

Mental health

OCD associated with increased risk of substance use disorder

Patients with obsessive-compulsive disorder (OCD) are nearly four times more likely to develop substance use disorder (SUD) than those without OCD, a Swedish cohort study has found. This association may be partially attributed to genetic factors, but environmental factors may also be involved.

The authors investigated two large cohorts. The general population group consisted of 6,304,88 individuals (51% men), born in Sweden between 1932 and 1997, who were followed up through national registers from 1997 to 2013. The median age at baseline was 30.5 years, and 27,342 participants had OCD. Diagnoses of OCD and SUD were collected from the Swedish National Patient Register, alcohol and drug-related deaths from the Cause of Death Register, and substance use-related convictions from the Crime Register.

The second cohort comprised 9,230 participants (40% men) in the ongoing longitudinal Child and Adolescent Twin Study in Sweden (CATSS) who were born between 1993 and 2001 and followed up at ages 18 and 24 years. Information was obtained from the Brief Obsessive Compulsive Scale administered at age 18, and both alcohol and drug use identified from self-administered questionnaires at ages 18 and 24. Data were analysed from March 2021 to March 2022.

Analysis of data from the population cohort found that OCD was associated with almost a 4-fold elevated risk of any substance misuse: hazard ratio (HR) 3.68 (95% CI: 3.52-3.85).

- Alcohol-related disorder; HR 4.51 (95% CI: 4.25-4.79)
- Any drug-related disorder; HR 6.69 (95% CI: 6.33-7.07)
- Substance use-related criminal conviction; HR 1.24 (95% CI: 1.09-1.41)
- Substance use-related death; HR 5.20 (95% CI: 4.45-6.08)
- Sedative- and other drug-related disorders; HR 10.53 (95% CI: 9.84-11.28)

In the twin cohort, obsessive-compulsive symptoms at age 18 were associated with increased symptoms of alcohol and drug dependence. Among people who reported alcohol and drug use, a 1 SD increase in obsessive-compulsive symptoms was associated with a 0.2 SD increase in concurrent dependence symptoms:

- Alcohol dependence (n = 9,219); $\beta = 0.18$ (95% CI: 0.16-0.20)
- Drug dependence (n = 749); $\beta = 0.19$ (95% CI: 0.11-0.27)

Similar associations were observed in the longitudinal analyses.

- Alcohol dependence (n = 3,381); $\beta = 0.10$ (95% CI: 0.06-0.14)
- Drug dependence (n = 452); $\beta = 0.15$ (95% CI: 0.04-0.25)

Comorbid anxiety and depression did not entirely explain the associations in either cohort.

Data from full siblings and maternal half-siblings in the population cohort and from both monozygotic and dizygotic twins in the CATSS cohort enabled estimation of the relative contribution of genetic and environmental influences to the association between OCD and obsessive-compulsive symptoms and substance misuse or dependence. The associations were explained by genetic factors (56-68%) and non-shared environmental factors (32-44%).

The study authors conclude: 'In this Swedish population-based cohort study, OCD and obsessive-compulsive symptoms were associated with an elevated risk of substance misuse, challenging the notion that OCD is protective against developing substance misuse.'

'The associations of OCD and obsessive-compulsive symptoms with substance misuse were largely explained by shared genetics, but our findings are also compatible with an environmentally mediated relationship (e.g. self-medication hypothesis).'

They also suggest that: 'Regular screening for substance use should therefore be included in routine clinical management of patients with OCD, even in children and adolescents.'

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Virtanen S, Kuja-Halkola R, Sidorchuk A et al. Association of obsessive-compulsive disorder and obsessive-compulsive symptoms with substance misuse in 2 longitudinal cohorts in Sweden. *JAMA Network Open* 2022;5(6):e2214779

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