Higher female rates of clinical depression began to emerge between 13 and 15 years

Hankin BL, Abramson LY, Moffitt TE, et al. *Development of depression from preadolescence to young adulthood: emerging gender differences in a 10-year longitudinal study.* *J Abnorm Psychol* 1998 Feb;107:128–40.

Question

In preadolescents who develop depression, what is the pattern of gender differences in prevalence, recurrence, and severity that emerge over 10 years of follow up?

Design

Inception cohort followed up for 10 years.

Setting

Community based study in Dunedin, New Zealand (the Dunedin Multidisciplinary Health and Development Study).

Patients

792 children (53% boys) comprising the 11 year old cohort. 653 (82% of the 11 year old cohort, 63% of the total sample) were followed up for 10 years.

Assessment of prognostic factors

Psychological, medical, and sociological measures were given between 3 and 21 years of age. This report covers ages 11 to 21.

Main outcome measures

Assessment of depression and depressive symptoms beginning at 11 years of age and assessed 5 times over the course of 10 years.

Main results

Rates of depression increased over time for both boys and girls. A trend towards male preponderance in depression was present

at age 11 but after 13 years of age, the rates for girls began to rise, whereas the rates for boys remained steady. The rates of depression rose rapidly after 15 years of age for boys and girls, with girls showing a steeper rise than boys. The 1 year point prevalence of overall depressive cases (including both new cases of depression and possible recurrences) at 11 years of age in boys compared with girls was 1.8% *v* 0.3%, $p < 0.06$; boys and girls did not differ at 13 years of age (2.1% *v* 2.2%); and boys had lower 1 year point prevalences at 15 (1.2% *v* 4.4%, $p < 0.01$), 18 (10.8% *v* 23.2%, $p < 0.001$), and 21 years of age (11.1% *v* 25.1%, $p < 0.001$). An analysis looking at an age by gender interaction found that gender differences in depression favouring girls may emerge after 13 years of age ($p = 0.056$) but became more noticeable after 15 years of age ($p < 0.01$). There was no gender difference for depression recurrence or for depression symptom severity.

Conclusion

The female preponderance of clinical depression began to emerge between 13 and 15 years of age with the greatest increase occurring between 15 and 18.

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Commentary

A well established finding is the increased prevalence of unipolar depressive disorders in women compared with men. Epidemiological studies find that the ratio of women to men varies from 2 to as high as 10 in western countries.^{1,2} The intriguing question is why this difference exists. One way to better understand the underlying mechanism for this finding is to explore when this gender related difference in prevalence occurs. Previous studies, which are cross sectional in nature, have identified puberty as the critical point for a change in incidence rates.³

The study by Hankin *et al* is informative in that the cohort was followed up to establish prospectively changing rates for depression in boys and girls. This method eliminates the retrospective bias that can occur with cross sectional investigations and also allows the investigators to more accurately identify potential differences in recurrences. The main finding, that the acceleration in gender differences occurs between 15 and 18 years of age, is somewhat later than estimated by others.^{3,4}

None the less, this finding suggests that the seeds for a gender difference in rates of depression are sown early. It also points to unique biological and/or psychosocial processes during adolescence as triggers for many depressive episodes. This may provide a window into finding ways to reverse the accelerating rate of depressive disorders in girls.

Another interesting finding from this study is that the higher rate of depressive disorders in girls was not accompanied by an increased recurrence rate in girls. Again, this confirms what is seen with the National Comorbidity Survey¹ and speaks to the need to intervene early to prevent depressive episodes in the first place. If all individuals with an episode of depression are likely to have a recurrence, and if girls are more likely to have that first episode, the burden of depression remains higher in girls even if there is no gender difference in the recurrence rate.

A final point from this study, which is buried in the statistics, is the high rate of

depressive episodes among members of this cohort. The lifetime rate for girls up to 21 years of age was 42%, and for boys it was 21%. Even though the rate for depressive disorders in New Zealand is higher than in North America for adults,¹ it does suggest that adolescents are at particularly high risk for depressive disorders. Some of these episodes may be forgotten in later life which would account for the lower estimates found in adults. As clinicians, psychiatrists must be acutely aware of the risk of depression found in adolescents.

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1 Kessler RC, McGonagle KA, Swartz M, et al. *J Affect Disord* 1993;29:85–96.

2 Weissman MM, Bland RC, Canino GJ, et al. *JAMA* 1996;276:293–9.

3 Angold A, Worthman CW. *J Affect Disord* 1993;29:145–58.

4 Ruble DN, Greulich F, Pomerantz EM, et al. *J Affect Disord* 1993;29:97–128.