Two screening instruments for collecting alcohol-related information from expectant mothers and fathers: Testing the reliability of the Parent Alcohol Screening Questionnaire and the Social Support for an Alcohol-Free Pregnancy Questionnaire

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Abstract
The aim is to test the reliability of two alcohol screening instruments: (1) The Parent Alcohol Screening Questionnaire (PASQ5), and (2) the Social Support for an Alcohol-free Pregnancy (SSAFP) questionnaire. This is a cohort study from the south of Sweden using repeated surveys during pregnancy. To examine if responses differed according to different data collection methods, two cohorts consisting of 289 expectant mothers and 141 fathers completed the PASQ5 both verbally (weeks 6–7) and in writing (week 12) within regular antenatal visits. One of the cohorts (n = 137/64) also completed the SSAFP in week 12 and later in week 33. The third cohort, consisting of 179 and 133 expectant mothers and fathers, respectively, completed the PASQ5 and the SSAFP twice in late pregnancy (week 31 + 33). Eight of 10 items in the PASQ5 were stable for both expectant mothers and expectant fathers when comparing verbal versus written-delivered formats. Eight of 10 questions in the PASQ5 were stable when assessing the items in a test–retest analysis in late pregnancy for expectant mothers and nine of 10 questions were stable for fathers. The SSAFP items showed high internal consistency (0.86) for expectant mothers and excellent internal consistency (0.94) for expectant fathers. Most SSAFP items (17 of 21 for expectant mothers and 18 of 22 for expectant fathers) were also stable in a test–retest scenario in late pregnancy. Both the PASQ5 and SSAFP are reliable tools and may be helpful for clinicians who aim to have a deeper dialogue about alcohol consumption during pregnancy. These tools may also be helpful for researchers aiming to better understand a person’s changes in alcohol intake and/or their social support network.

KEYWORDS
alcohol, expectant parents, health promotion, pregnancy, reliability analysis, social support
Alcohol use is a leading cause of health loss (Griswold et al., 2018). Worldwide studies show that between 5% and 48% of women consume alcohol during pregnancy (Assanangkornchai et al., 2016; Ceccanti et al., 2014; Hotham et al., 2008; Tan et al., 2015; Williams et al., 2013; Williams et al., 2014; van der Wulp et al., 2014). European research shows that a mean of 16% (Mardby et al., 2017), and in Sweden, 6%-18% (Bortes et al., 2015; Comasco et al., 2012; Skagerström et al., 2013) of women consume alcohol during pregnancy. Consuming alcohol during pregnancy increases the risk for miscarriage, stillbirth, birth defects and cognitive defects (Ceccanti et al., 2014; Jones & Smith, 1973; May et al., 2004). In addition, infants may be born with congenital malformations, or develop behavioural and learning disorders (May et al., 2014). In addition, a growing body of literature suggests that paternal preconception alcohol exposure can also negatively affect the child (Andreasson et al., 2020; Ceccanti et al., 2014, 2016; Hollander et al., 2019; Jensen et al., 2014; Waterson et al., 1990). Therefore, finding ways to encourage a discussion around both expectant parents' alcohol consumption may be beneficial for the expectant mother's, father's and the child's health.

In Sweden, expectant mothers, but not expectant fathers, are routinely screened for prenatal alcohol consumption (Wells, 2016). However, fathers should be routinely screened, as previous studies have demonstrated that the expectant mothers' alcohol consumption is associated with the fathers' alcohol consumption (Bakhireva et al., 2011; May et al., 2014; Waterson et al., 1990). In addition, an expectant father may benefit from an alcohol screening for his own general and reproductive health (Jensen et al., 2014; La Vignera et al., 2013). Furthermore, when a midwife's dialogue included screening and supporting expectant fathers in relation to their alcohol consumption, the father was more satisfied with their visit (Högberg et al., 2016; Högberg et al., 2015; Saunders et al., 1993). Lastly, both expectant mothers and fathers generally want both parents to be included in screenings and to receive professional support when needed (Deave et al., 2008; Wells, 2016; Wells & Lang, 2016).

1.1 | Social support

Social support can be defined as an individual providing assistance and protection to other individuals (Langford et al., 1997). There are four main types of social support: emotional, instrumental, informational and appraisal (House, 1981), and family, friends and clinical professionals often provide these supports. Emotional support involves providing another with love, trust and empathy, as well as with safety and inclusion. When expectant fathers provide emotional support to their partners, expectant mothers are more likely to abstain from drinking (Abela, 2000; Chang et al., 2005; Ockene et al., 2002; van der Wulp et al., 2015). Instrumental support involves practically helping someone with a problem. A type of tangible aid is when expectant fathers also reduce or abstain from drinking alcohol during pregnancy (Högberg et al., 2016; Hyssälä et al., 1992). Informative support involves giving someone information to help solve a problem. For example, expectant mothers are less likely to consume alcohol at their registration visit if they receive information about having an alcohol-free pregnancy compared to those who did not receive that information (Bortes et al., 2015). Finally, appraisal support focuses on empowering a person through self-evaluation and encouragement of their ability and competence. This is shown, for example, when clinicians have the expectant mother self-evaluate her alcohol consumption (e.g. if she would like to reduce or abstain from consuming alcohol during pregnancy) and to brainstorm with her to identify alternatives to alcoholic consumption during pregnancy (Chang et al., 2000).

1.2 | Swedish prenatal clinics

In Sweden, nearly all expectant parents visit a midwife at the prenatal clinics, and all visits are free of charge (SFOG, 2016). At the initial registration visit, the midwife routinely asks about: medication usage, healthy lifestyle habits, smoking/snuff (oral tobacco) and alcohol habits. Depending on the results of these screenings, midwives offer referrals to specialists. The Alcohol Use Disorders Identification Test (AUDIT) is routinely used to screen for alcohol consumption (SFOG, 2016). However, the routine AUDIT screening is limited to expectant mothers’ alcohol consumption and therefore does not include questions regarding their received social support for an alcohol-free pregnancy. In addition, expectant fathers are not routinely screened at all. To encourage a deeper dialogue with both expectant parents around alcohol consumption...
during pregnancy, we developed the Parent Alcohol Screening Questionnaire (five items; PASQ5), along with a social support screening tool called the Social Support for an Alcohol-Free Pregnancy Questionnaire (SSAFP; Högberg et al., 2015). However, an investigation of their reliability and usefulness in clinical practice is warranted.

In addition, since midwives currently screen expectant mothers about their alcohol intake face-to-face, some expectant mothers may feel reluctant to provide truthful answers. Therefore, we wondered if responses would be similar or different when responding to the midwife verbally compared to in writing regarding alcohol consumption during pregnancy. To our knowledge, no studies have assessed if expectant mothers (or fathers) respond differently, depending on whether the screening is provided verbally or in writing, when screened for alcohol consumption during pregnancy. Previous studies on depression show that people can be screened verbally in addition to being screened in writing (Arroll et al., 2003). Similarly, when looking at an anorexia-nervosa screening tool, Perry et al. (2002) found that while both verbal and written screenings were reliable, more participants were found to potentially have an eating disorder when completing the written version. Since there are mixed results depending on the type of screening instrument, it is important to understand if there are differences regarding alcohol screenings during pregnancy.

