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Review Article

Women's views and experiences of occasional alcohol consumption during pregnancy: A systematic review of qualitative studies and their recommendations

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ABSTRACT

Objective: Official guidelines advocate abstinence from alcohol during pregnancy. However, a number of women consume alcohol while pregnant. Understanding women's reasons and the context for drinking during pregnancy outside the context of an alcohol use disorder may be helpful for interventions of healthcare providers and health policymakers. This paper reports a systematic review of qualitative studies focusing on women's perspectives of the issue of alcohol consumption during pregnancy on one hand, and on recommendations on the other.

Design: Seven electronic databases and citation lists of published papers were searched for peer-reviewed articles published between 2002 and 2019 in English and French, reporting primary empirical research, using qualitative design and exploring women's views and experiences about the issue of alcohol and pregnancy. Studies involving participant women identified as having an alcohol use disorder while pregnant were excluded. Using the thematic synthesis method, we extracted and coded findings and recommendations from the selected studies.

Setting and participants: Women who mostly reported being abstinent or having reduced their alcohol consumption during pregnancy, and non-pregnant women

Findings: We included 27 studies from 11 different countries. The quality of studies was assessed using the CASP tool. We developed five analytical themes synthesising women's views and experiences of abstinence and occasional alcohol consumption during pregnancy: lack of reliable information; inadequate information from health professionals; women's perception of public health messages; women's experiences and perception of risk; and social norms and cultural context. Six analytical themes synthesising recommendations were generated: improving health professionals' knowledge and screening practice; diversification of information sources; improving women's information; empowering women's choice; delivering appropriate messages; and addressing socio-structural factors.

Key conclusions: Our review provides evidence that information on the issue of alcohol consumption during pregnancy should be improved in both qualitative and quantitative terms. However, the reasons for pregnant women's occasional drinking are complex and influenced by a range of socio-cultural factors. Therefore, healthcare professionals and policymakers should take into account women's experiences and the context of their everyday lives when conveying preventive messages. Our review demonstrates that awareness strategies should not focus solely on women's individual responsibility. They should also address a wider audience and foster a more supportive socio-structural environment.

Implications for practice: The understanding of women's perspective is essential to designing sound prevention interventions and credible messages. Our review provides a comprehensive summary of the state of qualitative research on women's experience of the risk of alcohol use during pregnancy, as well as the literature's recommendations about how to address this issue. This review also contributes to identifying overlooked areas of recommendations that require further reflection and research.

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Introduction

Scientific knowledge about the adverse effects of alcohol intake during pregnancy dates back to the 1970s with the identification of foetal alcohol syndrome (FAS) (Lemoine et al., 1968; Jones et al., 1973). FAS encompasses the most severe consequences of prenatal alcohol exposure to the foetus, whereas foetal alcohol spectrum disorder (FASD) refers to a broader range of conditions, such as neurodevelopmental problems and psychosocial consequences (Chudley et al., 2005). While the harmful effects of heavy maternal alcohol consumption on the foetus are well established, the evidence is less conclusive regarding a possible safe level of low to moderate intake of alcohol (Mamluk et al., 2017). Official guidelines may vary from one country to another (Drabble et al., 2011; Leppo et al., 2014), but health authorities generally promote complete abstinence from alcohol consumption during pregnancy. Despite those recommendations, a significant number of women use some alcohol while pregnant, with estimates ranging from 28.5% in the UK and 26.5% in Russia to less than 10% in Poland, Norway, and Sweden (Mårdby et al., 2017). Women reporting consuming any alcohol during pregnancy have been estimated to be one in four in Australia (Australian Institute of Health and Welfare, 2014) and one in ten in the United States (Tan et al., 2015).

In addition to quantitative studies examining patterns, factors, and psychosocial determinants of prenatal alcohol use (Skagerström et al., 2011; O'Keeffe et al., 2015; Roozen et al., 2018), a substantial body of qualitative studies has emerged over the past few years exploring women's perspectives on alcohol use during pregnancy. As an essential feature of qualitative research, the focus on women's thoughts and personal experiences is likely to shed light on the context and reasons shaping alcohol consumption during pregnancy. A meta-synthesis of qualitative evidence about patients' perspectives may improve the understanding of such complex and multifaceted health issues and inform prevention and health promotion strategies (Walsh and Downe, 2005; Majid and Vanstone, 2018; Mays and Pope, 2020). Several authors have emphasised the need for health professionals to rely on qualitative evidence to reflect upon their daily practices (Olusanya and Barry, 2015; Jack, 2016). While perinatal caregivers, including midwives, play a key role in screening, informing about risk, and preventing harm related to alcohol use during pregnancy (NICE, 2008; RCM, 2017), their attitudes towards risks may vary, and they face challenges regarding how to address the topic of alcohol with pregnant women (Winstone and Verity, 2015; Oni et al., 2019). Health practitioners could therefore benefit from a synthesis of qualitative insights about abstinence and drinking during pregnancy from women without an alcohol use disorder. A recent systematic qualitative review has examined structural barriers pregnant women may encounter when willing to reduce their consumption or abstain from alcohol, with a focus on stigma and discrimination in access to care (Lyall et al., 2021). However, there is no comprehensive literature review addressing specifically both women's perspectives and implications for practice. We therefore conducted a systematic qualitative review aiming, first, to provide an overall picture of women's views and experiences of drinking during pregnancy outside the context of an alcohol use disorder, and, second, to identify recommendations based on qualitative findings.

Methods

Literature search

Searches were conducted using the following electronic databases: PubMed, CINAHL, Embase, MIDIRS, IBSS, PsycINFO, and Cairn. The full search terms used for each database are shown in Supplementary File 1 (S1). The search strategy was designed in collaboration with a professional librarian. The electronic search was complemented with a citation pearl growing strategy (Booth, 2016), using the backward and forward chaining technique and database service.

Criteria of inclusion and exclusion

Papers were selected for the review according to the following inclusion criteria: reporting primary empirical research, focusing on women's perspectives about the issue of alcohol and pregnancy, using qualitative research design, and being published in English or French in peer-reviewed journals between 2002 and 2019. As the aim of the review was to better understand women's perception of advice and experience of abstaining from alcohol or drinking during pregnancy, we excluded papers involving participant women identified as having an alcohol use disorder while pregnant. Indeed, alcohol use during pregnancy as a medical problem is a specific issue, since the women concerned are provided specialised professional intervention and frequent follow-up medical visits (Thibaut et al., 2019). The studies were selected in two steps. First, one reviewer (ER) removed duplicates and screened the titles and abstracts for eligibility. Cases of uncertainty were discussed between the two reviewers in order to reach an agreement. Second, the two reviewers independently read the full texts of the studies identified as potentially relevant to determine their inclusion. A third external reviewer (KLV, in acknowledgements) assessed three studies in which the primary reviewer (RH) was involved as author or co-author. Discrepancies were resolved by discussion until consensus was reached.

