**Reviewer’s report**

**Title:** Exercise, or exercise and diet for the management of polycystic ovary syndrome: a systematic review and meta-analysis

**Version:** 0  **Date:** 16 Nov 2018

**Reviewer:** Leonardo Roever

**Reviewer's report:**

The authors reported a study to analyse evidence on the effectiveness of exercise in the management of PCOS, when compared to (i) usual care; (ii) diet alone; and (iii) exercise combined with diet. Also, exercise combined with diet, compared to (i) control or usual care; and (ii) diet alone. Searches returned 2,390 articles; of those, 27 papers from 18 trials were included. Results are presented as mean difference (MD) and 95% confidence intervals (95% CI). Compared with control, exercise had a statistical effect on change from baseline fasting insulin (MD: -2.44 µIU/mL, 95% CIs: -4.24 to -0.64; very low-quality evidence), HOMA-IR (-0.57, -0.99 to -0.14; very low-quality evidence), total cholesterol (-5.88 mg/dL, -9.92 to -1.83; low-quality evidence), LDL cholesterol (-7.39 mg/dL, -9.83 to -4.95; low-quality evidence), and triglycerides (-4.78 mg/dL, -7.52 to -2.05; low quality evidence). Exercise also improved VO2 max (3.84 ml/kg/min, 2.87 to 4.81), waist circumference (-2.62 cm, -4.13 to -1.11), and body fat percentage (-1.39%, -2.61 to -0.18) when compared with usual care. No effect was found for change value systolic/diastolic blood pressure, fasting glucose, HDL cholesterol (all low-quality evidence), or waist-to-hip ratio. Many favourable change score findings were supported by post-intervention value analyses: fasting insulin (-2.11 µIU/mL, -3.49 to -0.73), total cholesterol (-6.66 mg/dL, -11.14 to -2.17), LDL cholesterol (-6.91 mg/dL, -12.02 to -1.80), and VO2 max (5.01 ml/kg/min, 3.48 to 6.54). Statistically lower BMI (-1.02 kg/m2, -1.81 to -0.23) and resting heart rate (-3.26 beats/min -4.93 to -1.59) was also revealed in post-intervention analysis. Subgroup analyses revealed the greatest improvements in overweight/obese participants and more outcomes improved when interventions were supervised, aerobic in nature or of a shorter duration. Based on limited data, we found no differences for any outcome between the effects of exercise and diet combined, and diet alone. It was not possible to compare exercise vs diet or exercise and diet combined vs diet. Caution should be adopted interpreting the findings of this review; many outcomes present modest effects and wide CIs, and statistical effects in many analyses are sensitive to the addition/removal of individual trials.

1- Abstract

Conclusions: State only what your study found; do not include extraneous information not backed up by the results.
2- Discussion

Compare and contrast your study with others in the most relevant world literature, particularly the recent literature.

What new information is sufficient to modify existing clinical practice?

And finally, the conclusions and implications for current practice, and particularly for future research that may have a significant impact on clinical decisions

3- At the end of the Discussion, under the subheading "Limitations," review the limitations of your study.

4- At the end of the limitations, under the subheading "Future directions".

5- Conclusion

Take special care to draw your conclusions only from your results and verify that your conclusions are firmly supported by your data

6- I would recommend to add also funnel plots and a meta-regression analysis.

7- References

Update

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Please indicate how interesting you found the manuscript:

An article of importance in its field that should be highlighted to relevant networks

Quality of written English
Please indicate the quality of language in the manuscript:

Needs some language corrections before being published

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