

Threatening increase in alcohol consumption in physicians quarantined due to coronavirus outbreak in Poland: the ALCOVID survey

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ABSTRACT

Background The potential risks of increased alcohol use and of the development of alcohol dependence during COVID-19 pandemic were identified. So far there have been no studies concerning pandemic influence on alcohol consumption in medical professionals in quarantine or isolation.

Methods The 12 point 'online' ALCOVID survey with a cover letter was designed and addressed to physicians, recruited online via accessible networks, who underwent isolation or quarantine during recent pandemic. The AUDIT-3 scale was included.

Results A representative trial of 113 physicians participated in the study. Over 53% of screened doctors revealed that the amounts of the consumed alcohol have escalated; almost 20% of subjects binged over seven standard drinks for one occasion. Close to every second used six or more drinks on one occasion. Over 40% used alcohol more than four times per week. Female used alcohol more often and more standard drinks per occasion. Male binged more. Anxiety and hopelessness were the most common motives to drink.

Conclusions Alcohol consumption in physicians in quarantine has threateningly increased. It is important to identify the group of people at the risk of problem drinking and dependence development, especially when it concerns key professional branches in the fight against the current crisis.

Keywords alcohol use, coronavirus, COVID-19, lockdown, physicians, quarantine

Background

During the COVID-19 pandemic, there have been warnings regarding the potential risks of increased alcohol use and of the development of alcohol dependence. These warnings were presented both in the press and in scientific journals.^{1–3} A global crisis of pandemic, which appeared regarding the SARS-Cov-2 outbreak has touched all branches, including medical professionals. A phenomenon known as physicians' burnout, distress and exhaustion have been underlined.^{4, 5} Crises—economic, war or pandemic—were associated with their direct and indirect impact on public health. Among others, their affection on alcohol consumption and alcohol-related health problems have been reported,^{6, 7} and extensive and comprehensive reviews were published^{8, 9} (see Appendix 1). The higher general consumption of alcohol among doctors was already reported to be higher than that of the general

population,¹⁰ and stress and other form of psychological distress may play a significant role in predicting problem drinking.¹¹ In the face of a pandemic, which direct and indirect effects that will certainly be traumatic, it was reasonable to conduct research that will result in the possibility of carrying out activities to prevent the development of alcohol problems or dependence. To date, no studies have been conducted to allow parametric evaluation of alcohol use during the COVID-19 pandemic. In connection with the suspicion of an increase in alcohol use during a pandemic, a pilot study and tool were designed to aim at the assessment of whether the use of alcohol by doctors during the quarantine or the isolation (Q-Is) has increased, if so, to what extent and how.

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Materials and methods

There are no official data concerning the number of officially and unofficially Q-Is physicians in Poland. The recruitment goal was to reach as many Q-Is doctors as possible (for more detailed information's concerning methodology and study design see the Appendix 2, and for the ALCOVID survey, see the Appendix 3). The 'online' survey was designed simple and short time-consuming, as it may improve its collectability.¹² The cover letter disclaimed definitions and reasons for this research and who is invited to participate. Participants were recruited in April 2020, from all over Poland using accessible social networks and represent different branches of medical specializations. All data had to be anonymized and collected safely from respondents. The study met ethical principles according to Polish law. Inclusion criteria were met by medical school graduates, employed in Poland, being quarantined or isolated due to SARS-Cov-2. The participation in this 'online' survey was recognized as an informed consent to participation in the study. Despite clear definitions of the Q-Is, the survey did not define them definitively. The author assumed that he was studying the experience of seclusion for reasons related to the pandemic and its relationship with alcohol use.

The survey collected data on gender, age, type of specialization, training stage and the duration of the Q-Is. The main question sought to determine the effect of the Q-Is on alcohol use. Participants had to answer whether has their drinking changed during quarantine or isolation, and if so, then how. Thanks to the doctor's self-assessment in a two-category variable after answering the question about the change in the use and how it changed, two groups were obtained for further comparisons. A shortened version of the AUDIT scale (AUDIT-3)^{13, 14} was included. The second item was modified, because it did not provide the option, 'zero,' which was more matching to the abstainers. Two additional open-ended questions were asked. The first one considered whether being in the quarantine affected the alcohol use and how. The second question focused on reasons for alcohol affection on Q-Is. Respondents were asked to give descriptive answers.

