

Norwegians' alcohol use during the COVID-19 pandemic: Self-reported changes and motives for change

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Abstract

Background: In Europe, the COVID-19 pandemic triggered a range of restrictive measures, which may have impacted alcohol consumption.

Objectives: We explored perceived changes in alcohol consumption, their association with socio-demographic characteristics and past year alcohol consumption, and self-reported reasons for change after COVID-19-restrictions in Norway.

Method: A web-based survey was sent to Norwegians aged 18 years and older in June-July 2020. Respondents reporting any past year alcohol use (n=1200), were asked whether they drank less, approximately the same or more after the COVID-19 restrictions compared to before, and reasons for drinking less or more.

Results: Almost a third (29.9%) reported they drank less, whereas 13.3% reported they drank more. Females, younger respondents, and Oslo residents were more likely to report both less and more drinking (p-values between 0.001 and 0.029). Past year alcohol use was associated with; less drinking (OR=0.93; $p < 0.001$) and more drinking (OR=1.07; $p < 0.001$). More drinking was also associated with living with child(ren) ($p=0.023$) and high educational level ($p=0.029$).

The most frequently reported reasons for drinking less pertained to fewer social occasions and less on-premise drinking, whereas reasons for drinking more pertained to treating oneself to something good and fewer consequences of drinking more.

Conclusions: After the COVID-19 restrictions, a substantial proportion changed their drinking behaviour.

Introduction

In Europe, the COVID-19 pandemic triggered a range of societal measures to curb the disease spread. These measures may have impacted alcohol consumption in different ways; i) a reduction of alcohol use in the short run, reflecting reduced economic and physical access to alcohol, and ii) an increase for some groups, due to pandemic induced distress (1). Moreover, the pandemic may have resulted in fewer social occasions for drinking or increased consumption could following more flexible working hours. This has been the focus in an emerging literature from European countries (2-5) and elsewhere (6-11).

In Norway, COVID-19 restrictions were implemented from medio March 2020. This included restrictions on social events, travelling and on-premises trading hours, all of which could have led to reduced alcohol access and consumption. However, total consumption increased slightly in the second quarter of 2020, compared to 2019 (12), suggesting that reduced access and consumption in some groups were off-set by increased consumption in others. While restrictions on travelling and social gathering were uniform across population groups, other measures differed across municipalities and population groups. On-premise alcohol sales were more restricted in the capital (Oslo) than elsewhere, whereas lockdowns of kindergartens and schools, affected households with children. Despite generous government compensations (13), many people experienced job loss and reduced income, which may have dampened alcohol use. Many worked from home with more flexible working hours, which may have differed by socio-economic status. Thus, the various measures may have impacted people's alcohol consumption in different directions and to various extents, depending on socio-demographic characteristics. (2, 4, 7, 10, 14).

In the present study, we explored i) to what extent Norwegian adults perceived a change in their alcohol consumption after the COVID-19-measures were implemented; ii) whether perceived change in either direction was associated with socio-demographic characteristics and previous alcohol use; and iii) self-reported reasons for a change in alcohol consumption.

Materials and Methods

Procedure and respondents

Data stemmed from a population survey sent to 4,844 Norwegians aged 18 years and older in June-July 2020, randomly selected from a national web panel. A total of 1,328 (27.4%) completed the questionnaire. Only those who reported any alcohol use during the past 12 months (n=1,200, unweighted data) were asked about perceived change in alcohol consumption. Of these, 48% were male, and the average age was 47.9 years (SD=17.9).

Measures

Change in alcohol use was assessed by asking respondents whether they, compared to previously, drank much less, less, approximately the same, more or much more after the COVID-19-measures were implemented. The responses were collapsed into 'Less', 'Approximately the same' (i.e. 'No change') and 'More'. Respondents who stated that they were drinking less or were drinking more, were asked about reasons for this and could tick off one or several of 9 or 8 stated reasons, respectively.

