Women have a higher lifetime risk than men for obsessive-compulsive disorder (OCD), a new meta-analysis suggests.

Investigators analyzed 34 studies from around the world and found that women were 1.6 times more likely to experience OCD compared with men. Moreover, the lifetime prevalence rates were 1.5% for women vs 1.0% for men.

"Our study is the first to provide a meta-analytic estimate of the worldwide prevalence of OCD in both men and women," lead author Emily Fawcett, PhD, RPsych, assistant professor of counseling and psychology, Memorial University of Newfoundland, St. John's, Canada, told Medscape Medical News.

However, more research is necessary to clarify the genetic and environmental factors driving these gender differences in prevalence and symptom expression, Fawcett said.

It will also be important to clarify whether "these factors are specific to OCD or represent a more general susceptibility to mood and anxiety disorders in women," she added.

The findings were published online recently the Journal of Clinical Psychiatry.

Mixed Findings

Although the DSM-5 points to a slightly greater prevalence rate for OCD in women than in men, results from past research has been mixed. Some studies have suggested that OCD is slightly more prevalent in women than men, comparable between the genders, or even slightly less prevalent in women than men, Fawcett noted.
"These inconsistencies have frustrated strong conclusions concerning the prevalence of OCD — and particularly whether women are at greater risk," she said.

To investigate the topic, the researchers reviewed literature containing the keywords "prevalence," "epidemiology," and "OCD." Of 4045 studies identified, 34 that reported current, period, and/or lifetime OCD prevalence in representative samples of adults (ages 18 to 65 years) were included in the analysis.

The highest prevalence of studies, at roughly one third (32.4%), was conducted in the Asia-Pacific region, followed by North America (26.5%), Europe (20.6%), the Middle East (14.7%), South America (2.9%), and Africa (2.9%).

The researchers extracted OCD prevalence as well as nine moderators from each study: gender, year, response rate, region, economic status, diagnostic criteria, diagnostic interview, interviewer, and age.

**Lifetime Prevalence**

The first step the researchers took before evaluating the moderators was to estimate the aggregate prevalence of OCD within the mixed samples.

They found a lifetime prevalence of 1.3% (95% CI, 0.9 to 1.8), but also identified "a moderate degree of heterogeneity aligned with the range of observed scores."

The overall aggregate current and period OCD prevalence estimates were 1.1% and 0.8%, respectively.

Some of the moderators that the researcher identified could not be measured because of inconsistent coding and missing data. Therefore, only gender was used in all measurement windows (current, period, and lifetime). The remaining moderator analyses were conducted only for the lifetime measurement window, for which the researchers had the largest sample of estimates. Gender and age were the only moderators that produced "credible effects."

A higher mean lifetime prevalence was found in women compared with men (1.5% [95% CI, 1.0 to 2.1] and 0.9% [95% CI, 0.6 to 1.4], respectively). This translated into a difference of 0.5% (95% CI, 0.2 to 0.9).

Moreover, women were 1.6 times more likely than men to suffer from OCD at some point in their lives. However, the prediction interval surrounding this value ranged from 0.7 to 4.0, "suggesting variance in the underlying 'true' gender effects," the investigators write.

**Hormonal Influences?**
The reporting of age categories in the included studies was "heterogeneous," so the researchers loosely categorized estimates into young, middle-aged, and older adults.

There was a "minimal difference" in prevalence between young and middle-aged adults, so the magnitude of difference was considered to be "small and highly uncertain" (mean, 0.4% [95% CI, −0.4 to 1.3), the investigators note.

Overall, "hormonal influences are a promising avenue of investigation with respect to why women might be at greater risk of OCD compared to men," Fawcett said.

Several hormone-related times seem associated with OCD, including major reproductive events such as menarche, pregnancy, postpartum, and menopause, she noted.

She added that the current study was unable to examine the percentage of perinatal women across samples, but those data are rarely reported.

Still, "it stands to reason that studies with more perinatal women would show heightened prevalence estimates, since those populations are known to be at greater risk," said Fawcett.

She pointed out that OCD is also expressed differently according to gender. For example, "women are known to present greater contamination obsessions and cleaning compulsions, whereas men exhibit more sexual-religious and aggressive obsessions and related compulsions," she said.

These gender differences in symptom presentation may be due to biological factors, such as genetics; psychological factors, such as greater disgust sensitivity in women; or sociocultural factors, such as societal gender roles, she added.

"Always Assess for OCD"

Commenting on the findings for Medscape Medical News, Fugen Neziroglu, PhD, professor, department of psychology, Hofstra University, Hempstead, New York, said the study's contribution to the field is "in trying to determine a prevalence based on many studies via a meta-analysis."
Neziroglu and her colleagues have been studying OCD in women for decades. In 1992, she published a study in the *American Journal of Psychiatry* on OCD during pregnancy, which led to an exploration of hormonal influences in OCD onset.

Nevertheless, "I am not sure whether anxious and depressed women seek treatment more often than men or whether the pregnancy factor is what is making them more vulnerable," said Neziroglu who is also a clinical professor of psychology at New York University and was not involved with the current research.

"Clinicians should always assess for OCD, regardless of prevalence [because] higher prevalence rates are reported in most anxiety disorders," she added.

*The investigators and Neziroglu have reported no relevant financial relationships. J Clin Psychiatry.* Published online June 23, 2020. Abstract
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