

Alcohol free drinks and pregnancy: Understanding the use of alcohol-free and low-alcohol drinks during pregnancy

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Executive summary

Background:

It is recommended that pregnant women avoid alcohol due to potential harm to the baby. Approximately half of pregnancies in the United Kingdom are not planned, therefore people may not have stopped drinking alcohol prior to realising they are pregnant.

Alcohol-free and low-alcohol drinks have become increasingly popular in recent years. However, it is not known what pregnant women think and feel about these drinks and how regularly they are consumed.

Aims:

The aims of this project were to understand the attitudes of pregnant women (and those who have recently been pregnant) to alcohol-free and low-alcohol drinks and how this might be linked to alcohol intake before and during pregnancy.

Methods:

This project had a mixed-methods approach, with two parts. The first part comprised an online survey, which was developed by the researchers and approved by the funders. The survey included questions about intake, experiences and attitudes towards alcoholic, low-alcohol, and alcohol-free drinks, as well as demographic characteristics and pregnancy history. A combination of open/closed, multiple choice and free text questions were used. People living in the UK who were pregnant or who had recently been pregnant or given birth, were recruited using targeted advertising on social media.

For the second part of the project, individual online interviews took place with a subgroup of participants to discuss their experiences and thoughts about alcohol-free and low-alcohol drinks in more detail. These conversations took place with a researcher, lasting approximately 30 minutes. Interviews were transcribed, coded, and analysed thematically.

Results:

Part A: Survey:

- The survey had 2092 respondents, of whom 47.8% (n=1001) were pregnant. The majority were between 25-34 years (55.7%, n=1167) and of White ethnicity (90.0%, n=1881).
- Approximately 6.1% (n=128) of participants were classified as consuming alcohol at “increasing risk” levels (>15 units per week), prior to pregnancy.
- In preparation for pregnancy, 41.7% (n=873) reduced or abstained from alcohol, but 18.2% (n=831) did not take any specific action to improve their health. In the three months before pregnancy 40.9% (n=857) consumed alcohol-free or low-alcohol drinks.
- 13.5% (n=282) of participants consumed alcohol at some time point during pregnancy, which was more common in those who were in the “increasing risk” category pre pregnancy.
- 71.3% (n=1491) consumed alcohol-free or low-alcohol drinks at some point during pregnancy. This differed by pre pregnancy alcohol consumption category, whereby 69.9% of those in the low-risk category had consumed them during pregnancy, compared to 91.4% in the increasing risk category.
- The most commonly selected reasons for consuming alcohol-free or low-alcohol drinks during pregnancy were “*to choose a safer alternative to alcohol*” (71.9%, n=1073) to “*feel included in social events involving alcohol*” (68.8%, n=1026). Those who were in the increasing risk consumption category pre pregnancy were more likely to select “*they have a similar appearance to alcohol-containing drinks if I don’t want people to know I’m pregnant*” (38.3% vs 19.2% of low-risk group p<0.001).
- The most commonly selected reason for not drinking alcohol-free or low-alcohol drinks during pregnancy was “*I prefer a soft drink if I’m not drinking alcohol*” (61.1%, n=368).
- Most respondents (77.8%, n=1627) thought consuming alcohol-free drinks (labelled 0% Alcohol By Volume (ABV) during pregnancy was “very acceptable”. This decreased to 10.8% (n=225) for low-alcohol drinks (0.5-1.2% ABV) and to 2.6% (n=55) for consumption of alcoholic drinks during pregnancy.
- Similarly, most participants (79.5%, n=1663) thought that consuming alcohol-free drinks if breastfeeding was very acceptable, with 40.2% (n=840) thinking that consumption of low-

alcohol drinks was very acceptable and 14.1% (n=295) thinking consumption of alcoholic drinks if breastfeeding was acceptable.

- One fifth (19.6%, n=411) had concerns about the alcohol content and safety of these drinks.
- 56.7% (n=1188) thought there was not enough information available about consumption of alcohol-free and low-alcohol drinks during pregnancy. More than half of participants had not received information about these drinks from any of the listed options (54.5%, n=1141). 21.6% (n=452) had received information from searching on the internet, 12.9% (n=270) from social media, 13.6% (n=285) from advertising and 8.4% (n=176) from their midwife.

Part B: Interviews:

- 20 survey respondents from across the UK took part in individual semi-structured interviews.
- Eleven participants were pregnant at the time of the interview.
- The majority of the participants were in the 25-34 years age bracket.
- In the three months prior to pregnancy, most interview participants consumed 5-6 units of alcohol 2-4 times per month.
- Seven key themes were identified: three themes associated with alcohol and four themes associated with experience and perception of alcohol-free drinks.

Seven key themes were identified: three themes associated with alcohol and four themes associated with experience and perception of alcohol-free drinks. The three themes associated with alcohol were: “social drinking before pregnancy”, “change in preparation for pregnancy” and “avoiding alcohol in pregnancy”. The four themes associated with alcohol-free or low-alcohol drinks were “usefulness and choice”, “attitudes and outside influences”, “barriers to consumption” and “safety and information seeking”.

Women made clear distinctions between the choice to consume alcohol-free drinks compared to regular soft drinks when pregnant, however, most women had never been influenced by outside advertising. The consumption of alcohol-free drinks was also influenced by a perception of increasing popularity, their availability in public spaces and their improved taste: Some women expressed concerns and confusion around the ABV content of alcohol-free drinks and how they were labelled.

Recommendations:

1. Clarity is needed on the safety and suitability of alcohol-free and low-alcohol drinks during pregnancy. Specifically, clarity is needed on those in the 0.05-1.2% ABV category as there are concerns expressed about the threshold levels.
2. Labelling of low-alcohol drinks should be improved, so that they are clearly distinguishable from alcohol-free drinks.
3. Clear guidelines about alcohol-free and low-alcohol drinks during pregnancy and breastfeeding are needed for health care professionals so that *consistent* advice can be provided.
4. Organisations that provide advice to pregnant and breastfeeding women about alcohol, should also include specific advice about low-alcohol and alcohol-free drinks.

Conclusion:

Although alcohol-free and low-alcohol drinks are commonly consumed during pregnancy, some women are concerned about their safety, with little information received from healthcare professionals. Perception and behaviours may vary according to pregnancy history and pre pregnancy alcohol intake. Labelling of alcohol-free and low-alcoholic drinks can be confusing and ABV threshold levels difficult to interpret. More research is needed in relation to safety in pregnancy and when breastfeeding in order that evidenced based guidance can be developed.

Background: What is the problem being addressed?

It is unclear what proportion of women regularly consume alcohol in the preconception phase, as it is not a routinely collected metric in primary care databases in the UK (1). A recent cross-sectional study of >130000 non pregnant women using a pregnancy planning app reported that 52.8% consumed alcohol (2). However, it is known that almost half of pregnancies in the UK are unplanned (3) and that those with unplanned pregnancy are more likely to consume alcohol before and during pregnancy (4).

During pregnancy, it is estimated that approximately one quarter of pregnant women in Europe consume alcohol (5). The reasons for this are complex and influenced by a range of socio-cultural factors (6). How these patterns of consumption relate to alcohol-free and low-alcohol drinks is unclear and merits further investigation, especially given the increased availability of these drinks in the past decade.

Research from the 2022/2023 waves of Alcohol Toolkit Study reported that 8.5% of women consumed alcohol-free and low-alcohol drinks weekly, however there is no indication of pregnancy status or intention (7). As outlined in the project brief, in the non-pregnant population, there is concern of an 'additionality' effect, by which alcohol-free and low-alcohol drinks are consumed *in addition* to alcoholic drinks. However, it may be that a replacement effect (i.e. swapping alcohol-free and low alcohol for alcoholic drinks) is more pervasive during pregnancy. The role of these drinks in relation of breastfeeding is even less known.

In conclusion, more research is needed to establish exactly how alcohol-free and low-alcohol drinks are regarded by those who are, or have recently been, pregnant, and their potential role as a harm reduction tool for this group, specifically with regard to attitudes, understanding, barriers, motivators, and sources of information.

Aim:

To understand the awareness and use of alcohol-free and low-alcohol drinks amongst people who are currently pregnant or have recently given birth, and their views about the usefulness of such drinks in helping them cut down their alcohol consumption or abstain during their pregnancy.

Research questions:

- What proportion of people who were drinking at increasing risk or higher risk levels during the immediate period prior to becoming pregnant consumed alcohol-free and low alcohol drinks during their pregnancy?
- What are the motivations for consuming alcohol-free and low-alcohol drinks during pregnancy?
- What barriers exist that may prevent people from consuming alcohol-free and low-alcohol drinks, including perceptions of the products themselves (including their safety) and how consuming these drinks may be perceived negatively by others, including any partner/non-birthing parent?
- Do attitudes vary with regards drinks labelled as "low alcohol" compared with those described as being "alcohol-free"; and/or between drinks labelled as 0.5% ABV and those labelled as 0%, 0.0%, or 0.05%?
- What is the relationship between the consumption of alcohol-free and low-alcohol drinks and the consumption of alcohol during pregnancy?
- Have people from this group sought advice around the safety/suitability of alcohol-free and low alcohol drinks? If so, from what sources, and what was the advice received?
- Is there a stigma around consuming alcohol-free and low-alcohol drinks during pregnancy?

Objectives:

- To explore the attitudes of those who are pregnant or who have recently given birth towards alcohol-free and low-alcohol drinks.
- To understand why some people consume alcohol-free and low-alcohol drinks during their pregnancy and others don't.
- To understand how useful people perceive the role of alcohol-free and low-alcohol drinks in reducing their alcohol consumption or abstaining from alcohol altogether during their pregnancy.
- To change (or at least inform) practice and social behaviours by promoting more truthful and compassionate conversations around pregnancy and drinking.

Project design

Overview

This study had a mixed methods approach with two parts, detailed below.

