Drinking During Pregnancy: Attitudes and Knowledge Among Pregnant Danish Women, 1998

Ulrik Kesmodel and Pia Schiøler Kesmodel

Background: During the 1990s, most Western countries officially recommended that pregnant women abstain from alcohol. However, information about the potentially harmful effects of alcohol during pregnancy does not necessarily equate to understanding, and information and knowledge may not be associated with pregnant women’s own attitudes toward drinking.

Methods: From October to December 1998, we interviewed 439 Danish-speaking pregnant women who were referred for routine antenatal care at their first visit at 15 to 16 weeks of gestation. The women were interviewed about their attitudes toward and beliefs and knowledge about drinking during pregnancy. Questions were also asked about information on alcohol provided to the women.

Results: Seventy-six percent of the women considered some alcohol intake during pregnancy to be acceptable, mostly on a weekly level. Binge drinking, however, was considered to be harmful by 85%. These attitudes were not associated with knowledge about the official recommendation or whether the woman had talked to her general practitioner or midwife about alcohol during pregnancy. Most of the women had received information on alcohol from the mass media or relatives, but most women believed that information about alcohol during pregnancy could best be communicated to them by health personnel. Only 21% were aware of the official recommendation from the Danish National Board of Health. One third had discussed alcohol with their general practitioner or midwife, but these women had mostly been advised that some alcohol intake was acceptable.

Conclusions: Most of the women considered some alcohol intake during pregnancy to be acceptable, mostly on a weekly level, and their attitudes were independent of their knowledge about the subject. Most of the women had not been informed about alcohol during pregnancy.

Key Words: Alcohol, Binge Drinking, Attitude, Pregnancy, Health Care.

IN RECENT YEARS, it has been shown that an intake of one drink per day or more during pregnancy is associated with an increased risk of spontaneous abortion (Windham et al., 1992), intrauterine growth retardation, and low birth weight (Passaro et al., 1998). Daily intake of alcohol may also cause preterm birth (Kesmodel et al., 2000) and stillbirth (Kesmodel et al., 2002); long-term effects including learning disabilities and hyperactivity (Jacobson et al., 1998; Streissguth et al., 1990), and in the most severe cases fetal alcohol syndrome (American Academy of Pediatrics Committee on Substance Abuse, 1993).

During the 1990s, most Western countries officially recommended that pregnant women abstain from alcohol (American Academy of Pediatrics Committee on Substance Abuse, 1993; Danish National Board of Health, 1997; Joint statement, 1996; Norwegian National Board of Health, 1995). Still, it remains controversial whether there is a safe level of drinking during pregnancy (American Academy of Pediatrics Committee on Substance Abuse, 1993; Kesmodel, 1999; Midirs and NHS Center for Reviews and Dissemination, 1996).

In Denmark, information about alcohol during pregnancy is supposed to be provided by midwives and general practitioners (GPs) in connection with antenatal care (Danish National Board of Health, 1998) and through an official leaflet from the Danish National Board of Health (DNB; 1997). However, in the literature on risk perception and communication, it has been pointed out that information does not necessarily equate to understanding (Green et al., 1999). In a recent study among pregnant adolescents, knowledge about alcohol drinking was not associated with the level of consumption before or during pregnancy (Cornelius et al., 1997), and in the general population, little association has been shown between alcohol intake level and knowledge about the potential, adverse effects of alcohol during pregnancy (Fox et al., 1987).

It has been shown that some sources of information may contribute more to decision making about alcohol during pregnancy (Cornelius et al., 1997; Jacobson et al., 1998; Streissguth et al., 1990).
pregnancy than others (Kaskutas, 2000) and that personal contact may be one of the best ways to communicate information about alcohol (Kaskutas, 2000). In this interview study among a representative sample of 439 nonalcoholic pregnant Danish women, we describe their attitudes toward and beliefs and knowledge about drinking during pregnancy. We also describe how they were informed about alcohol during pregnancy.