Quality assessment

As a means of evaluating the study quality of the identified papers in terms of strengths and weaknesses, we used the Critical Appraisal Skills Programme checklist tool (CASP, 2018). This framework consists of a series of ten questions addressing mainly the trustworthiness and transferability of qualitative studies. The CASP criteria were applied only to qualitative components of the two studies using a mixed methods research design (Coathup et al., 2017; Fletcher et al., 2018). The quality of the papers was rated independently by the two reviewers. The three studies involving the primary reviewer (RH) as author or co-author were assessed independently by two reviewers (ER and KLV). In all cases, any disagreement about CASP ratings was resolved by discussion.

Data extraction and synthesis

We utilised the principles of thematic synthesis as a method for synthesising primary qualitative studies (Thomas and Harden, 2008). As a first step, both reviewers independently extracted, from each study's findings section, the second-order data (Malpass et al., 2009), defined as the authors' interpretation of women's views, as well as the authors' recommendations for practice, prevention, and health policy found in the discussion and conclusion sections. Data were extracted from women participants only. In studies that also included other participants in their sample, views from the latter were considered neither for findings nor for recommendation extraction. Moreover, findings and recommendations derived from quantitative parts of mixed-method studies were not extracted. Finally, in one study (France et al., 2013) comprising two qualitative parts, we extracted data from the exploratory phase, which focused on women's perspectives, and did not consider data in relation to the concept-testing phase. As a second step, both reviewers coded this data and developed initial listings of codes. Then, looking for similarities and differences across

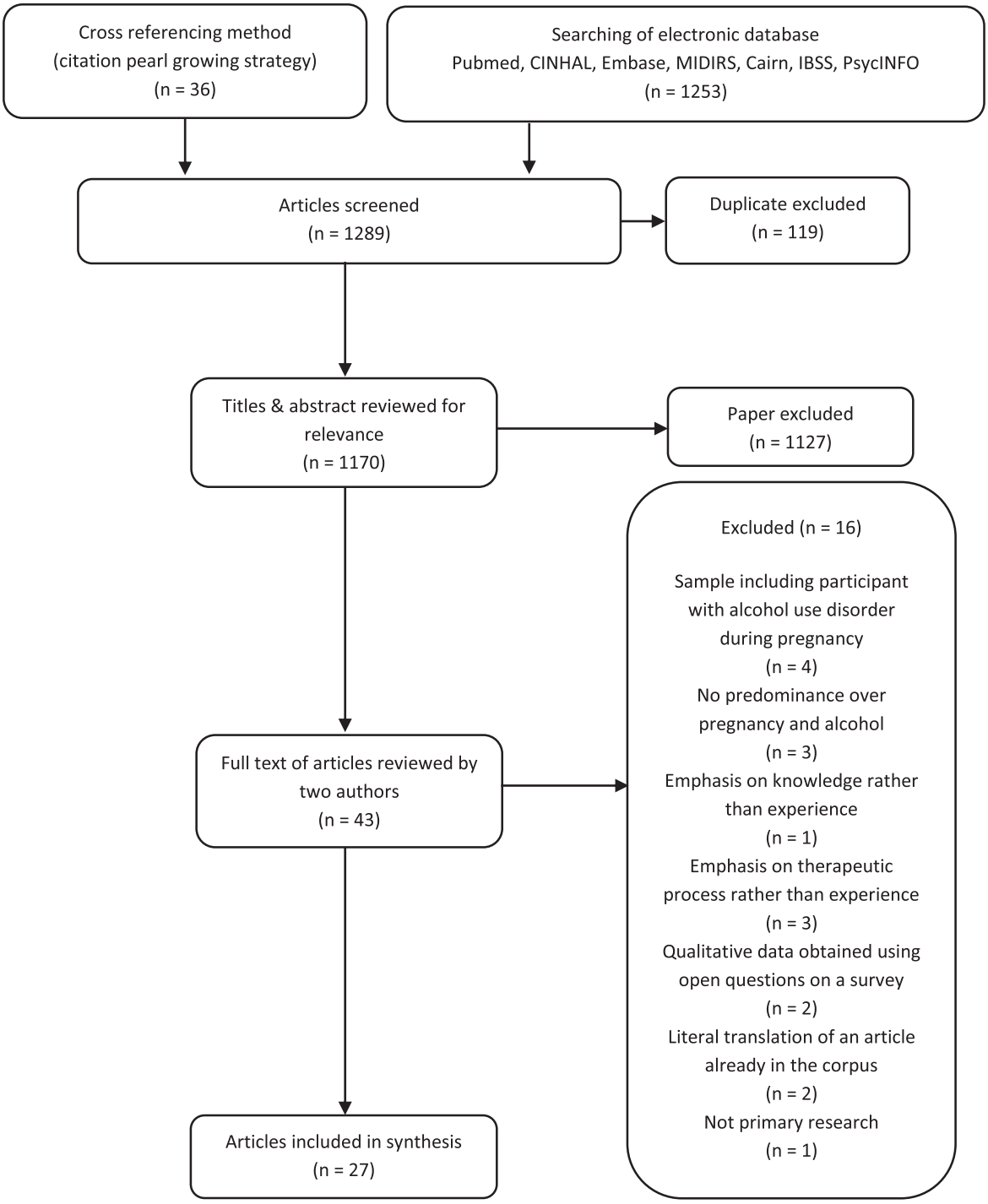

Fig. 1. Prisma flow diagram of studies search and selection process.

the studies, we grouped these initial codes into two lists of descriptive themes. Finally, we generated five analytical themes that capture the primary characteristics of women's views and experience of the alcohol and pregnancy issue, as well as six analytical themes reflecting recommendations. At each stage of thematic synthesis, both reviewers discussed codes and themes, and any discrepancies were resolved by consensus.

Findings

Our search yielded 1188 citations, of which 110 duplicates were excluded (see Fig. 1 Prisma flow diagram). A total of 1078 articles were screened by title and abstract for their relevance to the research question and the inclusion and exclusion criteria. Among those articles, 1042 were rejected mainly for the following reasons: quantitative study design, intervention research, and focus on healthcare professionals' perspectives and on women's drinking patterns. A full review of the 36 remaining articles was conducted, resulting in the selection of 27 articles. In the following, for the sake of readability, references to the studies are indicated in superscript and numbered corresponding with Table 1.

