

# Public perceptions of how alcohol consumption is dealt with in Swedish and Norwegian health care

Nordic Studies on Alcohol and Drugs

2021, Vol. 38(3) 243–255

© The Author(s) 2021

Article reuse guidelines:

sagepub.com/journals-permissions

DOI: 10.1177/1455072520985981

journals.sagepub.com/home/nad



**Nadine Karlsson** 

Linköping University, Sweden

**Janna Skagerström**

Linköping University, Sweden; and Research and Development Unit in Region Östergötland, Linköping, Sweden

**Amy O'Donnell** 

Newcastle University, Newcastle upon Tyne, UK

**Latifa Abidi**

Maastricht University, Maastricht, Netherlands

**Kristin Thomas**

Linköping University, Sweden

**Per Nilsen**

Linköping University, Sweden

**Torgeir Gilje Lid**

Stavanger University Hospital, Norway; and University of Stavanger, Norway

## Abstract

**Aims:** The aims of this study were to evaluate and compare popular beliefs and attitudes regarding alcohol conversations in healthcare in Sweden and Norway; and to explore which factors were associated with different levels of support for alcohol-prevention work in the two countries.

**Methods:** Population-based cross-sectional surveys were conducted in Sweden ( $n = 3000$ ) and Norway ( $n = 1208$ ). Logistic regression was used to identify the characteristics of participants who were supportive of routine alcohol screening and brief intervention delivery. **Results:** A higher proportion of Swedish respondents agreed to a large extent that healthcare professionals should routinely ask about alcohol consumption. In addition, a higher proportion of Swedish respondents compared to respondents from Norway agreed that healthcare providers should only ask about patient's alcohol consumption if this was related to specific symptoms. There were similar correlates of being supportive of routine alcohol screening and brief intervention delivery in both

Submitted: 21 February 2020; accepted: 16 December 2020

## Corresponding author:

Nadine Karlsson, Department of Health, Medicine and Caring Sciences, Linköping University, SE-581 83 Linköping, Sweden.

Email: nadine.karlsson@liu.se



Creative Commons Non Commercial CC BY-NC: This article is distributed under the terms of the Creative Commons Attribution-NonCommercial 4.0 License (<https://creativecommons.org/licenses/by-nc/4.0/>) which permits non-commercial use, reproduction and distribution of the work without further permission

provided the original work is attributed as specified on the SAGE and Open Access pages (<https://us.sagepub.com/en-us/nam/open-access-at-sage>).

countries. Support was lower in both countries amongst moderate and risky drinkers, and among single adults or those on parental leave, but higher amongst older individuals. Having had an alcohol conversation in healthcare increased the level of support for alcohol prevention in routine healthcare among risky drinkers. **Conclusions:** There is a high level of support for preventative alcohol conversations in routine healthcare in Norway and Sweden, although there was a lower proportion of respondents who were positive to alcohol prevention in routine healthcare in Norway compared to Sweden. Experiencing alcohol conversation may positively affect risky drinkers' attitudes towards and support for alcohol prevention. Thus, more frequent alcohol conversations in routine healthcare may also result in increased level of support for alcohol prevention among risky drinkers.

### Keywords

alcohol, brief intervention, healthcare, implementation, population survey, prevention

Despite strong evidence for the effectiveness of brief alcohol interventions to reduce hazardous and harmful drinking (Kaner et al., 2018), their adoption in routine healthcare has been slow (Johnson et al., 2011; Nilsen, 2010; Vendetti et al., 2017). Factors affecting implementation have been researched extensively from the perspective of healthcare practitioners. Barriers include: scepticism about intervening with patients who do not have alcohol-related symptoms; lack of time, knowledge and training; and concerns about patients' resistance to alcohol-related discussions (Beich et al., 2007; Johnson et al., 2011; Nilsen, 2010; Rapley et al., 2006).

However, there has been far less research exploring attitudes within the wider patient population towards the routine delivery of alcohol prevention in healthcare. Although previous evidence suggests that patients are generally comfortable to discuss alcohol issues with healthcare providers, most studies have been relatively small in scale, and/or focused on the views of clinical populations, such as problem drug users (Hutchings et al., 2006; Lundin et al., 2017). Two national population surveys have explored population attitudes towards alcohol-related discussions in healthcare settings. Nilsen et al (2012) found that although there was considerable support in the general population in Sweden for the delivery of brief interventions

(BI) in healthcare, attitudes were less positive amongst hazardous drinkers, and many respondents felt that healthcare providers should only ask about a patient's drinking if they presented with alcohol-related symptoms. However, this study was conducted nine years ago, and beliefs and attitudes may have changed since then. In a similar, more recent, English study, O'Donnell et al. (2018) also found that most respondents supported the routine implementation of alcohol prevention in healthcare, although around one in ten saw alcohol as a personal matter, and not something that healthcare practitioners should ask their patients about. Respondents from lower socio-economic groups were also less supportive of alcohol being addressed in routine healthcare compared to other respondents.