MATERIALS AND METHODS

Setting

All pregnant women in Denmark are routinely offered a number of free visits to the antenatal care center run by midwives. Almost all women in Denmark participate in the antenatal care program. On each working day during a 2-month period from October 15 to December 17, 1998, a 50% sample of all Danish-speaking pregnant women who were referred to the Midwife Center in Aarhus, Denmark, for routine antenatal care were invited to participate in this study at their first visit. We used systematic sampling (Bland, 2000), inviting every other pregnant woman who attended the clinic.

Data Collection

The study consisted of a personal, face-to-face interview. Questions were asked about intake of different types of alcohol before and during pregnancy (Kesmodel and Olsen, 2001) and also about binge drinking during pregnancy (defined as intake of ≥5 drinks on a single occasion, because this is the most commonly used definition in pregnancy; Kesmodel, 2001). Questions were also asked about the husband's/partner's consumption, the interviewee's attitude toward alcohol intake during pregnancy and knowledge about official recommendations concerning drinking during pregnancy, the definitions of a drink, and whether there are differences between subtypes of alcohol. They were asked also about the information on alcohol provided to the women (see Appendix 1 for details). We attempted to phrase the questions as objectively as possible so as not to suggest any specific answers to the women. It was emphasized that the information provided was confidential and would not be accessible to midwives at the Midwife Center or doctors at the Department of Obstetrics and Gynaecology. All questions were pretested in face-to-face interviews to ensure that they were understandable. All questions were asked as open-ended questions (i.e., no potential responses were presented to the interviewees), and when a woman said that she did not understand the question, the question first was repeated (which was usually enough) or additional information was provided (Appendix 1). When a woman wanted to discuss some aspect of the issue, the interviewers were allowed to encourage the woman to elaborate her thoughts, but we instructed the interviewers that if during the interview a woman asked the interviewer specific questions on the possible hazards of drinking during pregnancy, these questions should be answered by referring to the routine antenatal care or to special information meetings arranged once a month for the participants who had returned their diaries (see below). By arranging these meetings, we attempted to minimize the influence of the interviewer on the information given. Relevant answer categories were available for the interviewers so that they could easily tick off the most appropriate answer(s). In the few cases in which the interviewer believed that an answer did not fit into any of the answer categories, the interviewer noted the answer as free text and appropriate new categories were created at the time of data entry or during the analyses. All interviews were performed by two specially trained midwives, either immediately after the first antenatal care visit or, if this was impossible, on a day of the woman's own choice as soon as possible after the visit.

The women were subsequently asked to fill in a diary on alcohol intake during two consecutive weeks starting immediately after the interview. The layout of the diary may be seen elsewhere (Kesmodel and Olsen, 2001). We have previously shown that information on average alcohol intake during pregnancy is systematically underreported in questionnaires and interviews compared with diaries (Kesmodel and Olsen, 2001), and the information on current average intake during pregnancy is therefore derived from the diaries. For seven women, who did not fill in a diary, information on alcohol intake during pregnancy was derived from the interview. Information on binge drinking and alcohol intake before pregnancy was derived from the interview.

In 1998, the official recommendation from the DNBH was that “it is safest not to drink alcohol when you are pregnant” as described in a small leaflet (Danish National Board of Health, 1997). For nonpregnant women, the recommendation is “drink no more than 14 drinks/week” (Gronbaek et al., 1997). Our definition of a drink complied with the definition from the DNBH, i.e., one drink contains 12 g or 15 ml of pure alcohol and is the equivalent of one normal beer, one glass of wine, 8 cl of fortified wine, or 4 cl of spirits. In recent years, the strength of beer (as measured both in volume% and number of drinks: 1/2, 1, 1 1/2, etc.) has been stated clearly on the label of each bottle in Denmark. This information is also available on many, albeit not all, wine bottles.

