

## Letter to Editor

# Changes in Alcohol Use Habits in the General Population, during the COVID-19 Lockdown in Greece

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On March 11, 2020, WHO declared COVID-19 a pandemic. Considering the risk of rapid spread, Greece imposed a nationwide lockdown early in its coronavirus outbreak, including movement restriction, limited public transportations, suspension of educational institutions as well as closure of cafes, bars, restaurants, museums, shopping centers and sports facilities. Only essential public services such as hospitals, police and fire stations were excluded from the general lockdown along with supermarkets, supply food chain stores, caterers, pharmacies, gas stations, car repair shops, mini markets and convenience stores, cafes and restaurants offering take away services with specific safety measures.

Community disasters have been shown to be related with increased substance use (Boscarino et al. 2006). Furthermore, there is evidence to support a possible ‘self-medication’ model in the association between substance abuse and stress (Chilcoat and Menard 2003). In that context, we designed a study in order to detect changes in alcohol consumption habits during a period of 36 days in lockdown mode.

A cross-sectional study was conducted from April 25 until April 28, 2020 based on convenience sampling due to COVID-19 restrictions measures. The sample was characterized by overrepresentation of health care professionals and was not representative of the general population. The online survey, created using the platform ‘Qualtrics’ (Qualtrics.com), was distributed via social media. Participation was anonymous and voluntary. Participants completed the Greek version of Alcohol Use Disorders Identification Test—Concise (AUDIT-C) and several questions about their drinking habits. Ethical approval was received from the Scientific Committee of the General Hospital ‘Papageorgiou’ Review Board prior to data collection.

A total of 705 adults, fluent in Greek, participated in the study [ $M$ .age = 41.68,  $SD$  = 11.49; 528 were female (75%) and 177 were male (25%)]. Males’ age ( $M$  = 43.10,  $SD$  = 11.48) was slightly higher

than females’ ( $M$  = 41.21,  $SD$  = 11.46) (not significantly different [ $t(701) = 1.88, P > 0.001$ ]). Univariate analysis of variance (ANOVA) revealed a significant difference between pre-COVID Audit-C (PCA) and marital status. Post hoc comparisons using Bonferroni correction test indicated that the mean of never married participants ( $M$  = 3.67,  $SD$  = 1.57) was significantly higher [ $F(5,658) = 4.60, P < 0.001, \eta^2 = 0.34$ ] than the mean of married participants ( $M$  = 3.10,  $SD$  = 1.41). The result was not replicated when exploring the interaction of marital status and alcohol consumption after the COVID-19 outbreak ( $P > 0.001$ ). Participants living with their families reported a lower alcohol consumption, than those living alone [ $t(702) = 2.91, P = 0.004, d = 0.21$ ].

Participants were queried about their personal drinking habits before and during the outbreak of the COVID-19 pandemic. The split of consumption by drink type was broadly similar before and after the start of lockdown. More people drank alone during the post COVID period (8.0% pre-COVID vs. 29.0% post-COVID) or with their life partners (20.2% pre-COVID vs. 40.7% post-COVID) than with friends (68.2% pre-COVID vs. 18.5% post-COVID), and all 705 drank at home during the lockdown. Similar percentages were found regarding morning (0.7% pre-COVID vs. 0.5% post-COVID), noon (16.3% pre-COVID vs. 20% post-COVID), afternoon (9.6% pre-COVID vs. 8.3% post-COVID) and evening drinking (89.3% pre-COVID vs. 87.8% post-COVID). Most participants (56.7%) purchased alcohol from the supermarket during the lockdown (vs. 29.9% pre-COVID). Some (32.1%) reported that they did not notice any change in their drinking habits, 20.7% reported that they drink more and 34.9% reported that they drink less alcohol during the lockdown, whereas 8.8% quit alcohol after the outbreak. Changes in drinking habits were attributed to difficulties in visiting favorite places or meeting with friends (29.7%), changes in everyday habits (27.5%) or to the lockdown in general (13.0%). A notable 13.6%

reported that they were drinking to cope with anxiety symptoms or depressed mood.

