

Trans identity in minors: Review evaluates current evidence on use of puberty blockers and cross-sex-hormones

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In Western Europe, the number of children and adolescents who do not identify with their sex assessed at birth and who therefore seek help is rapidly increasing. An updated systematic review recently published in *Zeitschrift für Kinder- und Jugendpsychiatrie und Psychotherapie* (*Journal of child and adolescent psychiatry and psychotherapy*) evaluates the current evidence on the use of puberty blockers and cross-sex-hormones in minors with gender dysphoria as insufficient, and therefore

emphasizes the particular importance of psychological and psychotherapeutic interventions for this vulnerable group.

In medicine and psychology the term [gender dysphoria](#) is used when a person does not identify with the sex that was assessed at birth and is suffering significantly from this particular state. Over the last two decades awareness of this phenomenon has increased substantially among both professionals and the general public. Given this rise in awareness regarding this particular phenomenon it is difficult to currently provide valid figures on the actual prevalence of gender incongruence in minors. Even children and adolescents can be affected and look for help together with their families.

Those affected often perceive the developmental and [physical changes](#) occurring during puberty as threatening. The possibility of stopping physiological puberty by using medications is seen by some as a way to gain time to find their identity and to reduce their perceived burden. However, blocking puberty in this particular manner represents a significant medical [intervention](#) with regards to the development of physically healthy minors.

This is because blocking puberty can also relatively slow down young people's psychosocial development as peers continue to go through their own puberty and associated physical, cognitive, social and psychological changes. To what extent blocking puberty can be completely or even partially reversible when such medications are discontinued has not yet been sufficiently researched.

Those who opt for puberty blockers often also take the next step in terms of using so-called cross-sex-hormones. This entails the use of testosterone or estrogen with the aim to change physical appearance in terms of masculinization or feminization, respectively, that means so say a change in physical appearance towards the perceived gender.

The administration of cross-sex-hormones following the use of puberty blockers carries the significant risk of infertility. The medical and psychological support of these minors is therefore accompanied by many challenges.

"Overall, we still know very little about the development of minors who received puberty blockers or cross-sex hormones due to their gender dysphoria. Many different aspects need to be taken into account, and currently there is a significant lack of solid long-term data," says Professor Dr. Florian Zepf from Jena University Hospital.

Together with authors from Dresden, Bochum and Mannheim, the Director of the Jena Department for Child and Adolescent Psychiatry, Psychosomatics and Psychotherapy has updated two systematic reviews published by the National Institute for Health and Care Excellence (NICE) in 2020.

Only trials meeting certain and established scientific quality criteria were considered: The studies needed to investigate puberty blockers or cross-sex-hormone administration specifically in minors with gender dysphoria, they had to compare the effects of these interventions with a control condition, and the outcomes needed to be the effects of these interventions on gender dysphoria and aspects of mental health.

The result of the newly conducted updated systematic literature search: Regarding the use of puberty blockers in minors with gender dysphoria, not a single new study with minimum clinical-scientific quality features was detected. Nine studies already examined by NICE in 2020 did not report clear, standardized and objectively recorded positive effects of this particular intervention.

Only two recent studies with the required standards were added to the list of cross-sex hormone studies as discussed by NICE in 2020.

However, these new studies only included biologically female minors receiving testosterone. In some cases, the studies observed single, non-specific improvements in anxiety and depression, as well as a tendency towards lower suicidality, but could not clearly attribute these effects to the received hormones.

Overall, the authors couldn't find anything new or of reliable significance. Most of the available studies are observational in nature, many of which have methodological deficiencies.

"The study situation on puberty blockers and cross-sex-hormones in minors with gender dysphoria is very limited at the moment and based on very few studies with inadequate methodology and quality. So currently the overall confidence in the clinical-scientific certainty of these results is low. Clear and conclusive controlled long-term studies are lacking at present," says first author Zepf.

The long-term risks of puberty blockers and cross-sex-hormones are therefore unclear. However, there is a lack of reliable evidence that the respective medical interventions actually lead to the desired effects.

Zepf states, "Currently, there is not enough and sufficient evidence to show that puberty blockers and cross-sex-hormones can clearly be used safely and significantly improve gender dysphoria and mental health in affected minors over time." Because of this, the authors emphasize the particular importance of psychological and psychotherapeutic support for affected individuals.

This also applies to the diagnosis of any possibly accompanying mental health disorders, which should be diagnosed and treated if they occur. "Psychological and psychotherapeutic interventions are also of particular importance. However, such interventions should explicitly not be regarded as [conversion therapy](#) with the aim of reconciliation with the

biological sex," emphasizes last author Prof. Dr. Dr. Martin Holtmann from LWL University Hospital in Hamm.

Instead, it is the aim to reduce the individual suffering and burden of affected individuals. "If, after a cautious and very strict individual case-by-case assessment together with the affected adolescents and their parents the decision to use [puberty](#) blockers or cross-sex-hormones is made," adds Holtmann, "then this should be done, if possible, in the context of clinical studies, so that we can improve clinical knowledge about the currently questionable effectiveness and the risks of these particular interventions."

More information: Florian D. Zepf et al, Beyond NICE: Aktualisierte systematische Übersicht zur Evidenzlage der Pubertätsblockade und Hormongabe bei Minderjährigen mit Geschlechtsdysphorie, *Zeitschrift für Kinder- und Jugendpsychiatrie und Psychotherapie* (2024). [DOI: 10.1024/1422-4917/a000972](#)

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