Statistics

For bivariate analyses of the association between attitudes, knowledge, and information on the one hand and maternal characteristics on the other, we used the χ² test for variables with nonordered categories, the Mantel Haenszel χ² test for trend for variables with ordered categories, and analysis of variance or Kruskal-Wallis test for continuous data (Bland, 2000). We included alcohol intake before and during pregnancy, smoking habits during pregnancy, maternal age, employment status, education, and parity as potential explanatory factors of the answers.

The study was approved by the regional ethics committee and the Danish Data Protection Agency. All women gave written informed consent.

RESULTS

Of the 478 women who were invited to participate in the study, 439 were interviewed (median gestational age at interview: 15.0 weeks; 10/90 percentiles: 13.6/19.0 weeks). Characteristics of the participants are shown in Table 1. The nonparticipants did not differ substantially or significantly from the participants, and those who were invited to participate did not differ substantially or significantly from other pregnant women who made an appointment for routine antenatal care during the autumn of 1998 with respect to age, prepregnancy body mass index, smoking habits, parity, employment status, birth weight of the child, or gestational age at delivery.

Attitudes Toward and Beliefs About Drinking During Pregnancy

When asked whether a pregnant woman should pay attention to her alcohol intake, 76% of the pregnant women spontaneously considered some alcohol intake during pregnancy acceptable, and 46% specifically mentioned alcohol intake on a weekly basis as acceptable (Table 2). Only 24% spontaneously answered that a pregnant woman should abstain from alcohol (Table 2); these women were significantly more likely to be abstainers (Table 2). Acceptable level of drinking was also associated with binge drinking and average alcohol intake before pregnancy (Table 2).
Eighty-five percent of the women believed that binge drinking was potentially harmful to the fetus. This belief was associated with parity but not with alcohol intake before or during pregnancy (Table 2). Answers to the above two questions were not associated with age, smoking, education, knowledge about the official recommendation, or whether the woman had talked to her GP or midwife about alcohol during pregnancy.

Almost every participating woman [416 (95%)] considered it acceptable for her partner to drink while she was pregnant, and only 18 (4%) did not consider it acceptable, half of whom reported that their partners were abstainers during the index pregnancy. Acceptability was not associated with the woman’s or her partner’s alcohol intake. The remaining women either were not sure what to think (2) or did not have a partner (3).

Knowledge

Considering that 76% of the women regarded some alcohol intake to be acceptable and 60% defined a maximum acceptable level of consumption in terms of a number of drinks, it is interesting from a public health point of view to know whether the women knew how a drink is defined. Seventy-nine percent of the women correctly said that a bottle of normal beer (which constitutes 70% of beer consumption among pregnant women in Denmark) contains exactly one drink, whereas 57% knew that a bottle of wine contains five to seven drinks (Table 3). Women who thought they knew but who guessed a wrong number differed little from those who knew (Table 3). However, compared with women who answered correctly, women who specifically said that they did not know were younger, were less well educated, reported significantly lower alcohol intake before and during pregnancy, were more likely to be abstainers, and were less likely to report binge episodes (Table 3). Answers to the two questions were not associated with having talked to their GP or midwife about alcohol during pregnancy. Only 210 women (47%) answered both questions correctly.

Seventy percent (306) of the women believed that there was some difference between the potentially harmful effects of different subtypes of alcohol. Most women [275 (63%)] believed that spirits were worse than both wine and beer. Among wine drinkers, 13% suggested that wine was less harmful than beer and spirits, compared with 8% among nonwine drinkers (p = 0.08). Seven percent of beer drinkers suggested that beer was less harmful than wine and spirits compared with 5% among nonbeer drinkers (p = 0.37). Twenty three percent (103) stated that there were no differences, and 7% (30) did not know.

Official Recommendations About Alcohol

Only 21% were aware of the official recommendation from the DNBH for pregnant women (Table 4). A similar proportion of women knew that there was an official recommendation but did not know what it was, and more than half of the women answered that they did not know (Table 4). Knowledge of the recommendation was not associated with alcohol intake, age, education, parity, or whether the woman had talked to her GP or midwife about alcohol during pregnancy. Only 16% (68) of the women had noticed a special recommendation for pregnant women in connection with the alcohol campaigns from the DNBH. Twenty-nine percent (20) of these women were actually aware of the official recommendation.

