

CEU response to published study:

Association of Hormonal Contraception with Depression

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A Danish study reports that women are more likely to be started on antidepressants for the first time or to be diagnosed with depression for the first time if they are currently using or have recently used hormonal contraception (HC) than if they have never used HC or have not used HC for over six months.¹ The strongest association was observed amongst teenage women. The study **does not** however establish a causal association between hormonal contraception and depression.

The large study considered all Danish women who were aged 15-34 years at some time between 2000 and 2013. Danish nationwide databases were used to identify women who used hormonal contraception, started antidepressant medication for the first time or received their first diagnosis of depression during the study period. All hormonal methods of contraception were considered. Women with previous depression or other mental health diagnoses were excluded. Data were adjusted for calendar year, age, education and co-existent endometriosis or polycystic ovaries. This is an observational study and not a randomised controlled trial and other significant confounding factors cannot be excluded.

Previous studies on this subject have reported conflicting findings:-

A Swedish observational study found a positive association between use of progestogen-only contraception (POC) and use of antidepressants, particularly amongst teenagers.^{2,3} Regarding combined hormonal contraception (CHC), teenage users were more likely, but older women less likely to be prescribed antidepressants than non-users. In Finland, an observational study reported a generally favourable effect of oral contraception and the levonorgestrel-releasing IUS on mental health.^{4,5} Researchers in the USA found a protective association between use of HC and depressive symptoms in their observational study.⁶ Reporting on Australian observational studies, Duke *et al.* (2007) found no association between oral contraceptive use and depressive symptoms⁷, while Kulkarni's (2007) small study observed more depressive symptoms amongst users of combined oral contraception.⁸ Observational data from Norway demonstrated that women taking POC were significantly more likely to have a current mood disorder. In contrast, women taking CHC were less likely to have a current mood disorder.⁹

Two relevant randomised controlled trials are identified. O'Connell *et al.* (2007) randomised 76 adolescent women to receive either combined oral contraception or placebo for three months.¹⁰ Using a standardised depression score, no significant difference in depressive symptoms was observed in the two groups.¹⁰ Graham *et al.* (1995) randomised 150 women who were sterilised or whose partners were sterilised to receive combined oral contraception (COC), progestogen-only contraceptive pills (POP) or placebo for four months. Comparing scores from a standardised depression score they report fewer depressive symptoms amongst POP users than amongst women randomised to COC or placebo.¹¹

In addition, a recent systematic review found limited evidence that use of hormonal contraception by women with depressive or bipolar disorders was not associated with worse clinical course of disease compared with no hormonal method use.¹²

CEU recommendation

The CEU recommends that women should be informed by their contraceptive provider that there is no clear evidence that hormonal contraception causes depression. It is recognised that some women report that they experience mood changes associated with hormonal contraception. The Summaries of Product Characteristics for hormonal contraceptives list mood disorders as potential unwanted effects. This should be explained to women alongside other potential unwanted effects when they are considering contraceptive choices. Clinical experience is that women who find their mood adversely affected by a specific hormonal contraceptive preparation may not have the same problem with a different hormonal contraceptive.

This study adds to the existing conflicting evidence regarding a potential association between HC and depression but **does not** demonstrate any causal association. Further robust studies are required to clarify any association between HC and depression.

References

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