2) intervention: alcohol or other drug use in pregnancy, (3) comparison: not applicable, (4) outcomes: barriers to screening for alcohol or other drugs in pregnancy. A further search was conducted by scanning the reference lists of all relevant articles. The keywords used are presented in Table 1.

Of note, due to the scarcity of studies addressing the aim of this literature review and to maximise our chances of retrieving all relevant articles, year of publication limitation was not imposed. Boolean operators "OR", "AND", and "NOT" were used to include, restrict, and eliminate search terms, respectively.

2.1. Inclusion and exclusion criteria

The inclusion criteria were as follows: (1) articles that report the results of an empirical study; (2) articles written in English and clearly address the aim of this study; (3) studies focusing on health care providers' perceived barriers to screening for alcohol or other drug use in pregnancy.

Conversely, the excluded studies were those with a primary focus on healthcare providers' perceived barriers to drug treatment in pregnancy such as methadone and buprenorphine; studies focussing on health care professionals' perceived barriers to screening and interventions for non-pregnant women who use alcohol or other drugs. Further, studies were excluded if they had a primary focus on medical students, smoking or tobacco use in pregnancy, and those conducted in developing countries. This is due to the availability and accessibility of antenatal care in these countries that differ socially, culturally, politically and historically from developed countries such as Australia, United States of America, and Canada. Finally, books, book chapters, review articles and commentaries, as well as abstracts with no full-text were also excluded.

2.2. Study selection and quality appraisal

Two authors (HO and MB) independently screened titles and abstracts of all retrieved studies to assess for eligibility. Full-text

Table 1
Search strategy for the review.

Population		Exposure	Outcomes
Concept 1	Concept 2		
• Health professionals	• Pregnant wom?n	• Substance-related disorders	• Barriers to screening
• Midwives/midw*	• Pregnancy Expectant	• Alcohol-related disorders	• Screening for alcohol
• Health care workers	• Mothers	• Alcoholism	• Screening for drug use
• Nurses	• Expectant mother*	• Alcohol	• Interventions for alcohol or other drug use
• Doctors	• Expectant wom?n	• Marijuana	• Management of alcohol or other drug use
• General practitioners	• Antenatal	• Cannabis	• Perinatal health care delivery
• Obstetric health care workers/staff	• Perinatal	• Heroin	• Antenatal health care practices
• Health care providers	• Prenatal	• Cocaine	• Primary health care delivery
• Obstetrician/Obste*		• Stimulants	• Perception
• Social workers		• Illicit drug abuse/use/misuse/addicts/abus*	• Stigma/stigm*
		• Drug abuse	
		• Pregnant drug users	
		• Smoke	
		• Tobacco	

(*or? for truncation).

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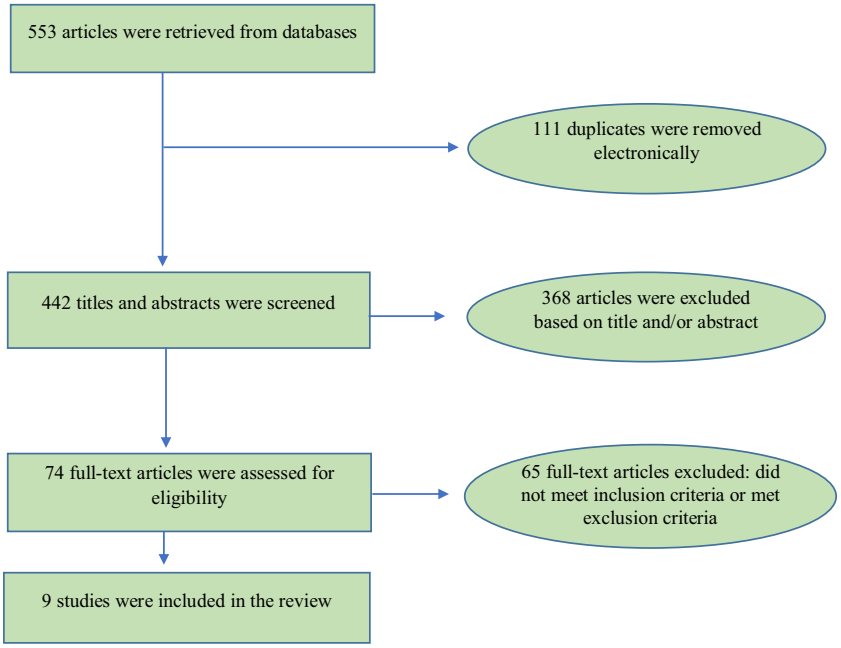