Sweden and Norway share many social, political and economic characteristics. Sweden is a part of the European Union (EU), while Norway, although not a member, is included in the EU internal market via the European Economic Area. The two countries have similar alcohol consumption patterns (Moskalewicz et al., 2016), with an average 9.5 litres of pure alcohol consumed by drinkers aged 15 years and older in Sweden in 2010, compared to 9 litres in Norway the same year, dropping to 9.2 litres in Sweden and 7.5 litres in Norway

in 2016 (WHO, 2018). However, a higher proportion of adults in Norway report having been drunk in the past 12 months compared to those in Sweden (82.8% vs. 40.1%) (WHO, 2018). Both Sweden and Norway also have restrictive government alcohol policies to limit alcohol consumption and prevent alcohol-related harm, focussing on limited access, high taxes and a marketing ban. In Sweden, the alcohol retail monopoly (Systembolaget) reports to the Ministry of Health and Social Affairs and operates without a profit incentive. Similarly, the Norwegian retail monopoly (Vinmonopolet) reports to the Ministry of Health and Care Services. Since 1996, Vinmonopolet has been a strictly retail monopoly, whilst prior to that date, the monopoly also controlled the import of all wine and spirits, as well as some production of spirits.

However, although both countries have implemented a range of preventive initiatives to reduce alcohol-related harm, including measures aimed at increasing the delivery of screening and brief interventions in healthcare, approaches have differed in context and focus. In Sweden, national guidelines were introduced in 2011 to encourage universal delivery of lifestyle advice, including moderate alcohol consumption, across the entire population by practitioners working in routine primary, child, maternity and occupational healthcare (Swedish National Board of Health and Welfare, 2011). In contrast, recommendations on alcohol screening and brief intervention issued by the Norwegian Health Directorate target specific patient populations, including antenatal care, combined drug problems and mental disorders, detoxification, and health regulations for drivers' licenses (Helsedirektoratet, 2018). Further, the Norwegian Ministry of Health and Care Services has issued mandates ordering the regional health trusts (state-owned bodies running the hospitals) to implement strategies in somatic hospital wards, mental health services and drug treatment services to identify and treat alcohol and drug problems affecting the patients' health (HOD, 2015). Unlike Sweden,

however, these do not include specific advice on which strategies to implement, nor do they apply any incentives.

Despite the similarities in context and drinking patterns between Norway and Sweden, a key difference is that Sweden has taken a broader population approach to alcohol prevention with the ambition to address alcohol issues with patients who visit primary, child, maternity and occupational healthcare. In contrast, Norway's approach to alcohol prevention is more targeted, focused on specific patient populations (Helsedirektoratet, 2018; Swedish National Board of Health and Welfare, 2011). Using population-based surveys in Sweden and Norway, the aims of this study were therefore: (1) to evaluate and compare beliefs and attitudes regarding alcohol conversations in healthcare in the two countries; and (2) to explore demographic and socio-economic factors associated with different levels of support for alcohol-preventive work in both countries.

## Methods

### *Study population and design*

Cross-sectional surveys were performed in Sweden in 2017 (Abidi et al., 2020; Karlsson et al., 2019) and Norway in 2018. In Sweden, recruitment was based on a web-panel administered by EnkätFabriken, a company specialising in survey research ([www.enkatfabriken.se](http://www.enkatfabriken.se)). The Swedish sample consisted of 5900 nationally representative panel members (i.e., representative of the age, sex and region of residence of the Swedish population aged 18–64 years: Karlsson et al., 2019).

In Norway, a sample of 6000 adults aged 18–88 years were randomly drawn from a nationally representative web-panel of 30,000 participants (i.e., representative of age, sex and region of residence of the Norwegian adult population), administered by Respons Analyse, a company specialising in survey research ([www.responsanalyse.no](http://www.responsanalyse.no)). Cut-off was set at 1000 respondents, but as closing the survey is a

manual procedure, 1208 had responded when the survey was closed.

### Data collection

The Swedish data were collected by means of an electronic questionnaire, which was distributed via a web-panel in August–September 2017. Of the 5900 survey recipients, 489 individuals answered only the initial background questions, three opened the survey but did not respond to any questions, and 2413 did not answer at all. Therefore, the study population in the Swedish survey consisted of the 3000 individuals who answered the complete survey questionnaire, yielding a response rate of 50.7% (Karlsson et al., 2019).

The Norwegian data were collected in 2018 by means of a web-based questionnaire, accessed by the participants via a unique link provided in an email invitation. No reminders were sent, and individuals not activating the link before the cut-off was reached were non-responders. Comparison with the most recent national data on the time of the survey (December 2018) from Statistics Norway, performed by Respons Analyse, showed that the gender balance of the responders was identical to the national gender balance in this age group (49.7% women). There were fewer younger respondents than expected (18–24 years, 11.5% in the survey vs. 14.7% nationally) and slightly more responders in the oldest age group (65+ years, 20.8% in the survey vs. 19.4% nationally). For the other age groups, the differences between the sample and national data were less than 1%.

### Questionnaire

The questionnaire consisted of questions on: socio-demographic characteristics; alcohol consumption; and attitudes towards and experiences with strategies for addressing alcohol in routine healthcare. The Norwegian version of the questionnaire was translated from English, and the translation was tested by comparing with the Swedish version, due to similarities

between Swedish and Norwegian. The Norwegian translation was adjusted until it fitted well with both the English and the Swedish versions. The Norwegian and Swedish authors then jointly approved the final version.