Characteristics of included studies

All included studies in this review addressed women's experiences and views about the issue of abstinence and alcohol con-

Table 1
Characteristics of included studies (n=27).

Authors, year, country	Sample	Data collection	Analysis of qualitative data
1. Anderson et al. (2014) Australia	19 recently pregnant women	semi-structured telephone interviews	thematic analysis
2. April et al. (2010) Quebec	31 pregnant women	individual interviews	thematic analysis
3. Balachova et al. (2007) Russia	23 women (12 non-pregnant women, 6 pregnant women, 5 women with alcohol dependency); 5 partners ; 23 physicians	focus groups	thematic analysis
4. Baxter et al. (2004) USA	60 women (pregnant or recently given birth)	individual semi-structured interviews	analytic induction
5. Brahic et al. (2015) France	64 pregnant women	individual semi-structured interviews	content thematic analysis
6. Coathup et al. (2017) UK	350 pregnant women (quantitative data) and a sub-sample of 6 pregnant women (qualitative data)	mixed methods study - questionnaire - semi-structured, in-depth interviews	thematic analysis
7. Crawford-Williams et al. (2015a) Australia	21 participants (17 pregnant women or newly delivered mothers, and 4 partners)	focus groups	thematic analysis
8. Elek et al. (2013) USA	149 non-pregnant women (56% had given birth to at least one child)	focus groups	Krueger and Casey's approach
9. Fletcher et al. (2018) South Africa	200 women attending alcohol serving venues (quantitative data) and a subset of 23 women (22 reporting a previous pregnancy and 1 never pregnant) (qualitative data)	mixed methods study - questionnaire - in-depth interviews	thematic analysis
10. France et al. (2013) Australia	- 23 women (pregnant, recently pregnant, women without children who might be soon pregnant) (exploratory phase) - 31 participants (pregnant and recently pregnant women, male partners, women without children) (concept testing phase)	qualitative formative research comprising focus groups (exploratory and concept testing phases)	thematic analysis
11. Gouilhers et al. (2019) Switzerland	30 pregnant women and their male partner	semi-structured joint interviews	thematic analysis
12. Grant et al. (2019) UK	10 pregnant women (interviewed three times)	face-to-face interviews (including creative techniques of visual data production)	thematic analysis
13. Hammer (2019) Switzerland	30 pregnant women and their male partner	semi-structured joint interviews	thematic analysis
14. Hammer and Inglin (2014) Switzerland	50 pregnant women	individual semi-structured interviews	thematic analysis
15. Holland et al. (2016) Australia	20 women (pregnant, recently had a child, had young children, planning for pregnancy)	individual qualitative interviews and focus group discussions	thematic analysis
16. Jones et al. (2011) Australia	12 pregnant women and 12 midwives	telephone interviews (pregnant women) and individual face-to-face interviews (midwives)	not specified
17. Jones and Telenta (2012) Australia	12 pregnant women and 12 midwives	telephone interviews (pregnant women) and individual face-to-face interviews (midwives)	not specified
18. Loxton et al. (2013) Australia	74 mothers of young children and 14 service providers	semi-structured interviews (mothers) and focus groups (service providers)	thematic analysis
19. Martinelli et al. (2019) Brazil	14 women who had recently given birth	individual semi-structured interviews	thematic content analysis
20. Meurk et al. (2014) Australia	40 women (recently pregnant or given birth)	individual semi-structured interviews	inductive framework analysis approach
21. Raymond et al. (2009) UK	20 pregnant women	individual telephone interviews	thematic analysis
22. Schölin et al. (2017) Sweden and UK	43 parents with an infant aged 18 months or less (21 in England, including 17 women and 4 partners; 22 in Sweden, including 16 women and 6 partners)	semi-structured interviews	thematic analysis
23. Skagerström et al. (2015) Sweden	34 women (non-pregnant and with no children)	focus groups	inductive thematic analysis
24. Toutain (2010) France	42 pregnant women	Internet chat groups (250 messages)	thematic analysis
25. Toutain (2013) France	35 pregnant women	Internet forums (142 messages)	thematic analysis
26. Toutain (2017) France	40 pregnant women	Internet chat groups (210 messages)	not specified
27. van der Wulp et al. (2013) Netherlands	25 pregnant women, 9 partners and 10 midwives	focus groups and individual semi-structured interviews (pregnant women and partners) and semi-structured interviews (midwives)	content analysis

sumption during pregnancy, with varying emphasis on knowledge and perception of the risk, sources of information, and attitudes towards expert advice. Participants consisted mostly of pregnant or recently pregnant women, with a few studies including non-pregnant women (for an overview, see Table 1). In addition to women participants, ten studies included other stakeholders' views[3,7,10,11,13,16-18,22,27], such as health professionals and male partners. Eight studies were undertaken in Australia[1,7,10,15-18,20], and the rest originated from Western Europe[5,6,11-14,21-27], North America[2,4,8], Brazil[19], Russia[3], and South Africa[9]. Reported drinking patterns of women during pregnancy were mostly either abstinence or reduced alcohol consumption, described, for example, as 'rare', 'occasional', 'low', or still 'moderate'. For readibility, we will use the term 'occasional' to refer to these alcohol consumption patterns. Only two studies included some participants reporting 'heavy drinking'[9] or identified as 'risk-drinkers'[19] during pregnancy. We further address the issue of the definition of drinking patterns in the discussion section. Qualitative data were mainly collected through face-to-face or telephone interviews and focus groups. Two studies used a mixed methods approach[6,9]. Almost all studies, albeit to varying degrees, presented recommendations derived from their empirical findings.

Table 2
Women's views and experiences: analytical themes identified in the included studies.

