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[Review](#) [Int J Reprod Biomed.](#) 2019 Dec 30;17(12):865-882. doi: 10.18502/ijrm.v17i12.5789.

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# The role of melatonin in polycystic ovary syndrome: A review

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## Abstract

**Background:** Polycystic ovary syndrome (PCOS) is a widespread endocrine disorder, affecting approximately 20% of women within reproductive age. It is associated with hyperandrogenism, obesity, menstrual irregularity, and anovulatory infertility. Melatonin is the main pineal gland hormone involved in the regulation of the circadian rhythm. In recent years, it has been observed that a reduction in melatonin levels of follicular fluid exists in PCOS patients. Melatonin receptors in the ovary and intra-follicular fluid adjust sex steroid secretion at different phases of ovarian follicular maturation. Moreover, melatonin is a strong antioxidant and an effective free radical scavenger, which protects ovarian follicles during follicular maturation.

**Objective:** In this paper, we conducted a literature review and the summary of the current research on the role of melatonin in PCOS.

**Materials and methods:** Electronic databases including PubMed/MEDLINE, Web of Science, Scopus, and Reaxys were searched from their inception to October 2018 using the keywords "Melatonin" AND "Polycystic ovary syndrome" OR "PCOS."

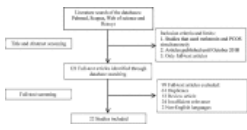
**Results:** Based on the data included in our review, it was found that the administration of melatonin can improve the oocyte and embryo quality in PCOS patients. It may also have beneficial effects in correcting the hormonal alterations in PCOS patients.

**Conclusion:** Since metabolic dysfunction is the major finding contributing to the initiation of PCOS, melatonin can hinder this process via its improving effects on metabolic functions.

**Keywords:** Infertility; Melatonin; PCOS.; Hyperandrogenism.

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## Figures



**Figure 1** Flow diagram of the search...



**Figure 2** The role of melatonin in...

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