Three drinking status categories were constructed based on answers to the three questions of AUDIT-C, an instrument adapted from the original AUDIT (Alcohol Use Disorders Identification Test) questionnaire developed by the World Health Organization (WHO) for use in primary healthcare settings (Saunders et al., 1993): abstainers, moderate drinkers and risky drinkers. In response to the frequency question, abstainers answered that they have not had a drink in the past 12 months; moderate drinkers had had a drink in the past 12 months but did not reach the risky level. Risky drinking was defined as having a weekly consumption of > nine standard drinks for women and > 14 standard drinks for men and/or engaging in heavy episodic drinking (HED, four standard drinks per occasion for women, five for men) monthly. These are the recommended levels in Swedish guidelines (Swedish National Board of Health and Welfare, 2011). One standard drink in Sweden and Norway equals 12 grams of pure alcohol.

Respondents were asked whether they had visited healthcare services in the past 12 months, with possible answers of “no”, “yes, once” or “yes, more than once”. Beliefs about and attitudes towards being asked about alcohol in routine healthcare were investigated using five questions (see Table 1). Response was on a four-point Likert-type scale, with possible answers of “do not agree”, “agree to some extent”, “agree to a large extent” or “agree completely”.

### Statistical methods

The distribution of sample characteristics (Table 2) and beliefs and attitudes (Table 1) was estimated for each country. Differences in proportions were compared between countries using a chi-squared test. Logistic regression was used to identify the characteristics of those who were “pro-routine” (i.e., those who agreed

**Table 1.** Beliefs and attitudes about alcohol prevention by country.

	Total, n (%)	Country		p-value
		Norway	Sweden	
(1) Healthcare providers should routinely ask about patients' alcohol consumption ("pro-routine").				
Agree completely	1461 (34.7%)	432 (35.8%)	1029 (34.3%)	< 0.001
Agree to a large extent	1201 (28.5%)	293 (24.3%)	908 (30.3%)	
Agree to some extent	1177 (28.0%)	377 (31.2%)	800 (26.7%)	
Do not agree	369 (8.8%)	106 (8.8%)	263 (8.8%)	
(2) Alcohol consumption is a personal matter and not something healthcare providers should ask about.				
Agree completely	112 (2.7%)	41 (3.4%)	71 (2.4%)	0.003
Agree to a large extent	225 (5.3%)	43 (3.6%)	182 (6.1%)	
Agree to some extent	1097 (26.1%)	316 (26.2%)	781 (26.0%)	
Do not agree	2774 (65.9%)	808 (66.9%)	1966 (65.5%)	
(3) Healthcare providers should ask about patients' alcohol consumption, but only if patients seek healthcare to discuss symptoms that could be related to high consumption.				
Agree completely	1301 (30.9%)	279 (23.1%)	1022 (34.1%)	< 0.001
Agree to a large extent	1114 (26.5%)	312 (25.8%)	802 (26.7%)	
Agree to some extent	1020 (24.2%)	336 (27.8%)	684 (22.8%)	
Do not agree	773 (18.4%)	281 (23.3%)	492 (16.4%)	
(4) Healthcare providers should ask about patients' alcohol consumption, but only if the issue is brought up by the patient.				
Agree completely	401 (9.5%)	128 (10.6%)	273 (9.1%)	0.170
Agree to a large extent	579 (13.8%)	151 (12.5%)	428 (14.3%)	
Agree to some extent	1180 (28.0%)	352 (29.1%)	828 (27.6%)	
Do not agree	2048 (48.7%)	577 (47.8%)	1471 (49.0%)	
(5) I believe people answer honestly when they are asked about their alcohol consumption at healthcare visits.				
Agree completely	215 (5.1%)	55 (4.6%)	160 (5.3%)	< 0.001
Agree to a large extent	746 (17.7%)	163 (13.5%)	583 (19.4%)	
Agree to some extent	2140 (50.9%)	649 (53.7%)	1491 (49.7%)	
Do not agree	1107 (26.3%)	341 (28.2%)	766 (25.5%)	

completely with the statement that healthcare providers should routinely ask about patients' alcohol consumption) of routine alcohol screening and brief interventions (Table 3). The analysis was unadjusted in Model I, and multivariate adjusted for gender, age, education, occupation, marital status, conversation about alcohol in healthcare, alcohol consumption and country in Model II. Odds ratios (*OR*)

of being "pro-routine" were estimated with 95% confidence intervals. The interaction between country and the determinants of being "pro-routine" was tested using the likelihood ratio test. A sensitivity analysis was performed using multilevel logistic regression analysis with a random intercept to account for clustering effect within country. In order to look further for interaction effects, an analysis was

