

# Feeding and Practice of Physical Activity in the Treatment of Polycystic Ovarian Syndrome: Integrative Review

## Alimentação e Prática de Atividade Física, no Tratamento da Síndrome dos Ovários Policísticos: Revisão Integrativa

## La Alimentación y la Práctica de la Actividad Física en el Tratamiento del Síndrome de Ovarios Poliquísticos: Examen Integrador

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# REVISA

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### RESUMO

**Objetivo:** investigar a importância da alimentação saudável associada à prática de atividades físicas, no auxílio ao tratamento contra a síndrome dos ovários policísticos (SOP). **Método:** optou-se por um estudo de revisão integrativa nas bases de dados Scielo, Lilacs e Bireme. **Resultados:** é uma patologia que requer atenção, pela delicadeza a que é imposta, por acometer os ovários da mulher, porém existem meios de minimizar os sintomas e prevenir complicações. **Conclusão:** a prática de exercícios físicos combinados a uma alimentação balanceada, são essenciais no tratamento. Ainda melhora no metabolismo corporal, alterações hormonais e cardiorrespiratórios, dentre outras vantagens. Ter consciência da doença e fazer o tratamento corretamente, são fatores que contam positivamente, evitando assim, possíveis complicações futuras.

**Descritores:** Síndrome do Ovário Policístico; Qualidade de Vida; Obesidade; Estado Nutricional; Atividade Física.

### ABSTRACT

**Objective:** to investigate the importance of healthy eating associated with the practice of physical activities, in helping to treat polycystic ovarian syndrome (PCOS). **Method:** na integrative review study in Scielo, Lilacs and Bireme databases was chosen. Results: it is a pathology that requires attention, due to the delicacy to which it is imposed, for attacking the ovaries of women, but there are ways to minimize the symptoms and prevent complications. **Conclusion:** the practice of physical exercises combined with a balanced diet, are essential in the treatment. It also improves body metabolism, hormonal and cardiorespiratory changes, among other advantages. Being aware of the disease and doing the treatment correctly are factors that count positively, thus avoiding possible future complications.

**Descriptors:** Polycystic Ovary Syndrome; Quality Of Life; Obesity; Nutritional Status; Physical Activity.

### RESUMEN

**Objetivo:** investigar la importancia de una alimentación saludable asociada a la práctica de actividades físicas, para ayudar a tratar el síndrome de ovario poliquístico (SOPQ). **Metodología:** se eligió un estudio de revisión integrador en las bases de datos Scielo, Lilacs y Bireme. **Resultados:** es una patología que requiere atención, debido a la delicadeza a la que se impone, para atacar los ovarios de las mujeres, pero hay formas de minimizar los síntomas y prevenir complicaciones. **Conclusión:** la práctica de ejercicios físicos combinados con una dieta equilibrada, son esenciales en el tratamiento. También mejora el metabolismo corporal, los cambios hormonales y cardiorrespiratorios, entre otras ventajas. El conocimiento de la enfermedad y la aplicación correcta del tratamiento son factores que cuentan positivamente, evitando así posibles complicaciones futuras.

**Descripciones:** Síndrome de Ovarios Poliquísticos; Calidad de Vida; Obesidad; Estado Nutricional; Actividad Física.

## Introduction

Polycystic ovary syndrome (PCOS) is a disease that affects 20% of women during the reproductive life phase, mainly women aged between 17 and 39 years. PCOS is a complex endocrine disease whose main elements are hyperandrogenism and chronic anovulation.<sup>1</sup>

PCOS is a disease caused by the imbalance of hormones in women, of multifactorial cause. It can change the menstrual cycle, cause skin problems and cause small cysts in the ovaries that ultimately can cause difficulty in getting pregnant. It is characterized by signs of menstrual irregularity, amenorrhea, hirsutism, acne, alopecia and seborrhea. The name given to this syndrome is due to the frequent presence of enlarged ovaries, with stroma hypertrophy and multiple cysts on the periphery of the cortex.<sup>2</sup>