	Analytical themes				
	Lack of reliable information	Inadequate information from health professionals	Women's perception of public health messages	Women's experiences and perception of risk	Social norms and cultural context
1. Anderson et al. (2014)	X	X	X		
2. April et al. (2010)	X	X		X	X
3. Balachova et al. (2007)	X	X		X	
4. Baxter et al. (2004)	X			X	X
5. Brahic et al. (2015)	X			X	
6. Coathup et al. (2017)	X		X	X	X
7. Crawford-Williams et al. (2015a)	X	X		X	X
8. Elek et al. (2013)	X	X	X	X	X
9. Fletcher et al. (2018)	X			X	X
10. France et al. (2013)	X	X		X	X
11. Gouilhers et al. (2019)	X	X	X	X	X
12. Grant et al. (2019)	X			X	
13. Hammer (2019)	X			X	X
14. Hammer and Inglin (2014)	X	X	X	X	X
15. Holland et al. (2016)	X		X	X	X
16. Jones et al. (2011)	X	X			
17. Jones and Telenta (2012)	X			X	X
18. Loxton et al. (2013)	X			X	X
19. Martinelli et al. (2019)	X	X		X	X
20. Meurk et al. (2014)		X	X	X	X
21. Raymond et al. (2009)	X	X	X	X	
22. Schölin et al. (2017)	X		X	X	X
23. Skagerström et al. (2015)	X			X	X
24. Toutain (2010)	X	X		X	X
25. Toutain (2013)	X	X		X	
26. Toutain (2017)	X	X		X	
27. van der Wulp et al. (2013)	X	X			

Results of quality appraisal

All the studies were scored as being of overall good quality, and their contributions to the field of research were assessed as valuable (see the Supplementary File S2 for the details). They clearly stated their research aims and findings and appropriately justified the use of a qualitative methodology and their recruitment strategy. However, justification of the specific qualitative research design was sometimes insufficient. In addition, some papers lacked information on data collection, recruitment of participants, informed consent, data analysis, and/or rationale for sample size. Finally, most of the papers did not consider sufficiently, or at all, the issue of reflexivity in the conduct of the research, including the relationship between researchers and participants. All papers contributed to the qualitative synthesis of women's perspectives on abstinence or alcohol consumption during pregnancy and/or on recommendations for practice.

Women's views and experiences

We identified five main themes: (1) lack of reliable information; (2) inadequate information from health professionals; (3) women's perception of public health messages; (4) women's experiences and perception of risk; and (5) social norms and cultural context (for an overview, see Table 2).

1. Lack of reliable information

1.1. Women's lack of knowledge about the risk

Most studies underlined that the risks associated with alcohol use during pregnancy were little known and poorly understood by women. While aware in general that alcohol consumption during pregnancy could be harmful to their babies[1,3,5-7,9,12-14,23], most women were not clear about the way alcohol affects the foetus[2,3,7,9,16-18,23-26]. They were unfamiliar with notions such as FAS or FASD[3,4,8,9,23,24,27], and were unsure of the potential consequences of alcohol exposure to the foetus and the mid-term effects on their offspring's cognitive and social development[2,3,10,16,22-24]. For example, several articles pointed to misconceptions[3,7,8,26] such as beliefs that a small amount of wine might have benefits for woman and baby[3] and that alcohol consumption is less risky in the first weeks[23,25] or in the third trimester[8,18] of pregnancy. One study mentioned women's perception that alcohol during the first few weeks of pregnancy either causes a premature miscarriage or does not affect the foetus at all[19].

1.2. Confusing information and recommendations

Many articles linked women's unclear knowledge about alcohol and pregnancy to the insufficient quality or quantity of information they received or heard[1,7,8,18,23]. In some studies, women were unsure about the official recommendations[12,15] or whether abstinence meant strictly zero alcohol intake[5,14]. Their uncertainty was exacerbated by inconsistent advice and diversity of information sources[18,27], including healthcare organisations, relatives, friends, media, and the internet[1,2,6,7,19,21]. Ambiguous, confusing, or conflicting advice provided to women could undermine their confidence in official guidelines towards abstinence or cast doubt on their perceptions of the right behaviour[1,5,6,11,15,18,21].

2. Inadequate information from health professionals

Health professionals' practices were often reported as significant to understanding women's attitudes towards alcohol use during pregnancy, especially their uncertain knowledge about the risk. Indeed, pregnant women experienced a lack of consistent and

clear messages from gynaecologists and midwives and pointed to incomplete information about the risks[1-3,8,11,16,19,21,27]. They frequently stated that the topic of alcohol had not been discussed with their attending health professional or had been addressed in a superficial way[1,2,7,16,20,21,24-26]. Many studies reported that women had received mixed messages, as some health professionals advised them to abstain from any alcohol, whereas others endorsed drinking some alcohol during pregnancy[1,3,7,8,10,14,16,20,24-27]. Two studies stressed that health professionals may not have adequate knowledge about risks related to prenatal exposure to alcohol, pointing to a lack of evidence-based education[7,24]. Despite their dissatisfaction with the information, pregnant women considered their gynaecologist or midwife a reliable source of advice[1,3,8,26,27].

3. Women's perception of public health messages

Some studies have underlined the importance of pregnant women's attitudes towards the abstinence advice conveyed by public health messages. Scientific uncertainty about the effects of low to moderate alcohol use was most often interpreted as a reason for avoiding drinking, reflecting a precautionary approach[1,8,11,15,21]. Nevertheless, other pregnant women were critical of the abstinence message. They asserted that harmful effects of low or moderate alcohol use were not supported by evidence[1,20] and that public health messages overlooked scientific uncertainty[15]. Some participants deemed the abstinence message paternalistic and guilt-laden[15]. In a few studies, pregnant women were found to be critical or uncertain about abstinence advice because of the changing official guidelines across time[1,6,14,22].

4. Women's experiences and perception of risk

Most of the articles examined women's perception of the risk and primarily revolved around reasons for abstinence and perceived acceptability of occasional drinking during pregnancy.

4.1. Abstaining from alcohol

Many women perceived abstinence as an obvious behaviour[2,3,15], being part of the numerous precautions to be adopted once pregnant for the sake of baby's health[6,8,11,12,19,21,22,24]. Abstinence was often considered to be common knowledge rather than professional advice or the official recommendation[5,11,22,23]. Women's accounts of abstinence also involved social and emotional factors, such as a sense of maternal responsibility[13,19,24], fear[11,13,18,19], as well as feelings of anxiety or guilt for putting one's baby in danger[2,4,8,10,13,15,17-19]. Bodily sensations, such as disgust toward alcohol, nausea, and tiredness also played a role in giving up drinking[6,11,12,15]. Some authors have therefore suggested that women's abstinence was not necessarily the result of an informed decision-making process based only on expert information[6,15,17].