**Table 2.** Sample characteristics by country.

Variables	Country		p-value
	Norway	Sweden	
Gender	1208	2996	0.008
Man	551 (45.6%)	1501 (50.1%)	
Women	657 (54.4%)	1495 (49.9%)	
Age (in 5 categories)	1208	3000	< 0.001
< 29 years	165 (13.7%)	851 (28.4%)	
30–39 years	208 (17.2%)	604 (20.1%)	
40–49 years	240 (19.9%)	630 (21.0%)	
50–59 years	237 (19.6%)	591 (19.7%)	
60+ years	358 (29.6%)	324 (10.8%)	
Education	1191	3000	< 0.001
Basic or secondary school	356 (29.9%)	1533 (51.1%)	
University	835 (70.1%)	1467 (49.9%)	
Occupation	1207	3000	< 0.001
Employed	804 (66.6%)	2227 (74.2%)	
Student	62 (5.1%)	359 (12.0%)	
Unemployed	17 (1.4%)	98 (3.3%)	
Sick-listed	22 (1.8%)	82 (2.7%)	
Retired	237 (19.6%)	142 (4.7%)	
Parental leave	14 (1.2%)	77 (2.6%)	
Other	51 (4.2%)	14 (0.5%)	
Marital status	1208	3000	0.530
Married/living together	780 (64.6%)	1897 (63.2%)	
Relationship but living apart	81 (6.7%)	190 (6.3%)	
Single	347 (28.7%)	913 (30.4%)	
Healthcare visits in the last 12 months	1208	3000	< 0.001
2 or more visits	608 (50.3%)	1113 (37.1%)	
1 visit	351 (29.1%)	930 (31.0%)	
No visit	249 (20.6%)	957 (31.9%)	
Conversation about alcohol in healthcare in the last 12 months	959	2043	< 0.001
2 or more conversations	43 (4.5%)	120 (5.9%)	
1 conversation	118 (12.3%)	416 (20.4%)	
No conversation	798 (83.2%)	1507 (73.8%)	
Drinking categories	1208	2996	0.250
Abstainers	120 (9.9%)	284 (9.5%)	
Moderate drinkers	719 (59.5%)	1865 (62.2%)	
Risky drinkers	369 (30.6%)	847 (28.3%)	

performed among risky drinkers to explore whether an alcohol conversation in healthcare increased the level of support for alcohol prevention in routine healthcare (“pro-routine”) among risky drinkers. A comparison of the

percentage of “pro-routine” between risky drinkers who had received a conversation about alcohol in healthcare in the last 12 months vs. those who had not received such conversation was performed with chi-squared test (Table 4).

**Table 3.** Logistic regression of being “pro-routine” (believing that healthcare providers should routinely ask about patients’ alcohol consumption – agree completely).

Variables	Model I (crude) <sup>a</sup>				Model II (multivariate) <sup>b</sup>			
	n (%)	OR	95% CI	p-value	n (%)	OR	95% CI	p-value
Gender								
Men	2052	1.00			1322	1.00		
Women	2152	1.12	0.99–1.27	0.084	1665	1.06	0.91–1.25	0.447
Age								
< 29 years	1016	1.00			662	1.00		
30–39 years	812	0.98	0.80–1.19	0.819	588	0.94	0.72–1.22	0.627
40–49 years	870	0.97	0.80–1.17	0.723	598	1.04	0.80–1.36	0.759
50–59 years	828	1.08	0.89–1.30	0.465	603	1.16	0.89–1.52	0.274
60+ years	682	1.27	1.04–1.55	0.020	536	1.42	1.04–1.95	0.027
Education								
Basic or secondary school	1889	1.00			1319	1.00		
University	2302	1.08	0.95–1.23	0.246	1688	1.09	0.93–1.28	0.312
Occupation								
Employed	3031	1.00			2083	1.00		
Student	421	0.94	0.76–1.17	0.568	275	1.07	0.78–1.46	0.692
Unemployed	115	0.69	0.45–1.05	0.080	82	0.62	0.37–1.03	0.065
Sick-listed	104	1.07	0.72–1.61	0.731	99	0.99	0.64–1.52	0.951
Retired	379	1.17	0.94–1.46	0.165	318	0.94	0.69–1.28	0.675
Parental leave	91	0.75	0.47–1.18	0.213	80	0.46	0.27–0.77	0.003
Other	65	0.89	0.53–1.51	0.664	50	0.81	0.43–1.50	0.494
Marital status								
Married/living together	2677	1.00			1906	1.00		
Relationship but living apart	271	1.17	0.91–1.52	0.223	195	1.15	0.84–1.57	0.398
Single	1260	0.83	0.72–0.95	0.009	886	0.76	0.64–0.91	0.003
Conversation about alcohol in healthcare in the last 12 months								
No conversation	2305	1.00			2294	1.00		
1 conversation	534	1.71	1.42–2.08	< 0.001	533	1.85	1.52–2.25	< 0.001
2 or more conversations	163	1.79	1.30–2.47	< 0.001	160	2.20	1.57–3.08	< 0.001
Drinking categories								
Abstainers	404	1.00			306	1.00		
Moderate drinkers	2584	0.59	0.48–0.73	< 0.001	1836	0.45	0.35–0.58	< 0.001
Risky drinkers	1216	0.37	0.29–0.46	< 0.001	845	0.28	0.21–0.37	< 0.001
Country								
Sweden	3000	1.00			2040	1.00		
Norway	1208	1.07	0.93–1.23	0.368	947	1.05	0.88–1.25	0.614

Notes. OR = odds ratios; CI = confidence interval.

<sup>a</sup>Model I is crude. <sup>b</sup>In model II, ORs are adjusted for gender, age, education, occupation, marital status, conversation about alcohol in healthcare, alcohol consumption and country.

Results were considered statistically significant at  $p < 0.05$  using two-tailed tests. Statistical analyses were performed with SPSS 25.

### Ethical approval

The study was approved by the Swedish National Data Inspection Board and Regional Ethical Review board in Linköping (Dnr. 2017/

**Table 4.** Comparison of the percentage of “pro-routine” between risky drinkers who received a conversation about alcohol vs. those who did not receive a conversation at any consultation in healthcare in the past 12 months.