Responding physicians were divided in two subgroups (those whose alcohol use has increased or decreased and those whose alcohol use did not change as controls) and compared. Additional comparisons were made for female and male subjects within the subgroup of doctors whose alcohol use during the pandemic and the subsequent Q-Is has increased. The decisions on the selection of the tests in the subsequent statistical analysis were based on the structure of the survey. The frequency distribution method was used.

Results

ALCOVID survey was completed by 117 of doctors who confirmed that during the SARS-CoV-2 pandemic they were in the Q-Is (for diagrams see Appendix 4). The response rate is not available due to study design and limitations. After analyzing the data collected in the survey, four questionnaires that could significantly disturb the results of the study were rejected due to the logical contradictions contained in them. Among respondents ($n = 113$), 62 were women (54.9%) and 51 were men (45.1%). The study was completed by specialist doctors and doctors attending a specialization course ($n = 61$ vs. 52). Most responding physicians quarantined or isolated due to the pandemic ($n = 98$; 86.7%) were under 50 years old. The Q-Is time in 66.4% of physicians took 7 to 14 days, 15.9% over 2 weeks, and 15% of the doctors underwent the Q-Is for less than a week. In 43 physicians in the Q-Is, the drinking pattern did not change, and 10 people admitted that they had reduced their alcohol use. However, among the respondents, 60 doctors revealed that their alcohol use has increased. According to the data for the entire study group, 31.8% ($n = 36$) of physicians used alcohol four or more times a week, 27.4% ($n = 31$) two to three times a week, 13.3% ($n = 15$) two to four times a month and 6.2% ($n = 7$) one or fewer times a month. Twenty four of respondents (21.2%) declared their abstinence from alcohol. Quantitative analysis of alcohol use in the quarantined or isolated doctors was measured with Item 2 and 3 of the AUDIT-3 screening test, modified for ALCOVID. The results were 26 physicians have not consumed alcohol at all during their Q-Is, one or two standard drinks were used by 39 subjects, and respectively, three or four for 23, five or six for 12, seven to nine for 9 and 10 or more for three. Six or more drinks on one occasion were never used by 50 (44.2%) of the respondents. Less than monthly consumption of alcohol, 19 doctors (16.8%), used six or more standard drinks on one occasion during their Q-Is. Twelve of the physicians (10.6%) used six or more drinks once in a month and 25 subjects (22.1%) once a week, and six subjects (5.3%) were drinking six or more units daily or almost daily. Within the general group ($n = 113$), female and male did not differ in mean age and time spent on the Q-Is due to the SARS-CoV-2 pandemic ($P = 0,862$). Of 62 female subjects, 32 versus 30 (51.6% versus 48.4%) declared that their use of alcohol has increased during their Q-Is. For 51 male respondents 27 (53%) versus 24 (47%) subjects declared the same. Physicians who did not change their model of drinking during the Q-Is due to pandemic used less alcohol and less often (39.47% did not drink at all and 12.60% drinks up to 2 drinks once per month). For the subgroup of physicians who have changed their alcohol use during pandemic following results