The approach was primarily quantitative, using a questionnaire (part A). However, a qualitative research aspect, using individual semi structured interviews with a sub sample of survey respondents was also used. Due to the potentially sensitive nature of the topic and the need for richer experiential data to explore themes in more detail, this dual approach is likely to harness more meaningful information, rather than a solely quantitative approach.

Part A. Questionnaire

Eligibility criteria:

- women currently living in the UK.
- aged ≥ 18 years
- who are currently pregnant, or who have been pregnant or given birth in the last year
- capacity to consent
- ability to understand the information sheet and complete the online questionnaire in English.

Recruitment:

Participants were recruited online via targeted paid advertising on social media platforms (Facebook, Facebook Messenger, and Instagram). The advertising strategy was based on a target audience of women, aged ≥ 18 years, with interests associated with pregnancy or postpartum topics, living in the UK.

Data collection:

Data collection took place in February 2025. The advertisement was linked to JISC online survey page, a secure platform for hosting questionnaires and summarising results (<https://www.jisc.ac.uk/online-surveys>). The page contained a participant information sheet and a preliminary screening questionnaire. The screening questionnaire included questions on the eligibility criteria listed above. Those who did not meet the screening criteria were filtered out to an explanatory message.

Study documentation and questionnaire:

All documentation (questionnaire, information sheet, consent form and advertisements) was jointly developed and reviewed by Alcohol Change UK and the research team prior to submission to the University of Plymouth Faculty of Health Research Ethics committee. The questionnaire was peer reviewed and piloted before use (see appendix 1). For the purpose of this study, the preconception phase was defined as 3 months before pregnancy, therefore information about pre pregnancy consumption of alcohol was collected using this reference timeframe. The definition of low-alcohol and alcohol-free drinks and their ABVs were stated in the information sheet and throughout the questionnaire to aid clarity.

Data analysis:

Data was exported from JISC online surveys and analysed in SPSS version 28.0. Categorical responses are reported as frequencies. Categorical responses were compared with chi-square or Fisher's exact test. Participants' pattern of alcohol consumption was categorised into "low-risk" or "increasing-risk" categories (8), by adapting the scoring system from the Alcohol use disorders identification test consumption (AUDIT C) tool (9). Significance tests were two-tailed and alpha set at 0.05.

Part B: Semi-structured interview

Eligibility criteria and recruitment:

As part of the consent form to participate in the questionnaire, potential respondents were asked whether they would like to take part in an interview. Those who were interested were asked to provide their name and email address to be contacted by the lead researcher to follow up.

Data collection:

Semi-structured interviews took place virtually in March 2025 using a secure platform by a researcher trained and experienced in qualitative interviewing processes. The discussion with participants followed

an interview topic guide, developed with Alcohol Change UK and the research team, based on existing literature (see appendix 2).

The interviews will take a phenomenological 'lived experience' approach covering experiences around: motivations and barriers to consuming low and no alcohol drinks during pregnancy, sources of information about alcohol-free and low-alcohol drinks and their perceived reliability, (potential) stigma and perception around alcohol-free and low-alcohol drinks during pregnancy, influence of peers, partners and significant others on consumption of alcohol-free and low-alcohol drinks during pregnancy.

Interview analysis and reporting:

Interviews were audio-digitally recorded and transcribed verbatim. Participants were assigned an ID number to provide anonymity.

Narrative text was uploaded into NVivo 13 and analysed. Analysis was conducted thematically as described by Braun & Clarke (10) using six steps;

1. Familiarisation with data
2. Generation of codes
3. Search for themes
4. Review themes
5. Define and name themes
6. Reporting

Analysis, the hierarchy of themes, and final categories of data were discussed among the research team. Representative quotes for each theme are presented in this report.

Sample size:

As is typical in qualitative research, there was no pre-specified sample size. Interviews were conducted until saturation of themes was reached; a pragmatic estimation, considering the limited timescale was approximately 15-20 interviews. This was stratified using purposive maximum variance sampling to ensure diversity of age, ethnicity, pregnancy or postpartum status, alcohol intake prior to pregnancy and location.

Ethical considerations

Ethical approval was granted for both parts of the study by the University of Plymouth Faculty of Health Research Ethics and Integrity Committee (reference 5946). Informed consent was gained from all participants.

Results

Part A: Questionnaire

Demographic characteristics

There were 2092 respondents to the questionnaire. The majority lived in England (70.0%, n=1462) with 10.7%, 10.0% and 9.3% in Wales, Northern Ireland, and Scotland respectively. 90.0% were of White ethnicity. Further details of demographic characteristics are shown in Table 1.

Table 1: Participant demographic characteristics

	Subcategory	%	n
Age (n=2091)	18-24 years	1.5	31
	25-34 years	55.8	1167
	35-44 years	42.5	888
	>45 years	0.2	5
Part of UK (n=2088)	Wales	10.7	223
	Scotland	9.3	194
	Northern Ireland	10.0	209
	England	70.0	1462
Part of England (n=1460)	London	24.0	351
	North East England	9.3	137
	North West England	7.0	103
	Yorkshire	6.3	92
	East Midlands	8.8	128
	West Midlands	8.9	131
	South East England	12.2	178
	East of England	8.7	127
	South West England	14.6	213
Ethnicity (n=2088)	Asian or Asian British	4.6	95
	Black	1.4	29
	Mixed or multiple ethnic groups	3.2	67
	White	90.0	1881
	Other ethnic group	0.8	16
Occupational status (n=2090)	Working full time	72.1	1507
	Working part-time (<28 hours/week)	18.9	395
	Full time university/college student	1.1	23
	Looking after family/home	6.1	127
	Unemployed	1.0	21
	Not working because of sickness or disability	0.8	17
Highest educational qualification (n=2088)	Postgraduate degree	43.4	908
	Degree	42.7	892
	A-levels or equivalent	7.5	157
	NVQ level 4-5/ HNC/HND/RSA Higher diploma/BTEC Higher level	4.1	86
	GCSEs	3.4	70
	No educational qualifications	0.2	5

Pregnancy characteristics

Just under half of respondents were currently pregnant (47.8%, n=1001), of whom 16.5% (n=163), 41.2% (n=407) and 42.2% (n=417) were in the first, second and third trimester, respectively. Of those who were postpartum, 56.7% (n=625) were feeding their baby breastmilk only. More than half (61%, n=1283) had been pregnant previously. Further details are shown in Table 2.

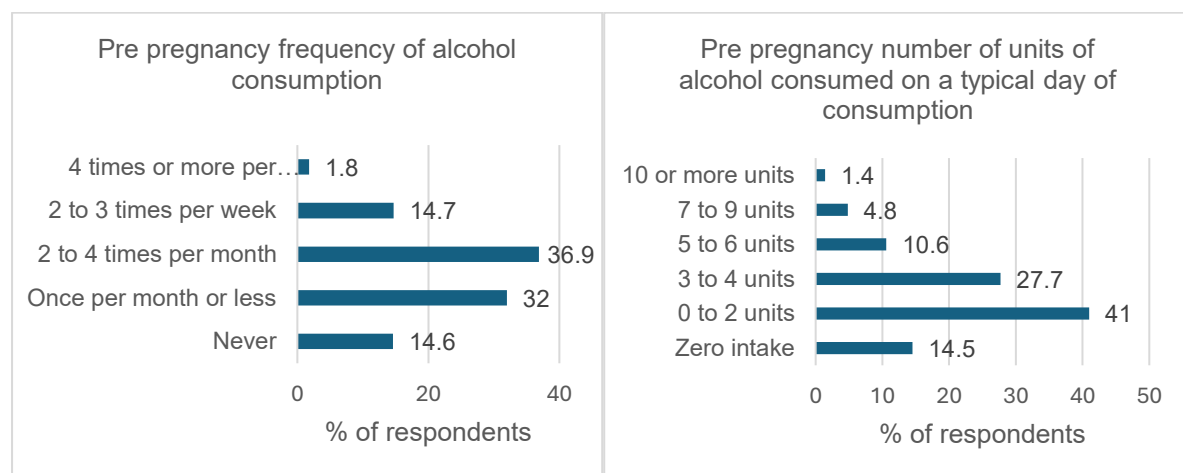
Table 2: Participants pregnancy characteristics

	Response	%	n
Currently pregnant	Yes	47.8	1001
Trimester (n = 987)	1 st	16.5	163
	2 nd	41.2	407
	3 rd	42.2	417
Pregnant in past 12 months	Yes	52.1	1091
Given birth in past 12 months	Yes	52.7	1103
Infant feeding (n =1103)	Breast milk only	56.7	625
	Mixed feeding	21.2	234
	Infant formula only	21.5	237
	Not applicable	0.6	7
Parity	Multiparous	61.0	1283
Fertility treatment (n= 2089)	Yes	11.5	240

Pre pregnancy behaviours

Pre pregnancy alcohol intake

In the 3 months before pregnancy, 14.5% of participants (n=305) reported not to have consumed any alcohol. The most frequent pattern of alcohol consumption was 2-4 times per month (36.9%, n=772). 14.7% (n=308) consumed alcohol 2-3 times per week and a minority of 1.8% (n=38) consumed alcohol 4 or more times per week, as shown in Figure 1a. The number of units of alcohol consumed on a typical day of alcohol consumption is shown in Figure 1b.



Figures 1a and 1b: Pre pregnancy pattern of alcohol consumption.

Combining the data from these two questions, and using the AUDIT-C scoring system as a guide (8), in total 128 participants (6.1%) met the Chief Medical Officer (9) definition of consuming alcohol at an “increasing risk” pattern of more than 14 units per week. Those who consumed <14 units of alcohol per week pre pregnancy will be termed the “low-risk” group in this report. There was no difference between the low-risk and increasing risk groups in terms of age, location, ethnicity, education or occupational status.

