

# PCOS sufferers appear to benefit from lifestyle modification combined with metformin

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A systematic review publishing today in the journal *Human Reproduction Update* has found that women who suffer from polycystic ovary syndrome (PCOS) could manage some of the symptoms by combining a change in lifestyle with taking the drug metformin.

PCOS is associated with a range of features including irregular cycles, infertility, obesity, diabetes, and depression. Researchers at Monash University in Australia compared the effects of change in lifestyle alone or with [placebo](#), to lifestyle plus [metformin](#). They found that [lifestyle changes](#) combined with taking metformin is associated with more weight loss, with a lower body mass index BMI, and improved menstruation in women. This is a significant discovery for PCOS sufferers, who are at higher risk of weight gain with both PCOS and obesity combining to yield significant complications across lifespan.

This meta-analysis involved 608 participants aged 12-39 across nine studies, who were given a mixture of dietary advice, behaviour education, and access to fitness facilities alone or with placebo, and compared to those given metformin hydrochloride with a change in lifestyle. Combining the data from nine studies found that lifestyle with metformin was associated with a lower BMI at study completion compared to lifestyle with a placebo. This study aggregated all of the prior quality studies in the area and found that adding metformin at a standard dose of 1.5-2g daily to [lifestyle intervention](#) resulted in a drop

of 0.kg/m<sup>2</sup> in BMI compared with those who took lifestyle plus placebo. The senior author of the review, Professor Helena Teede, said, "Achieving and maintaining a healthy weight is key in the management of PCOS and needs engagement and support for affected women in [lifestyle modification](#)."

Professor Teede went on to say that, "The key take home messages are that while lifestyle management is the first and most important step in the management of PCOS, addition of metformin to lifestyle modification appears to provide additional advantages in improving BMI and menstrual cyclicity in the medium term."

Metformin is a well-established and safe drug used traditionally to treat diabetes, where it controls blood sugar and assists weight management. In this study, insulin resistance and glucose tolerance were also assessed in PCOS, but with different measures used across studies for insulin resistance, no differential impact on from lifestyle and placebo versus [lifestyle](#) and metformin was noted. The impact of metformin on glucose levels in these non-diabetic women was also insignificant.

**More information:** "Metformin and lifestyle modification in polycystic ovary syndrome: systematic review and meta-analysis" Negar Naderpoor, Soulmaz Shorakae, Barbora de Courten, Marie L. Misso, Lisa J Moran, Helena J. Teede.

Provided by Oxford University Press

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