# Polycystic ovary syndrome (PCOS) and the role of neurotransmitters

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Polycystic ovary syndrome (PCOS) is a disorder that supports endocrine abnormalities, characterized by an increase in GnRH and the ratio of LH to FSH. GnRH is the major molecule in reproduction that is affected by various intrinsic and external factors such as neurotransmitters and neuropeptides. PCOS is a highly inherited disease; Approximately 70- 60% of girls born from women with PCOS, exhibit PCOS phenotypes. Worldwide, 15-20% of women in reproductive age, have polycystic ovary syndrome. PCOS has severe and lifelong effects on women's health and wellness. Recently published international guidelines on PCOS state the need for clinical diagnosis of at least 2 of the 3 Rotterdam indicators: 1- Excessive levels of testosterone in the bloodstream or excessive body hair (hirsutism) 2- Absent or intermittent menstrual cycle 3- Polycystic ovaries on ultrasound Rotterdam indices create 4 PCOS phenotype models: Type A: HA + OD + PCOM Type B: HA + OD Type C: HA + PCOM Type D: OD + PCOM

The neurotransmitters inhibiting GnRH and LH, for example serotonin, dopamine, GABA and acetylcholine are all decreased, while glutamate, the main stimulus for GnRH and LH release, is increased in PCOS. The presence of an increased stimulus signal (glutamate) and a decrease in inhibitory flow (serotonin, dopamine, GABA, and acetylcholine) may indicate that the GnRH and LH are responsible and leading to an increase in the LH / FSH ratio observed in PCOS.

## Biography

Abbas Majdi Seghinsara has completed his PhD at the age of 30 years from Tabriz University and start Anatomy and Embryology at Tabriz University of medical sciences.

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