## Letter to the Editor

# Diagnostic Accuracy of Transvaginal Sonography in Infertile Patients with Endometrial Polyps

## Reply of the Authors

We welcome the opportunity to respond to the letter of Dr. Samani and colleague:

1. A common problem of diagnostic research in clinical medicine is that due to ethical or cost considerations, only a small proportion of participants with negative results may receive the gold standard test. Therefore, the results for diagnostic reference tests are more available in patients with positive results. In this situation it is very common to use the information that is available from diagnostic tests in verified participants. Data from such studies are prone to verification bias (also called 'work-up bias').

As you are aware, we can not ethically prescribe an invasive procedure, such as a hysteroscopy, for humans without a reasonable indication. Therefore we could not perform both diagnostic tests (TVS and hysteroscopy) on all patients. Instead, in our study, we attempted to find subjects who had both results of TVS and hysteroscopy in their medical records. We know that there is an inevitable source of verification bias in our results because of the subject selection strategy. However, studies in this field often have a similar selection strategy. There are some new techniques for correcting verification bias and currently we are analyzing our data to adjust for verification bias (1-3).

2. The sensitiviy of our study is 88.3% which is higher than similar studies in other countries (4, 5). This sensitivity is based on the hysteroscopic results as the gold standard, which is discussed in our article. Hysteroscopy has some limitations; therefore a prospective study should be planned utilizing pathology as the gold standard.

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## References

1. Gaffikin L, McGrath J, Arbyn M, Blumenthal PD. Clin Trials. Avoiding verification bias in screening test evaluation in resource poor settings: a case study from Zimbabwe. Clin Trials. 2008; 5(5): 496-503.
2. de Groot JA, Janssen KJ, Zwinderman AH, Moons KG, Reitsma JB Multiple imputation to correct for partial verification bias revisited. Stat Med. 2008; 27(28): 5880-5889.
3. Buzoianu M, Kadane JB. Adjusting for verification bias in diagnostic test evaluation: a bayesian approach. Stat Med. 2008; 27(13): 2453-2473.
4. Soares SR, Barbosa dos Reis MM, Camargos AF. Diagnostic accuracy of sonohysterography, transvaginal sonography, and hysterosalpingography in patients with uterine cavity diseases. Fertil Steril. 2000; 73(2): 406-411.
5. Loverro G, Nappi L, Vicino M, Carriero C, Vimercati A, Selvaggi L. Uterine cavity assessment in infertile women: comparison of transvaginal sonography and hysteroscopy. Eur J Obstet Gynecol Reprod Biol. 2001; 100(1): 67-71.