

The Use of GLP-Receptor Agonists for Improving Fertility in PCOS Patients

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Background

Women of reproductive age are frequently affected by polycystic ovarian syndrome, a common endocrine illness marked by polycystic ovaries, high levels of androgens, and irregular menstrual periods. Infertility is a primary consequence of PCOS. In order to enhance the results of conception for PCOS patients, there has been a surge in interest in the use of pharmacological therapies such as semaglutide/GLP-1 agonists together with dietary and lifestyle changes in recent years. This study assesses the effectiveness of GLP-1 agonists in enhancing the results of PCOS patients' ability to conceive.

Objective

By carefully examining the current evidence and addressing potential limitations, this paper seeks to provide valuable insights into the most effectiveness of GLP-1 receptor agonists for managing fertility in PCOS patients.

Method

A literature search was performed through PubMed, Google and google scholar for Full text articles and 2 systematic reviews were eventually selected. Relevant keywords were used to enhance the search in order to be specific.

Result

GLP-1 agonists are a newer generation of pharmacological drugs that have yet to be tested for more benefits. In PCOS patients there have been noticeably more improvements with regard to fertility, mainly through the effects of weightloss. In a systematic review and meta-analysis conducted by Linling Zhou et al., 2023 the researches highlighted results from 11 Randomized controlled trials, which included 479 patients taking GLP1Ras and 371 individuals in a control group, a total of 840 patients. They concluded that the prescription of the GLP1RAs had a positive effect in improving natural pregnancy rate, menstrual cyclicity and insulin sensitivity as well as hormonal indexes in the women with PCOS. Another review conducted by Georgios S. Papaetis et al., 2022, stated the effects of various GLP-1 agonists including Semaglutide, Liraglutide, Dulaglutide and Exenatide as well as Metformin. They concluded that the GLP-1R agonists have more effect on the weightloss when compared with other drugs, which in turn reduced subfertility and improved menstrual cyclicity of PCOS patients. They mentioned the beneficial effects of the pharmaceuticals particularly in PCOS individuals by the possible role played in the hypothalamic-pituitary-gonadal axis, which is at the center of an intense research.

Limitation

Both studies acknowledged the limitations of the studies including short period of the research, small population of women, lack of control group, as well as the need for more comprehensive well-organized, double-blind, multi-ethnic, phenotype-specific placebo-controlled studies, and in-depth research on the mechanisms of these drugs.