Information to Pregnant Women About Alcohol

Mass media (television, newspapers, and/or weekly magazines) and relatives were spontaneously mentioned by 65% and 40%, respectively, as the most important sources of information about alcohol in general (Table 5). Health personnel, leaflets, posters, and alcohol campaigns were each spontaneously mentioned by a low proportion of women (Table 5). Women who specifically mentioned leaflets or newspapers/weeklies were more likely to know the official recommendation from the DNBH concerning alcohol during pregnancy (p = 0.04 and 0.03, respectively) as well as the DNBH recommendation for nonpregnant women (both p = 0.03), whereas the women who mentioned television were more likely to know the DNBH recommendation for nonpregnant women (p < 0.001) but not that for pregnant women. Nonetheless, 70% of the women believed that information about alcohol during pregnancy could best be communicated to them by health
personnel, particularly GPs (63%) and midwives (51%) but not obstetricians (0.2%) (Table 5). Television (35%) and leaflets (38%) were also considered good ways of communication (Table 5). It is interesting that women who specifically mentioned “scare campaigns” were more likely to drink >3 drinks/week, compared with women who did not (29% versus 7%). The above attitudes were independent of current knowledge about DNBH recommendations.

Even though leaflets were considered to be a good way of communicating information on alcohol during pregnancy, only 7% (29) of the women said that they had received the official leaflet “Pregnancy and Alcohol” distributed by the DNBH. Five percent (22) had received it from their GP, and 2% (7) had received it from their midwife. The remaining 93% (410) said that they had not received the leaflet.

When asked whether their GP or midwife had talked to them about alcohol during pregnancy, 65% (285) said no, 27% (117) reported having talked to their GP, and 17%
Table 4. Answers to the Question, “Do You Know the National Board of Health Has a Special Recommendation Regarding a Maximum Amount of Alcohol You Should Not Exceed if You Are Pregnant? [If Yes, How Much Is That?” (n = 438), Aarhus, Denmark, 1998

<table>
<thead>
<tr>
<th>Source of information</th>
<th>Yes, they do:</th>
</tr>
</thead>
<tbody>
<tr>
<td>No alcohol at all</td>
<td>93 (21.2)</td>
</tr>
<tr>
<td>As little as possible/a drink once in a while</td>
<td>8 (1.8)</td>
</tr>
<tr>
<td>1–5 drinks/week</td>
<td>50 (11.4)</td>
</tr>
<tr>
<td>1–5 drinks/day</td>
<td>7 (1.6)</td>
</tr>
<tr>
<td>But do not know what it is</td>
<td>26 (5.9)</td>
</tr>
<tr>
<td>No, they do not have a special recommendation</td>
<td>33 (7.5)</td>
</tr>
<tr>
<td>Do not know</td>
<td>221 (50.5)</td>
</tr>
</tbody>
</table>

* Number of women (column percentage).

Table 5. Sources of General Information About Alcohol (n = 438) and Which Ways Pregnant Women Believe Would Be Best for Distributing Information About Alcohol During Pregnancy (n = 439), Aarhus, Denmark, 1998

