The COVID-19 outbreak affected mental health globally. One of the major concerns following the COVID-19 pandemic was increased incidence of risky behaviors including alcohol consumption. This study evaluates the trend of alcohol poisoning in Loghman-Hakim Hospital (LHH), the main referral center of poisoning in Tehran, during the 2-year period from 1 year prior to 1 year after the onset (February 23rd, 2020) of the COVID-19 epidemic in Iran. All patients admitted with alcohol intoxication from February 23rd, 2019 to February 22nd, 2021 were evaluated and patient data extracted from LHH electronic hospital records. Alcohols were categorized as toxic (methyl alcohol) and non-toxic (ethyl alcohol). Of 2483 patients admitted, 796/14,493 (5.49%) and 1687/13,883 (12.15%) had been hospitalized before and after the onset of the COVID-19 epidemic in Iran, respectively. In total, 140 patients did not survive, of whom 131 (93.6%) were confirmed to have methanol intoxication. Mortality was significantly higher during the outbreak (127 vs 13; P < 0.001; OR: 4.90; CI 95%: 2.75 to 8.73). Among the patients, 503 were younger than age 20. Trend of alcohol intoxication showed increases in children (57 vs 17) and adolescents (246 vs 183) when compared before and after the COVID-19 epidemic outbreak. A total of 955 patients were diagnosed with methanol toxicity which occurred more frequently during the COVID-19 era (877 vs 78; P < 0.001; OR: 10.00; CI 95%: 7.75 to12.82). Interrupted time series analysis (April 2016-February 2021) showed that in the first month of the COVID-19 epidemic (March 2020), there was a significant increase in the alcohol intoxication rate by 13.76% (P < 0.02, CI = [2.42-24.91]). The trend of alcohol intoxication as well as resulting mortality increased in all age groups during the COVID-19 epidemic in Iran, indicating urgent need for the prevention of high-risk alcohol use as well as improved treatment<sup>1</sup>).

## **Case series**

## 2017

Hickman et al. reviewed the medical records of 529 patients who underwent shunt placement for idiopathic normal pressure hydrocephalus (iNPH) at their institution between July 2001 and March 2015. Variables associated with shunt-responsive iNPH were identified using bivariate and multivariate analyses. Detailed alcohol consumption information was obtained for 328 patients and was used to examine the relationship between alcohol and shunt-responsive iNPH. A computerized patient registry from 2 academic medical centers was queried to determine the prevalence of alcohol abuse among 1665 iNPH patients.

Bivariate analysis identified associations between shunt-responsive iNPH and gait difficulty (OR 4.59, 95% CI 2.32-9.09; p < 0.0001), dementia (OR 1.79, 95% CI 1.14-2.80; p = 0.01), incontinence (OR 1.77, 95% CI 1.13-2.76; p = 0.01), and alcohol use (OR 1.98, 95% CI 1.23-3.16; p = 0.03). Borderline significance was observed for hyperlipidemia (OR 1.56, 95% CI 0.99-2.45; p = 0.054), a family history of hyperlipidemia (OR 3.09, 95% CI 0.93-10.26, p = 0.054), and diabetes (OR 1.83, 95% CI 0.96-3.51; p = 0.064). Multivariate analysis identified associations with gait difficulty (OR 3.98, 95% CI 1.81-8.77; p = 0.0006) and alcohol (OR 1.94, 95% CI 1.10-3.39; p = 0.04). Increased alcohol intake correlated with greater improvement after CSF drainage. Alcohol abuse was 2.5 times more prevalent among iNPH patients than matched controls.

Alcohol consumption is associated with the development of shunt-responsive iNPH <sup>2</sup>).

## 1)

Hadeiy SK, Zamani N, McDonald R, Rezaei O, Kolahi AA, Gholami N, Farnaghi F, Hassanian-Moghaddam H. An interrupted time series analysis of hospital admissions due to alcohol intoxication during the COVID-19 pandemic in Tehran, Iran. Sci Rep. 2022 Jun 22;12(1):10574. doi: 10.1038/s41598-022-14799-2. PMID: 35732680; PMCID: PMC9216300.

## 2)

Hickman TT, Shuman ME, Johnson TA, Yang F, Rice RR, Rice IM, Chung EH, Wiemann R, Tinl M, Iracheta C, Chen G, Flynn P, Mondello MB, Thompson J, Meadows ME, Carroll RS, Yang HW, Xing H, Pilgrim D, Chiocca EA, Dunn IF, Golby AJ, Johnson MD. Association between shunt-responsive idiopathic normal pressure hydrocephalus and alcohol. J Neurosurg. 2017 Aug;127(2):240-248. doi: 10.3171/2016.6.JNS16496. Epub 2016 Sep 30. PubMed PMID: 27689463.

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