Fig. 1. Flow diagram of the study selection.

articles were retrieved if eligibility could not be determined from the title or abstract (Fig. 1). Due to a relatively small number of documents found on this topic, the authors decided to include both qualitative and quantitative studies that address the aim of the review. Narrative synthesis was used as a method of synthesizing findings of individual studies. Narrative synthesis can synthesise findings from both qualitative and quantitative method studies.[17,18]

Quality appraisal of the eligible studies was conducted using the Mixed Methods Appraisal Tool 2011 Version (MMAT).[19] This tool has been designed to assess the methodological quality of qualitative, quantitative and mixed-design studies for systematic mixed study reviews.[19,20] It consists of two screening criteria applied to all study types, and four other criteria applied to qualitative and quantitative studies, and three criteria for mixed methods studies. For qualitative and quantitative studies, the score is computed by the number of criteria met. For mixed methods research studies, the premise is that the overall quality of a combination cannot exceed the quality of its weakest component. Thus, the overall quality score is the lowest score of the study components. The score is 25% when qualitative = 1 or quantitative = 1 or mixed method = 0; 50% when qualitative = 2 or quantitative = 2 or mixed method = 1; 75% when qualitative = 3 or quantitative = 3 or mixed method = 2; and it is 100% when qualitative = 4 and quantitative = 4 and mixed method = 3. Details of grading criteria are shown in Table 2.

2.3. Data extraction and analysis

Two authors (HO, MB) collected data and assessed the appropriateness of the studies. All citations were independently reviewed by HO and MB. Titles and abstracts were screened during October 2017 and full-texts were obtained for all articles that met the criteria. HO and MB independently assessed the research articles (November 2017) for potential selection, performance, and attrition bias.

The analysis process involved answering the objectives of this review. Given the heterogeneity of the studies in terms of methods, sampling, design and measures, a narrative synthesis[17,18] was adopted to synthesise and summarise extracted data from the eligible studies.

3. Results

Description of the eligible studies

A total of 553 articles were identified during the search process. After removing the duplicates (n = 111), titles and abstracts were

Table 2
Mixed Methods Appraisal Tool (MMAT) — Version 2011 indicators (adapted from Pluye et al.[19]).

Screening questions for all study types	Qualitative study	Quantitative descriptive study	Mixed methods study
• Are there clear qualitative or quantitative or mixed methods research questions or objectives? • Does the collected data address the research questions?	• The sources of collected data relevant to address the research question. • The process for data analysing is relevant to address the research question. • Appropriate consideration given to how findings relate to the context of the study. • Appropriate consideration given to how findings relate to researchers' influence.	• The sampling strategy is relevant to address the research question. • The sample represented the population under study. • Measurements are appropriate (clear origin or validity is known, or standard instrument). • Acceptable response rate (60% or above).	• The mixed methods research design is relevant to address the qualitative and quantitative research questions. • The integration of qualitative and quantitative data is relevant to address the research question. • Appropriate consideration is given to the limitations associated with this integration.

Note: studies were of acceptable quality when the first two screening questions for all study types and at least one of the other indicators were met.

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Table 3
Key findings of the studies reporting barriers to screening of pregnant women for alcohol or other drugs, from the perspective of primary healthcare professionals.