<table>
<thead>
<tr>
<th>Sources of information</th>
<th>Best ways to inform about alcohol in pregnancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sources of information</td>
<td>N (%)*</td>
</tr>
<tr>
<td>Television</td>
<td>264 (60.3)</td>
</tr>
<tr>
<td>Family</td>
<td>173 (39.5)</td>
</tr>
<tr>
<td>Newspapers/weekly magazines</td>
<td>126 (28.8)</td>
</tr>
<tr>
<td>School</td>
<td>104 (23.7)</td>
</tr>
<tr>
<td>Health personnelb</td>
<td>71 (16.2)</td>
</tr>
<tr>
<td>Friends</td>
<td>68 (15.5)</td>
</tr>
<tr>
<td>Leaflets</td>
<td>58 (13.2)</td>
</tr>
<tr>
<td>Own education</td>
<td>39 (8.9)</td>
</tr>
<tr>
<td>Magazines and books about pregnancy</td>
<td>33 (7.5)</td>
</tr>
<tr>
<td>Campaigns</td>
<td>31 (7.1)</td>
</tr>
<tr>
<td>Own opinion/own experience</td>
<td>31 (7.1)</td>
</tr>
<tr>
<td>Advertisements</td>
<td>22 (5.0)</td>
</tr>
<tr>
<td>At work</td>
<td>17 (3.9)</td>
</tr>
<tr>
<td>Posters</td>
<td>13 (3.0)</td>
</tr>
<tr>
<td>Alcohol problems in the family</td>
<td>9 (2.1)</td>
</tr>
<tr>
<td>Religion</td>
<td>5 (1.1)</td>
</tr>
<tr>
<td>Recommendations on labels of alcoholic beverages</td>
<td>NA</td>
</tr>
<tr>
<td>Do not know</td>
<td>3 (0.7)</td>
</tr>
</tbody>
</table>

* NA, not applicable.

* Percentages do not sum to 100% because a woman might give several answers.

*b GPs, midwives, and obstetricians.

We found that 76% of the pregnant women considered some alcohol intake during pregnancy to be acceptable, mostly on a weekly level. Binge drinking, however, was considered to be harmful by 85%. Only 21% were aware of the official recommendation from the DNBH for pregnant women, but knowledge of the recommendation was not associated with alcohol intake. Most of the women had
received information on alcohol from the mass media or relatives, but most believed that information about alcohol during pregnancy could best be communicated to them by health personnel. Unfortunately, fewer than one third of the women remembered having talked to their GP, and fewer than one in five believed that they had talked to their midwife about alcohol during pregnancy; those who had had mostly been advised that some alcohol intake was acceptable.

Our study was conducted in a population in which the same official recommendation had existed for more than a decade and an official leaflet from the DNBH had been available for distribution among pregnant women for years. The DNBH guidelines for antenatal care mention alcohol as an item that should be addressed by both GPs and midwives (Danish National Board of Health, 1998). No campaigns on alcohol had been specifically directed toward pregnant women during the previous years; hence, our results are indicative of the general awareness.

Meillier et al. (1997) suggested that knowledge, experiences, social influence, and underlying possibilities of change are the key determinants of change in health habits. Changes in attitudes and motivation emerge as a consequence of change in one or the other elements (Meillier et al., 1997). Using this model, GPs and midwives may affect only the level of knowledge.

Only 21% were aware of the official recommendation from the DNBH for pregnant women. For comparison, 63% of the women knew the official recommendation for nonpregnant women (maximum intake of 14 drinks/week), which suggests the potential for improving the current level of knowledge of the recommendation. Lack of knowledge has previously been associated with low educational level (Fox et al., 1987).

With regard to information from GPs and midwives, we know only what the pregnant women remembered, which may or may not be what was actually said in the clinic. However, our results are comparable with those among Australian pregnant women, 44% of whom had been advised to cut down on their alcohol intake rather than to give up drinking (21%) (Blaze-Temple et al., 1992). Among American gynecologists, a mean intake of 4 to 5 drinks/week was not considered harmful with regard to spontaneous abortion, central nervous system impairment, and birth defects (Diekman et al., 2000), suggesting that many doctors are not convinced that total abstinence from alcohol is necessary during pregnancy (Diekman et al., 2000).