Conversation about alcohol in healthcare	Agree completely that healthcare providers should routinely ask about patients' alcohol consumption (“pro-routine”)			
	No (n, %)	Yes (n, %)	Total	p-value
No	481 (75.3%)	158 (24.7%)	639	0.002
Yes	136 (64.5%)	75 (35.5%)	211	
Total	617 (72.6%)	233 (27.4%)	850	

84-31). The study was assessed by the Norwegian Centre for Research Data, which concluded that a full evaluation was not required (reference code 158794).

## Results

### Respondent characteristics

Table 2 shows the background characteristics of respondents in Norway and Sweden. There were differences in several socio-demographic characteristics between the two countries, with a higher proportion of women ( $p = 0.008$ ), older respondents ( $p < 0.001$ ), and respondents with higher levels of education ( $p < 0.001$ ) in Norway compared to Sweden.

There was no significant difference in the prevalence of different drinking categories between countries ( $p = 0.25$ ), or in marital status ( $p = 0.53$ ). A higher proportion of respondents reported having visited healthcare in the last 12 months in Norway compared to Sweden (79.4% vs. 68.1%;  $p < 0.001$ ). Amongst those who had visited healthcare in the last 12 months, 16.8% (Norway) and 26.2% (Sweden) reported having had at least one alcohol conversation ( $p < 0.001$ ).

### Beliefs and attitudes about alcohol conversations in healthcare

The distribution of beliefs and attitudes about alcohol prevention in routine healthcare is shown in Table 1.

The outcome “Healthcare providers should routinely ask about patients' alcohol consumption (“pro-routine”)” was highly statistically different between countries ( $p < 0.001$ ). Approximately 35% of all respondents agreed completely (“pro-routine” or highly supportive) with minor differences between the countries. However, the proportion agreeing to a large extent was lower in Norway (24.3%) than in Sweden (30.3%).

The outcome “Alcohol consumption is a personal matter and not something healthcare providers should ask about” was statistically different between countries ( $p = 0.003$ ). Few respondents (3.0%) agreed completely, and the proportion agreeing to a large extent was lower in Norway (3.6%) than in Sweden (6.1%).

There was a larger proportion of respondents in Sweden (34%) compared to Norway (23.0%) that agreed completely that healthcare providers should ask about patients' alcohol consumption, but only if patients visit healthcare to discuss symptoms that could be related to high alcohol consumption ( $p < 0.001$ ).

Approximately 10% of respondents agreed completely and 42% agreed to a large or some extent in both Sweden and Norway that healthcare providers should ask about patients' alcohol consumption, but only if the issue is brought up by the patient ( $p = 0.17$ ).

The outcome “I believe people answer honestly when they are asked about their alcohol consumption at healthcare visits” was highly statistically different between countries ( $p <$



0.001). Although approximately 5% agreed completely in both countries, the proportion agreeing to a large extent was lower in Norway (13.5%) than in Sweden (19.4%). A similar proportion of respondents (26.0%) disagreed that people answer honestly when they are asked about their alcohol consumption at healthcare visits in both countries.

**“Pro-routine” beliefs and attitudes.** An overall test of interaction between determinants of being “pro-routine” and country was performed, and the result was not statistically significant ( $p = 0.93$ ). Accordingly, all subsequent analyses were performed for the pooled data set (Table 3). The odds ratio of believing that healthcare providers should ask routinely about patients’ alcohol consumption was higher for respondents aged 60+ compared to those aged under 30 ( $OR = 1.42$ , CI 1.04–1.95). The odds ratio of being “pro-routine” was significantly lower for respondents on parental leave than those who were employed ( $OR = 0.46$ , CI 0.27–0.77), and for single compared to married respondents ( $OR = 0.76$ , CI 0.64–0.91). The odds ratio of being “pro-routine” was significantly higher for respondents with one conversation about alcohol in healthcare and was more than twice as high for respondents who had two or more such conversations ( $OR = 2.20$ , CI 1.57–3.08) compared with those who did not have a conversation about alcohol.

The odds ratio of being “pro-routine” was significantly lower for moderate drinkers ( $OR = 0.45$ , CI 0.35–0.58) and for risky drinkers ( $OR = 0.28$ , CI 0.21–0.37) compared to abstainers. There were no associations between being “pro-routine” and either gender, level of education or country. The odds ratios of the different predictors estimated in the multilevel logistic regression to take into account the clustering effect within country were very similar to the estimates from the analysis presented in Table 3 and are therefore not shown.

### **Association between “pro-routine” and alcohol conversation among risky drinkers**

In total, approximately 27% of the hazardous drinkers were “pro-routine”. Among the hazardous drinkers who had received a conversation about alcohol in healthcare, 36% were “pro-routine”, a statistically significantly higher ( $p = 0.002$ ) share than the 25% who were “pro-routine” among hazardous drinkers who had not received a conversation about alcohol (Table 4).

## **Discussion**

This study sought to evaluate and compare beliefs and attitudes regarding alcohol conversations in healthcare in Sweden and Norway, and to explore factors associated with different levels of support for alcohol-preventive work in both countries. Our findings show that, overall, there is widespread support for healthcare providers asking about patients’ alcohol consumption (“pro-routine”) in both countries. However, a lower proportion of respondents in Norway, compared to Sweden, agreed to a large extent that healthcare professionals should routinely ask about alcohol consumption. Furthermore, a significantly higher proportion of Swedish than Norwegian respondents agreed completely that healthcare providers should ask about alcohol only when a patient presents with symptoms related to high consumption (34% compared to 23%) ( $p < 0.001$ ). Similar correlates of being supportive of routine alcohol screening and brief intervention delivery were found in both countries. However, in both countries support was lower among moderate and risky drinkers, among single participants or those on parental leave, but higher among older individuals.