have been achieved. In respondents of both genders, significant increase in population of moderate and heavy drinking has been observed (41.42% used alcohol more often than 4 times per week). The average value of the AUDIT-3 score for people who did not change their previous alcohol consumption was on average 2.2 points (SD, 2.97) and among those who changed their use (increased or decreased) of alcohol 5.34 points on average (SD, 3.23). For intergroup comparisons following statistical assumptions have been made. The group of doctors who did not change alcohol use served as a baseline and controls. It was assumed that this group represented a similar drinking pattern to previous to the COVID-19 outbreak. Those physicians who did a change in their drinking (an increase as well as a decrease $F = 39$, $M = 31$) were compared to the control group ($F = 29$, $M = 23$). Physicians who did not change their model of drinking during Q-Is due to pandemic used less alcohol and less often. The controls mostly were abstainers ($F = 52.63\%$; $M = 26.31\%$), for the studied group reduction in the population of $F=42.11\%$ and $M=19.65\%$ have been observed. For the subgroup of physicians who have changed their alcohol use during pandemic, the following results have been achieved. In both sexes an increase in population of moderate and heavy drinking has been observed. In female subjects alcohol was used more often, three up to four standard drinks—two to three times a week (18.41%) or four times a week (15.79%). Male subjects presented similar frequency of using alcohol for one to two standard drinks for one session (20.00% and 16.67%). The significant increase in alcohol use has been noted to subjects who have used seven or more standard drinks for one occasion ($F = 10.40\%$, $M = 6.67\%$) and for alcohol use over four times a week ($F = 13.3\%$, $M = 4.83\%$). None of subjects in control group (of those of physicians who did not change their model of using alcohol) has reported those of levels. Detailed frequency distribution is presented in Figure 1. For the studied group of physicians who have changed their alcohol use during Q-Is, 54% of doctors were under 35 years of life ($F = 66\%$, $M = 36.6\%$).

The responding physicians gave a number of answers describing the reasons for the change in drinking habits:

‘Due to the greater amount of free time, the frequency of alcohol consumption increased,’ ‘For the first episodes of drinking alone appeared, not due and for social purposes,’ ‘Quarantine affected my consumption of alcohol - currently I drink alcohol every day, and when I don’t drink, I have to consciously refrain,’ ‘In the initial period of isolation, I drank much more alcohol than usual for the first two weeks. After two weeks, I went back to drinking the normal amount like before the quarantine.’

The responding doctors, in general, drew attention to the role of *anxiety* (the most common answer on the question

concerning motives for using alcohol in Q-Is), tension and fear about their health: feeling helpless, hopeless and lacking reliable information and worries about the future. They reported these were the motivations and triggered them to drink more alcohol while in Q-Is than usual.

Discussion

Main finding of this study

In this study, particular emphasis was placed on determining the possible increased risk of alcohol use in quarantined or isolated physicians. It can be concluded that the hypotheses regarding increased alcohol consumption by physicians in Q-Is have been confirmed.

Almost every fifth of the quarantined physicians binged over seven standard drinks for one occasion and close to every second used six or more drinks on one occasion. Over a half of screened doctors revealed that the amounts of the consumed alcohol have escalated during Q-Is due to pandemic. Of the quarantined or isolated doctors, 41.42% used alcohol more often than four times per week. Female physicians used alcohol more often and more. Male physicians binged more often. In the studied group, there were about two thirds of younger (<35 year of life) women and about two thirds of older (>35 year of life) men.

What is already known on this topic

To date, no studies have been conducted to allow parametric evaluation of alcohol use during the COVID-19 pandemic. Results of this research correspond to the previous studies, warnings and reviews concerning the increased risk of alcohol use increase due to an impact of crisis^{6–11} and pandemic^{1, 15} (Appendix 1). The study reflects conclusions of previous research concerning characteristics and motives to use alcohol in women and men.^{16, 17} The WHO stated a warning that alcohol does not protect against COVID-19 and suggested that an access to it should be restricted during lockdown.¹⁸ Such experiences were successful in Poland in the past,¹⁹ resulting in significant fall in alcohol consumption. The quarantine strategy used in the SARV-Cov-2 pandemic has proven that the implementation of a quarantine intervention strategy may lead to the effective control or elimination of the viral disease in communities,²⁰ and it may be expected that this strategy will be used more than once in the future. The results of this study correspond with a recently published broad review describing short-term and long-term consequences of the pandemic and quarantine, as stressors and health-care workers deserve special support.²¹ Long-term observations of medical workers revealed that 3 years after quarantine due to the 2003 SARS outbreak, the alcohol abuse or dependence

