

3. Hormonal Imbalance In PCOS

Hormonal imbalance in PCOS occurs at three levels:

A) Insulin secretion and action- Insulin is a glucose utilization hormone vital to making energy in the body cells from glucose. Without Insulin, a human cannot survive for more than a few days. In PCOS, there is excessive production of Insulin. More sugar in the diet produces a high glucose level in the bloodstream, leading to excessive insulin secretion in the pancreas gland. Since excess Insulin is harmful to the body cells, the cells start to fight off Insulin. This phenomenon is called Insulin resistance (see more on insulin resistance below). When Insulin resistance develops, the glucose does not get used up for making energy naturally. The excess unutilized glucose then gets converted to unwanted fat, causing Obesity and other hormonal imbalances.

B) Ovaries and female hormones—Insulin helps regulate ovarian function. Excess Insulin in the body prevents the egg maturation process in the ovaries. That leads to ovaries producing fewer female hormones and making more male hormones called androgens. The male hormone excess is responsible for Menstrual irregularities, Hirsutism (excess facial hair), and Infertility in PCOS patients.

C) Brain and Pituitary gland—The brain secretes two hormones that help make and mature eggs in the ovaries. These are called Follicular stimulating hormone (FSH) and Luteinizing hormone (LH). The egg maturation process is essential for maintaining normal female hormone levels, regular menstrual cycles, and fertility. There is an intimate relationship between the female hormones secreted in the ovaries and the hormones secreted by the pituitary gland. The ovaries and Pituitary gland are interconnected when it comes to controlling egg growth, maturation, and proper female and male hormone balance.