4.2. Acceptability of and reasons for an occasional drink

Women's tolerant attitudes towards an occasional drink were frequently based on their own definition of safe or risky consumption in terms of type of alcohol, amount, frequency, or timing[2,5,9,12,14,15,18-20,22,24-26]. Drinking once in a while was also justified by the ideas of relaxing[15,17,18,21,24,26], treats[2,6,11,22,26], or maintaining social bonds[9,19,24]. In one study, the importance of alcohol to some women's identity and social functioning was a significant motive for consuming alcohol while pregnant[20]. The personal experience of risk was also meaningful, as women who birthed healthy babies while consuming some alcohol during a previous pregnancy were likely to downplay the abstinence rule[12,14,18,21,24]. In addition, occasional alcohol consumption during pregnancy was often seen as 'responsible', which they defined as controlled and safe[13-15,19,22]. Exceptions to the abstinence rule typically occurred on specific social occasions[4-7,14,15,17,18,20,22]. Moreover, stress[7,8] and socioeconomic or psychological difficulties[9,19,21] were possible reasons for drinking during pregnancy. For some women, their change of drinking habits was not straightforward and anxiety-free due to, for example, cravings and feelings of missing drinking[11,15,19,22,23], previous drinking habits[19], partner's surveillance[13], or negative emotions such as feelings of guilt or uncertainty after consuming, willingly or not, alcohol prior to and after pregnancy recognition[11,13,15,26]. Finally, several authors found that pregnant women could be sensitive to friends', partner's, or relatives' judgements towards drinking or abstaining[2,3,5-8,11-13,15,17,19,24,26].

5. Social norms and cultural context

Most studies reported the significance of social norms and cultural context in shaping women's experience of drinking during pregnancy. Adherence to abstinence was closely related to the norm of motherhood, referring to the cultural emphasis on individual maternal responsibility for following expert recommendations and avoiding any risk to the baby's health[4,6,13,17,20,22]. Social expectation, including social pressure, that pregnant women should abstain from drinking, especially in public, was often reported[7,8,10,17-20]. In some studies, women referred to the social norm of autonomy, suggesting that the decision about whether to drink during pregnancy should be the woman's choice[2,4,7,14,15,22,23]. Several authors also pointed to the drinking culture as a social norm conflicting with abstinence[9,17,18]. As part of social life[2,14,20,22,24], moderate consumption of wine or beer was frequently depicted as socially acceptable or expected[17,23]. Pregnant women often experienced peer pressure to drink alcohol on social occasions such as a party, anniversary, or wedding[2,11,17,18]. Drinking culture was mentioned as contributing to the challenge for pregnant women to define and adopt the appropriate behaviour[17,20].

Recommendations

We identified six broad recommendations for health professionals and health policymakers: (1) improving health professionals' knowledge and screening practice; (2) diversification of information sources; (3) improving women's information; (4) empowering women's choices; (5) delivering appropriate messages; and (6) addressing socio-structural factors (for an overview, see Table 3). Fig. 2 depicts the strong (bold lines) and moderate (simple lines) links between the five themes capturing the women's perspectives and the recommendations.

1. Improving health professionals' knowledge and screening practice

Several studies have suggested that healthcare providers' motivation to address the topic, their screening practice, and their communication skills should be improved[1,2,4,6-8,11,19-21,24,25,27]. Therefore there is a need for educational efforts to enhance healthcare providers' knowledge about alcohol consumption during pregnancy[3,6,8,18,19,25-27]. Several studies have reported that women's alcohol use needs to be systematically screened and approached as a standard element early on and continuously throughout pregnancy[1,7,8,16,27]. One article indicated that healthcare providers should encourage in-depth discussion of the topic rather than asking questions as a routine matter[5]. A few studies indicated that healthcare professionals should also provide direct advice to partners[7,11,19,27] and encourage their supportive attitudes[7,11]. These recommendations towards improving healthcare professionals' knowledge and skills aimed at responding to women's experiences of receiving insufficient information, unclear advice, and inconsistent guidelines.

Table 3
Recommendations: analytical themes identified in the included studies.

	Analytical themes					
	Improving health professionals' knowledge and screening practice	Diversification of information sources	Improving women's information	Empowering women's choice	Delivering appropriate messages	Addressing socio-structural factors
1. Anderson et al. (2014)	X	X	X			X
2. April et al. (2010)	X	X	X		X	
3. Balachova et al. (2007)	X	X	X	X	X	X
4. Baxter et al. (2004)	X	X	X	X		X
5. Brahic et al. (2015)	X					
6. Coathup et al. (2017)	X		X			
7. Crawford-Williams et al. (2015a)	X		X	X	X	X
8. Elek et al. (2013)	X	X	X	X	X	X
9. Fletcher et al. (2018)		X	X	X	X	X
10. France et al. (2013)			X		X	
11. Gouilhers et al. (2019)	X				X	X
12. Grant et al. (2019)						X
13. Hammer (2019)						
14. Hammer and Inglin (2014)						
15. Holland et al. (2016)					X	X
16. Jones et al. (2011)	X		X			
17. Jones and Telenta (2012)		X	X			X
18. Loxton et al. (2013)	X		X			
19. Martinelli et al. (2019)	X		X			X
20. Meurk et al. (2014)	X		X	X	X	X
21. Raymond et al. (2009)	X		X	X	X	
22. Schölin et al. (2017)		X				
23. Skagerström et al. (2015)		X	X	X	X	X
24. Toutain (2010)	X		X			X
25. Toutain (2013)	X	X	X			X
26. Toutain (2017)		X	X			X
27. Van der Wulp et al. (2013)	X	X	X			X