Socio-demographic characteristics included gender, age, living with child(ren) under 18 years ('Yes'/'No'), education at university level ('Yes'/'No'), household income level ('Low' (below 47,000 €/year); 'Medium' (47,000-94,000 €/year) or 'High' (94,000 € or above/year), area of dwelling ('Oslo'/'Elsewhere'), and in paid work ('Yes'/'No').

Past year alcohol consumption (number of alcohol units/week) was calculated from the first two items of the Alcohol Use Disorder Identification Test for Consumption (AUDIT-C) (15).

Statistical analyses

The analyses were explorative, and the study was not pre-registered. Bi-variate associations were analysed in cross-tabulations using Pearson's χ^2 -test and ANOVA and in multinomial logistic regressions. Change in alcohol use was analysed with "No change" as reference category. All statistically significant variables ($p < 0.05$) from the latter analyses were entered in a multi-variate multinomial logistic regression. The analyses were conducted in SPSS version 26.

Results

About half of the respondents (56.8%) reported no change in drinking after implementation of the COVID-19-measures, 29.9% reported less drinking and 13.3% reported more drinking. This distribution varied significantly with gender, age, education level, area of dwelling, and past year alcohol consumption (Table 1). In comparison to no change, less drinking and more drinking were both more pronounced among women (OR=1.58; $p=0.002$, and OR=1.55; $p=0.027$, respectively), in the younger age group (OR=2.68; $p<0.001$ and OR=3.46; $p<0.001$, respectively), and among Oslo residents (OR=1.59; $p=0.013$ and OR=1.75; $p=0.015$, respectively). Past year alcohol consumption was associated with less drinking ($p<0.001$) and with more drinking ($p<0.001$). More drinking was also associated with living in a household with child(ren) ($p=0.023$) and with a high educational level ($p=0.029$). This pattern remained in the multivariate analysis (tab. 1).

Among those who drank less, 'Fewer parties and less together with friends' was the most frequently stated reason (65%) (tab. 2), and particularly among the youngest (82%) and those living in Oslo (77%) (data not displayed in table). 'Less frequent visits to restaurants, cafes, pubs, and bars' was another frequently stated reason (50%), and more so by Oslo residents (62%). Among those who drank more, the most frequently given reasons were 'The need to treat myself with something good' (45%) and 'Fewer consequences of drinking more' (38%). A sensitivity analysis investigating those reporting only one reason revealed no marked discrepancies in endorsement.

Discussion

This study of self-reported changes in alcohol consumption in the first wave of COVID-19-measures in Norway, provides further insight into socio-demographic and drinking behaviour characteristics of such changes as well as self-reported reasons for change.

A substantial proportion of respondents reported a change in alcohol use, and less drinking was more often reported than more drinking. Other similar studies have all found that a substantial proportion of respondents reported less or more drinking during the pandemic as compared to previously (2-6, 8, 9). Notably, the overall direction of change varied across these studies, and so did also sampling method, population representativeness, and measurements. Moreover, timing of data collection and differences in extent of lockdowns or restrictive measures between countries or jurisdictions are also important when interpreting similarities and differences across studies in overall direction of change and demographic characteristics of change.

In line with studies from Germany (4) and Greece (2), we found a larger proportion reporting less drinking than those who reported more drinking (5). This finding does, however, not necessarily indicate an overall reduction in alcohol consumption in the short run, as previously hypothesized (1). Notably, less drinking occurred among those with a low past year consumption and more drinking among those with high consumption. It is therefore possible that the amount of increased drinking in the smaller group who drank more offset the decrease in the larger group who drank less. Thus, our findings may well be compatible with the slight increase in overall alcohol consumption found in Norway (12) after the COVID-19-measures were implemented.