Authors	Country	Study aims	Study design	Sample size	Barriers and conclusions	MMAT score
Doi et al.[23]	Scotland	To explore how midwives' skills, knowledge and attitudes to alcohol consumption druing pregnancy influence their practice.	Qualitative study. Thematic analysis.	21 healthcare workers: 15 midwives, 6 midwifery team leaders.	• Competing workload priorities. • Difficulty in converting different types of alcoholic drinks into standard unit. • Social stigmatisation of alcohol use among pregnant women. • Insufficient rapport between the health care providers and the pregnant women.	75%
Doi et al.[24]	Scotland	To use realist evaluation to describe how and in what circumstances screening and alcohol brief interventions work in routine antenatal care.	Qualitative study. Thematic analysis.	36 participants: 4 policy implementation officers, 17 pregnant women, and 15 midwives.	• Inadequate rapport with pregnant women at the first antenatal consultation. • Competing priorities at the first antenatal appointment due to time constraints.	75%
France et al.[25]	Australia	To identify the barriers that health professionals encounter in addressing alcohol use during pregnancy and to elucidate the strategies they use to overcome them.	Qualitative study. Thematic analysis.	53 health professionals: 17 aboriginal health workers, 10 allied health professionals, 14 nurses, and 12 physicians (7 general practitioners, 2 obstetricians, and 3 paediatricians)	• 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. • Competing priorities during antenatal consultation. • Lack of time due to huge burden of consultation. • 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.	100%
Gerardin et al.[26]	France	To evaluate practices of detection and care for pregnant women who use cannabis.	Quantitative study. Descriptive analysis.	382 healthcare professionals: 200 general practitioners, 55 gynaecologists 69 midwives, and 58 obstetricians.	• Lack of information about the risks of cannabis use during pregnancy. • Lack of means to inform and take care of these women.	75%
Holland et al.[21]	USA	To identify obstetric care providers' attitudes, beliefs and counselling practices regarding marijuana use during pregnancy.	Qualitative study. Thematic analysis.	51 obstetric care providers.	• Perception that marijuana use is not dangerous as other illicit drug use in pregnancy. • Lack of definitive evidence regarding potential risks related to perinatal marijuana use. • Limited time to spend with substance-using pregnant women.	75%
Taylor et al.[22]	USA	To identify effective strategies for influencing and improving screening and referral of pregnant women for violence and substance abuse (alcohol, drugs and tobacco).	Qualitative study. Thematic analysis	8 physicians who practice obstetric care.	• Difficulty in identifying, influencing behavioural change, and referring women who use alcohol or other drugs. • Presence of family members during prenatal visits. • Women's fear of reprisal from child protective services.	75%
van der Wulp et al.[27]	Netherlands	To explore the advice Dutch midwives give, and the information Dutch pregnant women and partners of pregnant women receive about alcohol consumption in pregnancy.	Qualitative study. Content analysis.	10 midwives.	• Lack of good screening skills. • Concern about confronting clients and obtaining truthful information about clients' alcohol use. • Inadequate skills and insufficient knowledge about the consequences of antenatal alcohol use.	75%

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Wangberg[12]	Norway	To assess midwives' perceived barriers to current screening and brief intervention for alcohol use in pregnancy	Quantitative (A questionnaire with some open-ended questions on barriers to screening) Descriptive analysis.	103 registered municipal midwives.	• Low perceived competency on brief intervention. • Difficulty in discussing alcohol use with women of diverse ethnicity. • Time constraints. • Lack of organizational support.	75%
Wouldes[28]	New Zealand	To identify potential barriers to screening and effectively managing the care of women who report alcohol, tobacco and other drug use.	Quantitative study. Descriptive analysis.	241 health professionals: two-thirds were midwives who provided antenatal and other postnatal care to mothers and their babies.	• Inadequate rapport with the women. • Perception about women's ethnicity, cultural or socio-economic background. • Lack of clear procedure in the clinical environment for managing women who use alcohol or other drugs. • Presence of a family member during the antenatal consultation.	75%

screened for 442 documents. Finally, 74 full-texts were reviewed., of which nine publications met the inclusion criteria of this review (Fig. 1). As outlined in Table 3, most of the studies were of qualitative design (n = 6) in which semi-structured interview, in-depth interview and focus group discussions were used for data collection, and thematic analysis was performed for data synthesis. Two studies were of quantitative design in which data were collected using questionnaire and the results were presented in percentages. Two studies were conducted in the United States of America,[21,22] two in Scotland[23,24] and one each from Australia,[25] France,[26] Netherland,[27] Norway,[12] and New Zealand.[28] The two studies from Scotland outlined the findings of a larger study – but described two different aspects.

The participants of the studies included various healthcare professionals in maternity settings including midwives, obstetricians, paediatricians, nurses and general practitioners (Table 3). Five studies focused on alcohol screening and brief interventions,[12,23–25,27] one aimed to evaluate practices of detection and care for pregnant women who use cannabis,[26] one focused on perinatal marijuana use[21] and the remaining two studies focused on maternal alcohol or other drug use.[22,28]

Methodological quality of the eligible studies

All nine studies were deemed of high quality. All of the studies answered the first two questions and fulfilled at least three quality criteria of MMAT. Of the six qualitative studies, one met all the criteria (100%) and the remaining studies met three (75%) of the four criteria. Of the three quantitative studies, all met three (75%) criteria (Table 3).

