

Hormonal contraceptives affect the efficacy of exposure therapy

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Armin Zlomuzica from the Bochum psychotherapy centre. Credit: RUB, Kramer

Psychologists at Ruhr-Universität Bochum have studied in what way hormonal contraceptives affect the efficacy of anxiety therapy. They demonstrated that women who were on the pill benefitted less from

exposure therapy than women who didn't take any oral contraceptives. Friederike Raeder, Professor Armin Zlomuzica and colleagues describe the results in the *Journal of Psychiatric Research*, published online on 28 September 2019.

In their study, the researchers included 28 [women](#) who used [hormonal contraception](#) and 26 who didn't take any [oral contraceptives](#). All participants suffered from arachnophobia and took part in the same treatment at Zentrum für Psychotherapie (psychotherapy centre) in Bochum. During [exposure therapy](#), they gradually learned to approach spiders.

Subjective and objective gauges of arachnophobia

The researchers assessed the participants' symptom severity with the aid of different arachnophobia questionnaires. In addition, the women underwent a so-called behavioural approach task. To this end, they were asked to approach a spider in a terrarium as closely as possible—the distance is a gauge for avoiding the phobic object.

The tests took place prior to exposure therapy, immediately after treatment, and once again six weeks later.

In all participants, the symptom severity was reduced through therapy. Moreover, all women approached the terrarium with the spider more closely after undergoing treatment than prior to therapy. Six weeks after treatment, however, symptom severity in women who didn't use hormonal contraception decreased to a greater extent than in women who took oral contraceptives. Accordingly, the benefits of exposure therapy were much more pronounced in patients who didn't take hormonal contraception.

Estradiol level might affect central learning processes

"These results might be caused by the fact that oral contraceptives affect central learning and memory processes in exposure therapy," says Armin Zlomuzica. Researchers suppose that exposure therapy is based on so-called extinction learning, where previously learned associations between stimuli and phobic reactions are unlearned.

Animal and [human studies](#) conducted by other research groups had shown that extinction learning is impaired by the administration of oral contraceptives. One of the reason for this might be the reduced estradiol level due to hormonal contraception.

"The negative influence of oral contraceptives on [therapy](#) effectiveness didn't become evident until six weeks later. Our results show that it is necessary to monitor and consider any potential hormonal impact during psychotherapeutic treatment," concludes Armin Zlomuzica. However, it is not yet fully understood in what way the effects of oral contraceptives are communicated on the biological level.

More information: Friederike Raeder et al, No pills, more skills: The adverse effect of hormonal contraceptive use on exposure therapy benefit, *Journal of Psychiatric Research* (2019). [DOI: 10.1016/j.jpsychires.2019.09.016](#)

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