While increased psychological distress has been identified as an important motive for increased consumption under previous crises (1) and during COVID-19 (14), our study showed that 'the need to treat myself with something good' and 'fewer consequences of drinking more' were more frequently reported. One possible explanation for these contrasting findings is that the current study was conducted shortly after the COVID-19-measures were implemented. At this time point, the pandemic was under control and the measures were less intrusive than in many other countries, possibly explaining why distress was a less important motive for increased consumption.

Limitations of the current study include under-reporting and selection biases in survey research on substance use (16), a phenomenon more pronounced among heavy drinkers. The sample consisted of respondents who reported any alcohol use during the past 12 months. Thus, we were not able to examine whether individuals who previously were abstinent started drinking as a response to the COVID-19-measures. Furthermore, other socio-demographic characteristics may affect changes in alcohol use than those included in this study, e.g., changes in the job situation and income. Lastly, while this study identified some reasons for changes in alcohol use during COVID-19, a number of unstated other reasons could be important (5), even though relatively few ticked off for "other reasons".

Though the total alcohol consumption in Norway increased slightly in the first three months after the COVID-19 restrictions were implemented, the current study demonstrates that beneath this small overall change there was a substantial dynamic in consumption changes across socio-demographic strata and consumer groups. The observed decrease among low level consumers and increase among high level consumers may suggest that: i) the dispersion of consumption increased despite little change in total consumption, and ii) the consumer groups did not change collectively.

Further research, applying a longitudinal design, is needed to validate these important aspects of alcohol consumption dynamics.

Statements

Acknowledgement

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Statement of Ethics

Participation was voluntary, and the data were pseudonymized by the research agency.

Conflict of Interest Statement

The authors have no conflicts of interest to declare.

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Author Contributions

All four authors were equally involved in designing the original study questions, conceptualizing the aims of the study, writing all the parts of the paper. All four authors have partaken in the various rewrites of the first and second draft of the manuscript and have approved the final manuscript in its current form.

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Table 1. Self-reported alcohol use (less drinking, no change, more drinking) during the COVID-19 pandemic by socio-demographic groups and previous drinking behaviour, bi-variate distributions, multinomial logistic regression unadjusted and adjusted.

