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A Snapshot of Characteristics Recorded in Electronic Medical Records of Women with Polycystic Ovary Syndrome in TriNetX Within Two Years of Diagnosis

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Background & Objective

- Polycystic ovary syndrome (PCOS) is a multifactorial disorder that affects approximately 10% of women of reproductive age.
- PCOS is associated with hormonal disturbance and psychological consequences. The exact cause of PCOS is unknown.
- Women with PCOS may have infrequent or prolonged menstrual periods or excess male hormone (androgen) levels.[1]
- There is considerable inter-individual variation in presentation thus making the condition difficult to diagnose.
- The objective of this review was to describe demographic characteristics, medications, and labs in electronic medical records of women with PCOS in the United States within two years of diagnosis.

Methods

- TriNetX "Analytics" (TriNetX, Cambridge, MA) was used, a global federated research network, which contains electronic medical record data of up to 47 million patients in 39 large healthcare organizations, predominately in the USA.
- Women with PCOS were identified by ICD-10 code (E28.2)
- Associated variables within two years of a PCOS diagnosis are presented using descriptive statistics.
- Analytics for this abstract were performed on 7 Feb 2019.
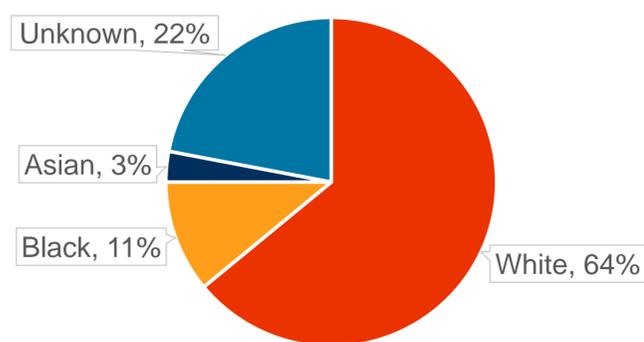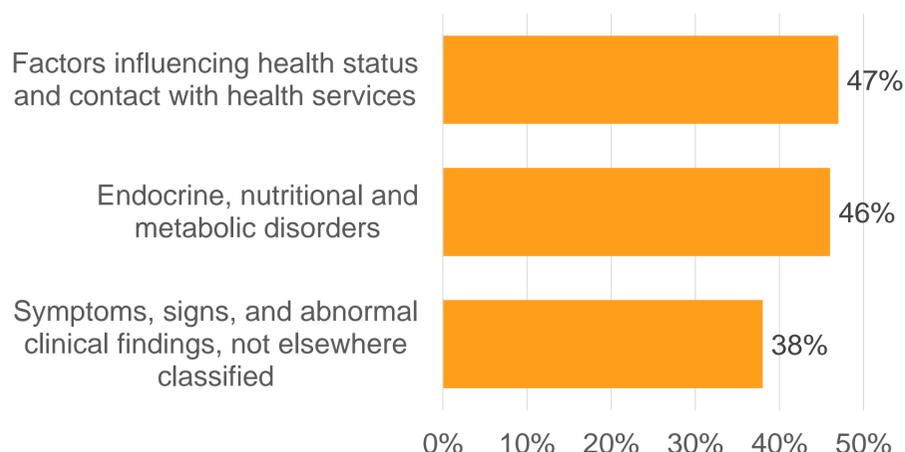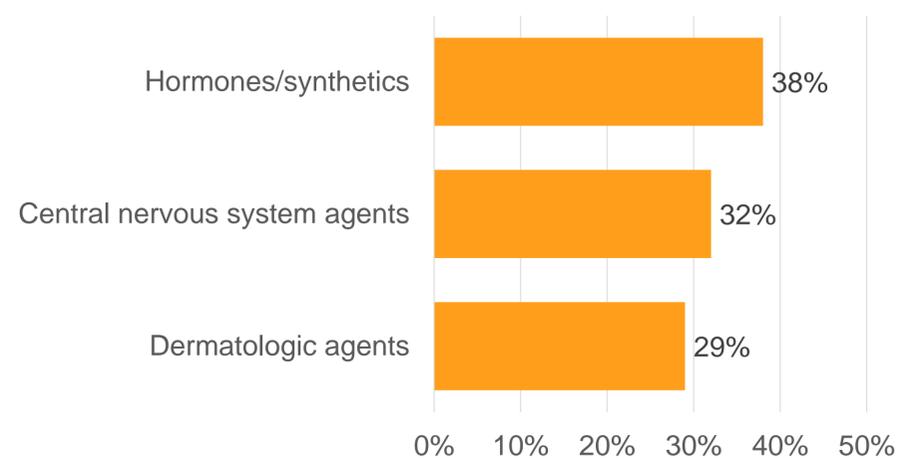
Figure 1. PCOS patients by race

Results

- Of the 24,801,671 women in the TriNetX network at the time of analysis, there were 164,709 (0.66%) women with PCOS.
- The mean age of the PCOS patients was 35 years.
- **Figure 1** presents the breakdown of PCOS patients by race
  - 64% are White, 11% Black, 3% Asian and 22% are unknown
- Top PCOS diagnoses recorded were (**Figure 2**):
  - Factors influencing health status and contact with health services (47%), which included encounters for special examinations (n=49,233)
  - Endocrine, nutritional and metabolic disorders (46%), which included diabetes (n=10,872) and obesity (n=27,710)
  - Symptoms, signs, and abnormal clinical findings, not elsewhere classified (38%), which included malaise/fatigue(n=9,313) and headache (n=8,390)
- Top medication classes prescribed to PCOS patients are presented in **(Figure 3)**:
  - Hormones/synthetics (n=57,842; 38%)
  - Central nervous system medications (n=48,125; 32%)
  - Dermatological agents (n=43,983; 29%)
  - The most prescribed medications under these respective classes were: blood glucose regulation agents (n=25,916; 17%), analgesics (n=32,870; 22%) and sodium chloride (n=18,659; 12%)
- Common lab procedures performed included:
  - Hemoglobin (n=45,558; 30%), creatinine (n=45,449; 30%), hematocrit (n=43,076; 28%), erythrocyte mean corpuscular volume (n=42,699; 28%) and platelets (n=42,151; 28%)
- Body Mass Index (BMI) was also measured (n=57,229; 38%)
  - Mean BMI was 35.0 kg/m² with a standard deviation of 9.5

Figure 3. Top medication classes prescribed to PCOS patients

Figure 2. Top PCOS diagnoses

Conclusions

- Characteristics and diagnoses within 2 years of a PCOS diagnosis in women include: white race, diabetes, obesity, fatigue and taking blood regulation agents.
- These characteristics and lab procedures such as hemoglobin and creatinine can aid physicians on diagnosing women with PCOS when taking into account other factors in relation to a woman's health.

1. Polycystic ovary syndrome (PCOS). Mayo Clinic, 2017. Internet: https://www.mayoclinic.org/diseases-conditions/pcos/symptoms-causes/syc-20353439. Accessed 25 Apr 2019.

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