It also interferes with the patients' metabolism, causing them to frequently manifest hyperinsulinism, insulin resistance, metabolic syndrome, obesity, abnormal lipid profile predisposition to type 2 diabetes and cardiovascular disease.<sup>3</sup>

The literature points out that around 50% of women with the syndrome are obese. A small reduction in weight (5%) is able to improve the hyperandrogenism and the anovulation pattern present in patients with this syndrome. Thus, the assessment of the nutritional status and food consumption of patients with PCOS becomes an important tool to guide nutritional intervention strategies.<sup>4</sup>

According to the articles studied, the diagnosis is made by analyzing the patient's history, clinical examination and laboratory tests. In patients who test positive for PCOS, tests usually show serum LH concentrations that are usually high and FSH normal or low.<sup>5</sup>

Given the above, this study aimed to investigate the importance of healthy eating associated with physical activity, in helping to treat polycystic ovary syndrome (PCOS).

## Method

It is an integrative review, which is a method that summarizes the results in a systematic, orderly and comprehensive way.<sup>20</sup> The following databases were used: Scielo, Lilacs e Bireme.

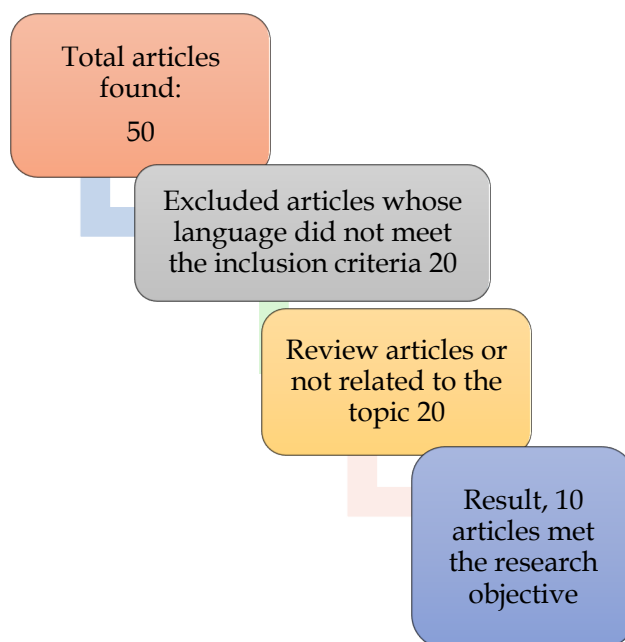
Articles in Portuguese and published in the period from 2000 to 2020 were used, which addressed the theme under study, using the following keywords: polycystic ovary syndrome, quality of life, obesity, nutritional status, physical activity.

With the data of each study, a table with the main variables was extracted and elaborated to analyze the profile of the collected articles, with the following approach, the importance of healthy eating associated with the practice of physical activities, in helping the treatment against ovarian syndrome polycystic (PCOS).

According to the flowchart below, 50 articles were filtered by the descriptors, following the inclusion criteria, of which 20 articles were excluded because they did not meet the inclusion criteria. As a result of the research, only

10 articles met the inclusion criteria, and were part of the theoretical basis that guided the development of the work.

**Flowchart I:**



Demonstrative flowchart of the bibliographic analysis process. Source: author (2020)

**Results e Discussion**

After reading the articles in full, the table below was prepared, with information on the title, authors, year of publication, objectives and summary of results. Based on LILACS, BIREME and SCIELO data on the importance of healthy eating associated with physical activity, in helping to treat polycystic ovary syndrome. Table 1 shows the main information extracted from the selected articles, regarding the year 2008 to 2019 articles were chosen, which best explains the purpose of this study, indicating the complications that patients with PCOS present, and demonstrating that the practice of physical activity combined with a good diet can improve the quality of life of these women.