The primary aim of the current study was to test the reliability of using the alcohol screening instrument, PASQ5, using test–retest reliability and internal consistency for expectant mothers and fathers respectively. A second aim was to test the correlation between written and verbal responses from expectant mothers and fathers. A third aim was to test the stability of responses to the SSAFP in late pregnancy for expectant mothers and fathers.

## 2 | RESEARCH QUESTIONS

1. Are the PASQ5 results stable in a test–retest situation during pregnancy?
2. Are the responses to PASQ5 similar whether given verbally or in writing?
3. Are the SSAFP results stable in a test–retest situation during pregnancy?
4. Are there differences in the responses in the SSAFP questionnaire between early and late pregnancy?

### 3 | MATERIALS AND METHODS

The study consisted of participants from three cohorts receiving a questionnaire in early pregnancy and a test–retest in late pregnancy, within the regular prenatal activities. All data were collected from December 2013 to April 2016 (see Table 1). It took about 10–15 min to complete both PASQ5 and SSAFP, and midwives scheduled an extra 15 min into their routine meetings with expectant parents to conduct those screenings. All midwives had previous training and experience using the AUDIT screening with expectant mothers and some had previously screened expectant fathers. In the current intervention, all participating midwives received a half-day training for implementing the PASQ5 immediately after the AUDIT screening. This training included informing midwives of the PASQ5, how to score the instrument, as well as how to and what types of dialogues midwives could engage parents in afterward. Midwives should provide a referral to a prenatal clinical psychologist or to an addiction unit to the expectant mother and/or father if they (a) had a family history of alcohol addiction or other addiction issues or (b) if they personally had an alcohol addiction or other addiction issues. Furthermore, all midwives had access to group supervision by the prenatal clinical psychologist, or the unit manager, who would give extended support. Additionally, the research project leader could also be reached for support, as she was an experienced midwife, trained supervisor and had worked with the method earlier. The research project leader, as well as one other researcher, met with the midwives and picked up questionnaires twice a month. The project leader met all of the midwives after the study to listen to their experiences of working with the new screening tools. No problems were reported except that more time was needed.

### 3.1 | Setting

All 33 midwives working at five prenatal clinics in the south of Sweden helped recruit participants for the current study. All but one public prenatal clinic in Malmö participated. In addition, one suburban prenatal clinic in Lund participated. In Malmö, 52% of expectant parents used a public prenatal clinic. Expectant mothers and fathers completed the PASQ5 and SSAFP questionnaires at regular antenatal visits in early and late pregnancy. All questionnaires were in Swedish (see Tables 2a–3b; Figure 1).

| Date            | Gestational week | Verbal PASQ5 | Written PASQ5 | SSAFP |
|-----------------|------------------|--------------|---------------|-------|
| **Cohort 1**    |                  |              |               |       |
| December 2013–May 2014 | 6–7             | x            | x             |       |
| January 2014–August 2015 | 31            | x            | x             |       |
| **Cohort 2**    |                  |              |               |       |
| March 2014–April 2016 | 6–7            | x            | x             | x     |
| January 2014–August 2015 | 31            | x            | x             | x     |
| **Cohort 3**    |                  |              |               |       |
| January 2014–August 2015 | 31            | x            | x             | x     |
TABLE 2A  Difference, Response Position (RP), and Response Concentration (RC) for expectant mothers and fathers in Social Support for an Alcohol-Free Pregnancy Questionnaire (SSAFP) questions (number 1–10), gestational week 12 versus 33 (SSAFP questions, Cohort 2) and gestational week 31 versus 33 (SSAFP questions, Cohort 3)

| Expectant mothers (labeled with an “a” next to the numbered item) | Week 12, in %/week 33, in % | McNemar Test (p-value) | Support in week 12 n = 135 mean RP* | Support in week 33 n = 124 mean RP* | RC** | Week 31, in %/week 33, in % | McNemar Test (p-value) | Support in week 31 n = 179 mean RP* | Support in week 33 n = 146 mean RP* | RC** |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1a. Does it encourage you to refrain from alcohol if you think of the little child in your womb | Yes | 86.7/77.7 | No | 13.3/22.3 | (0.006) | 0.87†††† † † † † | Yes | 92.4/86.6 | No | 7.6/13.4 | (0.012) | 0.92†††† † † † † | 0.87†††† † † † † |
| 1b. Does it encourage you to refrain from alcohol if you think of your little child in the mothers’ womb | Yes | 68.1/50.0 | No | 31.9/50.0 | (0.227) | 0.68† † † † | Yes | 53.2/46.5 | No | 46.8/53.5 | (0.248) | 0.53† † † † | 0.47† † † † |
| 2a. Do you offer e.g. to drive after a visit/party to more easily refrain from drinking alcohol | Yes | 20.0/16.4 | No | 80.0/83.6 | (0.359) | 0.20† † | Yes | 16.3/13.7 | No | 86.0/86.3 | (0.388) | 0.16† | 0.14† | +++ |
| 2b. Have you ever asked her e.g. to drive after a visit/party, as she may more easily refrain from drinking alcohol | Yes | 10.6/19.6 | No | 89.4/80.4 | (0.508) | 0.11† | Yes | 14.5/11.0 | No | 85.5/89.0 | (0.549) | 0.15† | 0.11† | +++ |
| 3a. Have you ever asked the co-parent to reduce their drinking in solidarity with you now that you should not drink at all | Yes | 13.0/8.9 | No | 87.0/91.1 | (0.791) | 0.13† | Yes | 25.6/22.0 | No | 74.4/78.0 | (0.375) | 0.26† † | 0.22† † | +++ |
| 3b. Have you reduced your drinking in solidarity with her now that she should not drink at all | Yes | 58.3/52.2 | No | 41.7/47.8 | (0.454) | 0.58† † † † | Yes | 59.2/58.0 | No | 40.8/42.0 | (0.503) | 0.59† † † † | 0.58† † † † |
| 4a. Have you ever refrained from certain habits, such as going to a party, in order to encourage an alcohol-free pregnancy | Yes | 9.2/5.0 | No | 90.8/95.0 | (0.332) | 0.09† | Yes | 8.8/5.7 | No | 91.2/94.3 | (0.063) | 0.09† | 0.06† | +++ |

(Continues)
### 4b. Have you ever refrained from certain habits, such as going to a party, in order to encourage an alcohol-free pregnancy for the expectant mother

|          | Yes | No  | (0.727) | 0.38†† | 0.29†† | Yes | No  | (0.049) | 0.33†† | 0.28†† |
|----------|-----|-----|---------|--------|--------|-----|-----|---------|--------|--------|
|          | 37.5/28.9 | 62.5/71.1 |         |        |        | 33.3/28.0 | 66.7/72.0 |         |        |        |