3.1. Barriers to screening pregnant women for alcohol or other drugs

The nine studies included in this review examined research from seven countries, a total of 869 health professionals, surrounding barriers to screening women for alcohol or other drug use during pregnancy. Although the included papers differed in their approach to exploring the barriers to screening pregnant women, the findings were summarised in seven cluster themes: (i) competing priorities and time constraint; (ii) lack of adequate screening skills and clear protocol for managing women who use alcohol or other drugs in pregnancy; (iii) relationship between healthcare providers and pregnant women; (iv) healthcare providers' perceptions of alcohol or other drug use by pregnant women; (v) under-reporting or none/false disclosure; (vi) inconclusive evidence regarding the risk of alcohol or other drug use in pregnancy; and (vii) concerns about guilt and anxiety.

3.2. Competing priorities and time constraint

Competing priorities and time constraint were highlighted as barriers in five articles.[12,21,23–25] In four of the articles[12,23–25] the health care professionals indicated that due to competing workload priorities and time constraint during the antenatal visit, alcohol screening remained a low priority for them. Below is an illustrative quote from a health professional in an included study:

> *"We've got to do domestic violence, alcohol use, smoking, you know and all the stuff. If somebody says I smoke then we have to give them all the literature, the DVD, arrange for referrals. So you can imagine, alcohol is only one of the aspects and sadly it is not the most important one because there is not a lot of evidence there that we have a lot of children who have fetal alcohol syndrome"* (25, p7).[23]

Another study on perinatal marijuana use found that providers often waived asking their clients about marijuana use and conserved time to address other issues thought more important.[21]

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Lack of adequate skills and clear protocol for screening pregnant women who use alcohol or other drugs

In six articles[12,22,25–28] a lack of skills and clear protocol for screening women who use alcohol or other drugs in pregnancy were identified as barriers to screening. Two studies[22,28] found that health care professionals were reluctant to screen pregnant women for alcohol or other drug use due to inadequate skill or resources for ongoing management.[22,28] In three studies[25–27] a lack of clear protocol and resources to support women were described as the main barriers.[25–27] Below is an illustrative quote from a health professional in one of the studies:

"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" (27, p1482).[25]

"Not enough training. Use of screening tools not decided on from management/on a system level" (13, p188).[12]

3.3. Relationship between healthcare providers and pregnant women

In three studies[23,24,28] some of the maternity care workers felt that the rapport between them and the pregnant women was not sufficient enough to establish a trusting relationship. Therefore, these providers were uncomfortable in addressing maternal alcohol or other drug use, especially at the first antenatal consultation. Below is an illustrative quote from a health professional in one of the studies:

"The other thing that makes it difficult is that at booking you have only just met the person. So, you are already asking a lot of personal questions. You probably haven't ever met her before and then you are required to take action whether it will be for alcohol or gender based violence. It is very difficult but I don't know when the good time will be, you know. Because by the time you have met her for three or four times, she is already well on in her pregnancy. And that is the longest appointment that you have so that is the most time you have with somebody" (25, p6).[23]

Existing literature regards the relationship between healthcare providers and their clients as being critical for eliciting information about alcohol or other drug use. Two different studies conducted in New Zealand and Scotland found that building rapport with women during their first antenatal visit was central to disclosure of substance use and thus perinatal outcomes.[24,28]

3.4. Healthcare providers' perceptions of alcohol or other drug use by pregnant women

Three studies[21,25,28] reported on some perceptions held by maternity healthcare workers that act as barriers to effective screening and interventions for alcohol or other drug use. Some common perceptions were that most women did not drink much alcohol during pregnancy; pregnant women knew not to drink; and asking about alcohol could appear judgmental.[25] Below is an illustrative quote from a health professional of one of the eligible studies:

"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" (27, p1480).[25]

