

Study of transgender patients: conclusions are not supported by findings

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The study of transgender individuals by Bränström and Pachankis claims to demonstrate a reduction in mental health treatment utilization after gender-affirming surgery but in fact demonstrates no such thing (1).

The only result they present which they claim is statistically significant is that there is an association between years since last gender-affirming surgery and recent mental health treatment (adjusted OR=0.92, 95% 0.87-0.98). This result makes no sense as it stands because analysis of a quantitative measure against an outcome does not produce an odds ratio.

Presumably they must mean that each year since surgery is associated with an OR of 0.92.

There are also discrepancies between the data discussed in the text and in the tables. For example, they quote the proportion of patients with gender incongruence who received no treatment as 29% in the text but 29.6% in Table 3 and, more importantly, the proportion who received surgery as 48% in the text but only 38.0% in the table. However the key statistical

criticism is that they have failed to carry out standard corrections for multiple testing. As they tested two interventions, hormone treatment and surgery, against two outcomes, mental health treatment and suicide attempts, they performed four tests. Since the upper confidence interval which they quote is very close to 1 it is obvious that if appropriate correction for multiple testing had been applied then none of the results would have been deemed significant.

When one views the data on which these analyses are based, as presented in their Figure 1, some very clear features emerge. Firstly, there is obviously no general correlation between the outcomes and time since surgery. Rather, a spike in suicide attempts is seen in the year after surgery (comprising 2.8% of patients) which falls off over the next year or two and, to a lesser extent, a spike in the proportion of patients receiving mental health treatment in the first year, going up to 45.3%. There is also a low rate for mental health treatment in patients who received surgery ten or more years earlier. This may reflect the fact that in the past patients with mental health problems would have been less likely to be offered surgery.

The study confirms the strong association between psychiatric morbidity and the experience of incongruity between gender identity and biological sex. However, it does not demonstrate that either hormonal treatment or surgery has any effect on this morbidity. It seems that the main message of this paper is that the incidence of mental health problems and suicide attempts is especially high in the year after the completion of gender-affirming surgery and that increased support in this period might be indicated.

1. Bränström R, Pachankis JE. Reduction in Mental Health Treatment Utilization Among Transgender Individuals After Gender-Affirming Surgeries: A Total Population Study. *Am J Psychiatry*. 2019 Oct 4;appi.ajp.2019.1.