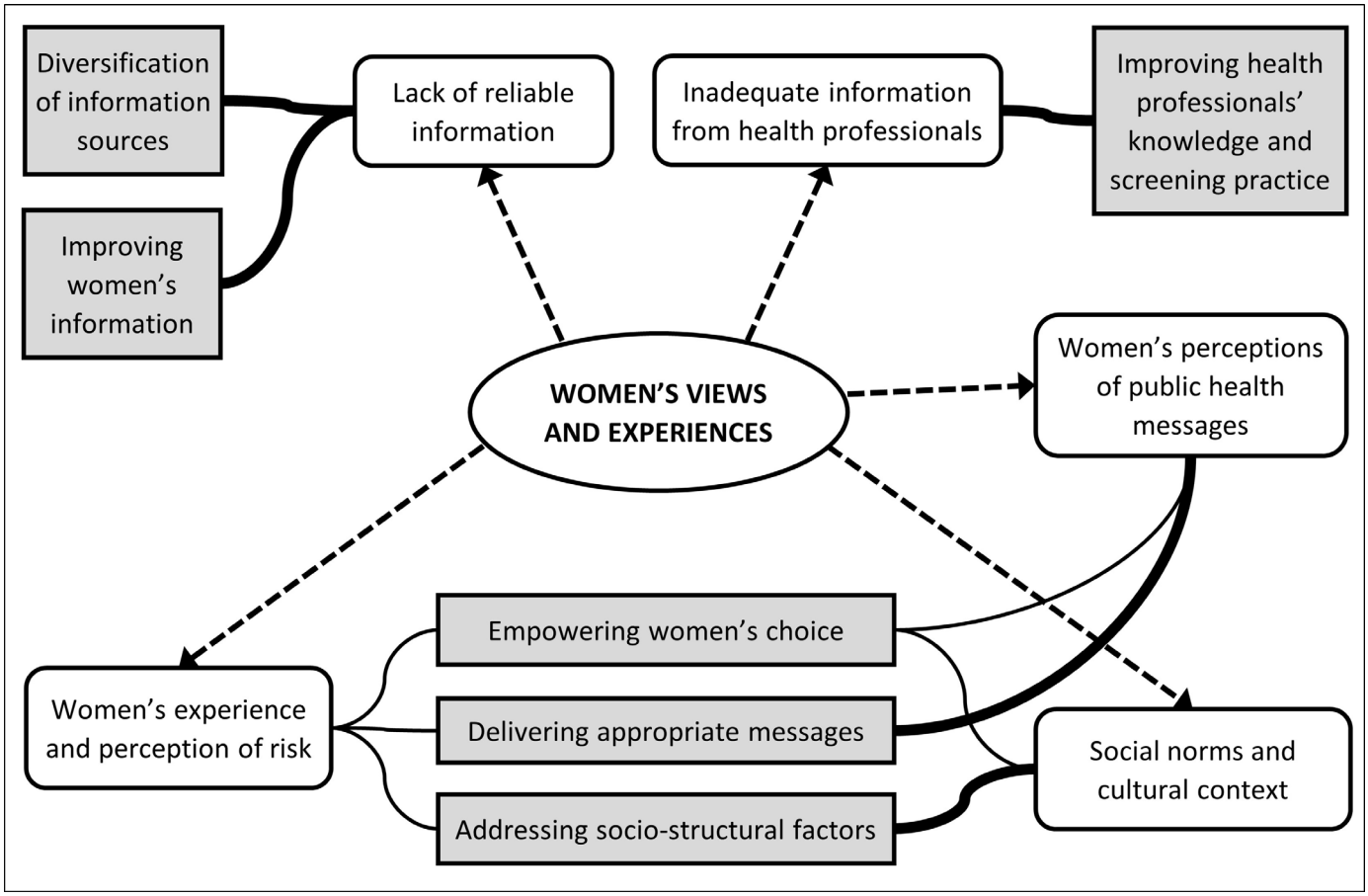

Fig. 2. Thematic relationships between women's experiences about the issue of alcohol consumption during pregnancy and recommendations.
Key: Analytical themes related to women's views and experiences are shown in rectangles with rounded corners, and those related to recommendations in shaded rectangles. Solid bold lines represent a strong link and the thin lines represent a moderate link between the five themes capturing the women's perspectives and the recommendations.

2. Diversification of information sources

Several articles advocated that sources of information about alcohol and pregnancy should be increased and expanded by including a diversity of stakeholders[1,2,4,23,26,27]. For some authors, primary care centres[1,2,23,26], pharmacies[26], social workers[2,4] need to be more involved in advising and supporting pregnant women. Improvement of reproductive counselling[9,23] was recommended to prevent unplanned pregnancies and promote abstinence or alcohol intake reduction in women trying to conceive[1,8,17,22,25]. Schools and youth clinics were also mentioned as places for disseminating prevention messages to target a younger population[23,25,26]. Other studies called for conducting information campaigns through the mass media[1,3,17,26,27] and the internet[8,25]. Overall, diverse information sources aimed at making recommendations about alcohol use during pregnancy should be widely disseminated and consistent for women and the general population. These propositions directly met the need to address women's lack of reliable information about the risks.

3. Improving women's information

Many authors emphasised the need to improve the quality of the information provided to women, either by healthcare professionals or by public health messages. The information should be more available, consistent, comprehensive, and understandable[1,2,3,6-8,16-19,21,24,26,27]. In order to address 'misconceptions', several studies advocated (i) to provide detailed information on the potential effects of prenatal alcohol exposure on the foetus[4,7,8,17,27] and (ii) to emphasise that any alcoholic beverage may be harmful, regardless of the type and amount of alcohol consumed and time of exposure[2,4,7,8,10,20,23-25]. For some authors, informing on the specific issue of binge drinking was a key priority[8,9,23,26]. One study called for emphasis on the fact that the risk is different for every woman[7]. Another study suggested that a 'chemical conceptualization' presenting alcohol in terms of ethanol would underscore its teratogenic properties[20]. These recommendations directly aimed at increasing women's knowledge about the risk of alcohol use during pregnancy.

4. Empowering women's choice

Suggesting to foster the principle of autonomy, some studies stressed the importance of adopting strategies allowing pregnant women to make informed choices[4,7,8,21,23]. For example, providing accurate and evidence-based information[3,7,8,23] about the risks would be one way to increase pregnant women's confidence or motivation in their decisions regarding alcohol consumption[9]. Studies also advocated for interventions, such as building self-esteem or communication strategies offering women practical resources to resist external pressures related to drinking alcohol[8,20,23]. Others recommended providing psychosocial support and alternative strategies to cope with life's stressors[7,9] such as meditation or cognitive behavioural therapy. These recommendations for empowering women's choices were partially based on the findings concerning their attitudes towards risks and public health messages and the influence of socio-cultural norms. They aim to strengthen the self-confidence of pregnant women around overcoming certain difficulties encountered in daily life and to support their autonomy in making choices.

5. Delivering appropriate messages

In several studies, the recommendations focused on how public health stakeholders and healthcare providers should deliver information and preventive messages to women. One study stated that building a public health strategy around alcohol and pregnancy should not merely consider the adequate scientific content of the message but also question 'what constitutes a socially responsible and acceptable message'[15]. While threat-based messages were suggested to increase abstinence[3,10,15], some authors underlined that such messages were likely to provoke anxiety[11,20] or rejection if perceived to overstate risks[10,15,23]. Indeed, ensuring the credibility of messages also implied acknowledging scientific uncertainty regarding the effects of low to moderate alcohol use during pregnancy[10,15]. Communication should also be supportive, respectful, and non-judgmental, rather than prescriptive[2,11,20]. Moreover, policymakers and health professionals should be cognisant of and address difficulties women may encounter throughout pregnancy in staying abstinent or reducing alcohol consumption[7,9,11]. A minority of studies stated that, depending on the situation, a message of reduced consumption, instead of abstinence, may be more prudent[9] and that advice should take into account women who plan to continue drinking during pregnancy[21].