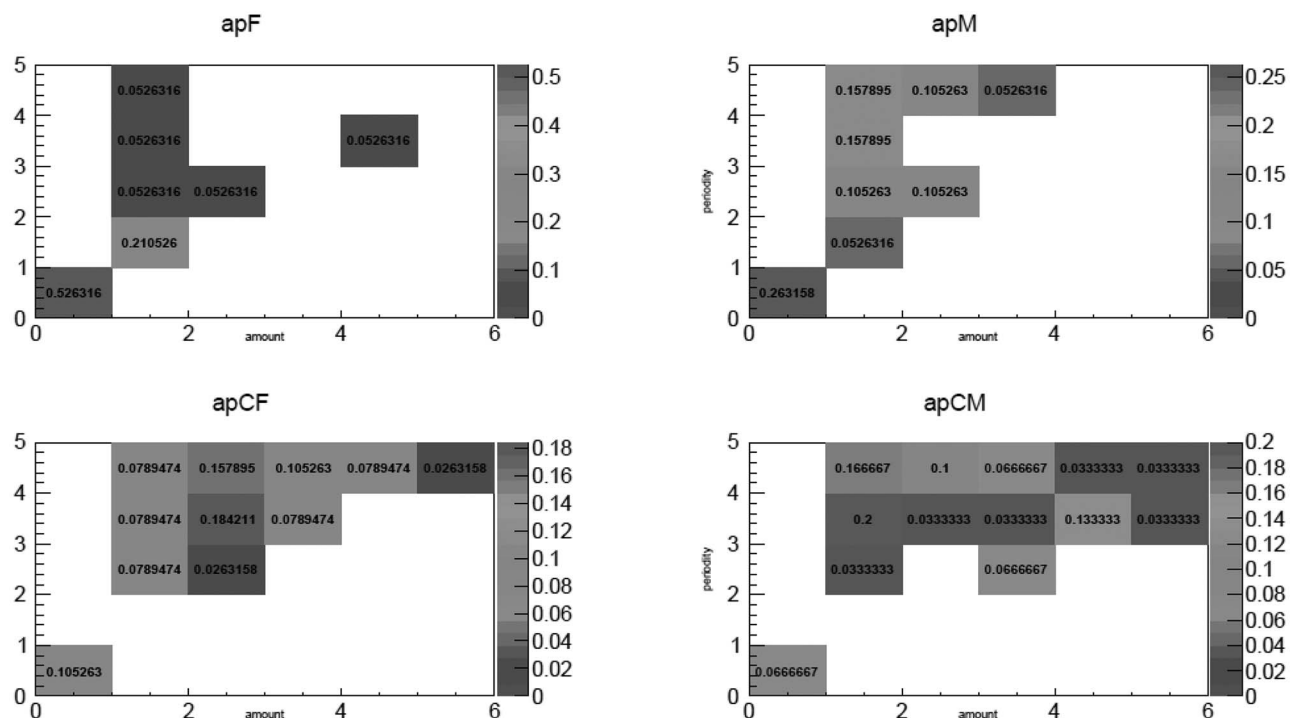


Fig 1. Amount and periodicity change in male and female subjects for intergroup differences.

was associated with workers having been quarantined.²² Experiences from research on attacks in the USA revealed that 9/11 exposure had an impact on frequent binge drinking 5 to 6 years later described as the post-disaster alcohol misuse.²³

Limitations of this study

The primary limitation of this study in relation to the pandemic state in Poland is the lockdown itself that hindered standard procedures for screening, recognition, diagnosis of the condition and agreements to participate in this study. Possible statistical calculations were limited by study design, the main target of which was to deliver one message concerning a possible change in drinking model in the quarantined physicians.

Other limitation may be low reliability of the obtained data of respondents asked to recall retrospective amounts of consumed alcohol. The low reliability of data obtained by taking substance abuse history from addicted patients was already reported.^{24–27} Healthy but moderate drinkers are also reported to have displayed problems assessing their quantitative consumption of alcohol.²⁷

What this study adds

It is important to emphasize the importance of the research, enabling early identification of people at a risk of drinking problem and dependence development, especially when it

concerns key professional branches in the fight against the current, still ongoing crisis.

Supplementary Data

Supplementary data are available at the *Journal of Public Health* online.

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Conflict of interests

None.

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