Not too dissimilarly, another study focusing on perinatal marijuana use found that healthcare providers did not recognize marijuana as dangerous as other illicit drug use in pregnancy.[21] Finally, clinicians' perceptions played a substantial role in effective care as evidence shows that often some pregnant women were assumed to be at "no" or "low" risk for alcohol, tobacco and other drug use because of their ethnic, culture and/or socio-economic background.[28]

3.5. Under-reporting or none/false disclosure

Health professionals in maternity care settings identified none or false disclosure – not truthfully disclosing the quantity of alcohol or other drug use – as one of the barriers to effective screening and provision of interventions in pregnancy. In three studies,[22–24] healthcare providers perceived this as a barrier due to various factors. For instance, one study[22] found the presence of family members during antenatal visits and clients' fear of reprisal from child protection services created a barrier to disclosing alcohol or other drug use.[22] In Scotland, midwives indicated that pregnant women who experienced poor provider-client rapport at the first antenatal appointment tended to refrain from disclosing their true alcohol consumption levels.[24] Finally, social expectation such as "pregnant women are not supposed to drink", was thought to result in under-reporting and none/false disclosure.[23] Below is an illustrative quote from a midwife in one of the eligible studies:

"People know that it is not good to drink in pregnancy and therefore they don't always tell you the truth because they know that maybe you disapprove or it will make them feel guilty if they knew that they are honest and told you" (25, p3).[23]

3.6. Inconclusive evidence regarding the risk of alcohol or other drug use in pregnancy

Inconclusive evidence about the consequences of alcohol or other drug use in pregnancy was identified as a barrier in three studies.[21,23,27] In a study undertaken surrounding perinatal marijuana use,[21] healthcare providers expressed their unfamiliarity and unawareness of conclusive evidence regarding potential risks associated with maternal marijuana use as a barrier.[21] A qualitative investigation of alcohol use advice during pregnancy among the Dutch midwives revealed that the uncertainty about the consequences of alcohol use in pregnancy was an impediment to screening women for alcohol use in pregnancy.[27] Below is an illustrative quote from a midwife:

"marijuana, I try to encourage people to stop, but not really all that strongly... We always talk about methadone and problems with [opiate] use in pregnancy and. . cocaine obviously is another really important one that I would spend a lot of time on... I mean, outcomes [for marijuana use during pregnancy] are not as important. There are no syndromes caused by marijuana that we know of. It doesn't affect the pregnancy, health outcomes the same way [as other drugs]" (23, p1448).[21]

Concerns about guilt and anxiety

Two studies identified health care providers' concerns about women's reactions to screening for alcohol or other drug use as a barrier.[25,27] Both studies affirmed that providers were concerned about anxiety and guilt their clients may experience if they asked about alcohol or other drug use.[25,27] Below is an illustrative quote from a midwife:

"Women often feel guilty when they drink alcohol before they knew they were pregnant. I try to downgrade their feelings of guilt by telling them that alcohol is not dangerous when there is no blood contact between mother and child" (27, pe94).[27]

4. Discussion

The aim of this narrative review was to explore the barriers to screening pregnant women for alcohol or other drugs in maternity care settings. During antenatal consultations offering routine screening and providing interventions to pregnant women who use alcohol or other drugs may improve maternal and neonatal outcomes.[9,11] However, healthcare professionals' endeavours to

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offer such services are often hindered by a range of barriers. Although models of care may vary across countries, barriers to screening and subsequent interventions for alcohol or other drug use are not dissimilar.

The purpose of antenatal care is to monitor and improve the wellbeing of the women and their fetuses. Despte this, while most healthcare providers are committed to the provision of holistic support and care, many are often forced to prioritise certain aspects of care due to increased workload and time constraint.[23,24,29,30] In the face of the rapidly changing population, providers are faced with the challenge of meeting the health and social care needs of their clients.[29] This includes managing complex circumstances such as poverty and unemployment,[29] homelessness,[31] domestic violence,[32] child protection issues,[33] extensive documentation and referral protocols.[25] These psychosocial aspects often come hand-in-hand with alcohol or other drug use, become time-consuming and stressful, thus discourage the healthcare providers to address this during antenatal consultations.[24] Some providers believe these are beyond their professional practice. Even those who are willing to intervene, often end up with receiving little or no support from the relevant agencies.[28,34] Thus, this identified system failure results in reluctance to screening and referrals for further management.[22,35]