### Meaning of support for alcohol-free pregnancy, given from the expectant father (in the boxes with no colour)

### Meaning of support for decreased alcohol before parenthood, given from the expectant mother (in the boxes with grey colour)

### 5a. Feels generally positive but does not affect my behaviour.

|             | Agree  | Disagree | (1.000) | 1.01††††† | 1.03††††† | Agree  | Disagree | (0.727) | 1.07††††† | 1.04††††† |
|-------------|--------|----------|---------|-----------|-----------|--------|----------|---------|-----------|-----------|
|             | 99.1/97.4 | 0.9/2.6 |         |        |        | 93.5/95.7 | 6.5/4.3 |         |        |        |

### 5b. Feels generally positive but does not affect my behaviour.

|             | Agree  | Disagree | (0.549) | 1.18††††† | 1.13††††† | Agree  | Disagree | (0.824) | 1.27††††† | 1.27††††† |
|-------------|--------|----------|---------|-----------|-----------|--------|----------|---------|-----------|-----------|
|             | 81.8/86.8 | 18.2/13.2 |         |        |        | 73.3/73.4 | 26.7/26.6 |         |        |        |

### 6a. Gives me a feeling as together we are preparing for parenthood and take joint responsibility.

|             | Agree  | Disagree | (0.481) | 1.11††††† | 1.14††††† | Agree  | Disagree | (0.002) | 1.14††††† | 1.24††††† |
|-------------|--------|----------|---------|-----------|-----------|--------|----------|---------|-----------|-----------|
|             | 88.9/86.1 | 11.1/13.9 |         |        |        | 86.1/76.3 | 13.9/23.7 |         |        |        |

### 6b. Gives me a feeling as together we are preparing for parenthood and take joint responsibility.

|             | Agree  | Disagree | (1.000) | 1.16††††† | 1.23††††† | Agree  | Disagree | (0.004) | 1.20††††† | 1.29††††† |
|-------------|--------|----------|---------|-----------|-----------|--------|----------|---------|-----------|-----------|
|             | 84.4/76.9 | 15.6/13.2 |         |        |        | 79.8/71.3 | 20.2/28.7 |         |        |        |

### 7a. Feels negative e.g. intrusive or annoying.

|             | Agree  | Disagree | (1.000) | 1.98† | 1.98† | Agree  | Disagree | (1.000) | 1.99† | 1.99† |
|-------------|--------|----------|---------|-------|-------|--------|----------|---------|-------|-------|
|             | 1.7/1.7 | 98.3/98.3 |         |       |       | 1.2/0.7 | 98.8/99.3 |         |       |       |

### 7b. Feels negative e.g. intrusive or annoying.

|             | Agree  | Disagree | (0.250) | 1.95† | 1.87† | Agree  | Disagree | (1.000) | 1.93† | 1.97† |
|-------------|--------|----------|---------|-------|-------|--------|----------|---------|-------|-------|
|             | 4.5/12.8 | 95.5/87.2 |         |       |       | 7.3/3.2 | 92.7/96.8 |         |       |       |

### 8a. No importance whatsoever. I would not drink anything anyway.

|             | Agree  | Disagree | (0.219) | 1.07††††† | 1.03††††† | Agree  | Disagree | (1.000) | 1.05††††† | 1.08††††† |
|-------------|--------|----------|---------|-----------|-----------|--------|----------|---------|-----------|-----------|
|             | 93.4/96.6 | 6.6/3.4 |         |        |        | 94.6/92.1 | 5.4/7.9 |         |        |        |

### 8b. Encourages me to decrease my drinking prior to parenthood.

|             | Agree  | Disagree | (0.508) | 1.39††††† | 1.28††††† | Agree  | Disagree | (0.180) | 1.34††††† | 1.27††††† |
|-------------|--------|----------|---------|-----------|-----------|--------|----------|---------|-----------|-----------|
|             | 61.4/72.5 | 38.6/27.5 |         |        |        | 65.8/72.9 | 34.2/27.1 |         |        |        |
TABLE 2A (Continued)

| Question                                                                 | Agree (%) | Disagree (%) | Statistic | Agree (%) | Disagree (%) | Statistic |
|--------------------------------------------------------------------------|-----------|--------------|-----------|-----------|--------------|-----------|
| 9a. Encourages me to say no to a glass of wine or beer.                   | 30.4/25.4 | 69.6/74.6    | 0.556     | 30.6/27.4 | 69.4/72.6    | 0.327     |
| 9b. I do not need to decrease my drinking prior to parenthood.           | 72.7/64.1 | 27.3/35.9    | 1.000     | 64.6/53.8 | 35.4/46.2    | 0.093     |
| 10a. I receive no support for having an alcohol-free pregnancy.          | 17.5/5.2  | 82.5/94.8    | 0.687     | 3.1/5.8   | 96.9/94.2    | 0.375     |
| 10b. I receive no support for decreasing my drinking prior to parenthood.| 15.9/34.2 | 84.1/65.8    | 0.125     | 20.4/25.0 | 79.6/75.0    | 0.267     |

*Response Position (RP). Question yes/no (printed: 1/0) or: agree/disagree (printed: 1/2): HIGH values are: †††††, ††††† LOW values are: †††, †††††

**Response Concentration (RC). ††††† = 0%–5% mean difference, ††††† = 6%–10% mean difference, ††††† = 11%–15% mean difference, ††††† = 15%–20% mean difference. RC, all questions (1–22): 81.4% within 0%–5%, 17.4% within 6%–10%, 0% within 11%–15%, 1.2% within 16%–20% (one value at 18%).
### Table 2B
Difference, Response Position (RP) and Response Concentration (RC) for expectant mothers and fathers in SSAFP questions (number 11–22), gestational week 12 versus 33 (SSAFP questions, Cohort 2)

| Expectant mothers (labeled with an "a" next to the numbered item) | Week 12, in %/week 33, in % | Wilcoxon Sign Ranks Test (p-value) | Support in week 12 n = 135 mean RP* | Support in week 33 n = 124 mean RP* | RC** |
|---|---|---|---|---|---|
| **Expectant fathers** (labeled with a "b" next to the numbered item) | **Week 12, in %/week 33, in %** | **Wilcoxon Sign Ranks Test (p-value)** | **Support in week 12 n = 41 mean RP** | **Support in week 33 n = 36 mean RP** | **RC** |

### 11a. How difficult or how easy is it for you to give up alcohol now as pregnant?
- **Very difficult** 0/0
- **Less difficult** 0.8/0
- **OK** 0/0
- **Easy** 3.1/2.5
- **Very easy** (0.527) 96.2/97.5
- **Support in week 12** n = 135 mean RP*
- **Support in week 33** n = 124 mean RP*

### 11b. How often do you experience giving the expectant mother support for alcohol-free pregnancy?
- **Always** 38.3/45.5
- **Often** 8.5/6.8
- **Sometimes** 17.0/4.5
- **Seldom** 4.3/2.3
- **Never** (0.534) 31.9/40.9
- **Support in week 12** n = 41 mean RP*
- **Support in week 33** n = 36 mean RP*