Preparation for pregnancy lifestyle changes

In preparation for pregnancy, the most common behaviour change was to take folic acid (75.6%, n=1581), followed by stopping or reducing alcohol intake (41.7%, n=873). This did not differ by pre pregnancy alcohol consumption levels (40.6% of those who were at increasing risk reduced their alcohol intake vs. 41.8% of those in the low-risk category). Those in their first pregnancy were significantly more likely to reduce their alcohol intake prior to pregnancy ($p < 0.01$) than those who had been pregnant before. Further details of pre pregnancy behaviour changes are shown in Table 3.

Table 3: Responses to “Before you became pregnant, did you do anything to improve your health in preparation for pregnancy?”

Behaviour change	%	n
Took folic acid	75.6	1581
Stopped or cut down smoking	4.6	100
Stopped/reduced alcohol intake	41.7	873
Ate more healthily	36.3	760
Sought medical/health advice	27.0	564
Other action	7.8	164
Did not make any changes pre pregnancy	18.2	381

Pre pregnancy consumption of alcohol-free or low-alcohol drinks

In the three months before pregnancy, 40.9% (n=857) consumed alcohol-free or low-alcohol drinks. In terms of frequency, 29.3% (n=614) consumed them once per month or less, 10.2% (n=213) 2-4 times per month and a small proportion (1.3%, n=28) consumed them 2-3 times per week. Of those who consumed alcohol-free or low-alcohol drinks, the most commonly consumed type was beer/lager (50.9%, n=437).

During pregnancy

Alcohol consumption during pregnancy

Most respondents (86.5%, n=1810) reported they did not or do not consume any alcohol during pregnancy, see Figure 2. This differed by pre pregnancy alcohol intake, 87.6% of those in the low-risk consumption category never consumed alcohol, vs. 70.3% in the increasing risk category ($p < 0.01$).

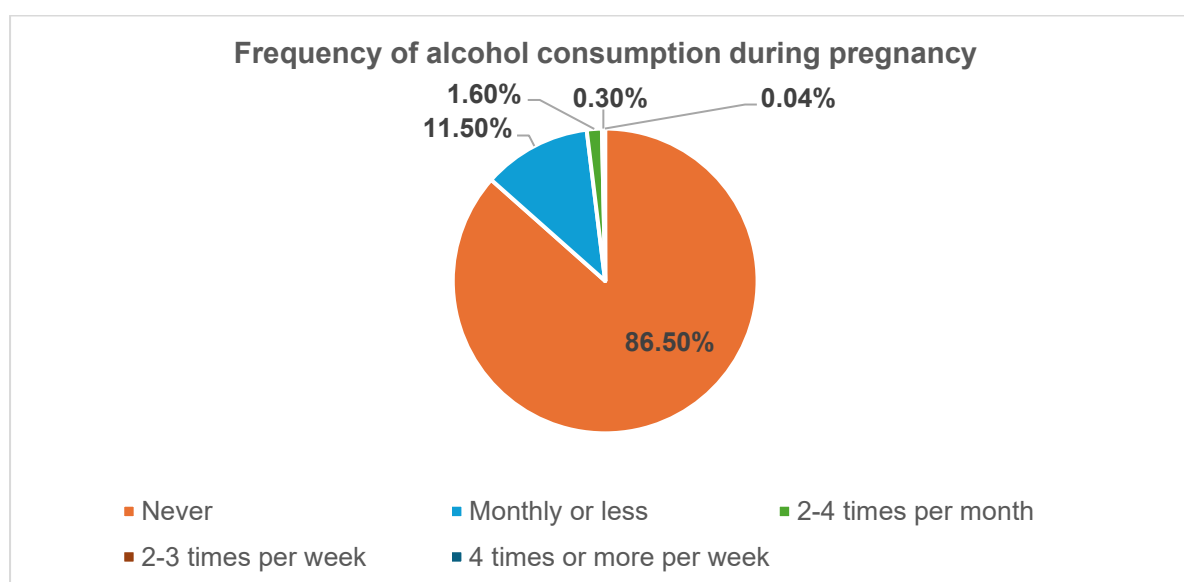


Figure 2: Frequency of consumption of alcohol during pregnancy

Of those who consumed alcohol during pregnancy, most consumed 0-2 units on a typical day (87.1%, n=234), whereas 5.4% (n=15) consumed 3-4 units, and 2.6% (n=7) consumed >5 units on a typical day. Amongst those who consumed alcohol during pregnancy (n=282) the most commonly consumed alcoholic drinks were wine (68.7%, n=194), beer/lager (15.2%, n=43), mixed drinks (7.1%, n=20) and cider (6.4%, n=18).

Consumption of alcohol-free drinks and low-alcohol drinks during pregnancy

When asked about consumption of alcohol-free and low-alcohol drinks, 71.3% (n=1491) of participants had consumed them during pregnancy (Figure 3). This differed by pre pregnancy alcohol consumption category, whereby 69.9% of those in the low-risk category had consumed them during pregnancy, compared to 91.4% in the increasing risk category ($p < 0.01$).

Overall, 43.3%, (n=907) drank them once per month or less during pregnancy, 23.6% (n=494) drank them 2-4 times per month, 3.8% (n= 80) drank them 2-3 times per week and 0.5% (n=10) drank them >4 times per week. Those in the pre pregnancy increasing risk category were more likely to consume them more frequently, with 46.1% of this group consuming them 2-4 times per month and 13.3% consuming them 2-3 times per week.

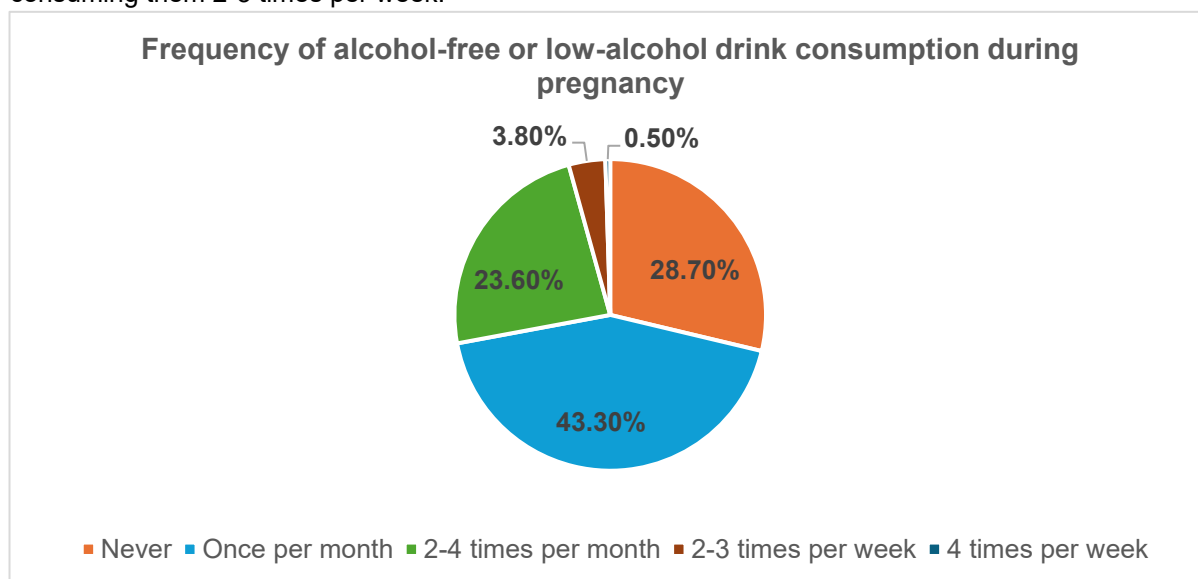


Figure 3: Frequency of consumption of alcohol-free and low-alcohol drinks during pregnancy.

Of those who drank any alcohol-free or low-alcohol drinks during pregnancy (n=1491), the most frequently consumed types were beer/lager (33.1%, n=491), wine (21.7%, n=324), cider (20.1%, n=300) and spirits/cocktails (22.0%, n=328). Alcohol-free or low-alcohol beer/lager was consumed more frequently (46.2% vs 31.8%) and alcohol-free or low-alcohol spirits/cocktails less frequently (12.8% vs. 22.8%) in those who were consuming alcohol at increasing risk levels before pregnancy, respectively.

Reasons for and against consuming alcohol-free and low-alcohol drinks when pregnant

Participants were asked to select from a list of predefined responses their reasons for consuming alcohol-free and low-alcohol drinks during pregnancy (n=1491). The most commonly selected reasons were “to choose a safer alternative to alcohol” (71.9%, n=1073) to “feel included in social events involving alcohol” (68.8%, n=1026) and “I like the taste” (45.2%, n=674).

Those who were in the increasing risk group pre pregnancy were more likely to choose “feel included in social events involving alcohol” (75.8% vs 47.3% of low risk group, $p < 0.001$), “they have a similar appearance to alcohol-containing drinks if I don’t want people to know I’m pregnant” (38.3% vs 19.2% of low risk group $p < 0.001$), “I want to choose a healthier alternative to alcohol whilst pregnant” (37.5% vs 23.2% of the low risk group, $p < 0.001$) and “I want to choose a safer alternative to alcohol whilst pregnant” (71.1% vs 50.0%, $p < 0.001$).

There were 47 free text responses in the “other” reason category, of which 19 respondents mentioned consuming these drinks on special occasions (including Christmas).

Further details are shown in Figure 4.