Finally, educational campaigns and health professional counselling should be adapted to women's specific situations and backgrounds[2,8,11,20]. These considerations of how to develop and deliver messages were primarily linked to the understanding of the way pregnant women responded to public health campaigns and, partly, of their experience of risks in their everyday lives. Furthermore, these recommendations complemented those aimed at improving health professionals' competence in terms of communication and adjustment to social contexts influencing women's attitudes.

6. Addressing socio-structural factors

Arguing that the responsibility for behavioural changes should not be placed solely on women and healthcare professionals, several studies called for interventions and educational campaigns at the community level to address social and contextual factors influencing women's alcohol use during pregnancy[1,3,4,7-9,12,17,19,20,23-25,27]. Some underlined that public health strategies need to build upon a better understanding of women's socio-cultural contexts[7,8]. Most recommendations included increasing knowledge and awareness about the effects of prenatal alcohol exposure to dispel public misconceptions through educational campaigns reaching diverse audiences, such as childbearing women[1,3,4,8]; families[7,8], especially mothers[4,25,26]; and friends[4,7,8]. Interventions directed at pregnant women's partners were suggested[3,7,8,11,19,27] to, for example, ensure an adequate level of support from them[7,11]. Campaigns targeting the broader community aimed to challenge the drinking culture and to promote a social environment supporting abstinence or reduced alcohol consumption. Some other studies emphasised the need to implement programmes handling structural[9] (social and economic) difficulties, which might be drivers of alcohol use during pregnancy among disadvantaged women[15]. The recommendations for addressing socio-structural factors primarily stemmed from insights into how social norms and cultural context influence women's drinking during pregnancy, such as lack of abstinence support and external pressures to consume alcohol.

Discussion

This paper reported a thematic synthesis of 27 studies that were primarily based on interviews with women who had reported to be abstinent or to consume alcohol occasionally during pregnancy. To our knowledge, this is the first systematic review addressing both the findings of qualitative studies and their recommendations on the issue of alcohol use during pregnancy from women's perspective.

We identified five main themes providing a comprehensive picture of women's views and experiences of abstaining or drinking while pregnant. A first significant finding of our review is the pervasiveness of women's lack of clear information on the risk of prenatal alcohol use, which has also been observed in quantitative studies (Peadon et al., 2010; Corrales-Gutierrez et al., 2019). While aware that alcohol intake may be dangerous for their foetuses, women's lack of knowledge was often related to perceived unclear official guidelines and insufficient information provided by health professionals. Quantitative studies have also reported a substantial proportion of pregnant women receiving few or no recommendations regarding prenatal alcohol consumption (Mendoza et al., 2020).

A second core finding of our review is the importance of understanding the women's perspectives per se and contextualising the influence of professional recommendations and public health messages. Our synthesis reveals the complex and various reasons underlying the acceptability of occasional drinking – ranging from enjoying benefits, such as treats or relaxation, to coping with difficulties, to gender and identity issues – suggesting that alcohol consumption needs to be conceptualised as more than merely a health behaviour (Waterson, 2000; Lyons et al., 2014). Pregnant women's experience and interpretation of risk were key to understanding their choice and response to abstinence advice, as demonstrated by Hocking et al. (2020). Importantly, a number of women framed drinking once in a while as a responsible behaviour based on their own criteria of safe consumption. Our synthesis also highlights the influence of peers, drinking as part of social life (Testa and Leonard, 1995), and broader cultural norms and socio-economic conditions on the use or non-use of alcohol during pregnancy. The role played by women's partners in terms of supporting women's choice of alcohol reduction, or favouring alcohol use, has also been reported in other studies (McBride et al., 2012; van der Wulp et al., 2015).

Another important aspect of our review is the diversity of women's responses towards abstinence guidelines, ranging from endorsement to critical positions. Other studies observed that women are reflexively engaged with prenatal norms and may resist, negotiate with, deny, or challenge them (Root and Browner, 2001; Thompson and Kumar, 2011). Therefore, women who view drinking once in a while as acceptable are not necessarily ignorant or bad mothers. As a complex sociological issue, pregnant women's attitudes regarding alcohol consumption are not solely a matter of 'true' or inaccurate information they have received by health professionals and public health messages. Expert knowledge or clinical evidence on the risk is one factor among others shaping women's positioning (Lupton, 2013; Zinn, 2020).

Furthermore, our synthesis underlines the significance of social and cultural contexts in apprehending women's perspectives. It supports the notion that pregnant women's alcohol use should be understood within the context of their everyday lives and cannot be considered as an individual irrational attitude (McBride, 2014). Therefore, approaching women's alcohol use during pregnancy should not focus solely on women's responsibility (Hunt and Barker, 2001), but should consider this issue in a broader social and political context. In addition, several authors stated that disseminating accurate scientific evidence or underlining the dangers of alcohol is not sufficient to endorse the abstinence message in society and that awareness campaigns should draw on pregnant women's experiences and perceptions of alcohol (Peadon et al., 2010; Thompson and Kumar, 2011; Savic et al., 2016). As argued by Cohn (2016), public acceptability of health campaigns involves social and symbolic dimensions of peoples' everyday lives.

Our second objective was to synthesise the recommendations identified in the qualitative studies and to appraise how they were linked to their findings. The overview of these links unsurprisingly shows that the issue of women's information predominates among the six main recommendations (see Fig. 2). Several of them called for increasing information for pregnant women about abstinence and risks, but also for disseminating it more broadly to reach a large audience in society. With the same objective of improving women's awareness, recommendations also called for developing educational efforts towards health professionals to reinforce their knowledge on the topic, as well as their skills in screening, advising, and communicating with pregnant women, such as offering a non-judgemental approach. This resonates with studies revealing health practitioners being reluctant to address alcohol consumption and lacking knowledge about FAS or skills for screening and counselling (Diekman et al., 2000; Payne et al., 2005; France et al., 2010). Similar studies have stressed the importance of informing pregnant women that there is no safe level of alcohol use during pregnancy, whatever the timing of alcohol exposure (Crawford-Williams et al., 2015b; Coons et al., 2017). In view of the limited success of public health interventions to reduce prenatal alcohol consumption (Deshpande et al., 2005; Crawford-Williams et al., 2015c), a trusting relationship between pregnant women and their attending healthcare professionals, based on a personalised and compassionate approach, is paramount for prevention (Zizzo and Racine, 2017; Hocking et al., 2020).