### 12a. I received support for an alcohol-free pregnancy from my co-parent.
- **Always** 92.7/93.1
- **Often** 3.2/0
- **Sometimes** 0.7/0
- **Seldom** 0/0
- **Never** (1.000) 3.2/6.0
- **Support in week 12** n = 135 mean RP*
- **Support in week 33** n = 124 mean RP*

### 12b. I received support for decreasing my alcohol before parenthood from the expectant mother.
- **Always** 60.0/64.4
- **Often** 6.7/0
- **Sometimes** 2.2/0
- **Seldom** 2.2/2.2
- **Never** (0.610) 28.9/33.3
- **Support in week 12** n = 41 mean RP*
- **Support in week 33** n = 36 mean RP*

### 13a. I received support for an alcohol-free pregnancy from your own mother.
- **Always** 91.6/92.0
- **Often** 0.8/0.9
- **Sometimes** 1.7/0.9
- **Seldom** 0.8/0
- **Never** (0.746) 5.0/6.2
- **Support in week 12** n = 135 mean RP*
- **Support in week 33** n = 124 mean RP*

### 13b. I received support for decreasing my alcohol before parenthood from your own mother.
- **Always** 51.2/55.8
- **Often** 4.7/2.3
- **Sometimes** 4.7/2.3
- **Seldom** 2.3/0
- **Never** (0.388) 37.2/39.5
- **Support in week 12** n = 41 mean RP*
- **Support in week 33** n = 36 mean RP*

### 14a. I received support for an alcohol-free pregnancy from your own father.
- **Always** 92.4/92.1
- **Often** 0.8/0
- **Sometimes** 1.7/0.9
- **Seldom** 0.8/0.9
- **Never** (0.585) 4.2/6.1
- **Support in week 12** n = 135 mean RP*
- **Support in week 33** n = 124 mean RP*

### 14b. I received support for decreased alcohol before parenthood from your own father.
- **Always** 42.9/51.2
- **Often** 4.8/2.3
- **Sometimes** 4.8/2.3
- **Seldom** 9.5/2.3
- **Never** (0.388) 38.1/41.9
- **Support in week 12** n = 41 mean RP*
- **Support in week 33** n = 36 mean RP*

### 15a. I received support for an alcohol-free pregnancy from others.
- **Always** 89.3/87.9
- **Often** 4.1/4.3
- **Sometimes** 1.7/1.7
- **Seldom** 0.8/0
- **Never** (0.984) 4.1/6.0
- **Support in week 12** n = 135 mean RP*
- **Support in week 33** n = 124 mean RP*

### 15b. I received support for decreasing my alcohol before parenthood from others.
- **Always** 36.6/41.9
- **Often** 12.2/7.0
- **Sometimes** 17.1/7.0
- **Seldom** 2.4/2.3
- **Never** (0.935) 31.7/41.9
- **Support in week 12** n = 41 mean RP*
- **Support in week 33** n = 36 mean RP*

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**Experiences of support from the expectant father. The expectant mother (in the boxes with no colour)**

**Experiences giving support to the expectant mother. The expectant father (in the boxes with grey colour)**

(Continues)
### TABLE 2B (Continued)

| 16a. refrains himself from drinking when I am present | Always | Often | Sometimes | Seldom | Never | Mean (X) | **3.13†††** | **3.36†††** | +++ |
|---|---|---|---|---|---|---|---|---|---|
| 16b. abstains from drinking | Always | Often | Sometimes | Seldom | Never | Mean (X) | **2.86†††** | **3.10†††** | +++ |
| 17a. asks if it’s OK that he drinks | Always | Often | Sometimes | Seldom | Never | Mean (X) | **2.79†††** | **2.94†††** | +++ |
| 17b. asks if it’s OK that you are drinking | Always | Often | Sometimes | Seldom | Never | Mean (X) | **2.77†††** | **2.71†††** | +++ |
| 18a. offers me alcohol-free alternatives | Always | Often | Sometimes | Seldom | Never | Mean (X) | **1.83††††** | **1.84††††** | +++ |
| 18b. offers her (the expectant mother) alcohol-free alternatives | Always | Often | Sometimes | Seldom | Never | Mean (X) | **2.37††††** | **2.31††††** | +++ |
| 19a. (No question for pregnant mother) | Always | Often | Sometimes | Seldom | Never | Mean (X) | **3.35†††** | **3.30†††** | +++ |
| 19b. uses alcohol-free drinks together with her (the expectant mother) | Always | Often | Sometimes | Seldom | Never | Mean (X) | **1.28†††††** | **1.29†††††** | +++ |
| 20a. encourages/understands my decision not to drink/to drink less | Always | Often | Sometimes | Seldom | Never | Mean (X) | **4.1 /5.2** | **4.1 /5.2** | +++ |
| 20b. encourages/understands her decision not to drink/to drink less | Always | Often | Sometimes | Seldom | Never | Mean (X) | **2.4 /0** | **2.4 /0** | +++ |
| 21a. talks with me about the harmful effects of alcohol on the foetus during pregnancy | Always | Often | Sometimes | Seldom | Never | Mean (X) | **3.87†** | **4.04†** | +++ |
| 21b. talks with her about the harmful effects of alcohol on the foetus during pregnancy | Always | Often | Sometimes | Seldom | Never | Mean (X) | **3.36††** | **3.79††** | +++ |
| 22a. talks with others about the harmful effects of alcohol on the foetus during pregnancy | Always | Often | Sometimes | Seldom | Never | Mean (X) | **4.08†** | **4.14†** | +++ |
| 22b. talks with others about the harmful effects of alcohol on the foetus during pregnancy | Always | Often | Sometimes | Seldom | Never | Mean (X) | **3.79†** | **4.02†** | +++ |

*Response Position (RP). Question yes/no (printed: 1/0) or: agree/disagree (printed: 1/2): HIGH values are: †††††, ††††, ††† LOW values are: ††, †.

RP. Question values 0,1. Mean: ††††† = 1.0– 0.80, †††† = 0.79– 0.60, ††† = 0.59– 0.40, †† = 0.39– 0.20, † = 0.19– 0.0; RP. Question values 1,2. Mean: ††††† = 1.0 – 1,2, †††† = 1,21– 1,40, †† = 1,41– 1,60, † = 1,61– 2.0; RP. Question values 1,2,3,4,5 (options: always/often/sometimes/seldom/never). Mean: ††††† = 1– 1.80, †††† = 1.81– 2.60, ††† = 2.61– 3.40, †† = 3.41– 4.20, † = 4.21– 5.0.