Cutoff points were used to clarify participants' alcohol consumption. Individuals who ranked above the cutoff point score (5 drinks/day or higher for men; 4 or higher for women) were regarded as in increased risk of alcohol use disorders (AUD). Individuals who ranked above 7 (both genders) were classified as high risk of AUD. Two categorical variables were created [PCA and After-COVID Audit-C (ACA)] based on PCA and ACA scores to describe alcohol consumption severity: 45.2% of alcohol users reported drinking less or abstaining, 21.5% reported drinking more and 33.3% reported no change in their consumption (Table 1). The difference in pre-COVID-19 alcohol consumption by gender was found to be statistically significant. Specifically, men were more likely to fall into the high-risk group than women ( $\chi^2 = 16.281$ ,  $df = 2$ ,  $P < 0.001$ ). The result was not replicated when comparing the groups after COVID-19. When exploring changes in alcohol consumption, one can observe that there was a statistically significant decrease after the pandemic in all groups except for the low-risk group, where there was a slight increase (statistical significance was presented in the low-risk female group only).

Evidence of elevated alcohol consumption due to exposure in stressful situations like public health and economic crises have been previously reported (Lau et al. 2005; Boscarino et al. 2006; Wu et al. 2008), while elsewhere a decrease in use or no effect over alcohol consumption patterns is reported (Shimizu et al. 2000; North et al., 2004; Simons et al. 2005). Some cultural factors have been reflected in the relation of alcohol consumption and COVID-19 (Chick 2020).

In accordance with the majority of the studies in the field of substance use disorders, this study revealed being male, unmarried and living alone as risk factors for heavier alcohol use during the pre-COVID-19 period (Collins, 2016). During the quarantine, a significant decrease in alcohol consumption was observed in all participants. Possible explanations involve limited alcohol availability and socialization, changes in daily routine (Marsden et al. 2020; Rehm et al. 2020; Stanton et al. 2020) and downsized income, because of unemployment and reduced working hours, leading to tighter budgets for alcohol (de Goeij et al. 2015; Dom et al. 2016). Another explanation could be that COVID-19 is a health-related crisis rendering people concerned about their health, resulting in moderate drinking. Timing should also be considered as some of the pandemic's effects may be immediate, while others long-term. It was suggested that during COVID-19, an alcohol use decrease may be expected in the immediate future (Rehm et al. 2020), while in the long term, an increase could appear (Lau et al. 2005; Wu et al. 2008).

As this pandemic does not seem to be over soon, subsequent consequences could emerge, mediated by different factors. Identification of these factors may allow for the recognition of population subgroups with more vulnerabilities (Da et al. 2020; Finlay and Gilmore 2020) or public health policies that were protective or not for the general population.

## DISCLOSURE AND ETHICS APPROVAL

The authors declare no competing financial interests. Ethical approval was received from the Scientific Committee of the General Hospital 'Papageorgiou' Review Board prior to data collection.

## AVAILABILITY OF DATA AND MATERIAL

Data available on request. The data underlying this article will be shared on reasonable request to the corresponding author.

**Table 1.** AUD risk groups and changes in alcohol consumption after the COVID-19 pandemic

	PC			AC			
	Increased risk count (%)	High risk count (%)	Total count (%)	Low risk count (%)	Increased risk count (%)	High risk count (%)	Total count (%)
Low risk count (%)	475 (67.4)	33 (4.7)	705 (100)	485 (68.8)	198 (28.1)	22 (3.1)	705 (100)
Have you noticed any changes in your alcohol drinking behavior?							
Increased in your alcohol	197 (27.9)			155 (22.9)	63 (9.3)	7 (1)	225 (33.3)
drinking behavior?		No change		5 (.7)	6 (.9)	3 (.4)	14 (2.1)
I drink much more		I drink much more		45 (6.7)	80 (11.8)	6 (.9)	131 (19.4)
I drink more		I drink more		107 (15.8)	35 (5.2)	5 (.7)	147 (21.7)
I drink much less		I drink much less		56 (8.3)	5 (.7)	0 (0)	61 (9)
I drink less		I drink less		91 (13.5)	6 (.9)	1 (.1)	98 (14.5)
I quit drinking		I quit drinking		459 (67.9)	195 (28.8)	22 (3.3)	676 (100)
Total		Total					

Note: PC, Pre COVID-19; AC, After COVID-19.

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## CONFLICT OF INTEREST STATEMENT

All authors have no conflicts of interest relevant to this article to disclose.

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