**Table 1-** Information extracted from selected articles. 2020.

Title	Author	Year	Objective	Syntheses of results
Quality of life and psychosocial aspects of polycystic ovary syndrome: a qualitative and quantitative study	Moreira et. al.	2013	Assess the quality of life of women with ovarian syndrome polycystic (PCOS) and understand the experience lived by these women in the face of the symptoms they present.	PCOS compromises the quality of life of women, making them feel different from other women. Because of this, women with PCOS do not only need medical treatment for reproductive, aesthetic and metabolic repercussions, but also for multidisciplinary care
Obesity and change in structure blood pressure in young women with	Fernandes et. al.	2009	To compare the echographic factors of cardiovascular risk in obese and non-obese	Obesity in young carriers of SOMP are associated with higher blood pressure levels and arterial structure, represented by the

<b>of the ovariesmicro policisticos</b>			patients, with micro polycystic ovary syndrome (SOMP).	greater thickness intima-media of the carotid artery.
<b>Lifestyle changes in ovarian syndrome polycystic: role of physical exercise and importance of multidisciplinary approach</b>	Azevedo et. al.	2008	Analyze the specific role of the exercise and / or physical activity in changes in body composition, cardiovascular system, biochemical and hormonal plasma levels and reproductive function of women with PCOS.	The regular practice of physical exercise in women with PCOS have demonstrated relevant therapeutic importance, since the evidence indicates positive results of this modality in aspects related to the composition body, metabolic, cardiovascular and hormonal parameters, in addition to reproductive function.
<b>Metabolic profile in women of different mass indexes with ovary syndrome polycystic</b>	Sousa et al	2013	Characterize and Compare clinical variables, anthropometric and biochemical-metabolic measurements of patients with polycystic ovary syndrome (PCOS), stratified according to the body mass index (BMI).	The presence of RCV markers increased proportionally to the BMI, showing that the metabolic profile of obese women with PCOS is more unfavorable than non-obese women.
<b>state nutrition and food consumption of patients with ovary syndrome polycystic</b>	Calixto et Al	2012	Characterize the state nutritional and food consumption of patients with polycystic ovary syndrome (PCOS).	Patients diagnosed with PCOS have a high prevalence of obesity and nutritional inadequacies, denoting the importance of nutritional intervention measures as part of non-pharmacological treatment.
<b>Lifestyle changes in ovarian syndrome polycystic: role of physical exercise and importance the multidisciplinary approach</b>	Azevedo et al	2008	Analyze the specific role of exercise and / or physical activity in changes in body composition, cardiovascular system, biochemical and hormonal plasma levels and reproductive function of women with PCOS.	The regular practice of physical exercise in women with PCOS have demonstrated relevant therapeutic importance, since the evidence indicates results positives of this modality in aspects related to body composition, metabolic, cardiovascular and hormonal parameters, in addition to reproductive function.
<b>Nutritional aspects and management feed on women with syndrome of the ovaries polycystic</b>	Santos Et al	2019	Investigate how prevention and quality of life can benefit women with polycystic ovary syndrome.	A low-calorie, protein-rich diet with a low glycemic index can be beneficial for reducing body weight and, consequently, improving the changes associated with the syndrome.
<b>Quality of life in women with Ovary Syndrome Polycystic</b>	Almeida Et al	2019	To evaluate the quality of life (QOL) in women with Polycystic Ovary Syndrome (PCOS) assisted in two Basic Health Units (UBS) in	Women with PCOS have a heterogeneity of manifestations, being worrying their lack of self-awareness. The present study strengthens the idea that the approach of patients should