**Response Concentration (RC) ++++ = 0%–5% mean difference, +++ = 6%–10% mean difference, ++ = 11%–15% mean difference, + = 15%–20% mean difference. RC, all questions (1–22): 81.4% within 0%–5%, 17.4% within 6%–10%, 0% within 11%–15%, 1.2% within 16%–20% (= one value at 18%).
### TABLE 2C  
Difference, Response Position (RP) and Response Concentration (RC) for expectant mothers and fathers in SSAFP questions (number 11–22), gestational week 31 versus 33 (SSAFP questions, Cohort 3)

| Expectant mothers (labeled with an "a" next to the numbered item) | Week 31, in %/ week 33, in % | Wilcoxon Sign Ranks Test (p-value) | Support in week 31 n = 179 mean RP* | Support in week 33 n = 146 mean RP* | RC** |
|---|---|---|---|---|---|
| **11a. How easy or how difficult is it for you to give up alcohol now as pregnant?** | Very difficult 0/0 | Less difficult 0/0.7 | OK 4.7/ 2.1 | Easy 11.6/ 9.2 | Very easy 83.7/87.9 | (0.378) | 4.79 † | 4.84 † | +++  |
| **11b. How often do you experience giving the expectant mother support for alcohol-free pregnancy?** | Always 44.4/32.0 | Often 8.7/13.0 | Sometimes 16.7/19.0 | Seldom 10.3/14.0 | Never 19.8/22.0 | (0.035) | 2.52 †††† | 2.81 ††† |

| Expectant fathers (labeled with a "b" next to the numbered item) | Week 31, in %/ week 33, in % | Wilcoxon Sign Ranks Test (p-value) | Support in week 31 n = 133 mean RP* | Support in week 33 n = 107 mean RP* | RC** |
|---|---|---|---|---|---|
| **12a. Support for alcohol-free pregnancy from co-parent:** | Always 90.6/89.3 | Often 2.9 /2.9 | Sometimes 1.2/2.1 | Seldom 1.8/1.4 | Never 3.5/4.3 | (0.944) | 0.921 |
| **12b. Support for decreased alcohol before parenthood from pregnant mother** | Always 56.9/48.4 | Often 6.9/2.2 | Sometimes 10.3/17.2 | Seldom 2.6/4.3 | Never 23.3/28.0 | (0.021) | 2.28 †††† | 2.61 ††† |
| **13a. Support for alcohol-free pregnancy from your own mother:** | Always 90.2/87.4 | Often 1.8/3.0 | Sometimes 2.4/1.5 | Seldom 0/0.7 | Never 5.5/7.4 | (0.187) | 1.29 ††††† | 1.38 ††††† |
| **13b. Support for decreased alcohol before parenthood from your own mother?** | Always 41.8/34.1 | Often 5.5 /4.4 | Sometimes 8.2/6.6 | Seldom 5.5/9.9 | Never 39.1/45.1 | (0.057) | 2.95 †† | 3.27 †† |
| **14a. Support for alcohol-free pregnancy from your own father:** | Always 89.4/87.2 | Often 0.6 /2.3 | Sometimes 3.1/2.3 | Seldom 1.2/0.8 | Never 5.6/7.5 | (0.433) | 1.33 ††††† | 1.39 ††††† |
| **14b. Support for decreased alcohol before parenthood from your own father?** | Always 41.4/35.2 | Often 3.6 /2.2 | Sometimes 7.2/7.7 | Seldom 7.2/11.0 | Never 40.5/44.0 | (0.209) | 3.02 †† | 3.26 †† |
| **15a. Support for alcohol-free pregnancy from others:** | Always 82.1/81.8 | Often 6.0 /6.6 | Sometimes 5.4/2.9 | Seldom 1.2/2.2 | Never 5.4 /6.6 | (0.529) | 1.42 ††††† | 1.45 ††††† |
| **15b. Support for decreased alcohol before parenthood from others?** | Always 30.4/21.7 | Often 15.2/12.0 | Sometimes 7.1/10.9 | Seldom 11.6/10.9 | Never 35.7/44.6 | (0.042) | 3.07 †† | 3.45 †† |

**Experiences of support from the expectant father?**

**The expectant mother:**

**Experiences giving support to the expectant mother.**

**The expectant father:***

| 16a. refrains himself from drinking when I am present | Always 8.6/8.9 | Often 17.3/16.3 | Sometimes 33.3/28.9 | Seldom 24.7/28.9 | Never 16.0/17.0 | (0.001) | 3.22 ††† | 3.29 ††† |
| 16b. You abstain from drinking | Always 6.8/9.4 | Often 18.6/17.7 | Sometimes 37.3/37.5 | Seldom 17.8/ | Never 19.5/18.8 | (0.650) | 3.25 †† | 3.16 †† |

(Continues)
### Table 2C (Continued)

| Question                                                                 | Always        | Often         | Sometimes     | Seldom        | Never         | Mean        |
|--------------------------------------------------------------------------|---------------|---------------|---------------|---------------|---------------|-------------|
| 17a. asks if it's OK that he drinks                                      | 22.6/17.0     | 15.2/17.0     | 22.0/17.8     | 15.9/21.5     | 24.4/26.7     | (0.067)     |
| 17b. You ask if it's OK that you are drinking                            | 19.5/12.5     | 14.4/16.7     | 28.0/28.1     | 14.4/15.6     | 23.7/27.1     | (0.321)     |
| 18a. offers me alcohol-free alternatives                                 | 62.2/66.2     | 17.1/14.0     | 12.8/14.0     | 1.8/2.2       | 6.1/3.7       | (0.760)     |
| 18b. You offer her alcohol-free alternatives                             | 56.7/49.5     | 18.3/23.2     | 14.2/13.7     | 5.8/7.4       | 5.0/6.3       | (0.100)     |
| 19a. (No question for pregnant mother)                                   |               |               |               |               |               |             |
| 19b. You use alcohol-free drinks together with her.                      | 3.3/5.2       | 19.2/24.0     | 33.3/39.6     | 22.5/15.6     | 21.7/15.6     | (0.109)     |
| 20a. encouraged/understands my decision not to drink/to drink less       | 93.9/94.0     | 3.1/2.2       | 1.2/2.2       | 0.6/2.2       | 1.2/1.5       | (0.564)     |
| 20b. You encourage/understand her decision not to drink/to drink less    | 72.0/73.7     | 4.2/2.1       | 8.5/8.4       | 1.7/4.2       | 13.6/11.6     | (0.871)     |
| 21a. talks with me about the harmful effects of alcohol on the foetus    | 13.1/11.1     | 0.6/2.2       | 13.8/11.1     | 15.0/18.5     | 57.5/57.0     | (0.042)     |
| 21b. You talk to her about the harmful effects of alcohol on the foetus | 12.1/12.6     | 0.9/0         | 12.9/10.5     | 21.6/17.9     | 52.6/58.9     | (0.192)     |
| 22a. talks with others about the harmful effects of alcohol on the foetus| 8.8/6.8       | 1.9/2.3       | 15.7/13.6     | 13.2/20.5     | 60.4/56.8     | (0.023)     |
| 22b. You talk with others about the harmful effects of alcohol on the   | 4.3/5.3       | 4.3/4.2       | 13.7/14.7     | 23.1/17.9     | 54.7/57.9     | (0.930)     |