Our synthesis also highlighted different perspectives on how to develop and deliver appropriate health messages. The first one focuses on the content of scientific evidence to be transmitted and is primarily guided by the aim of promoting an abstinence message. The second perspective is more engaged with ethical challenges in FASD prevention (Zizzo and Racine, 2017), such as allowing pregnant women to make informed decisions about their alcohol consumption and questioning the use of fear-based messages. Indeed, the efficacy of such messages in changing health behaviours is debated (Ruiter et al., 2014; Esrick et al., 2019), as they may miss the target and make women who consume alcohol feel guilty or reject the abstinence message (Gavaghan, 2009; Zizzo and Racine, 2017). Another contentious issue is the communication of uncertainty about the effects of a low to moderate level of alcohol intake (Schölin et al., 2019), since the total abstinence policy has been criticised for being paternalistic and endorsing risk discourses surrounding pregnancy (Gavaghan, 2009; Lowe and Lee, 2010). However, women aware of the uncertainty about low or moderate alcohol use may be more likely to have an occasional drink when pregnant (Peadon et al., 2011).

Our review also demonstrates that women's various perceptions of public health messages, as well as the complex reasons why some pregnant women may not be abstinent, challenge the one-size-fits-all approach, leading studies to advocate for targeted strategies and tailored interventions (Peadon et al., 2010; Meurk et al., 2014). Mass media health campaigns are used to reach large numbers of people, but their efficacy is often questioned for their focus on the individual, 'thus obscuring or marginalising power dynamics' (Henderson and Hilton, 2018: 374). In this regard, Fig. 2 provides a basis for identifying links as well as gaps between recommendations and qualitative findings. As indicated above, whereas the issue of information about the risk is predominant, two main areas did not generate substantial recommendations and necessitate further reflection. The first area concerns how to address the complex issue of pregnant women's occasional alcohol consumption and the underlying social and emotional factors involved. As stated by healthcare providers, an understanding of women's attitudes is essential for designing sound preventive interventions (Bailey and Sokol, 2014). However, although a few studies encouraged health professionals to recognise pregnant women's specific needs, the recommendations were not focused on how to improve health professionals' communication skills with pregnant women. Recommendations around the

training of professionals focused on their clinical knowledge and alcohol use screening, with few insights into how gynaecologists and midwives could consider and handle factors entrenched in everyday life, such as cravings, relaxing, identity issues, celebratory exceptions to the abstinence rule, and other difficulties in drinking habits transition. Likewise, recommendations tended to overlook the influence of risk perception, in particular women's past personal experiences of having a healthy baby after drinking during pregnancy. Finally, there were few practical aspects of professional preventive strategies as to how to involve pregnant women's partners in counselling.

The second overlooked area concerns the socio-structural factors that influence alcohol use during pregnancy. Some studies gave attention to resources women may use to resist peer pressure and proposed alternative strategies to supplement alcohol as a means to cope with life stressors. Nevertheless, addressing material difficulties or psychological distress as factors of drinking during pregnancy was given little practical consideration. More broadly, propositions to change the drinking culture and social determinants of maternal drinking were little developed in the articles in our review.

Finally, as a general remark, the recommendations found in the papers were seldom developed into concrete applications in health professionals' everyday work. Despite the growing importance of qualitative approaches in translational research (Tripp-Reimer and Doebbeling, 2004), dialogue between social scientists, policymakers, and healthcare professionals needs to be fostered to facilitate the transition from complex and nuanced qualitative insights into women's experiences to effective contributions and advice in healthcare practice or public health communication (Anderson et al., 2014). Given the broad definition of evidence in midwifery research (Rees, 2012), interprofessional collaboration towards qualitative research implementation should be supported and intensified.

Strengths and limitations

A first strength of our review is the production of a synthesis of empirical studies, complemented by a synthesis of recommendations, as well as the identification of their links and gaps. Another strength is the inclusion of studies using a qualitative research design across disciplinary boundaries. This enabled us to consider a broad range of research and to identify commonalities among the studies, regardless of their specific aims and theoretical orientations. Nevertheless, the screening of titles and abstracts of potential papers by a single author in this review could have introduced selection bias. A third strength is the inclusion of studies conducted in various geographical contexts, demonstrating that the understanding of women's alcohol use during pregnancy has some commonalities across various national contexts. A limitation of our review lies in the exclusion of studies about women with an alcohol use disorder. For example, we excluded two studies conducted in South Africa that have emphasised that women consumed frequent and very heavy amounts of alcohol while pregnant as a means of coping with major socio-economic and emotional problems (Watt et al., 2014; Kelly and Ward, 2017). Recommendations at the socio-structural level in studies on these women are likely to be more prominent than those included in our review. The often vague and heterogeneous description of women's drinking patterns during pregnancy was another limitation of our review. Indeed, it was difficult to interpret the meaning of the various descriptive categories used in several studies, such as 'heavy', 'reduced', 'occasional', 'infrequent', or 'rare' consumption during pregnancy. Nevertheless, it must be stressed that qualitative research does not aim at providing standardised and accurate measures of self-reported behaviours. More generally, further research needs to be conducted on more diverse samples, including women from lower socioeconomic backgrounds in particular (Coxon, 2014). Research on women's views about alcohol during pregnancy should also strongly take advantage of developing cross-cultural comparisons – only one study in our review was conducted in two different countries[22]. This would be a valuable approach to shed light on how the national context may shape women's perspectives. Finally, our review benefited from the inclusion of studies in French in addition to those in English.

Conclusion

In this paper, we reported a thematic synthesis of 27 qualitative studies exploring women's perspectives about the issue of alcohol use during pregnancy outside the context of an alcohol use disorder. As a result, five main findings and six primary recommendations were obtained. The review identifies the information about risks as an important component of pregnant women's experiences. However, the issue of knowledge of risks must be situated within a range of socio-cultural factors related to personal experience, interpretation of abstinence, and meaning of alcohol in everyday life, as well as to broader contextual factors. The recommendations in these studies focused on the need to increase women's knowledge but also more broadly among the general population. This would be achieved partly through educational efforts for health professionals and critical reflections on how to deliver appropriate health messages. While emphasising the importance of qualitative insights to better understand women's views about the issue of alcohol use during pregnancy, our review also pointed to a number of gaps between qualitative findings and recommendations.

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Not applicable.

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Declaration of Competing Interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

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Supplementary materials

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