The women’s judgment of the information from health personnel will in any case be made according to the information available from the media, education, friends, and family and evaluated against previous experience and information (Miller and Macintyre, 1999). In our study, the media and family were the main sources of information on alcohol (Table 5), which is in line with other studies on health education (Frewer, 1999; Melani et al., 2000; Osler et al., 1992). It has also previously been shown that the family is one of the most trusted sources of information (Langford et al., 1999). In this study, attitudes were in any case independent of the women’s knowledge of the official recommendation from the DNBH and whether she had talked to her GP or midwife about alcohol during pregnancy. One possible explanation for this finding is that the information about the potential risk of alcohol intake that may be provided by health personnel originates from population-based studies, but this risk does not indicate whether the adverse event will occur in a particular individual (Calman, 1996).

It has been shown that people consider health professionals and scientists specialized in food safety to be the most trustworthy sources of impartial advice about food safety (McKechnie and Davies, 1999). Even so, only one third of the women had talked to their GP or midwife about alcohol. This is an interesting point, considering that the DNBH guidelines for antenatal care mention alcohol as an

<p>| Table 6. Answers to the Question, “If Your GP or Midwife Tells You That Having a Drink Once in a While During the Pregnancy Is All Right – How Then Would You Interpret ‘Once in a While’?” (n = 438), Aarhus, Denmark, 1998 |
|---------------------------------|-----------------|-----------------|-----------------|</p>
<table>
<thead>
<tr>
<th>Number of times</th>
<th>Alcohola (drinks/wk)</th>
<th>Alcoholb (drinks/wk)</th>
<th>Alcoholc (drinks/wk)</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>7 (1.6)</td>
<td>3.1a</td>
<td>0</td>
</tr>
<tr>
<td>1–3/month</td>
<td>151 (36.4)</td>
<td>3.5</td>
<td>14 (3.2)</td>
</tr>
<tr>
<td>1–6/week</td>
<td>227 (51.8)</td>
<td>5.6</td>
<td>23 (5.3)</td>
</tr>
<tr>
<td>&gt;1/day</td>
<td>2 (0.5)</td>
<td>5.8</td>
<td>1 (0.2)</td>
</tr>
<tr>
<td>Number of drinks</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>7 (1.6)</td>
<td>3.1a</td>
<td>0</td>
</tr>
<tr>
<td>1–3/month</td>
<td>23 (5.3)</td>
<td>3.5</td>
<td>3 (0.7)</td>
</tr>
<tr>
<td>1–6/week</td>
<td>69 (15.8)</td>
<td>5.1</td>
<td>8 (1.8)</td>
</tr>
<tr>
<td>&gt;1/day</td>
<td>1 (0.2)</td>
<td>22.5</td>
<td>1 (0.2)</td>
</tr>
<tr>
<td>On special occasions</td>
<td>1 (0.2)</td>
<td>8.0</td>
<td></td>
</tr>
<tr>
<td>Do not know</td>
<td>3 (0.7)</td>
<td>5.0</td>
<td></td>
</tr>
</tbody>
</table>

a Number of women (column percentage). Forty-six women answered in terms of both number of times and number of drinks.

b Mean alcohol intake before pregnancy.

c Number of women reporting that their GP had advised them that a drink once in a while was all right during pregnancy.

d Number of women reporting that their midwife had advised them that a drink once in a while was all right during pregnancy.

Kruskal-Wallis test, p < 0.001; r Kruskal-Wallis test, p = 0.022; s Kruskal-Wallis test, p > 0.1; t Kruskal-Wallis test, p = 0.013.
item that should be addressed during antenatal care (Danish National Board of Health, 1998). Possible barriers that might explain this are lack of time, patient sensitivity, or the need for additional training of health personnel (Diekman et al., 2000). Even so, GPs and midwives might have been expected to distribute the official DNBH leaflet, which apparently they did not. This is surprising, considering a previous Danish report that GP-distributed pamphlets about smoking had a better effect on the individual than household-distributed pamphlets (Meillier et al., 1999).