*Response Position (RP). Question yes/no (printed: 1/0) or: agree/disagree (printed: 1/2): HIGH values are: †††††, ††††, ††† LOW values are: ††, †. RP. Question values 0,1: Mean: ††††† = 1.0–0.80, ††† = 0.79–0.60, †† = 0.59–0.40, † = 0.39–0.20, †††† = 0.19–0.0; RP. Question values 1,2: Mean: ††††† = 1.0–1.2, ††† = 1.21–1.40, †† = 1.41–1.60 † = 1.61–1.80, ††††† = 1.81–2.0; RP. Question values 1,2,3,4,5 (options: always/often/sometimes/seldom/never). Mean: ††††† = 1.0–1.80, †††† = 1.81–2.60, ††† = 2.61–3.40, †† = 3.41–4.20, † = 4.21–5.0.**

**Response Concentration (RC) ++++ = 0%–5% mean difference, +++ = 6%–10% mean difference, ++ = 11%–15% mean difference, + = 15%–20% mean difference. RC, all questions (1–22): 81.4% within 0%–5%, 17.4% within 6%–10%, 0% within 11%–15%, 1.2% within 16%–20% (=one value at 18%).**
### TABLE 3A  
Parent Alcohol Screening Questionnaire questions about alcohol and parenthood in early pregnancy comparison on oral (week 6–7) versus questionnaire (weeks 10–12) responses. Change in scores (%), McNemar Test ($p$-values) and Marginal Homogeneity Test $p$-values. Expectant mothers versus expectant fathers.

| Number of participants: see Figure 2 |
|--------------------------------------|

**Early pregnancy group (cohort 1 + cohort 2):** week 6–7, in %/at registration, in %. %.

$p$-value: McNemar Test ($\chi^2$), Marginal Homogeneity Test ($\chi^2$)

| Question                                                                 | Expecting mother, % | Expecting father, % |
|-------------------------------------------------------------------------|---------------------|---------------------|
| 1. Who do you drink with? (Several choices can be chosen)              |                     |                     |
| Workmates                                                              | 24.6/28.7 (0.109)   | 33.8/51.5 (0.004)   |
| Expecting mother, %                                                     | 33.8/51.5 (0.004)   |                     |
| Expecting father, %                                                     | 24.6/28.7 (0.109)   |                     |
| 2. Is there any alcoholism in your family or within your family?        |                     |                     |
| Expecting mother, %                                                     | 39.2/38.1           | 24.6/28.7           |
| Expecting father, %                                                     | 37.5/36.7           |                     |
| 3. Has your drinking changed over the last year before pregnancy?       |                     |                     |
| Expecting mother, %                                                     | 49.7/43.2           | 36.6/38.4           |
| Expecting father, %                                                     | 15.9/14.2           |                     |
| 4. Your alcohol consumption after pregnancy became known?              |                     |                     |
| Expecting mother, %                                                     | 90.3/89.6           | 10.9/6.1            |
| Expecting father, %                                                     | 5.1/2.0             |                     |

If yes, which drugs: answers not declared in this table

| $p$-value: McNemar Test ($\chi^2$) | Marginal Homogeneity Test ($\chi^2$) |
|-----------------------------------|--------------------------------------|
| 0.001                             | 0.001                                 |

If yes, who/whom: answers not declared in this table

| $p$-value: McNemar Test ($\chi^2$) | Marginal Homogeneity Test ($\chi^2$) |
|-----------------------------------|--------------------------------------|
| 0.223                             | 0.317                                 |
| 0.758                             | 0.773                                 |
| 0.001                             | (1.000)                               |


| TABLE 3B | Parent Alcohol Screening Questionnaire questions about alcohol and parenthood in late pregnancy, the same questionnaire filled out twice. Change in scores (%) McNemar Test (p-values) and Marginal Homogeneity Test p-values. Expectant mothers versus expectant fathers |
| Test-retest group (cohort 3): In pregnancy week 31, in % /week 33, in %. p-value: McNemar Test (()), marginal homogeneity test (1.000) |
| Number of participants: see Figure 2 |

| 1. Who do you drink with? (Several choices can be chosen) | Workmates | Partner | Alone | Friends | Other family | Not drinking |
|------------------------------------------------------------|-----------|---------|-------|---------|--------------|--------------|
| Expecting mother, % | 39.9 /49.6 (0.007) | 73.6 /72.7 (0.219) | 6.7 /8.6 (0.250) | 26.9 /25.7 (1.000) | 10.0 /90.6 (1.000) | 89.5 /87.1 (1.000) |
| Expecting father, % | 54.5 /62.9 (0.227) | 56.7 /64.8 (0.049) | 26.9 /25.7 (1.000) | 89.5 /87.1 (1.000) | 89.5 /87.1 (1.000) | 89.5 /87.1 (1.000) |

| 2. Is there any alcoholism in your family or within your family? | Yes | No | I do not know | If yes, who/whom: answers not declared in this table p-value |
|---------------------------------------------------------------|-----|----|--------------|-------------------------------------------------|
| Expecting mother, % | 28.4 /29.8 | 67.6 /63.1 | 4.0 /7.1 | 1.000 |
| Expecting father, % | 29.3 /26.9 | 65.4 /67.3 | 5.3 /5.8 | 1.000 |

| 3. Has your drinking changed over the last year before pregnancy? | More | The same | Less | Drank not | Teetotaller | Sober alcoholic |
|----------------------------------------------------------------|------|----------|------|-----------|------------|----------------|
| Expecting mother, % | 0.6 /0 | 45.8 /46.5 | 42.4 /43.0 | 10.2 /7.7 | 1.1 /2.8 | 0.0 /0.0 |
| Expecting father, % | 1.5 /0 | 50.0 /51.9 | 43.3 /41.3 | 4.5 /5.8 | 0.7 /1.0 | 0.0 /0.0 |

| 4. Your alcohol consumption after pregnancy became known? | More | As earlier | Less | No drinking at all | Teetotaller | Sober alcoholic |
|----------------------------------------------------------|------|------------|------|-------------------|------------|----------------|
| Expecting mother, % | 0 /0 | 3.4 /2.8 | 2.8 /2.8 | 84.7 /89.4 | 90.4 /9.6 | 0 /0.0 |
| Expecting father, % | 3.0 /0.7 | 40.6 /45.1 | 48.9 /47.1 | 6.0 /5.9 | 1.5 /1.0 | 0.0 /0.0 |

| 5. Have you tried/used other drugs? | Yes | No | If yes, which drugs: answers not declared in this table p-value |
|-----------------------------------|-----|----|-------------------------------------------------|
| Expecting mother, % | 14.0 /13.4 | 86.0 /86.6 | 69.2 /73.8 |
| Expecting father, % | 30.8 /26.2 | | 1.000 |

(1.000)
The basic demographic information surveyed in the questionnaire were age, highest education level, employment status, number of children, as well as habits related to smoking and snuff (oral tobacco; see Table 4).

### 3.4 | Procedure

In gestational weeks 6–7, 289 expectant mothers and 141 fathers responded to the PASQ5 questionnaire verbally, where the midwife filled in the questionnaire (Cohort 1 + 2). In week 12, the same expectant mothers (n = 271) and fathers (n = 98) completed the PASQ5 in writing, as well as a demographics form (see Figure 2; Table 4).