			city of Montes Claros, Minas Gerais.	aim at raising awareness, in addition to being multidisciplinary, within their particularities and subjectivity, taking into account the demands presented and their impacts on physical and emotional well-being.
<b>Physical activity, habits food quality and life in women with ovary syndrome polycystic.</b>	Fonseca. Aldrighi.	2012	Find a positive relationship between adequate diet and regular physical activity and a better quality of life in women with PCOS.	Although not differences between groups in terms of food intake and frequency of physical activity, the PCOS group that presented regular and moderate practice of physical activity, low WC and BMI <30 kg / m <sup>2</sup> , reached a better QOL. Conclusion: SOP cause with higher prevalence obesity and increase of AC and moderate regular practice of physical activity was associated with better QOL, unlike food, which had no influence.
<b>Ovary syndrome polycystic: the impact of information on the quality of life, an essay randomized clinical trial</b>	Azevedo	2016	Assess the impact of access to information quality of life (QOL) of women with PCOS.	The QOL questionnaires didn't detect differences between primer and control groups, before and post intervention. The discussion carried out brings elements to contextualize the profile of the participants and service conditions found, raising points for reflection. In conclusion, health information, although relevant and necessary, was not able, in this study, to modify the quality of the assessed participants.

Polycystic ovary syndrome affects women of reproductive age and are generally asymptomatic, however, they may present some symptoms, such as menstrual irregularity, sleep disorder, pimples, irregular hair growth, usually on the back, abdomen, buttocks, (hirsutism), seborrhea, alopecia (hair loss), weight gain and ovarian cysts.<sup>6</sup>

The articles studied show that patients with PCOS present, in their exams, an increasing insulin resistance and compensatory hyperinsulinemia, although the laboratory determination of insulin resistance is not crucial for the diagnosis in clinical practice. There are studies that suspect that the syndrome is related to increased risk for cardiovascular disease.<sup>7</sup>

Whoever is affected by the polycystic ovary syndrome has their quality of life and psychological affected, therefore, the perception of body and health has distortions, leading the patient to the need for multidisciplinary care. In general, it is noted that the quality of life is affected in several aspects and the woman goes through a process of clear changes in her health.<sup>7</sup>

Patients with polycystic ovary syndrome were more likely to have risk factors for the development of cardiovascular diseases such as obesity and insufficient HDL-cholesterol, according to the theoretical bases used in the table above.<sup>8</sup>

They also point out that the carotid artery undergoes changes in its thickness. Experts point out that the practice of physical exercises and combined with a balanced diet, are essential in the treatment, therapeutically, it is essential, due to the effective results. Thus, not only is the treatment favorable, but, body, hormonal, cardiorespiratory metabolism, among other advantages.<sup>9-10</sup>

Patients diagnosed with the syndrome have considerably nutritional inadequacies, also requiring a multidisciplinary intervention to non-pharmacological treatment, as a nutritionist and psychologist. Research directs that the diet of the patient with PCOS must be rich in protein and low sugar, so that body weight is reduced.<sup>11-12</sup>

The diagnosis must be as early as possible, so that the treatment can be started, because, with late diagnosis, complications are long-term, such as infertility, endometrial neoplasia, cancer and several problems in the body.<sup>13-14</sup>

As for medications, birth control pills are commonly prescribed. For hormonal balance, antidiabetic and antiandrogen medication may also be prescribed. According to the publications, the drug Metformin is used to regulate blood sugar levels, in some cases of PCOS. In cases where the patient is trying to get pregnant, medications are given to help ovulate.<sup>15-17</sup>

Therefore, Polycystic Ovary Syndrome, is a pathology that requires attention, due to the delicacy that is imposed, as it affects the woman's ovaries. And it has ways of minimizing symptoms and preventing long-term complications.<sup>18-19</sup>

## Conclusion

We conclude that PCOS is associated with menstrual irregularity, sleep disorders, pimples, irregular hair growth, usually on the back and chest (hirsutism), seborrhea, alopecia (hair loss), weight gain and ovarian cysts. Diagnosis should be made as early as possible through analysis of the patient's history, clinical examination and laboratory tests.

Treatment should be started as soon as possible to avoid long-term complications such as infertility, endometrial cancer, cancer, insulin resistance, diabetes and various problems in the body.

We conclude that with the change in lifestyle, exercise and balanced diet, it complements the pharmacological treatment. With the practice of physical exercises and a balanced diet, the body will drop the circulating androgens, improve the lipid profile and decrease the peripheral resistance to insulin, however pharmacological treatment and monitoring with a multidisciplinary team is crucial.

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