Prevalence of vitamin D deficiency in infertile women with polycystic ovarian syndrome and its association with metabolic syndrome – A prospective observational study

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**Abstract**

Objective

The main purpose of this study was to determine the prevalence of vitamin D deficiency in infertile women with polycystic ovarian syndrome (PCOS) and to explore the association of hypovitaminosis D with metabolic syndrome in women with PCOS.

Study design

A prospective observational study was conducted in a tertiary care, infertility centre from March 2016 to March 2017. The primary outcome was estimation of the prevalence of vitamin D deficiency in infertile PCOS women. Secondary outcomes were to study the association of hypovitaminosis D with metabolic syndrome, obesity and hypercholesterolemia in PCOS patients.

Results

A total of 256 infertile women with PCOS were included in the study. Vitamin D deficiency was observed in 70.3% women, 20.3% were vitamin D insufficient and only 9.4% were vitamin D sufficient. Metabolic syndrome was seen in 80/256 (31.25%) women. There was no evidence of an association between hypovitaminosis D and metabolic syndrome, obesity or hyperlipidemia. There was a strong evidence of an association between waist circumference of >80 cm and vitamin D deficiency (*p* = 0.02).

Conclusion

Vitamin D deficiency is highly prevalent in infertile PCOS women and there seems to be no association between hypovitaminosis D and the metabolic syndrome in the same population.

**Keywords**

* [Polycystic ovarian syndrome](https://www.ejog.org/action/doSearch?AllField=%22Polycystic%20ovarian%20syndrome%22&journalCode=euro)
* [Vitamin D](https://www.ejog.org/action/doSearch?AllField=%22Vitamin%20D%22&journalCode=euro)
* [Hypovitaminosis D](https://www.ejog.org/action/doSearch?AllField=%22Hypovitaminosis%20D%22&journalCode=euro)