Our data do not include alcoholics, who rarely attend routine antenatal care and who are usually referred to special care at our department, but the data seem to be representative of the 99% of pregnant women who attend routine antenatal care. In our population, many women are well educated, and many work. However, most of the results presented here were independent of these factors; hence, we believe that the results may generalize to other populations and countries in the Western hemisphere, where alcohol is not altogether prohibited. We are currently investigating the attitudes toward alcohol intake in Greenland to shed more light on the potential differences between different cultural settings.

It has been suggested that the respondent’s rapport with the interviewer and the extent of confidentiality implied in the procedure are important in an interview situation. Although midwives in Denmark are generally believed to enjoy the confidence of pregnant women, they are also part of the clinical health care staff, and this could have influenced the answers provided by the women. If so, however, we would expect the women to have reported attitudes toward alcohol intake more in favor of abstinence. No systematic differences were seen between the interviewers with respect to any of the questions.

In conclusion, it seems that the mere existence of an official recommendation concerning alcohol during pregnancy and the production of an official leaflet from the DNBH as well as DNBH guidelines for antenatal care mentioning alcohol as an item that should be addressed by both GPs and midwives has not been enough to get the information across to the pregnant women. One step forward might be to address the issue of barriers and needs that affect alcohol assessment in the clinic (Diekman et al., 2000). Second, that attitudes toward drinking during pregnancy were independent of the women’s knowledge of the official recommendation from the DNBH and whether they had talked to their GP or midwife about alcohol during pregnancy seems to raise another question for health authorities: What is the evidence that alcohol consumption of a few drinks per month or even per week (as opposed to daily intake) may be harmful during pregnancy? Is it possible that a large proportion of pregnant women (and possibly health personnel) are not convinced by repeated statements that total abstinence is necessary during pregnancy?

**Appendix 1. Questions Asked in Personal, Face-to-Face Interviews on Attitudes Toward Knowledge About and Information Concerning Alcohol Intake During Pregnancy. Aarhus, Denmark, 1998.**

1. Do you personally believe that a woman who is pregnant should pay attention to her alcohol intake? [If yes:] In what way?*
2. Do you personally believe that it might be harmful for the fetus, if the mother drinks more than five drinks on a single occasion?
3. If your GP or midwife tells you that having a drink once in a while during the pregnancy is all right – how then would you interpret “once in a while”?*
4. The National Board of Health generally recommends that people don’t drink more than a certain number of drinks per week. Do you know what that number is for women?
   4a. [If yes], how many drinks is that?
5. Do you know if the National Board of Health has a special recommendation regarding a maximum amount of alcohol you should not exceed if you are pregnant?
   5a. [If yes], how much is that?
6. Have you ever noticed any special recommendation for pregnant women in the alcohol campaigns conducted by the National Board of Health?
   6a. [If yes], where did you notice the recommendation?
7. How were you informed about alcohol? (Through the media or by certain people?)
8. Has your GP or your midwife discussed alcohol in pregnancy with you?
   8a. [If yes to either], what did they recommend?
9. Has your GP or your midwife asked you how much you drink currently?
   9a. [If yes to either], did they comment on your level of consumption?
10. Has your GP or your midwife given you the leaflet “Pregnancy and Alcohol” from the National Board of Health? [the leaflet is shown to the woman]
11. What do you think is the best way to inform about alcohol in pregnancy?
12. How many drinks do you think a normal bottle of wine contains?
13. How many drinks do you think a bottle of normal beer contains?
14. Do you think it makes a difference whether you drink beer, wine, or spirits, when you are pregnant? That is, is one type of alcohol more harmful than another?
15. Has your partner/husband been drinking alcohol since you became pregnant?
16. Has your partner/husband done anything to alter his level of consumption since you became pregnant?
17. Do you think it is all right for your partner to drink alcohol while you are pregnant? [If no in question 15:] Would you think it was all right if your partner/husband was drinking alcohol while you are pregnant?*

* Text in ( ) is read only if the woman needs extra information (question 1 and 7) or if more appropriate (question 17). Text in [ ] is information to the interviewer.

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