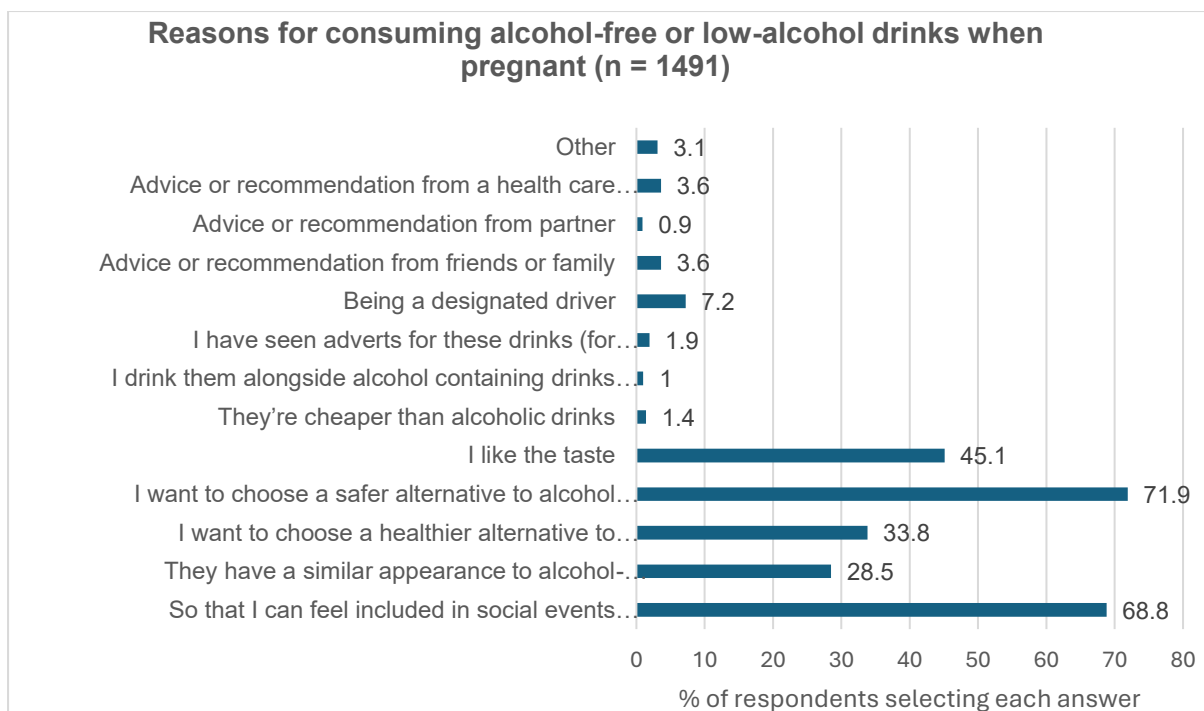


Figure 4: Reasons for consuming alcohol-free or low-alcohol drinks when pregnant

When asked to select from a list of predefined list responses of reasons against consuming alcohol-free or low-alcohol drinks during pregnancy, there were 601 responses, of which the most commonly selected reasons were “*I prefer a soft drink if I’m not drinking alcohol*” (61%, n=368), “*I’m concerned that some of them are not completely alcohol free*” (36%, n=215) and “*I have concerns about the safety of drinking them whilst pregnant*” (33%, n=196). There were 54 free text responses in the “other” reason category, which included religious reasons, pregnancy nausea & sickness and people who did not drink alcohol, therefore did not want to or need to have an alternative low or no alcohol version. Further details are shown in Figure 5 below.

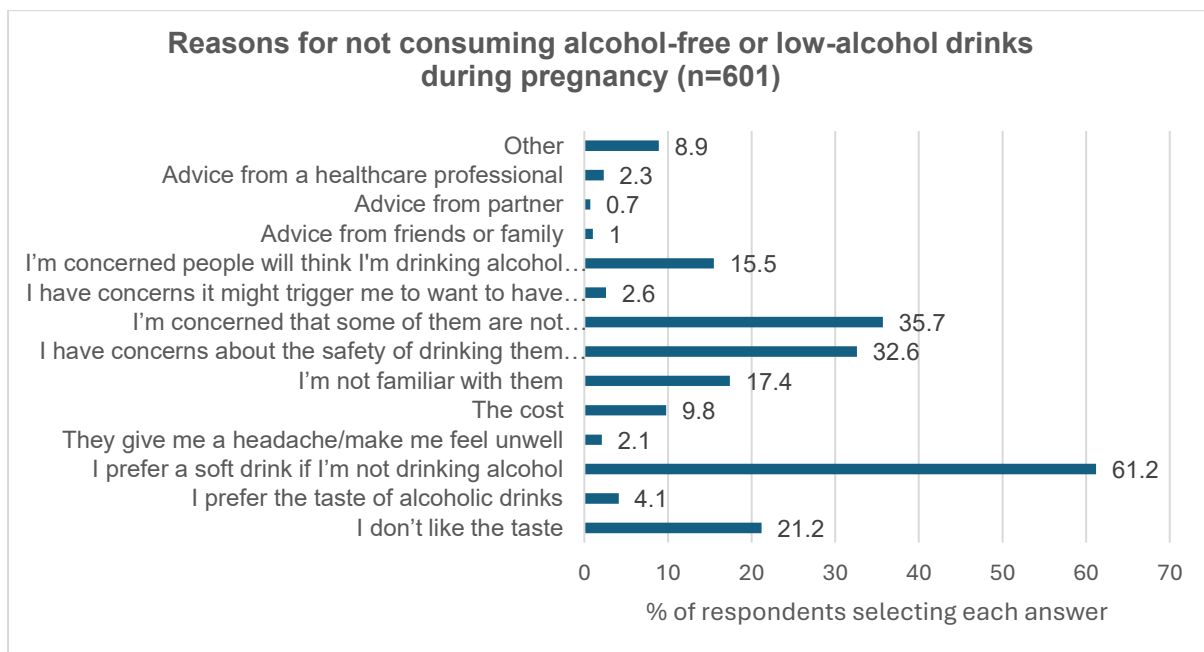


Figure 5: Reasons for not consuming alcohol-free or low-alcohol drinks when pregnant

Likelihood of consuming alcohol

In response to the question: *“If these alcohol-free and low alcohol drinks did not exist, how likely do you think that you would have consumed alcoholic drinks instead? Please answer on a scale of 1 to 5, where 1 is very unlikely and 5 is very likely”*

Overall, most respondents who answered this question (n=1487) (91%, n=1348), chose 1 (“very unlikely”), with only 1.3% (n=19) selecting 5 (“very likely”). This differed by pre pregnancy alcohol consumption, with 5.2% of those in the increasing risk category selecting either 4 or 5 (likely to very likely) vs 2.2% of the low-risk category selecting these option (p<0.05).

Opinions/attitudes about acceptability of consuming different strength drinks during pregnancy and if breastfeeding

When asked about the acceptability of consuming different strength alcohol drinks during pregnancy and breastfeeding on a scale of 1-5, there were varying views. Most respondents (77.8%, n=1627) thought consuming alcohol-free drinks (labelled 0% ABV) during pregnancy was very acceptable. This decreased to 10.8% (n=225) for low-alcohol drinks (0.5-1.2% ABV) and to 2.6% (n=55) for consumption of alcoholic drinks during pregnancy.

Similarly, most participants (79.5%, n=1663) thought that consuming alcohol-free drinks if breastfeeding was very acceptable, with 40.2% (n=840) thinking that consumption of low-alcohol drinks was very acceptable and 14.1% (n=295) thinking consumption of alcoholic drinks was acceptable. Those who were in the “increasing risk” consumption group pre pregnancy were more likely to consider that consuming low-alcohol drinks (0.5-1.2% ABV) during pregnancy and breastfeeding were “very acceptable” and more likely to think that consuming alcoholic drinking whilst breastfeeding was “very acceptable” than the low-risk group.

Table 4: Percentage of participants who thought the following statements about consuming different strength alcoholic beverages during pregnancy/breastfeeding were “very acceptable”.

	% (n)			P value
	All (n=2088)	Low-risk group (n=1961)	Increasing risk group (n=127)	
Consuming alcohol-free drinks (0% alcohol) during pregnancy	77.8 (1627)	77.3 (1518)	85.2 (109)	0.341
Consuming low-alcohol drinks (0.5-1.2% ABV) during pregnancy	10.8 (225)	10.2 (199)	20.5 (26)	0.001*
Consuming alcoholic drinks during pregnancy	2.6 (55)	2.7 (52)	2.3 (3)	0.001*^
People who breastfeed consuming alcohol-free drinks (0% alcohol)	79.5 (1663)	79.0 (1549)	89.8 (114)	0.063
People who breastfeed consuming low-alcohol drinks (0.5-1.2% ABV)	40.2 (840)	38.9 (763)	60.6 (77)	0.001*
People who breastfeed consuming alcoholic drinks	14.1 (295)	13.3 (260)	27.6 (35)	0.001*

*Statistically significant p < 0.05

^To be interpreted with caution due to sample size

Sources of information

More than half of participants (56.7%, n=1188) thought there was not enough information available about the use of alcohol-free and low-alcohol drinks during pregnancy. 18.3% (n=383) thought there was enough information and 24.9% (n=521) were not sure. This did not differ significantly by pre pregnancy alcohol consumption category.

When asked if they had received any information about these drinks and pregnancy, more than half of participants had not received information about these drinks from any of the listed options (54.5%, n=1141). 21.6% (n=452) had received information from searching on the internet, 12.9% (n=270) from social media, 13.6% (n=285) from advertising and 8.4% (n=176) from their midwife (Figure 6).

