



Comment on comparison of *in vitro* maturation and *in vitro* fertilization for polycystic ovary syndrome patients: a systematic review and meta-analysis

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We read the recently published paper by Xu and colleagues entitled “Comparison of *in vitro* maturation (IVM) and *in vitro* fertilization (IVF) for polycystic ovary syndrome (PCOS) patients: a systematic review and meta-analysis” (1). They demonstrated that IVM had similar clinical effects compared with IVF in patients with PCOS. We appreciate Xu and colleagues for the valuable study, however, after a careful learning of the literature, we would like to pay attention to some important missing aspects in the study.

First, in the discussion section of the abstract, the authors revealed that IVM might be a suitable option for PCOS in terms of cost and successful pregnancy rate. Whereas, the study did not compare the cost between IVM and IVF, directly. Furthermore, there was no difference between the IVM group and IVF group in terms of pregnancy rate. Therefore, we believe that the conclusion above could not be demonstrated.

Second, sensitivity analysis is commonly performed by removing one study at a time to assess the effect on the pooled results (2). In the results of sensitivity and publication bias section, the authors performed the sensitivity analysis only by removing Shavit *et al.*'s 2014 study (3), which reduced the I^2 statistic from 48% to 39% (Figure 8) indicating steady results of the meta-analysis. However, we believe that the interpretation of the results is

false. The authors should evaluate the effect on the overall pooled risk ratio (RR) not I^2 after removing Shavit *et al.*'s study.

Third, in the heterogeneity analysis of live birth rate between IVM and IVF section, the authors revealed that the live birth rate of IVF group was higher (MD=0.82, P=0.007), with significant heterogeneity ($I^2=26\%$) (Figure 6). However, the MD statistic was adopted by mistake as the RR statistic was actually showed in Figure 6. Moreover, the heterogeneity should be not significant because of the $I^2=26\%$.

In short, Xu *et al.* revealed a significant issue with regard to the comparison of *in vitro* maturation and *in vitro* fertilization for polycystic ovary syndrome patients. However, the conclusions should be interpreted with caution because of the concerns above.

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