

# Basal metabolic rate in polycystic ovary syndrome: a meta-analysis

Styliani A. Geronikolou<sup>1,2,3</sup>, Dennis Cokkinos<sup>2</sup>, Flora Bacopoulou<sup>1,2,3</sup>

<sup>1</sup> Center for Adolescent Medicine and UNESCO Chair on Adolescent Health Care First Department of Paediatrics, National and Kapodistrian University of Athens Medical School, "Aghia Sophia" Children's Hospital, Athens, Greece <sup>2</sup>Clinical, Translational and Experimental Surgery Research Centre, Biomedical Research Foundation of Academy of Athens, 4, Soranou Ephessiou Str, 11527 Athens, Greece, <sup>3</sup> University Research Institute for Maternal and Child Health and Precision Medicine.

## BACKGROUND

While polycystic ovary syndrome (PCOS) is implicated with insulin resistance and obesity, little is known about the abnormal energy imbalance contribution to the disease. Basal metabolic rate (BMR) represents the energy expenditure by a normal subject at rest, remote from eating, in a thermally neutral environment, reflecting the 50–70% of total daily metabolism. The relevant literature is limited with conflicting results- worth meta-analysis approach.

## OBJECTIVES & HYPOTHESES

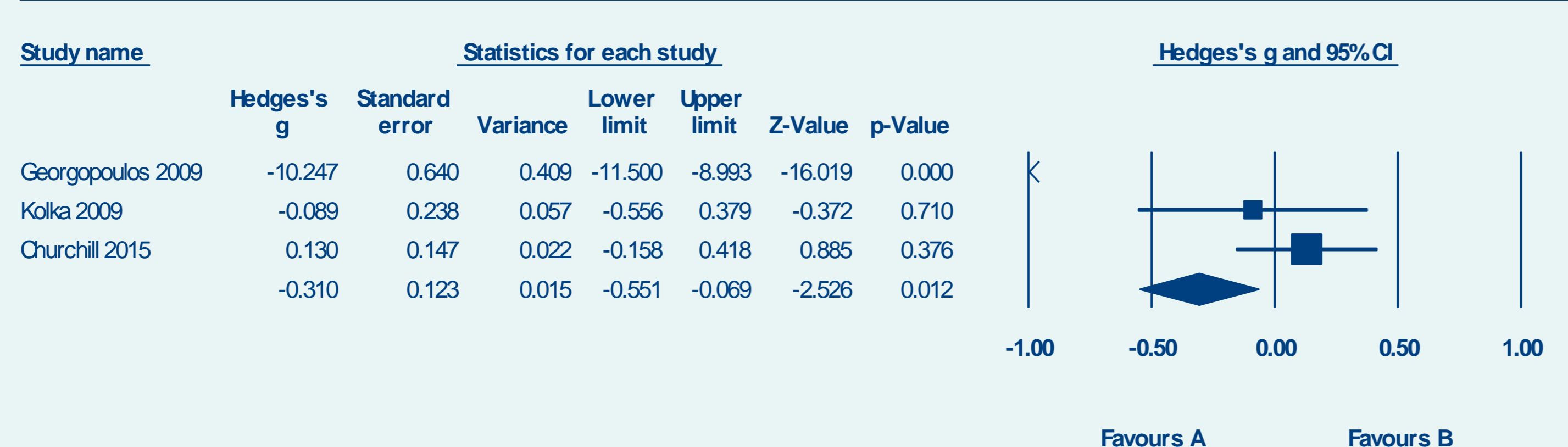
To evaluate the basal metabolic rate in PCOS by meta-analysis.

## METHODS

Data collection in Pubmed has been performed in April 2019 with keywords "BMR in PCOS". After PRISMA protocol, four cross-sectional studies on PCOS vs controls (BMI, age adjusted) were included in the analysis. Meta-analysis was performed with SPSS software and the summarized effect size of BMR is evaluated with Hedge's g correction for small samples.

## RESULTS

### Meta Analysis



Meta Analysis

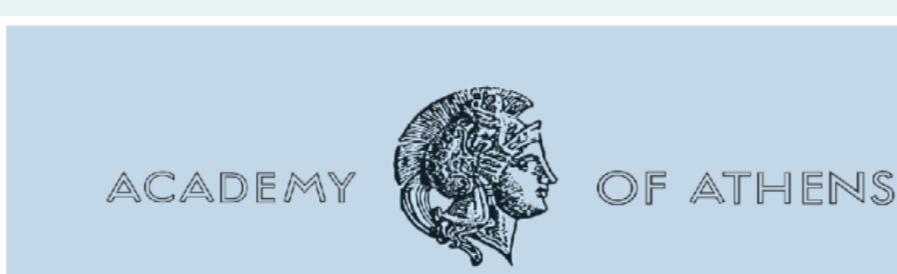
Three studies on patients vs non-patients met the inclusion criteria. A non-significant fixed effect of  $g = 0,043$  95% CI (-0.177, 0.264) is calculated, whilst, if we exclude one study after bias and weighing control, the effect size becomes significant:  $g = -0,31$ , 95% CI (-0.551,-0.069). Yet, there is high heterogeneity among studies, relevant to the syndrome variance in symptoms.

## CONCLUSIONS

BMR is altered in the PCOS syndrome, thus, energy homeostasis and metabolism imbalance are implicated to the syndrome.

## References

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There is no conflict of interest [sgeronik@boacademy.gr](mailto:sgeronik@boacademy.gr)