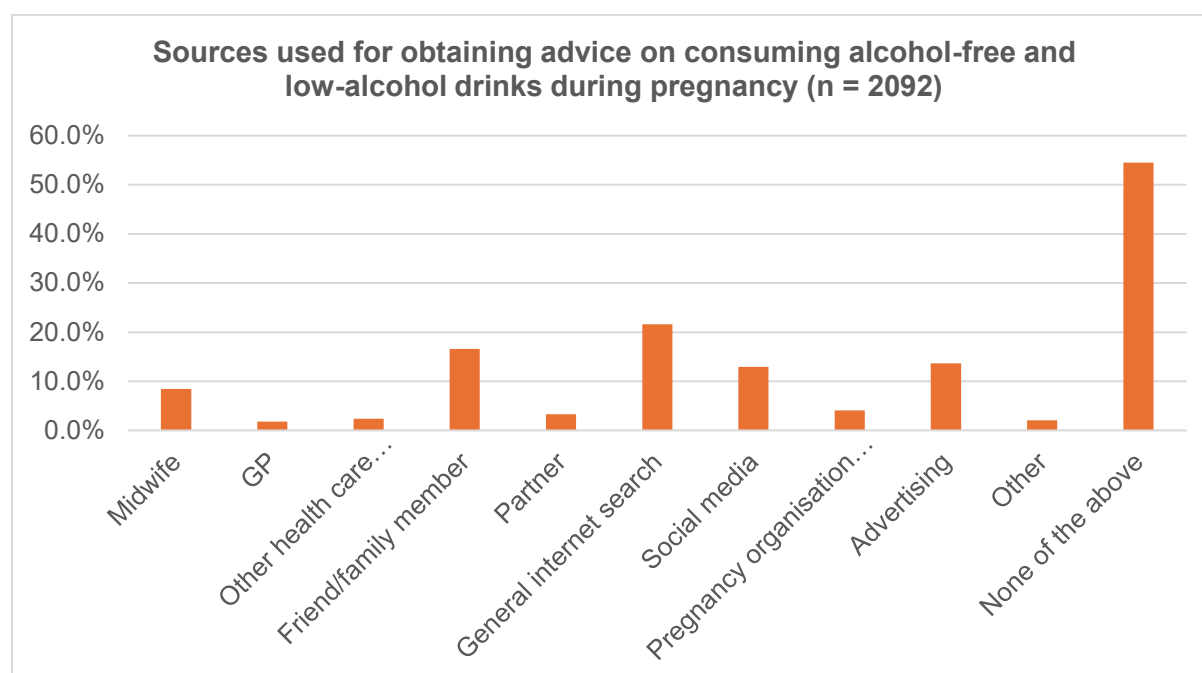


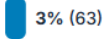
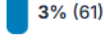
Figure 6: Sources of information about consuming alcohol-free and low-alcohol drinks during pregnancy

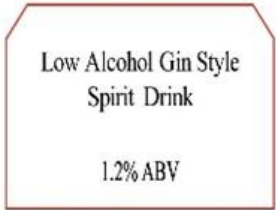
Understanding of ABV labels and perception of safety of consumption during pregnancy

Participants were asked to look at six different labels of alcohol-free and low-alcohol drinks and asked whether they thought the drinks were considered suitable or not suitable to be consumed when pregnant. The labels included a cider, lager, sparkling wine, red wine, gin, and gin style spirit drink. Full details are in Table 5.

Of the six drink labels, the drink label which was considered to be the most suitable for consumption during pregnancy was the "Alcohol Free 0.0%" Gin drink (label 1), with 93.8% (n=1964) considering it suitable, closely followed by label 3 for "Alcohol Free Somerset cider 0.0%" (92.4%, n=1933). The drinks considered least suitable for consumption during pregnancy were label 5 for "low alcohol gin style spirit drink 1.2%" (15%, n=314) and label 6 "0.5% cabernet tempranillo low alcohol" (32.5%, n=680). The labels with the most participants selecting "not sure" were label 3 ("low alc. Pale ale 0.5%) 15.0% (n=314) and label 5 ("low alcohol gin style spirit drink 12% ABV), 14.1% (n=295).

Table 5: Sample labels from alcohol-free and low-alcohol drinks and perceived suitability during pregnancy

Number	Label image	Type	ABV % stated	Description of alcohol content	Perception of suitability during pregnancy
1		Gin	0.0	"Alcohol free"	Yes  No  Not sure 
2		Pale ale	0.5	"Low alc"	Yes  No  Not sure 
3		Cider	0.0	"Alcohol free"	Yes  No  Not sure 
4	 Made from selected Grenache grapes from the south of France, this sparkling rosé is carefully de-alcoholised, whilst retaining all the flavour and texture. Alluring aromas of red berries, with a crisp, clean mouthfeel.	Sparkling wine	Not stated	"Zero Non-alcoholic"	Yes  No  Not sure 

5		Gin style spirit drink	1.2	“Low alcohol”	Yes 15% (314) No 71% (1,478) Not sure 14% (295)
6		Red wine	0.5	“Low alcohol”	Yes 33% (680) No 53% (1,105) Not sure 15% (306)

Part B: Interviews

Demographic characteristics

In total, 20 interviews took place in March 2025, using the interview topic guide (see appendix 2). Eleven participants were pregnant at the time of the interview and the remainder had been pregnant in the past year. The majority of the participants were in the 25-34 years age bracket. Alcohol intake in the 3 months before pregnancy was variable. The most common pattern of consumption was 2-4 times per month in the 3 months prior to pregnancy, with 5 participants consuming alcohol 2-3 times per week during this phase. Further demographics details are shown in Table 6.

Table 6: Characteristics of interview participants

ID	Age (years)	First pregnancy?	Currently pregnant	Education	Location	Ethnicity	Frequency of alcohol intake in 3 months pre pregnancy	Unit intake pre-pregnancy on typical day of drinking	Unit intake of alcohol during pregnancy on typical day of drinking
KM1	25-34	No	Yes	Postgraduate degree	England	White	2-4 times per month	5 to 6 units	none

KM2	25-34	No	Yes	Degree	England	White	2-3 times per week	5 to 6 units	none
KM3	25-34	No	Yes	Degree	England	Asian or Asian British	2-4 times per month	3 to 4 units	0 to 2 units
KM4	35-44	No	No	Degree	England	Black	2-3 times per week	5 to 6 units	0 to 2 units
KM5	25-34	Yes	No	NVQ level 4-5/HNC/HND/RSA Higher diploma/ BTEC Higher level	England	White	2-4 times per month	5 to 6 units	none
KM6	18-24	Yes	Yes	A-levels or equivalent	Northern Ireland	White	2-4 times per month	3 to 4 units	none
KM7	25-34	No	No	Postgraduate degree	Scotland	White	Monthly or less	5 to 6 units	0 to 2 units
KE1	25-34	No	Yes	NVQ level 4-5/HNC/HND/RSA Higher diploma/BTEC Higher level	England	White	Monthly or less	0 to 2 units	none
KE2	35-44	Yes	No	Degree	England	White	2-3 times per week	5 to 6 units	none
KE3	35-44	Yes	Yes	Degree	England	Asian or Asian British	2-4 times per month	3 to 4 units	0 to 2 units
KE4	25-34	Yes	No	NVQ level 4-5/HNC/HND/RSA Higher diploma/BTEC Higher level	England	White	2-3 times per week	5 to 6 units	0 to 2 units
KE5	35-44	No	Yes	Degree	England	White	2-4 times per month	10 units or more	none

KE6	18-24	No	Yes	A-levels or equivalent	England	Asian or Asian British	N/A	Did not drink alcohol pre pregnancy	none
KE7	35-44	Yes	No	Postgraduate degree	England	White	N/A	Did not drink alcohol pre pregnancy	none
KE8	35-44	No	Yes	Degree	England	Mixed or multiple ethnic groups	2-4 times per month	5 to 6 units	none
KE9	35-44	No	Yes	GCSEs	England	White	2-4 times per month	7 to 9 units	Did not drink alcohol during pregnancy
KE10	35-44	No	No	Degree	England	White	2-3 times per week	7 to 9 units	none
KE11	25-34	No	No	NVQ level 4-5/HNC/HND/RSA Higher diploma/BTEC Higher level	England	White	Monthly or less	3 to 4 units	none
KE12	35-44	No	No	Postgraduate degree	England	White	Monthly or less	7 to 9 units	none
KE13	25-34	Yes	Yes	Postgraduate degree	Wales	White	Monthly or less	5 to 6 units	none

Summary of key themes

Women's views and experiences of alcohol and alcohol-free drinks were explored using semi-structured interviews. Interviews were transcribed verbatim and analysed independently by two researchers (KE and HH). Thematic analysis was used to extract key themes and sub themes.

Seven key themes were identified: three themes associated with alcohol and four themes associated with experience and perception of alcohol-free drinks. The three themes associated with alcohol were: "social drinking before pregnancy", "change in preparation for pregnancy" and "avoiding alcohol in pregnancy". The four themes associated with alcohol-free or low-alcohol drinks were "usefulness and choice", "attitudes and outside influences", "barriers to consumption" and "safety and information seeking". Details of subthemes are shown in Table 7.

