Notice of retraction and replacement: Hofmann et al., Effect of intranasal oxytocin administration on psychiatric symptoms: A meta-analysis of placebo-controlled studies. Psychiatry Research. 2015;228:708-714.

To the Editors:

We have discovered several significant errors in our published meta-analysis comparing the effect of intranasal oxytocin versus placebo administration on psychiatric symptoms (Effect of Intranasal Oxytocin Administration on Psychiatric Symptoms: A Meta-Analysis of Placebo-Controlled Studies. Psychiatry Research. 2015;228:708-714.)

Correcting these errors changed the main result of this study. The corrected result is that oxytocin is *not* more efficacious for psychiatric symptoms compared to placebo. Our overall placebo-controlled effect size, which was previously reported as significant, is no longer significant. In addition, none of the symptom-specific effects of oxytocin versus placebo are significant.

The primary error with our original data was the misspecification of the direction of several outcomes included in the meta-analysis. The reason for the error is that the program we used, Comprehensive Meta-Analysis, requires users to manually enter the direction of the effects. We mistakenly assumed that individuals in the placebo group would never show greater reductions in psychiatric symptoms than individuals receiving oxytocin. Therefore, we assumed that the direction of the placebo controlled effect size of oxytocin would never be negative. However this assumption was incorrect for 7 effect size estimates. In addition, we discovered some more minor data extraction errors.

The corrected placebo-controlled effect size is Hedges' g = 0.11, p = 0.51. The direction of the effect size was also incorrect for 7 symptom measures (out of 28 total measures), which were used to calculate symptom-specific effects of oxytocin vs. placebo (e.g., on depression, anxiety, autism/repetitive behaviors, psychotic symptoms, and general psychopathology). The corrected effect sizes for the symptom domains are the following: depression (Hedges' g = -0.01, p = 0.96), anxiety (Hedges' g = -0.04, p = 0.86), autism/repetitive behaviors (Hedges' g = 0.10, p = 0.68), psychotic symptoms (Hedges' g = 0.49, p = 0.10), and general psychopathology (Hedges' g = 0.15, p = 0.47). Whereas our data previously indicated that oxytocin had some potential benefit for reducing depression, anxiety, psychotic symptoms, and general psychopathology, we now conclude that oxytocin has no benefit for any of these symptom domains.

We greatly apologize to the journal, the reviewers, and readers for the errors in the original article, and we thank the readers who brought the errors to our attention. We would like to urge researchers to be mindful of the direction of the effect sizes, especially when using certain software programs, such as the Comprehensive Meta-Analysis program. Effect sizes and effect size directions should always be carefully examined manually, even when using a software program and it cannot be assumed that the placebo group is never superior to the treatment group.

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