

Comment on: Can resistance training improve the symptoms of polycystic ovary syndrome?

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Abstract

Studies have been investigating whether the symptoms of polycystic ovary syndrome (PCOS) could be improved by using resistance training. The authors searched various databases to identify such studies. The majority of the studies considered resistance training without considering specific calorific and macronutrient intake, even though these have been proven to be an important factor to be considered along with resistance training.

Keywords

PCOS; resistance; weight; training; diet; macronutrient.

Introduction

PCOS is a genetic disease [1] that affects millions of women worldwide [1, 2]. It affects the way ovaries work [3] and sedentary lifestyle, poor eating habits, obesity and insulin resistance can make the symptoms of PCOS worse [4, 5, 6]. Some symptoms include menstrual disturbance, hirsutism, acne, obesity [7], oligomenorrhoea/amenorrhoea [8, 9], insulin resistance [10] and ovarian cysts [11]. PCOS could be associated with breast cancer [12], ovarian cancer [13] (there is also contradictory evidence with both breast and ovarian cancer [14]), Type II diabetes, metabolic syndrome and cardiovascular disease [15, 16].

Resistance training is proven to improve the musculoskeletal system [17], insulin resistance, glucose metabolism and resting metabolic rate [18]. Despite the fact that prescribing of resistance training to patients with PCOS has a physiological rationale [17], there is still no published guidelines that encourage healthcare professionals to make use of it.

There are numerous studies that have attempted to examine the possible effect of resistance-training on the symptoms of PCOS. However, the majority of the studies combine resistance-training with cardiovascular exercise without considering specific calorific and macronutrient intake, which it has already been proven to be crucial factor in affecting among others, fat loss, lean body mass, blood glucose and insulin resistance [19 - 22].

Methods

4 different databases (Medline, Cochrane, Dara, PubMed) were searched in February 2017 and then again in February 2018 for studies examining the effects of weight training on PCOS. The identified studies were then hand-searched.

Results and Discussion

10 studies were found dating from 2008 to 2017. All used Rotterdam criteria, 5 of them were randomised controlled trials, 4 of them were in Australia, 3 in Brazil and 1 pilot study in the USA. The study sizes vary from 12 and 15 [23, 24] to 122 [25] and the follow-up time goes from 12 weeks [23,24] to 14 weeks [26], to 4 months [27, 28].

The inclusion criteria were quite consistent with most of the studies including women with PCOS that were at least 18 years old and overweight.

One of these studies did not give satisfactory information about their intervention [25]. The majority of the studies prioritised aerobic exercise, did not supervise exercises, or did not monitor nutrition. Only 3 studies provided dietary information [29 - 31]. There is only 1 study that used resistance training alone to examine its effects on PCOS symptoms, but did not consider nutrition [27]. It is crucial that both exercise and nutrition are closely supervised during studies to ensure that patients are acting as per instructions.

There is a physiological rationale to use resistance training to improve PCOS symptoms [17], but more studies are required to have a better understanding [32]. PCOS affects millions of women worldwide [1, 2] and yet, there are still unanswered questions such as the specific macronutrient breakdown, high or low glycaemic carbohydrate consumption, calorific deficit or following a strategy with calorific surplus and then deficit are most appropriate for PCOS patients [32].

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