Table 7: Key themes and sub themes of interviews

Key Theme	Sub Theme
Relationships with Alcohol	
1. Social drinking before pregnancy	
2. Changes in preparation for pregnancy	
3. Avoiding alcohol in pregnancy	
Experiences and Perceptions of Alcohol-Free drinks	
4. Usefulness and choice	a. Social settings
	b. Disguising early pregnancy
	c. Comparisons with soft drinks
5. Attitudes and outside influences	a. Social support
	b. Popularity / Availability
	c. Stigma
6. Barriers to consumption	a. Cost
	b. Content
c. Safety and Information Seeking	a. Low Vs. No alcohol content
	b. Labelling
	c. Information Seeking

Theme 1: Social drinking before pregnancy

Most people described their pattern of drinking alcohol before pregnancy as “social drinking” at weekends and with friends and family. Some recognised they had a history of binge drinking when younger but that this changed as they got older with a natural decline in the amount of alcohol they drank:

“In my 20s very much a social drinker and then into my 30s quiet and down I think as you sort of start settling down and in relationships and things like that” (KE2)

“... we'd go out every weekend and but obviously not so much now. But I do like to go to brunches, and I go to a lot of festivals, so you know there's a lot of drinking there and things like that.” (KM1)

Theme 2: Changes in preparation for pregnancy

Some people including those who had experienced infertility and early pregnancy loss, described reducing alcohol intake before pregnancy with the aim to promote health. Others did not make conscious attempts, particularly if pregnancies were unplanned, or happened quicker than expected. Often, people were still consuming alcohol in very early pregnancy as they were not aware they were pregnant:

“I'd started to reduce my alcohol intake because I didn't know what else I could do to try and help our fertility problems. So, I'd stopped drinking as much for you know the three or four months before we actually conceived.” (KM2)

“No, because we... when we were planning on getting pregnant, we just sort of we said, I'll come off contraception and then we'll see what happens, so I tried to be as normal as possible and sort of not think about stuff too much.” (KE4)

“No. This was a surprise baby. So yeah, nothing changed” (KE9)

Theme 3: Avoiding Alcohol in Pregnancy

Almost everyone interviewed described avoiding alcohol in pregnancy. For most people this involved cutting out alcohol completely. Women described this as an easy process that was motivated by having a safe and healthy pregnancy/baby:

“I was categorically not going to drink when I was pregnant, I just kind of didn't really see the point. I was like, well, why would I have one sip of something that's not very good for me or the baby” KEP10

“No, because... you know I know it's not safe So I won't touch it” (KE9)

Theme 4: Usefulness and choice

Subtheme a: Social Settings

Women discussed consuming alcohol-free drinks predominately outside of the home at social events. This was described as a useful way of promoting feels of ‘fitting in’ and ‘social acceptance’:

“it was nice just to kind of like be able to sort of feel like I was just involved in what everybody else was doing without harming my baby” (KE11)

“to keep in the Christmas spirit, I was having alcohol-free lagers just so I didn't feel like I was really missing out” (KE10)

Subtheme b: Disguising early pregnancy

Some women also used alcohol free drinks as a way of disguising the early stages of pregnancy at social events where they would have typically had an alcoholic drink:

"I did stop and then in those first couple of weeks like 12 weeks before anyone knew non-alcoholic drinks was definitely the way to go. It was like trying to be quite sneaky about it" (KE4)

"I'm a big football fan so I was home to watch Liverpool in the league cup final in march last year so I was only six weeks pregnant at that point So I had some [alcohol free beer] then so that my dad didn't get suspicious" (KE10)

Subtheme c: Comparisons with soft drinks

Women made clear distinctions between the choice to consume alcohol-free drinks compared to regular soft drinks when pregnant. Similarity of taste compared with alcohol drinks was a predominant factor, alongside the feeling that an alcohol-free drinks was a 'treat', compared to a soft drink which was seen as something to quench thirst. Drinking multiple soft drinks was also seen as an unhealthy choice when considering sugar and caffeine content when pregnant.

"there's only so much Diet Coke you can drink. And it just was like it felt nice because it still it was almost like a placebo like it tasted the same it felt like I was having it still, but I knew I was not putting the alcohol in my system" (KE10)

"I think you just feel a bit like a child...it's just not as nice to sit around at a dinner party and drink sprite. I think it's those social situations where everyone else is having fun and at least if your drink feels a little bit special, you don't mind" (KE5)

"a soft drink when you're out and about...you drink it because you're thirsty. It's not something you sort of stand and like sort of slip like you would like an alcoholic drink" (KE3)

"I ordered the non-alcoholic fruit cider tasted kind of almost exactly the same as the alcoholic one so like if you're kind of looking for that taste of alcohol i think that's the kind of appeal of it" (KEP4)

Theme 5: Attitudes and Outside Influences

Subtheme a. Social support

Some women explored how their consumption of alcohol-free drinks was influenced by others including friends, however, most women had never been influenced by outside advertising. Partners drinking alcohol-free drinks was also seen as supportive, particularly postpartum:

"that's because a lot of my friends were doing their best to support me and it's so often they had purchased stuff for me" (KE12)

"No, I haven't. Like seen any advertisements for advertisements anything that like made me want to make me do it...it was more being with friends that were drinking. Just kind of made me think oh like there are non-alcoholic alternatives. And I think one of my friends did actually say, oh, do you want me to pick you up a non-alcoholic beer." (KE11)

"It's also helped my partner...because I had a caesarean section so I couldn't drive. So after her birth and we wanted to go out and see friends he was drinking the non-alcoholic ones" (KE4)

"no, I've hardly had any sort of adverts targeted to me for non-alcoholic stuff" (KE5)

Subtheme b: Popularity and Availability

The consumption of alcohol-free drinks was also influenced by a perception of increasing popularity, their availability in public spaces and their improved taste:

"I do think they are becoming more popular because there are a lot I found during my pregnancy a lot more places stocked non-alcoholic drinks towards the end than what they did previously" (KE4)

"there's loads more choice, which is brilliant like smaller breweries are doing it like pubs are stocking them and it's really it's really great because like I say my husband's also cut out alcohol while I'm pregnant. So if we do go out with friends and go to the pub it's nice to be able to order alcohol-free drinks it's not just a coke or a lemonade or something like that" (KE8)

Subtheme c: Stigma

Some women also experienced stigma as a result of consuming alcohol-free drinks in public spaces. Rarely this was from other people, and most often driven by self-perception:

"I've got one of the non-alcoholic beers and poured it into a pint glass and I was drinking that and she kind of went ao you're having a drink then I was like, no, don't worry. It's not alcohol" (KE10)

"I did feel... conscious of that I didn't, nobody sort of expressed it to me nobody kind of came up and were like, oh, are you drinking you're pregnant aren't you whatever um but I did feel this sort of oh my gosh do people think I'm drinking because I'm sat here with something that looks very much like an alcoholic drink" (KE11)

Theme 6: Barriers to Consumption

Subtheme a: Cost

Cost was a perceived barrier for some women who felt that alcohol-free drinks were prices similarly to regular alcoholic beverages and were more expensive than regular soft drinks:

"Because to me an alcoholic drink should be a lot more expensive Because you're paying for the alcohol content. But yeah, the non-alcoholic ones were almost as expensive So it did sort of annoy me a little bit" (KE4)

"...why are you paying so much more money for them when they're not alcohol and they don't taste any different, you may as well just have the juices and not the gin because what is it?" (KE13)

"you can have plenty of lovely refreshing slightly carbonated iced drinks. They're also a lot cheaper as well, it's a premium branded version of a soft drink" (KE2)

Subtheme b: Content of alcohol-free drinks

Some women discussed concerns around the content of alcohol-free drinks and how this might impact their health and the health of their baby if consumed while pregnant and or breastfeeding:

"My point of view during pregnancy and breastfeeding you should stay away of all of that, including low alcohol or 00 alcohol it seems because they gonna contain more Chemicals to preserve flavors and it's just extra toxins. You don't need it during pregnancy. You don't need it during breastfeeding. You try to give them the best of your health" (KE7)

"Sometimes I wonder about all the other things they put in you know you just you're not quite sure what they put you put they put in them are you like It could be anything" (KE9)

"the non-alcoholic ones are really, really, really sweet, they must, you know, overcompensate with sugar so yeah, I wouldn't choose to drink them really" (KE13)

Theme 7: Safety and Information Seeking

Subtheme a: Low Vs. No alcohol content

Some women expressed concerns and confusion around the ABV content of alcohol-free drinks. Discussion focused particularly on the safety of drinks labelled as 0.5% or 0.1%, particularly when thinking about consumption during pregnancy. This was especially prominent for women who felt more anxious during pregnancy or had experienced complications:

"I think that's fine for people that are just trying to cut down on alcohol or whatever but yeah just yeah otherwise, I don't know if what is safe if it's got some percentage in" (KE9)

"I've definitely used like the 0.1% I think I've avoided 0.5 because I thought it might be it's too high" (KE6)

"I just couldn't trust you know even that tiny, tiny amount um obviously it probably wouldn't do anything but I just don't want to chance it." (KM6)

"my partner bought...a bottle of rose and he brought it home and it wasn't zero percent...he assumed it was alcohol free, but it was 0.5. I was so early on, we were like, oh, you can't drink that. There's no way you should have that because we just didn't know. We didn't know if it was safe. I still wouldn't know, to be honest." (KE13)

Subtheme b: Labelling

Linked to confusion around the ABV content of alcohol-free drinks women also expressed concern and frustration at the lack of clarity of the labelling on alcohol-free drinks:

"I think the labelling in terms of like units and ABV...I think that still needs work in terms of people's understanding of what a unit really is but what the impact of a unit is as well" (KE1)

"if it's 0.5 and higher then you need to put it on the label or something like that. So, it's very confusing and that's one of another reasons I never had anything during pregnancy and breastfeeding" (KE7)

"A lot of them will say no alcohol or alcohol free And it's only when you look at the back with the information and the nutritional guidance and stuff that it actually has percentage sign. It's not on the front of the label. Which is not as if they're tricking us. The information is there but i think the wording that they use in some of the labelling is misleading." (KM2)

Subtheme c: Information seeking

When discussing where women went to find out information related to alcohol-free drinks, most said they had not discussed this with their healthcare professionals. Most said that if they had concerns, they would use the internet, but look for trusted sources like the NHS website:

"I don't think they [midwives] did. I think they mentioned... like not drinking and lowering consumption and stuff like that but I don't remember them saying that there's an alternative" (KE4)

"But I imagine you can kind of look it up on the internet if you were you know if you did need to, if you were feeling a bit unsure about oh how many of these can I actually have before it becomes unsafe for my baby, so I'm sure like a quick internet search or perhaps even looking on the back of the bottle i'm not sure if they write that kind of thing on there" (KE11)

"I think I'd probably go to Google and a recognized website to start with. So probably the NHS website" (KE12)

General discussion

Overview

This mixed method research project set out to explore and understand the use of alcohol-free and low-alcohol drinks in pregnancy. This was achieved through two parts – a national survey of women who were either pregnant or who had been pregnant in the last year and a series of semi-structured interviews in a sub group of survey respondents. The eligibility criteria of the study meant there was also an opportunity to explore the role of these drinks during breastfeeding and in the early parenting stage.

