

Impact of Oral Contraceptives on Periodontal Health

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Key points

- Periodontitis and OCPs
- Prolonged and regular use of oral contraceptives (OC) results
- Using implants and injectable contraceptive methods
- Reducing estrogen and progestin doses in Ocs
- Role of dentists before operating on patients who are using oral contraceptive pills.

Oral contraceptives pills (OCPs) are one of the most common and convenient forms of contraception used very frequently by women around the world.¹ Recent surveys indicate that injectable agents and contraceptive pills elevate the levels of progesterone and estrogen hormones in the body. These raised levels are linked to periodontal diseases and decreased bone mineral density.² Oral contraceptive use influences a woman's periodontal health by causing a biological effect on the periodontal microbiology, by altering gingival cell function and vasculature, the local immune system and thus resulting in the inflammation process.³

Estrogen and progesterone have been most strongly linked to such diseases as hormonal disturbances directly influence the physiology of the host organisms in the oral cavity.⁴

Moreover, patients taking OCs had a higher number of positive cultures for the fungal infection *Candida*.^{2, 5}

If left untreated, periodontal infections may adversely affect pregnancy outcomes as they influence placental membranes too. A case study by 203 gynecologists, concluded that long term use of OCs caused gingival changes amongst women and one of the root causes of this was linked to lack of knowledge and awareness regarding



Figure 1; oral contraceptive induced changes in gums

the effects of their long term use of OC.⁴

Use of OCs also causes drug induced gingivitis. This can cause pain, spontaneous bleeding, and colour and volume growth changes of the gums.⁶ Oral Contraceptive users are also more at risk of getting mild to extensive gingivitis, and gingival bleeding and hyperplastic gingivitis.^{7, 5, 8}



Figure 2; progression of periodontal disease

Effect of using OCS

A study was conducted which showed that oral contraceptive (OC) users showed a statistically significant increase in the prevalence of severe periodontitis as compared to those who didn't. They had much deeper probing depths (≥ 5 mm), higher gingival index scores and clinical attachment loss, ≥ 2 and ≥ 5 than non OC users respectively.⁷

Solutions and alternatives

While condoms are the most common contraceptive method amongst people, it is followed by the use of the contraceptive pills, making it a popular method of choice.⁸ Since the middle of the last century, OC pills have been used as a form of contraceptive method and by 2019, over 150 million people of reproductive age were preferring it

over other methods of contraception.⁹ By minimizing plaque levels at the beginning of oral contraceptive therapy, gingival inflammation and exudate can be minimized if not completely avoided.¹⁰ It was also observed that although long term usage of OCs causes periodontitis, women that used injectable contraceptives and implants were still more prone to a more severe type of gingivitis, relatively.^{7,5} Scientists are also working on making an oral contraceptive pill for men called Dimethandrolone Undecanoate which is well tolerated and has not caused any periodontitis or gum related disease as of yet.¹¹ Doctors are also working on reducing the levels of estrogen and progestin in new OCs to reduce their adverse effects on users.⁵ More research and studies should be conducted for a better understanding of the relationship between the use of OCs and periodontal health amongst its users and solutions and healthy alternate methods should be discovered.⁵

Role of dentists

Dentists should be well informed about the use of OCs and their influence on oral health, and should always ask their patient if they are using any, and what form of contraception before treating them. If patients come with severe periodontitis, the dentist must inform them about the long term consequences of using oral contraceptive pills which may have caused, or triggered this condition. Alternative methods of contraception should be suggested to such patients.

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