A new study that says oral sex can prevent miscarriage predictably has gone viral, thanks mostly to the rather excitable British tabloids. But is it true? If it is, the study doesn't even come close to confirming the hypothesis.

The notion that oral sex can prevent miscarriage isn't as far-fetched as it sounds. The idea is that regular exposure to her partner's semen will make a woman less likely to mount an immunological attack on the baby. Other previous research has suggested that exposure to semen -- either through oral or unprotected vaginal sex -- was associated with a lower risk of preeclampsia. The plausible underlying explanation for these disparate phenomena is maternal immunological tolerance to the father's semen.

The current research, which was published in the *Journal of Reproductive Immunology*, examined 97 women with recurring miscarriages ("cases") and 137 women without miscarriages ("controls"). They found that women who performed oral sex had 50% lower odds of miscarriage than women who did not. But there are some serious shortcomings in the paper:

1) **The association between oral sex and a lower odds of miscarriage was weak.** Yes, it was statistically significant, but just barely. The confidence interval was 0.25 to 0.97, which means that the decrease in odds of miscarriage could be anywhere from 75% to merely 3%. (If the confidence interval includes 1.0, then the results are, by definition, not statistically significant.)

2) **The researchers had a difficult time collecting data on sexual behavior.** The entire point of the study was to determine if sexual behavior had an influence on miscarriage. Yet, the authors said, "We were confronted with incomplete data from questionnaires, especially missing data on..."
sexual behaviour, which was our exposure of interest.” Well, that’s no good.

3) **When the authors used imputed data, the correlation disappeared.** To fix the problem in #2, the authors "imputed" data, which means they guessed what the missing data should have been. After doing that statistical manipulation, **the correlation between oral sex and miscarriage disappeared entirely, undermining the paper’s title and stated conclusion.**

4) **The women in the study were older.** Miscarriage rates increase with maternal age. Most of the women included in the study were in their 30s (the interquartile range, which includes the middle 50% of data, was from around 31 or 33 years to 38 or 39 years). That's fine, but it limits the conclusions that the authors can draw. If the goal is to determine if oral sex prevents miscarriages, the authors should examine women of all child-bearing ages, but there weren't as many younger women in the study.

Putting this all together, there isn't much (if any) data to support the conclusion that oral sex prevents miscarriages. Yet, a clickbait headline like that is going to go viral, even if it's based on shoddy data.


---


**Links**