Key findings

The survey had excellent participant engagement and was completed by over 2000 participants from across the UK, 6.1% of whom met the Chief Medical Officer definition of consuming alcohol at an “increasing risk” pattern of >14 units per week prior to pregnancy (9). The proportion of participants who had consumed alcohol-free and/or low-alcohol drinks increased from 40.9% in the three months before pregnancy to 71.3% during pregnancy, with more frequent consumption in those in the increasing risk group. This is considerably higher than a 2024 study which reported that 31.3% of adults in the general public consumed alcohol-free or low-alcohol drinks (7).

Overall, the most commonly selected reasons for consuming alcohol-free or low-alcohol drinks during pregnancy were *“to choose a safer alternative to alcohol”* (71.9%, n=1073) to *“feel included in social events involving alcohol”* (68.8%, n=1026). A novel finding, specific to the pregnant population was that those who were in the increasing risk consumption category pre pregnancy were more likely to select *“they have a similar appearance to alcohol-containing drinks if I don’t want people to know I’m pregnant”* (38.3% vs 19.2% of low-risk group p<0.001). This was also a subtheme identified in the interview participants, suggesting that the availability of alcohol-free and low-alcohol drinks could have harm reduction implications for those in early pregnancy. The timing of disclosing pregnancy is a personal choice. Due to the risk of miscarriage in the first trimester, many may not wish others to know they are pregnant until at least 12 weeks gestation. For those who usually consumed alcohol regularly, but did not wish to make it obvious they were avoiding alcohol, alcohol-free or low-alcohol drinks were seen as a useful substitute.

Although family/friends and partners were not an important influence on survey respondents for consumption of these drinks, some interview participants mentioned partners drinking alcohol-free drinks was seen as supportive, particularly postpartum. The most commonly selected reason for not drinking alcohol-free or low-alcohol drinks during pregnancy was *“I prefer a soft drink if I’m not drinking alcohol”*, however interview participants had a more nuanced view. For some, alcohol-free drinks were chosen specifically for their similarity of taste to alcoholic drinks. Some participants raise the issue that consuming multiple soft drinks could be an unhealthy choice due to the sugar and caffeine content.

In addition to investigating reasons for and against consuming alcohol-free and low-alcohol drinks during pregnancy, the survey also explored aspects such as acceptability and perception of safety. Most survey respondents (77.8%, n=1627) thought consuming alcohol-free drinks (labelled 0% ABV) during pregnancy was “very acceptable”. This decreased to 10.8% (n=225) for low-alcohol drinks (0.5-1.2% ABV) and to 2.6% (n=55) for consumption of alcoholic drinks during pregnancy. Labelling was perceived as confusing in both parts of the study, with interview participants concerned around the safety of drinks labelled as 0.1% or 0.5%, particularly those who felt more anxious during pregnancy or had experienced pregnancy complications.

Linked to perception of safety, participants wanted more information on the suitability of these drinks in pregnancy and the different threshold levels, with the most common source being the internet. Healthcare professionals were not a common source of information on this topic. Reliable and consistent online information was difficult to locate and although the NHS website was often consulted, detailed guidance on ABV thresholds was perceived to be lacking. This aligns with previous research finding that there is no standardised approach to addressing alcohol consumption during antenatal appointments, particularly appointments later in pregnancy (11).

Strengths and limitations

The strengths of this study are the large sample size recruited from across the UK and the use of a mixed method approach to enable exploration of concepts in more detail. As the questionnaire was administered online through social media advertising, there is potential for bias. As in most pregnancy and health related research the sample was skewed towards those of a higher educational level, however the interview participants had a broad range of demographic characteristics. Survey responses were self-reported retrospectively, and due to potential stigma associated with consuming alcohol during pregnancy it is possible that alcohol intakes may be under reported (12), or subject to recall bias. Categorisation of alcohol consumption was approximated using an adapted version of the AUDIT-C (8) scoring tool to estimate risk levels.

Recommendations

Based on the insights provided from the survey and interview results, we have made the following recommendations on the use of alcohol-free and low-alcohol drinks in pregnancy and breastfeeding:

1. Clarity is needed on the safety and suitability of alcohol-free and low-alcohol drinks during pregnancy. Specifically, clarity is needed on those in the 0.05-1.2% ABV category as there are concerns expressed about the threshold levels.
2. Labelling of low-alcohol drinks should be improved, so that they are clearly distinguishable from alcohol-free drinks.
3. Clear guidelines about alcohol-free and low-alcohol drinks during pregnancy and breastfeeding are needed for health care professionals so that *consistent* advice can be provided.
4. Organisations that provide advice to pregnant and breastfeeding women about alcohol, should also include specific advice about low-alcohol and alcohol-free drinks.

Conclusion

Although alcohol-free and low-alcohol drinks are commonly consumed during pregnancy, some women are concerned about their safety, with little information received from healthcare professionals. Perception and behaviours may vary according to pregnancy history and pre pregnancy alcohol intake. Labelling of alcohol-free and low-alcohol drinks can be confusing and ABV threshold levels in relation to pregnancy are difficult to interpret. More research is needed in relation to safety in pregnancy and when breastfeeding in order that evidenced based guidance can be developed. The knowledge, experience and views of healthcare professionals also requires investigation to establish the training needs for those advising people who are planning pregnancy or are already pregnant.

Appendices

Appendix 1

Alcohol-free drinks and pregnancy questionnaire

Thank you for agreeing to take part in this study. Please complete the questionnaire as fully as you can. It will take approximately 10 minutes. Please be assured all information collected will be treated confidentially and anonymously.

Please note alcohol-free drinks are defined as beers, ciders, wines, and spirits containing up to 0.05% alcohol by volume (ABV), and low-alcohol drinks as beers, ciders, wines, and spirits containing between 0.05% to 1.2% ABV. Drinks in this category are most commonly 0% and 0.5% ABV. We do not include soft drinks (e.g. fizzy cola, diluting squash, or juice) in this category of drinks.

Part 1: Information about your pregnancy and pregnancy history

1.1 Are you currently pregnant? Yes/No *If yes, continue to Q1.2, if no, proceed to Q1.3*

1.2 Approximately how many weeks pregnant are you? _____ (proceed to Q3)

1.3 Have you been pregnant in the last 12 months? Yes/No – *if yes, continue to Q2.1, if no screened out.*

2.1 Have you given birth in the 12 months? Yes/No

(If no, proceed to Q3)

2.2 What type of milk is your baby currently having?

- Breast milk only
- Mixed feeding (infant formula and breast milk)
- Infant formula only
- Not applicable

3. Before you became pregnant, did you do anything to improve your health in preparation for pregnancy? If you have been pregnant more than once, please think of your MOST RECENT pregnancy when answering this question

(Please tick all that apply)

- Took folic acid
- Stopped or cut down smoking
- Stopped or cut down drinking alcohol
- Ate more healthily
- Sought medical/health advice regarding pregnancy
- Took some other action, please describe _____
- I did not do any of the above before my pregnancy

4. Prior to this pregnancy, have you ever been pregnant before? Yes/No (optional)

5. Have you ever undergone fertility treatment? Yes/No (optional)

6. What best describes your future pregnancy plans? (*only for those who are not currently pregnant*)

- Do not want to get pregnant
- Not sure
- Want to get pregnant as soon as possible
- Want to get pregnant in the next 12-18 months
- Want to get pregnant, but no planned timeframe

Part 2: information about your intake of alcoholic, low-alcohol, and alcohol free drinks during pregnancy

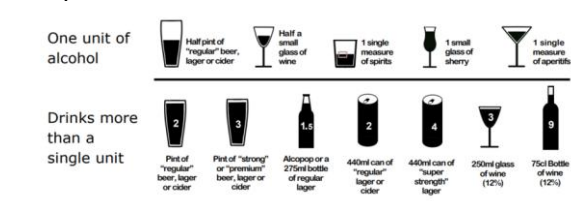
7. During your pregnancy, how often do (or did you) have an alcoholic drink?

- Never
- Monthly or less
- 2 to 4 times per month
- 2 to 3 times per week
- 4 times or more per week

If "never" is selected, skip forward to Q9

8.a. During your pregnancy, how many units of alcohol do/did you drink on a typical day when you are drinking?

The picture below shows what a unit is, and how many units are in common drinks.



- 0 to 2 units
- 3 to 4 units
- 5 to 6 units
- 7 to 9 units
- 10 or more units

8.b During your pregnancy, which of these alcoholic drinks do/did you drink most often?

- Wine
- Beer or lager
- Spirits on their own (for example whisky, vodka)
- Cider
- Alcopops (for example WKD, Smirnoff Ice)
- Mixed drinks (for example gin and tonic, whisky and coke)
- Other, please state _____

9a. During your pregnancy, how often do you (or did you) drink alcohol-free or low-alcohol drinks (by which we mean drinks that taste like traditional alcohol drinks, but which are 1.2% alcohol or less, most commonly 0% or 0.5% alcohol)?

- Never
- Once per month or less

- 2 to 4 times per month
- 2 to 3 times per week
- 4 times or more per week

If "never" selected skip forward to Q10

9b. During your pregnancy, which of the following alcohol-free or low-alcohol drinks do you (or did you) drink most often?

- Alcohol-free or low-alcohol wine
- Alcohol-free or low-alcohol beer or lager
- Alcohol-free or low-alcohol cider
- Alcohol-free or low-alcohol spirits/cocktails
- Other alcohol-free or low-alcohol drinks, please state _____

9c. What are/were your reasons for consuming alcohol-free and low-alcohol drinks when pregnant?