	Bi-variate distributions			Test statistic	Multinomial ^a (unadjusted)		Multinomial ^{a,b} (adjusted)	
	Less drinking	No change	More drinking		Less drinking	More drinking	Reference category: No change	
	359 (29.9%)	682 (56.8%)	159 (13.3%)		OR (95% CI)	OR (95% CI)	Less drinking	More drinking
Gender				$\chi^2=38.6$				
Women (n=628)	36.8%	48.6%	14.6%	(p<0.001)	2.23 (1.71-2.90)	1.70 (1.20-2.41)	1.58 (1.19-2.10)	1.55 (1.05-2.29)
Men (n=572)	22.4%	65.9%	11.7%		ref (OR=1)	ref (OR=1)	ref (OR=1)	ref (OR=1)
Age group				$\chi^2=69.9$				
18-34 (n=349)	42.1%	39.8%	18.1%	(p<0.001)	3.58 (2.53-5.07)	3.71 (2.31-5.98)	2.68 (1.85-3.88)	3.46 (2.06-5.83)
35-59 (n=491)	27.9%	58.9%	13.2%		1.61 (1.16-2.23)	1.84 (1.16-2.92)	1.35 (0.93-1.95)	1.55 (0.92-2.64)
60+ (n=360)	20.8%	70.6%	8.6%		ref (OR=1)	ref (OR=1)	ref (OR=1)	ref (OR=1)
Household				$\chi^2=4.7$				
With children under 18 (n=887)	31.6%	52.3%	16.1%	(p=0.096)	1.21 (0.90-1.63)	1.48 (1.01-2.17)	1.11 (0.79-1.55)	1.68 (1.07-2.62)
Without children under 18 (n=304)	29.2%	58.6%	12.2%		ref (OR=1)	ref (OR=1)	ref (OR=1)	ref (OR=1)
Employment				$\chi^2=1.7$				
No (n=505)	27.9%	58.6%	13.5%	(p=0.432)	0.84 (0.65-1.09)	0.97 (0.69-1.38)		
Yes (n=695)	31.4%	55.5%	13.1%		ref (OR=1)	ref (OR=1)		
Educational level				$\chi^2=7.9$				
University level (n=492)	29.0%	55.5%	15.5%	(p=0.019)	0.98 (0.76-1.27)	1.65 (1.14-2.39)	1.02 (0.77-1.34)	1.55 (1.05-2.29)
Below university level (n=708)	31.3%	58.7%	10.0%		ref (OR=1)	ref (OR=1)	ref (OR=1)	ref (OR=1)
Income				$\chi^2=1.8$				
Low (n=241)	31.1%	55.2%	13.7%	(p=0.767)	1.12 (0.77-1.62)	0.97 (0.59-1.60)		
Medium (n=423)	29.1%	59.1%	11.8%		0.97 (0.70-1.35)	0.78 (0.51-1.22)		
High (n=331)	28.7%	56.8%	14.5%		ref (OR=1)	ref (OR=1)		
Oslo vs. other places				$\chi^2=19.3$				
Oslo (n=201)	34.8%	44.3%	20.9%	(p<0.001)	1.61 (1.15-2.28)	2.39 (1.58-3.63)	1.59 (1.10-2.29)	1.75 (1.11-2.74)
Other places (n=999)	28.9%	59.4%	11.7%		ref (OR=1)	ref (OR=1)	ref (OR=1)	Ref (OR=1)
Number of alcohol units/week (SD)	2.5 (3.6)	3.9 (5.9)	6.8 (7.4)	ANOVA F=34.1 (p<0.001)	0.92 (0.89-0.95)	1.06 (1.03-1.08)	0.93 (0.90-0.97)	1.07 (1.04-1.10)

^a Bold indicates that the coefficient is significantly different from 0 at $p < 0.05$ and $p < 0.01$; ^b gender, age group, household, educational level, place of residence and number of alcohol units per week were adjusted for all these

Table 2. Self-reported reasons for reducing and increasing alcohol use during COVID-19

Reasons for less drinking	N = 359^a	N=129^b
I have been to fewer parties and less together with friends	234 (65.2%)	44 (31.8%)
I have visited restaurants, cafes, pubs, and bars less frequently	181 (50.4%)	14 (10.9%)
I have not felt like it	117 (32.6%)	32 (24.8%)
I have travelled less	81 (22.6%)	7 (5.4%)
I want to be as healthy as possible (during the pandemic)	44 (12.3%)	4 (3.1%)
I have spent more time with my children and other family members at home	33 (9.2%)	4 (3.1%)
I have had less alcohol available in the house	22 (6.1%)	4 (3.1%)
I have had less money to spend	14 (3.9%)	1 (0.8%)
Other reasons for reducing	39 (10.9%)	22 (17.1%)
Reasons for more drinking	N = 159^a	N = 69^a
I have more need to treat myself with something good	71 (44.7%)	21 (30.4%)
There are fewer consequences of drinking more (e.g. fewer consequences the next day, less need to drive a car)	60 (37.7%)	12 (17.4%)
I have had a more flexible job situation (e.g. home office or flexible working hours)	45 (28.3%)	6 (8.7%)
I have worked less or stopped working	28 (17.6%)	2 (2.9%)
I have wanted to alleviate the stress or worries associated with the pandemic	27 (17.0%)	4 (5.8%)
I have been more alone (had more time on my own)	27 (17.0%)	3 (4.3%)
I have more often been to parties or with friends	18 (11.3%)	4 (5.8%)
Other reasons for increasing	30 (18.9%)	17 (24.6%)

a) all reasons given, as multiple reason could be given by the respondents. b) response rate among those citing one single reason for their change in behaviour