Using another sample of parents in late pregnancy (Cohort 2), 179 expectant mothers and 133 fathers completed the PASQ5 in gestational week 31. At week 33, 146 of these expectant mothers and 107 fathers re-completed the PASQ5 (see Figure 2).

Social Support for an Alcohol-free Pregnancy was completed in week 12 and in week 33 (see Figure 2). In gestational week 12, 135 expectant mothers and 41 fathers participated. In gestational week 33, 124 of these expectant mothers and 36 fathers participated (Cohort 2). Similarly, Cohort 3 completed the SSAFP in pregnancy week 31 and again in week 33. In Cohort 3 at week 31, 179 expectant mothers and 133 fathers participated. In gestational week 33, 146 of these expectant mothers and 107 fathers participated.

### 3.5 | Data analysis

SPSS 25.0 for Windows was used for data analysis regarding the PASQ5 and the SSAFP questionnaires. To examine internal consistency for the test-retest, we used paired sample t tests: McNemar Test, Marginal Homogeneity Test and Wilcoxon Sign Ranks Test. For scales in the SSAFP questionnaire, we used Spearman-Brown Coefficient, since the scales have different response options. Categorical variables were analysed using Chi-square tests, while continuous variables were analysed using ANOVA. Significance was reported if \( p < .05 \). Correlations in the SSAFP were also analysed using Response Concentration (RC) and Response Position (RP; Svensson, 2001). RP measures to what extent the participants agree or disagree, not only if their answers are the same. RC measures how concentrated the numbers of the data are for both measures and not only for the average. This gives broader information about the data.

### 3.6 | Ethics

The Regional Ethics Committee for Medical Research in Uppsala approved the study (2013/365). All expectant parents who were invited to participate at the participating clinics were given oral and written information about the study. They were informed that participation was voluntary, that they could withdraw at any time, that questionnaires were stored in a locked cabinet and that only the researchers had access to the data. Furthermore, they were informed about their
After agreeing to participate, participants signed a consent form, along with completing their first round of questionnaires, and sealed these forms in an envelope at the midwives’ office. Follow-up questionnaires were also completed by the participants and sealed in an envelope at the midwives’ office. Two researchers collected the envelopes twice a month. None of the researchers were involved in the care of the participants.

### RESULTS

#### 4.1 Parent Alcohol Screening Questionnaire

The results showed that most questions in the PASQ5 revealed similar responses when questions were posed verbally versus in writing in early pregnancy. McNemar Test and Marginal Homogeneity Test showed that eight of 10 questions were stable at $p < .05$ level in early pregnancy for expecting mothers and eight of 10 questions.
for expecting fathers (see Table 3a). McNemar Test and Marginal Homogeneity Test showed that eight of 10 questions were stable at \( p < .05 \) level in late pregnancy for expectant mothers and nine of 10 questions for expectant fathers (see Table 3b). Of the questions not stable between the groups, only one was the same (the question for expecting father: ‘drinking with partner’).

### 4.2 Social Support for an Alcohol-free Pregnancy

The internal consistency of the SSAFP was calculated at different time points during pregnancy. Using the Spearman-Brown coefficient, the internal consistency was high for both expectant mothers (0.844) and fathers (0.879) in pregnancy week 12. Questions with five Likert scale response options showed higher internal consistency (expectant mothers: questions 5–15: 0.836. Expectant fathers: questions 5–16: 0.923) than questions with only two response options (expectant mothers: questions 1–4: 0.109, questions 16–21: 0.031. Expectant fathers: questions 1–4: 0.330, questions 16–22: 0.012).

In the SSAFP (see Tables 2a and 2c), of the 21 items asked twice in late pregnancy (week 31 and week 33) for expectant mothers, McNemar Test and Wilcoxon Sign Ranks Test showed that 17 were stable. McNemar Test and Wilcoxon Sign Ranks Test showed that for expectant fathers, 18 of 22 items were stable at the \( p < .05 \) level. Using the Spearman-Brown coefficient, internal consistency was high (0.860) for expectant mothers also in late pregnancy (week 31) and excellent (0.944) for expectant fathers. Questions with five Likert scale response options showed higher internal consistency (expectant mothers: questions 5–15: 0.886. Expectant fathers: questions 5–16: 0.956) than questions with only two response options (expectant mothers: questions 1–4: 0.330, questions 16–22: 0.012).

As parts in the SSAFP questionnaire with five Likert scale response options showed higher internal consistency than those items with only two options, we conducted further analyses. In all SSAFP questions, RP and RC were analysed and measured (Svensson, 2001), see Tables 2a–2c. RP showed that both expectant mothers and fathers mostly did not report changed support on alcohol issues between early and late pregnancy, or when measured twice in late pregnancy. But more expectant fathers’ thoughts about the foetus in the uterus decreased their alcohol consumption more in early than late pregnancy. Compared to late pregnancy, fathers in early pregnancy talked more often with the expectant mother about the harmful effects of alcohol on the foetus.

RC correlations showed that 81.4% of the answers were within 0%-5% difference (expectant mothers 95.2% and expectant fathers 68.2%). For 90.5% of the expectant mothers, RC was within 0%-5% differences between early and late pregnancy and for all (100%) of
the expectant mothers measured twice in late pregnancy. For 68.2% of the expectant fathers, RC was within 0%-5% differences between early and late pregnancy and also for 68.2% of the expectant fathers measured twice in late pregnancy.

All changes but one item were within 10% for both expectant mothers and fathers; that item showed a difference of 18%. The question 'Does it encourage you to refrain from alcohol if you think of your little child in the mothers' womb' (for expectant fathers) showed less support (answering 'yes' on the question) in late pregnancy compared to early pregnancy (see Tables 2b and 2c).

Of the expectant mothers, 12.5% in gestational week 12 and 14.0% in gestational week 31, and of the expectant fathers, 28.4% in gestational week 12 and 30.8% in gestational week 31 reported ever having tried illegal drugs. The most commonly reported drug was cannabis, while a few reported using cocaine, amphetamines or 'mushrooms' (see Table 4).

5 | DISCUSSION

The current study aimed to investigate if a screening instrument about alcohol consumption (PASQ5), as well as a social support instrument (SSAFP) could be used in conjunction with routine AUDIT screenings for collecting alcohol consumption-related information during pregnancy from both expectant parents. These instruments may be used together or separately. The results show that for all items in the PASQ5, similar results were obtained using the verbal or written format. In addition, most questions were stable using a test-retest completed in late pregnancy. The SSAFP items on social support for changing alcohol during pregnancy showed high internal consistency for both parent groups, both in early and late pregnancy. The test-retest showed that most items were stable. Since almost all SSAFP items for expectant mothers and two-third items for expectant fathers showed excellent correlations measured with RC (0%-5% difference) between gestational weeks 12 and 33, as well as between gestational weeks 31 and 33, we propose that they can be used equally well during different periods of pregnancy. Therefore, using the PASQ5 and SSAFP can be reliable new instruments for collecting information on alcohol-related issues during pregnancy in conjunction with routine AUDIT screenings.