The relationship between healthcare providers and their clients is fundamental to optimal maternity care service delivery.[36] It is also well known that establishing effective communication between a woman and her provider is essential towards not only establishing culturally safe care, but also developing rapport.[36,37] In the current review, findings illustrated inadequate rapport was a barrier to consultation about potentially sensitive topics such as alcohol or other drug use. Most antenatal screenings occur during the initial consultation,[29,38] when the pregnant woman may likely be in face-to-face contact with the practitioner for the first time. This phase is referred to as 'orientation phase', in which the practitioner is getting to know and build a rapport with the women.[37] Although building a trusting relationship may take time, various practices can be implemented to support healthcare workers to improve their interpersonal skills so that they can strategically elicit relevant information from their clients. More importantly, screening at multiple points or subsequent visits should be encouraged to identify substance-using pregnant women and to offer support for making behavioural change.[39] The perception that most women who use alcohol or other drugs during pregnancy are unlikely to disclose during the first antenatal consultation[24] further discourages routine screening. Provision of screening all women for alcohol or other drugs in general health assessment as a routine practice may facilitate an unbiased approach and potentially create a culture in which women can feel empowered by knowledge and informed choice, leading to positive behaviour change.

Under-reporting or none/false disclosure of alcohol or other drug use was identified as a barrier to screening and providing interventions during pregnancy.[22,24,27] Effective communication skills of healthcare providers is necessary to obtain sensitive information and support behavioural change. Therapeutic communication skills, e.g., motivational interviewing techniques to support a woman-centred and non-judgemental approach may encourage pregnant women to disclose alcohol or other drug use and get help. While on the one hand fears of being judged can deter women from disclosing sensitive information and seeking antenatal care, on the other hand, becoming pregnant can also be a motivating factor for seeking treatment. This highlights the need for health professionals in maternity care settings to be trained in managing complex care needs, in addition to optimal service provision, to ensure an effective integration to specialist treatment and ongoing monitoring.

As identified repeatedly in the current review, health professionals in maternity care settings perceived a lack of necessary skills to competently support pregnant women who are at risk. This may be remedied through ongoing specific education and training at the primary care level to increase confidence in discussing alcohol or other drug use and sensitively posing the appropriate questions. Again, while literature notes many organisational barriers, and that not all these barriers are removable in the short-term, having appropriate assessment tools and guidelines that outline process and protocols for managing women requiring specialized care in antenatal settings may facilitate routine screening and intervention practices.[22]

4.1. Strengths and limitations

To our knowledge, this is the first review that systematically summarised studies on barriers to screening for maternal alcohol or other drug use in maternity care settings from the healthcare providers' perspectives. This review has been strengthened by its extensive and multiple database searches and the quality appraisal of the included articles. This review has also some limitations. Firstly, only a few studies met the inclusion criteria, of which the majority (55%) focused on alcohol screening and brief interventions. Since the literature search and selection process was conducted in English language, relevant article(s) in other languages were not identified. Exclusion of unpublished reports, review articles, commentaries and studies conducted in developing countries might have led to the omission of certain relevant information. Secondly, all the studies were from Europe, USA and Australia; thus, the findings of this review might not reflect the barriers to screening for alcohol or other drug use in developing countries or resource-limited settings. Moreover, the heterogeneity of the study population could have resulted in response bias, as there is a possibility that some of the healthcare providers – such as allied health professionals – might not have been directly involved in providing antenatal care services.

4.2. Conclusions and recommendations

This narrative review found a range of barriers to screening pregnant women for alcohol or other drugs. Given the adverse impacts of alcohol or other drug use on perinatal outcomes, and the opportunity to reach many women during this period, necessary efforts should be made to adequately screen all pregnant women. Further research is needed in this area – particularly on the educational needs of healthcare workers, including effective communication skills for screening. Likewise, at the organisational level, validated screening tools and policy development to facilitate best screening practice is required for referral and ongoing monitoring of at-risk women to minimise harm and improve perinatal health outcomes.

Conflict of interest

The authors have no conflict of interest to declare.

Authors' contributions

All the authors (HO, MB, MI and MA) contributed to the conceptualization and methodology of this manuscript. HO and MB performed the data extraction and quality appraisal of the eligible studies. HO took the lead in writing the first draft of the manuscript. All authors provided critical feedback and helped shape the data analysis and synthesis of the results and to the final version of the manuscript.

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