The high levels of support we found for the delivery of alcohol prevention in routine healthcare are consistent with results from previous research, including the 2010 survey in Sweden (Nilsen et al., 2012). The fact that a lower proportion of respondents were “pro-routine” in

Norway compared to Sweden might be linked to the broader healthcare approach to alcohol prevention in Sweden compared to Norway's more targeted approach, focused on specific patient populations (Helsedirektoratet, 2018; Swedish National Board of Health and Welfare, 2011). In addition, the higher proportion of respondents being "pro-routine" in Sweden may partly be explained by a national project ("the Swedish Risk Drinking Project") to increase identification of and interventions for risky drinking in routine healthcare (Nilsen, Wählin, & Heather, 2011; Reinholdz et al., 2011). While public support for alcohol conversations may be higher in Sweden partly because of a national project to improve practice, it is less clear whether it has also affected alcohol consumption and health (Lundin et al., 2017). However, our findings provide further evidence that patients themselves are broadly in favour of healthcare providers asking about their alcohol consumption in a routine way. This is contrasted by findings indicating that physicians themselves find it challenging to address alcohol with patients who are not consulting for symptoms directly related to risky drinking (Aasland & Johannesen, 2008; Aira et al., 2003; Johansson et al., 2002; Lock et al., 2002; Nygaard & Aasland, 2011; Nygaard et al., 2010; Rush et al., 1995).

At the same time, given that around a quarter of respondents (26%) in Norway and Sweden believed that people do not answer honestly when they are asked about their alcohol consumption, our results suggest that some still view alcohol as a sensitive subject for discussion in healthcare (Miller et al., 2006; Nilsen et al., 2012). This proportion is lower than reported in both the 2010 Swedish population survey (34%) (Nilsen et al., 2012), and, interestingly, the aforementioned English survey (55% in 2017) (O'Donnell et al., 2018), a country where alcohol is arguably more culturally embedded (Stewart & McCambridge, 2019). Further, this difference may also reflect the higher levels of trust in public institutions found in Scandinavian

countries compared to the UK (Ortiz-Ospina & Roser, 2019).

In both countries, risky drinkers were less supportive of routine delivery of alcohol prevention in healthcare, compared to abstainers. Differences due to drinking status are consistent with results from previous research, including the 2010 survey in Sweden, where abstinence was predictive of being highly supportive of alcohol conversations, whereas hazardous and excessive drinkers were less supportive (Nilsen, McCambridge, et al., 2011). The fact that risky drinkers, the group who stand to benefit most from brief alcohol interventions, are consistently less supportive of their routine delivery, suggests that alcohol prevention remains challenging for healthcare providers in Norway and Sweden. However, an interesting positive finding in our study is that risky drinkers who had had an alcohol conversation in healthcare were more supportive of delivery of alcohol prevention than those who had not had such a conversation. This indicates that with experience (i.e., having a conversation about alcohol), there is less worry about a conversation about one's alcohol habits, indicating that a non-judgmental conversation reduces the potential shame of such a conversation (Coste et al., 2020; Tam et al., 2015).

We also found that older participants were more likely to be supportive of alcohol prevention in healthcare in both countries, again consistent with findings of the 2010 Swedish survey (Nilsen et al., 2012), and possibly reflecting an increased interest in health issues due to a higher risk of comorbidity in this age group (Gell et al., 2015). However, this finding contrasts with the results from the English survey, where there was no difference in levels of support by age (O'Donnell et al., 2018). As in 2010, we also found that respondents currently on parental leave were less likely to support being asked about their drinking (Nilsen et al., 2012) despite the fact that parents of small children are prioritised for

advice provision in the Swedish national guidelines (Swedish National Board of Health and Welfare, 2011).

Findings from an American study showed that patients who initiated a BI themselves after being prompted to do so, decreased their alcohol consumption more than patients who received provider-initiated BI (Rose et al., 2015). Given that more than half of the participants in our study agreed to a large or some extent that “Healthcare providers should ask about patients’ alcohol consumption, but only if the issue is brought up by the patient” it would be interesting to investigate such an approach in future research.

### Strengths and limitations

There are some limitations that must be considered when interpreting the findings. The study was based on self-reports and the cross-sectional design does not allow causal inferences. The surveys used two different sampling strategies in each country, and even though the panels are nationally representative on demographic variables, we do not know to what extent they are nationally representative on drinking habits and experiences with alcohol prevention in healthcare (Rehm et al., 2020). However, our samples were comparable in respect of our focus topic in that there were no differences in drinking status between respondents in both countries.

This study also has important strengths. It used a validated screening instrument (AUDIT) to assess drinking status. It is also the first population-based study comparing beliefs and attitudes on addressing alcohol consumption in healthcare between the Swedish and Norwegian populations. By evaluating beliefs and attitudes about alcohol conversation in healthcare and comparing the two countries, our findings could inform more effective implementation strategies for alcohol screening and brief interventions in the future.