By using the PASQ5 and SSAFP screening instruments, clinicians will have more information from patients so they can provide more targeted support. Appraisal support (House, 1981) is given when using the PASQ5, as it can aid clinicians in their alcohol dialogue by giving both expectant parents the possibility to narrate their experiences and reflect together with the midwife how they want their children to be brought up in relation to their alcohol consumption. The SSAFP screening tool can aid clinicians in further promoting an alcohol-free pregnancy by better understanding an expectant parents’ social support network and then providing advice based on those responses.

Working towards an alcohol-free pregnancy is a political priority (Socialstyrelsen, 2018). All alcohol exposure is potentially toxic to the foetus, since there is no consensus whether there is a threshold level for harmful exposure (Griswold et al., 2018). While an AUDIT screening measures alcohol intake and dependence (Gache et al., 2005), PASQ5 clarifies a person's history with alcohol, including changes made in drinking during pregnancy. In addition, midwives do not routinely engage in a deeper dialogue around alcohol with expectant mothers, and do not routinely screen expectant fathers about their alcohol consumption. The two screening instruments can be used as a way to start a dialogue around alcohol consumption during pregnancy for both expectant parents. Further research is, however, needed to explore if having these dialogues can aid in the reduction of alcohol consumption during pregnancy. We suggest that a comparison with other similar tools would be useful. However, we were not able to find any similar questionnaire.

Since one-third of the items in the SSAFP showed less than high correlations for fathers when measured using RC and RP, this may indicate that in late pregnancy alcohol habits, although relatively stable for expectant mothers, were less stable for expectant fathers. Therefore, a dialogue about and support for changing their alcohol consumption may still be important. In an earlier study, 18% of the expectant fathers reported in late pregnancy a need for decreased alcohol consumption before the child was born (Högberg et al., 2015). These new instruments may therefore improve paternal satisfaction with care, while potentially supporting them to reduce or eliminate their alcohol consumption during pregnancy (Hyssälä et al., 1992; Mellingen et al., 2013; Waterson & Murray-Lyon, 1990; Widarsson et al., 2013).

The question on drug usage was included to give both expectant parents the possibility to talk about drug experiences and to receive support from dependence outpatient care, if needed, before the child was born. The results showed that both expectant parents were willing to respond to these sensitive questions. Our results on drug usage are similar to a Swedish population study (15–64 years of age), showing that around 23% of men and 12% of women had ever used illegal drugs (Folkhälsoinstitut, 2010). The results of this study showed that the PASQ5 is reliable whether responding verbally or in writing, including whether or not the participants used drugs. Therefore, the PASQ5 is appropriate to implement together with AUDIT questions when screening clinically for alcohol during the prenatal period.

5.1 | Strengths and limitations

A strength to the current study was that it includes a relatively large number of participants during different time points throughout pregnancy, allowing for both instruments to build on previous studies (Högberg et al., 2015, 2016). Furthermore, responses were also given orally and in writing, allowing a better understanding of variations in methods clinicians might use. We also considered it a strength that some items were sensitive to change over time as the pregnancy proceeds, as this would be expected.

A limitation was that participation of expectant fathers only occurred if the expectant mothers accepted to participate first, which limited the possibility for expectant fathers to be invited. Future
research should directly invite expectant fathers to participate in research directly. In addition, we do not know why some expectant parents chose to drop out of the study. However, the overall participation rates were relatively high.

The generalisability of the findings might also be limited, since all of the participants came from the south of Sweden; therefore, future research should seek to replicate the current study’s findings, as well as expand on the extent to which using these screening tools can help redirect clinicians’ conversations with expectant parents regarding their alcohol consumption during pregnancy.

5.2 | Further research

Future studies in different settings, before and after the child is born, are needed to confirm the suggested usefulness of the two instruments. It would also be interesting to interview expectant parents about their own reflections regarding alcohol during pregnancy, and reasons for decreasing or not decreasing their alcohol consumption before and during pregnancy (Stern et al., 2016). Future research should also strive to incorporate more complex data, such as heredity issues related to alcohol disorders (Sullivan et al., 2012) and the effects of alcohol exposure on sperm quality (Jensen et al., 2014), for better understanding diagnoses such as foetal alcohol syndrome and alcohol disorders.

Three items in the test–retest were not stable among expectant mothers, and this may depend on chance, or systematic change, such as new consciousness or changed support between measuring times. These SSAFP questions include: ‘refrains himself from drinking when I am present’, ‘talks with me about the harmful effects of alcohol on the foetus during pregnancy’ and ‘talks with others about the harmful effects of alcohol on the foetus during pregnancy’. Two items in the test–retest were not stable among expectant fathers, and this may depend on chance, systematic change such as new consciousness or changed support between measuring times. These SSAFP questions include: ‘Support for decreased alcohol before parenthood from the pregnant mother’, and ‘Support for decreased alcohol before parenthood from others?’ (See Table 2c). Further studies can support if any of those or other questions may be removed from the questionnaire in the future. In addition, the research project leader spoke with the participating midwives after the project ended, and one prenatal clinic suggested that a sixth question regarding violence and drinking be added to the PASQ5. The question could be phrased ‘How do you react when you drink alcohol?’ with response options: I get relaxed, I get stressed, I get happy, I get angry, I get annoyed, I get tired, I become verbally violent, I become physically violent, I get less anxious and other.

5.3 | Recommendations

We recommend that prenatal clinicians integrate using both the PASQ5 and the SSAFP along with an AUDIT screening. This will allow the clinician to better understand their clients’ situation, as well as received social support. From there, the clinician can provide more personalised support towards reducing or eliminating alcohol consumption during pregnancy. It should be noted, however, that in many countries, women will not go to a prenatal clinic to see a midwife as early as gestational weeks 6–7. We encourage these tools (AUDIT, PASQ5 and SSAFP) to be implemented at registration until it is possible for midwives to have a dialogue about alcohol and other lifestyle questions early in pregnancy. Other clinicians may need training in interpreting the responses, and experienced midwives may be available to help with this.

6 | CONCLUSION

Both the PASQ5 and the SSAFP were developed to be used in conjunction with an AUDIT screening to aid discussions around having an alcohol-free pregnancy with expectant mothers and fathers. Reliability testing indicated that both the PASQ5 and SSAFP are reliable tools and may be helpful for clinicians who aim to have a deeper dialogue about alcohol consumption during pregnancy than currently possible using AUDIT alone. However, further research is needed to test if these instruments can reduce alcohol consumption during pregnancy for both expectant parents.

AUTHOR CONTRIBUTION

H.H., M.L. and F.S. applied for ethical approval. H.H., M.L. P.P. and F.S. carried out the study and data collection. H.H. and F.S. conducted the main analyses with oversight from M.B.W. H.H. and M.B.W wrote the manuscript, with all others contributing to drafts and the final version.

DATA AVAILABILITY STATEMENT

The data that support the findings of this study are available on request from the corresponding author. The data are not publicly available due to privacy or ethical restrictions.

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