**Study Flowchart**

All analyses were performed by SPSS software

Testing index:

1. Fasting venous blood was collected at 8:00 a.m.
2. Serum dihydrotestosterone (DHT), sex hormone-binding globulin (SHBG), IGF-1, fasting insulin (FINS), 2-h postprandial plasma insulin, testosterone (T), estradiol (E2), progesterone (P), luteinizing hormone (LH), follicle stimulating hormone (FSH), pituitary prolactin (PRL), cortisol, fasting plasma glucose(FPG), 2-h postprandial plasma glucose, blood lipids (cholesterol, triglyceride, low density lipoprotein [LDL], high density lipoprotein [HDL]) were detected.

Conduct questionnaire:

1. Basic patient information: sex, age, height, weight, body mass index (BMI) , and course of disease.
2. Global acne grading system(GAGS): Acne was graded by it.

A homeostatic model assessment for IR (HOMA-IR) value of ≥ 2.5 was regarded as IR.

NIR group

IR group

IR group

NIR group

Males

Females

Select 100 patients with acne vulgaris