

Hormonal birth control and hypothyroidism: Time for more researchRida Inam¹, Muhammad Roshan², Asim Mehmood³

Dear Editor, Madam, combined oral contraceptive pills (COCPs) remain one of the most widely used contraceptive methods due to their effectiveness and additional therapeutic benefits. Beyond contraception, they aid in regulating menstruation, treating acne, managing endometriosis and dysmenorrhea, and reducing risks of colon, ovarian, and endometrial cancers.¹ However, their potential risks should not be overlooked. COCPs have been linked to serious side effects such as venous thromboembolism, cerebral thrombosis, myocardial infarction, and pulmonary embolism, as well as an increased risk of breast cancer.² Additionally, they significantly impact the liver and thyroid. The oestrogen component can elevate liver-derived proteins, including thyroid-binding globulin (TBG), leading to altered thyroid hormone levels.³

Studies reveal that COCP use correlates with variations in T4 and TSH levels, potentially complicating thyroid function. An increase in TBG leads to elevated total T4 and triiodothyronine (T3) levels, but since more T4 is protein-bound, levels of free (active) T3 and T4 may decrease. These changes could pose challenges for women with existing hypothyroidism as the requirement of levothyroxine would be increased. A study by Qiu et al. reported a higher prevalence of hypothyroidism among women using COCPs.⁴

Given these findings, we urge caution in prescribing COCPs and safer alternatives should be considered—such as the levonorgestrel intrauterine system (LNG-IUS). It has a very good contraceptive efficacy rate.⁵ Over the course of five

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years of use, most users report less menstrual bleeding in addition to the contraceptive benefits. It has also been used to treat endometrial hyperplasia, adenomyosis, dysmenorrhea, and menorrhagia. Long-term efficacy, excellent user compliance, a swift return to fertility, and a favourable side effect profile make LNG-IUS a compelling alternative to COCPs.⁵

Despite its clinical importance, this subject remains underexplored. We therefore emphasise the need for further research to better understand the long-term effects of COCPs on thyroid function.

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