Please choose all that apply

- So that I can feel included in social events involving alcohol
- They have a similar appearance to alcohol-containing drinks if I don't want people to know I am pregnant
- I want to choose a healthier alternative to alcohol whilst pregnant
- I want to choose a safer alternative to alcohol whilst pregnant
- I like the taste
- They're cheaper than alcoholic drinks
- I drink them alongside alcohol containing drinks to reduce the amount of alcohol I am drinking
- I have seen adverts for these drinks (for example on tv or online)
- Being a designated driver
- Advice or recommendation from friends or family
- Advice or recommendation from partner
- Advice or recommendation from a health care professional
- Other, please state _____

(Only visible to those who selected that they do or have consumed them in the past)

9d. If these alcohol-free and low alcohol drinks did not exist, how likely do you think that you would have consumed alcoholic drinks instead? *Please answer on a scale of 1 to 5, where 1 is very unlikely and 5 is very likely*

10. What are/were your reasons for you NOT consuming alcohol free and low-alcohol drinks when pregnant?

Please choose all that apply

- I don't like the taste
- I prefer the taste of alcoholic drinks
- I prefer a soft drink if I'm not drinking alcohol
- They give me a headache/make me feel unwell
- The cost
- I'm not familiar with them
- I have concerns about the safety of drinking them whilst pregnant
- I'm concerned that some of them are not completely alcohol free
- I have concerns it might trigger me to want to have a 'real' alcoholic drink
- I'm concerned people will think I'm drinking alcohol whilst pregnant

- Advice from friends or family
- Advice from partner
- Advice from a healthcare professional
- Other, please state _____

**Part 3: information about your intake of alcoholic, low-alcohol, and alcohol free drinks
BEFORE you became pregnant**

11a. Thinking about the 3 months before you became pregnant, how often did have an alcoholic drink?

- Never
- Once per month or less
- to 4 times per month
- to 3 times per week
- times or more per week

If "never" selected skip forward to Q12a

11b. Thinking about the 3 months before you became pregnant, how many units of alcohol did you drink on a typical day when you were drinking?

The picture below shows what a unit is, and how many units are in common drinks.



- 0 to 2 units
- to 4 units
- 5 to 6 units
- 7 to 9 units
- 10 or more units

11c. Thinking about the 3 months before you became pregnant, which of these alcoholic drinks did you drink most often?

- Wine
- Beer or lager
- Spirits on their own (for example whisky, vodka)
- Cider
- Alcopops (for example WKD, Smirnoff Ice)
- Mixed drinks/cocktails
- Other, please state _____

12a. Thinking about the 3 months before you became pregnant, how often did you drink alcohol-free or low-alcohol drinks?

- Never
- Once per month or less
- 2 to 4 times per month
- 2 to 3 times per week

- 4 times or more per week

If "never" selected skip forward to Part 4

12b. Thinking about the 3 months before you became pregnant, which of the following alcohol-free or low-alcohol drinks did you drink most often?

- Alcohol-free or low-alcohol wine
- Alcohol-free or low-alcohol beer or lager
- Alcohol-free or low-alcohol cider
- Alcohol-free or low-alcohol spirits/cocktails
- Other alcohol-free or low-alcohol drinks, please state _____

Part 4: Attitudes and opinions about alcohol-free and low-alcohol drinks when pregnant

We would like to understand more about why people do and don't choose to drink alcohol-free and low-alcohol drinks

15. Do you think there is enough information available about the use of alcohol-free and low-alcohol drinks during pregnancy? Yes/No/Not sure

16. Please tick which of the following sources you received information from about alcohol-free and low-alcohol drinks during pregnancy. Please select "none of the above" if you did not receive information from any of these sources

Please *tick all that apply*

- Midwife
- GP
- Other health care professional
- Friend/family member
- Partner
- General internet search, please state any specific website you used _____
- Social media: please state which platform _____
- Pregnancy organisation or groups, please state _____
- Advertising, please state which brand _____
- Other, please state _____
- None of the above

17. Please look at each label below and select whether you think the drink is considered suitable or not suitable to be consumed when pregnant: Yes/No/Not sure



18. To what extent do you think the following are “acceptable” or “unacceptable”?

Please note alcohol-free drinks are defined as beers, ciders, wines, and spirits containing up to 0.05% alcohol by volume (ABV), and low-alcohol drinks as beers, ciders, wines, and spirits containing between 0.05% to 1.2% ABV

Please select on a scale from 1 to 5 where 1 is very unacceptable and 5 is very acceptable:

- Consuming alcohol-free drinks (0% alcohol) during pregnancy
- Consuming low-alcohol drinks (Between 0.5-1.2% ABV) during pregnancy
- Consuming alcoholic drinks during pregnancy
- People who breastfeed consuming alcohol-free drinks (0% alcohol)
- People who breastfeed consuming low-alcohol drinks (Between 0.5-1.2% ABV)
- People who breastfeed consuming alcoholic drinks

19. Finally, please tell us any other thoughts you have around consuming alcohol-free and low-alcohol drinks during pregnancy (and/or breastfeeding) (free text box)

Part 5: For statistical purposes, we would like to know a little more about you: (optional)

20. How old are you? (optional)

- 18-24 years
- 25-34 years
- 35-44 years
- >45 years

1. What part of the UK do you live in? (optional)

- Wales
- Scotland
- England: London/North East/North West/Yorkshire/East Midlands/West Midlands/South East/East of England/South West
- Northern Ireland

22. How would you describe your ethnicity? (optional)

- Asian or Asian British: Indian/Pakistani/Bangladeshi/Chinese/Any other Asian background (please describe _____)
 - Black: Black British/Caribbean/African/Any other Black, Black British, or Caribbean

background (please describe_____)

- Mixed or multiple ethnic groups: white and Black Caribbean/White and Black African/White and Asian/Any other mixed or multiple ethnic background (please describe_____)
- White: English, Welsh, Scottish, Northern Irish or British/Irish/Gypsy or Irish Traveller/Roma/Any other White background
- Other ethnic group: Arab, any other ethnic group (please describe_____)

23. What is your highest educational level? (optional)

- No educational qualifications
- GCSEs
- NVQ level 4-5/HNC/HND/RSA Higher diploma/BTEC Higher level
- A-levels or equivalent
- Degree
- Postgraduate qualification

24. What is your main occupational status? (optional) *Please tick the answer that most applies to you (if you're on maternity leave, please tick the answer that applied to you before you had your baby):*

- Working full time
- Working part-time (<28 hours/week)
- Full time university/college student
- Looking after family/home
- Unemployed
- Not working because of sickness or disability

25. What best describes your gender? (optional)

- Woman
- Non-binary
- Man
- Prefer not to say
- Gender not listed here {please describe}

Thank you for completing this questionnaire We really appreciate your time and help with our research.

Please get in touch with your GP, or midwife if you need further information about pregnancy or support around alcohol intake .Alternatively please visit the Alcohol Change UK website [for details of support that can be accessed online or via phone](#) or <https://www.wearewithyou.org.uk/> (a drug, alcohol and mental health charity) which includes being able to talk to a trained "recovery worker" in confidence.

We are also running an interview study where we would like to talk to a few people (via Zoom/Microsoft Teams), to hear in their own words about their understanding of and experience of alcohol-free drinks and pregnancy. If you choose to take part in an interview, you will receive a £20 "love to shop" e-voucher, which will be emailed to you after the interview. Please click here for further information [[link to interview information sheet and consent form](#)].

If you have any questions about the study or questionnaire, please contact the research team by email mfresearch@plymouth.ac.uk



Appendix 2

Alcohol-free drinks and pregnancy study Interview Topic Guide

Interview questions outline

- Please tell me a little about your experience with alcohol before pregnancy.
 - Consumption patterns (including any binge drinking)
 - Any attempts to reduce consumption
 - Impact on lifestyle/health
 - Impact of pregnancy planning/fertility
- Did your approach to alcohol change when you found out you were pregnant? (How?)
 - Intentions to abstain/reduce
 - Extent of pregnancy planning
 - Perception of risk
 - Parity/previous experiences
- Please tell us about any experience you have had with alcohol-free or low-alcohol drinks.
 - Frequency of intake, types consumed
 - Instead of or in addition to consuming alcohol
 - Awareness of brands, variety of drinks available, alcohol by volume (ABV) levels.
- How do you feel about these drinks in relation to pregnancy/breastfeeding (if breastfeeding)?
 - Tell me about an example of a situation when you would consume them (if any)?
 - Perception of safety in relation to ABV/labelling
 - Stigma, e.g. other people thinking you are having alcohol
 - Not wishing to disclose pregnancy in first trimester
- (For those who consumed low and no alcohol drinks in pregnancy) How often did you consume these drinks during or after pregnancy?
- (For those who consumed low and no alcohol drinks in pregnancy) What impact do you think consuming these drinks had on your alcohol consumption during and after pregnancy
 - Impact on intentions to consume alcohol during pregnancy
 - Impact on actual consumption of alcohol during pregnancy
 - Consuming instead of alcohol? Or instead of other non-alcoholic drinks, e.g. soft drinks, tea, water etc.
- Are there any particular influences on your consumption of these drinks during pregnancy (and breastfeeding)?
 - Family/friends
 - Partner

- Advertising
 - Marketing display in shop
 - Availability on menus in restaurants/ pubs/ bars
 - Health care professionals
 - Social media
 - Word of mouth
- What support/resources or services would you find useful/have you found useful when trying to find out information about alcohol and alcohol free drinks during pregnancy (and breastfeeding) (if any)?
 - How have you found the process of finding information about these drinks?
 - What sources of information do you find/have you found trustworthy/reliable?
 - Which health care professionals or services would you like to be involved?
 - How could this be improved?
- How have you found participating in this study?
 - e.g. burden, sensitive questions asked, useful, altruistic
 - How did you find the online questionnaires?
- Is there anything else you would like to add on the topic?

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