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Efficacy of inositol in the treatment of Polycystic Ovary Syndrome: A literature review

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ABSTRACT

Polycystic Ovary Syndrome (PCOS) is an endocrinological disorder that affects about 10% of women of reproductive age and is characterized by hyperandrogenism, chronic anovulation, and the presence of polycystic ovaries. In addition, it promotes the development of insulin resistance, with alteration of the metabolic and/or reproductive profile. Recently, inositol, a compound naturally present in fruits, beans and nuts, has been resonating as a potential intervention due to its insulin-sensitizing properties. This study reviews the efficacy and safety of inositol in the treatment of women with PCOS, focusing on clinical and metabolic parameters. We searched the PubMed, Scopus, and Cochrane Library databases to identify randomized controlled trials that investigated the impact of inositol on hormonal, metabolic, and reproductive parameters of women with PCOS. The quality of the studies was assessed using the Jadad scale. The studies analyzed indicate that inositol supplementation, especially the myo-inositol and D-chiro-inositol forms, improves insulin sensitivity, reduces androgen levels, and restores ovulatory function. There was a reduction in free testosterone levels, an increase in the frequency of ovulation and regular menstrual cycles, as well as improvements in lipid and glycemic profiles. In the 2023 PCOS guideline, inositol supplementation is recommended as an investigational therapy to improve insulin sensitivity and regularize the menstrual cycle in women with PCOS. Your use reveals a promising approach, promoting improvements in hormonal, metabolic, and reproductive parameters. It can be considered complementary to conventional therapies, such as metformin and oral contraceptives, in the presence of side effects of these. However, additional studies with larger and more homogeneous samples with prolonged follow-up are still needed to consolidate these findings, aiming to better define safety standards and side effects, and thus establish robust clinical guidelines.

Keywords: Inositol, Polycystic Ovary Syndrome, Insulin-sensitization, Treatment.

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