## Conclusions

There is a high level of support among the Swedish and Norwegian populations for delivery of alcohol prevention in healthcare, although there was a lower proportion of respondents who were positive to alcohol prevention in routine healthcare in Norway compared to Sweden. The support for this work was lower in both countries among risky and moderate drinkers and among those on parental leave. Experiencing an alcohol conversation may positively affect risky drinkers’ attitudes towards and support for alcohol prevention. Thus, more frequent alcohol conversations in routine healthcare may result in an increased level of support for alcohol prevention among risky drinkers.

### Declaration of conflicting interests

The authors declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

### Funding

The authors disclosed receipt of the following financial support for the research, authorship, and/or publication of this article: The study was funded by Linköping University, University of Stavanger and Av-og-til, a Norwegian alcohol awareness NGO.

### ORCID iD

Nadine Karlsson  <https://orcid.org/0000-0003-0279-5903>

Amy O’Donnell  <https://orcid.org/0000-0003-4071-9434>

### References

- Aasland, O. G., & Johannesen, A. (2008). Screening and brief intervention for alcohol problems in Norway: Not a big hit among general practitioners. *Nordic Studies on Alcohol and Drugs*, 25.
- Abidi, L., Nilsen, P., Karlsson, N., Skagerström, J., & O’Donnell, A. (2020). Conversations about alcohol in healthcare: Cross-sectional surveys in the Netherlands and Sweden. *BMC Public Health*, 20(1), 283. 10.1186/s12889-020-8367-8.

- Aira, M., Kauhanen, J., Larivaara, P., & Rautio, P. (2003). Factors influencing inquiry about patients' alcohol consumption by primary health care physicians: Qualitative semi-structured interview study. *Family Practice, 20*(3), 270–275. 10.1093/fampra/cm307
- Beich, A., Gannik, D., Saelan, H., & Thorsen, T. (2007). Screening and brief intervention targeting risky drinkers in Danish general practice: A pragmatic controlled trial. *Alcohol and Alcoholism, 42*(6), 593–603. 10.1093/alcalc/agg063
- Coste, S., Gimenez, L., Comes, A., Abdelnour, X., Dupouy, J., & Escourrou, E. (2020). Discussing alcohol use with the GP: A qualitative study. *BJGP Open, 4*(2), Article bjgpopen20X101029. <https://doi.org/10.3399/bjgpopen20X101029>
- Gell, L., Meier, P. S., & Goyder, E. (2015). Alcohol consumption among the over 50s: International comparisons. *Alcohol and Alcoholism, 50*(1), 1–10. 10.1093/alcalc/agu082
- Helsedirektoratet [Norwegian Directorate of Health]. (2018). *Svangerskapsomsorgen* [Antenatal care]. Helsedirektoratet [Norwegian Directorate of Health].
- HOD. (2015). *Oppdragsdokument* [Annual Commission Letter]. Helse Vest RHF [Regional Health Trust Western Norway]. Helse- og omsorgsdepartementet [Ministry of Health and Care Services].
- Hutchings, D., Dallolio, E., Cassidy, P., Pearson, P., Heather, N., & Kaner, E. (2006). Implementing screening and brief alcohol interventions in primary care: Views from both sides of the consultation. *Primary Health Care Research and Development, 7*(3), 221–229.
- Johansson, K., Bendtsen, P., & Åkerlind, I. (2002). Early intervention for problem drinkers: Readiness to participate among general practitioners and nurses in Swedish primary health care. *Alcohol and Alcoholism, 37*(1), 38–42. 10.1093/alcalc/37.1.38
- Johnson, M., Jackson, R., Guillaume, L., Meier, P., & Goyder, E. (2011). Barriers and facilitators to implementing screening and brief intervention for alcohol misuse: A systematic review of qualitative evidence. *Journal of Public Health (Oxford), 33*(3), 412–421. 10.1093/pubmed/fdq095
- Kaner, E. F., Beyer, F. R., Muirhead, C., Campbell, F., Pienaar, E. D., Bertholet, N., Daepfen, J., Saunders, J. B., & Burnand, B. (2018). Effectiveness of brief alcohol interventions in primary care populations. *Cochrane Database of Systematic Reviews, 2*, Article Cd004148. 10.1002/14651858.CD004148.pub4
- Karlsson, N. E., O'Donnell, A. J., Abidi, L., Skagerström, J. M. E., & Nilsen, P. M. (2019). Addressing alcohol in routine healthcare in Sweden: Population-based surveys in 2010 and 2017. *European Journal of Public Health, 29*(4), 748–753.
- Lock, C. A., Kaner, E., Lamont, S., & Bond, S. (2002). A qualitative study of nurses' attitudes and practices regarding brief alcohol intervention in primary health care. *Journal of Advanced Nursing, 39*(4), 333–342.
- Lundin, A., Danielsson, A. K., Hallgren, M., & Torgen, M. (2017). Effect of screening and advising on alcohol habits in Sweden: A repeated population survey following nationwide implementation of screening and brief intervention. *Alcohol and Alcoholism, 52*(2), 190–196. 10.1093/alcalc/agw086
- Miller, P. M., Thomas, S. E., & Mallin, R. (2006). Patient attitudes towards self-report and biomarker alcohol screening by primary care physicians. *Alcohol and Alcoholism, 41*(3), 306–310. 10.1093/alcalc/agl022
- Moskalewicz, J., Room, R., & Thom, B. (2016). *Comparative monitoring of alcohol epidemiology across the EU: Baseline assessment and suggestions for future action synthesis rapport Warsaw*. PARPA-The State Agency for Prevention of Alcohol Related Problems.
- Nilsen, P. (2010). Brief alcohol intervention: Where to from here? Challenges remain for research and practice. *Addiction, 105*(6), 954–959. 10.1111/j.1360-0443.2009.02779.x
- Nilsen, P., Bendtsen, P., McCambridge, J., Karlsson, N., & Dalal, K. (2012). When is it appropriate to address patients' alcohol consumption in health care: National survey of views of the general population in Sweden. *Addictive Behaviors, 37*(11), 1211–1216. 10.1016/j.addbeh.2012.05.024

- Nilsen, P., McCambridge, J., Karlsson, N., & Bendtsen, P. (2011). Brief interventions in routine health care: A population-based study of conversations about alcohol in Sweden. *Addiction, 106*(10), 1748–1756. 10.1111/j.1360-0443.2011.03476.x
- Nilsen, P., Wåhlin, S., & Heather, N. (2011). Implementing brief interventions in health care: Lessons learned from the Swedish Risk Drinking Project. *International Journal of Environmental Research and Public Health, 8*(9), 3609–3627. <https://doi.org/10.3390/ijerph8093609>
- Nygaard, P., & Aasland, O. G. (2011). Barriers to implementing screening and brief interventions in general practice: Findings from a qualitative study in Norway. *Alcohol and Alcoholism, 46*(1), 52–60. 10.1093/alcalc/agg073
- Nygaard, P., Paschall, M. J., Aasland, O. G., & Lund, K. E. (2010). Use and barriers to use of screening and brief interventions for alcohol problems among Norwegian general practitioners. *Alcohol and Alcoholism, 45*(2), 207–212. 10.1093/alcalc/agg002
- O'Donnell, A., Abidi, L., Brown, J., Karlsson, N., Nilsen, P., Roback, K., Skagerström, J., & Thomas, K. (2018). Beliefs and attitudes about addressing alcohol consumption in health care: A population survey in England. *BMC Public Health, 18*(1), 391. 10.1186/s12889-018-5275-2
- Ortiz-Ospina, E., & Roser, M. (2019). *Our world in data*. [ourworldindata.org/trust](http://ourworldindata.org/trust).
- Rapley, T., May, C., & Frances Kaner, E. (2006). Still a difficult business? Negotiating alcohol-related problems in general practice consultations. *Social Science & Medicine, 63*(9), 2418–2428. 10.1016/j.socscimed.2006.05.025
- Rehm, J., Kilian, C., Rovira, P., Shield, K. D., & Manthey, J. (2020). The elusiveness of representativeness in general population surveys for alcohol. *Drug and Alcohol Review*. Advance online publication. <https://doi.org/10.1111/dar.13148>.
- Reinholdt, H. K., Bendtsen, P., & Spak, F. (2011). Different methods of early identification of risky drinking: A review of clinical signs. *Alcohol and Alcoholism (Oxford, Oxfordshire), 46*(3), 283–291. <https://doi.org/10.1093/alcalc/agr021>
- Rose, G. L., Guth, S. E., Badger, G. J., Plante, D. A., Fazzino, T. L., & Helzer, J. E. (2015). Brief intervention for heavy drinking in primary care: Role of patient initiation. *Journal Addiction Medicine, 9*(5), 368–375. 10.1097/adm.0000000000000141
- Rush, B. R., Powell, L. Y., Crowe, T. G., & Ellis, K. (1995). Early intervention for alcohol use: Family physicians' motivations and perceived barriers. *CMAJ, 152*(6), 863–869.
- Saunders, J. B., Aasland, O. G., Babor, T. F., de la Fuente, J. R., & Grant, M. (1993). Development of the Alcohol Use Disorders Identification Test (AUDIT): WHO collaborative project on early detection of persons with harmful alcohol consumption – II. *Addiction, 88*(6), 791–804. 10.1111/j.1360-0443.1993.tb02093.x
- Stewart, D., & McCambridge, J. (2019). Alcohol complicates multimorbidity in older adults. *BMJ, 365*, Article 14304. 10.1136/bmj.14304
- Swedish National Board of Health and Welfare. (2011). *National guidelines for disease prevention methods – Tobacco, alcohol, physical activity and eating habits – Support for governance and management in 2011 [Socialstyrelsen 2011. Nationella riktlinjer för sjukdomsförebyggande metoder–Tobak, alkohol, fysisk aktivitet och matvanor–stöd för styrning och ledning 2011]*.
- Tam, C. W., Leong, L., Zwar, N., & Hespe, C. (2015). Alcohol enquiry by GPs – Understanding patients' perspectives: A qualitative study. *Australian Family Physician, 44*(11), 833–838.
- Vendetti, J., Gmyrek, A., Damon, D., Singh, M., McRee, B., & Del Boca, F. (2017). Screening, brief intervention and referral to treatment (SBIRT): Implementation barriers, facilitators and model migration. *Addiction, 112*(Suppl 2), 23–33. 10.1111/add.13652
- WHO. (2018). *Total consumption with 95% CI by country*. World Health Organization. <http://apps.who.int/gho/data/node.main.A1036>.