IS THERE THE RELATIONSHIP BETWEEN ANXIETY AND DEPRESSION LEVEL AND CLINICAL PRESENTATION OF POLYCYSTIC OVARY SYNDROME IN ADOLESCENT GIRLS?
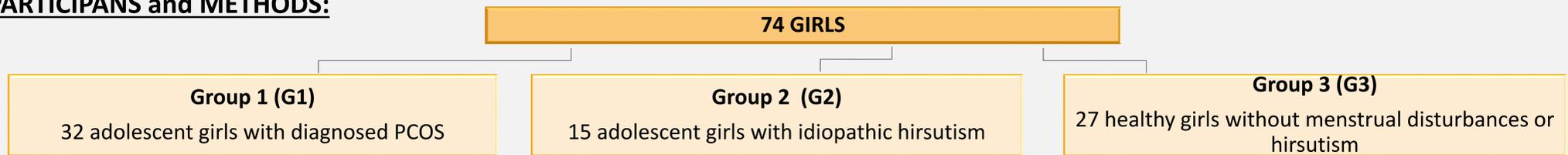
Agnieszka Zachurzok[1], MD PhD & Agnieszka Pasztak-Opilka[2] , PhD

1. Department of Pediatrics and Pediatric Endocrinology, Medical University of Silesia, School of Medicine in Katowice Poland
2. Institute of Psychology, Faculty of Pedagogy and Psychology, University of Silesia, Katowice, Poland

BACKROUND: Polycystic ovary syndrome (PCOS) is one of the most common endocrine disorder of the young women, and it could influence both physical and psychological wellbeing. Clinically PCOS presents as menstrual disturbances, hirsutism and acne, and it is often associated with obesity. As a consequence of clinical features of the syndrome lower sexual attractiveness, higher emotional distress as well as higher depression score is frequently observed.

THE PURPOSE of the study was to evaluate anxiety and depression score, as well the body esteem and stress perception in adolescent girls with clinical features of hyperandrogenism (menstrual disorders and/or hirsutism).

PARTICIPANS and METHODS:

74 GIRLS

Group 1 (G1)
32 adolescent girls with diagnosed PCOS

Group 2 (G2)
15 adolescent girls with idiopathic hirsutism

Group 3 (G3)
27 healthy girls without menstrual disturbances or hirsutism

1. **Clinical evaluation**: menstrual regularity, hirsutism, BMI, BMI z-score, pelvic US
2. **Hormonal profile (3-7 day of cycle):** testosterone, dehydroepiandrosterone sulfate (DHEAS), 17OHprogesterone (17OHP), Androstendione
3. **The Hospital Anxiety and Depression Scale (HADS)** - a 14-item measure designed to assess anxiety and depression symptoms in medical patients. It produces two scales:
   - **Anxiety (HADS–A),**
   - **Depression (HADS–D)**
4. **The Body-Esteem Scale (BES)** composed of 35 items and consists of three subscales:
   - **Sexual Attractiveness**
   - **Weight Concern**
   - **Physical Condition**
5. **Perceived Stress Scale 10 (PSS-10)** 10-item self-report measure that asks respondents to stipulate the degree to which situations in their lives can be appraised as stressful.

Table 1. Clinical and hormonal characteristics of adolescent girls with polycystic ovary syndrome (PCOS) (G1), girls with idiopathic hirsutism (G2) and control group of healthy girls (G3)

	G1 (n=32)	G2 (n=15)	G3 (n=27)
Chronological age [years]	16.6±1.0	16.0±1.3	16.0±1.2
Gynaecological age [months]	52.8±19.1	56.2±18.4	37.5±19.4
Cycle duration [days]	106.1±61.0[1,2]	29.2±2.4	29.6±4.5
BMI z-score	1.0±1.1	1.2±1.0	1.0±1.0
Ferriman-Gallwey score [points]	5.3±4.1[3]	9.9±1.9[4]	2.1±2.5[5]
Testosterone [ng/dl]	56.8±23.5	52.5±20.9	46.3±13.4

1. G1 vs G2 p<0.001; 2. G1 vs G3 p<0.001; 3. G1 vs G2 p<0.001; 4. G2 vs G3 p=0.001; 5. G1 vs G3 p=0.02

Table 2. Psychological questionnaires results in adolescent girls with polycystic ovary syndrome (PCOS) (G1), girls with idiopathic hirsutism (G2) and control group of healthy girls (G3)

	G1 (n=32)	G2 (n=15)	G3 (n=27)
HADS Anxiety	8.5±4.3	8.7±3.3	**9.9±3.2**
HADS Depression	5.4±3.9	4.1±2.5	5.4±3.4
BES Sexual Attractiveness	43,5±6,3	43,7±7,5	45,1±9,7
BES Weight Concern	27,8±8,8	25,1±7,9	25,9±11,1
BES Physical Condition	29,6±6,1	31,8±4,9	31,1±7,1
PSS-10	22,6±3,4	22,9±3,1	23,2±3,9

HADS - The Hospital Anxiety and Depression Scale ; BES – The Body-Esteem Scale ; PSS-10 - Perceived Stress Scale 10
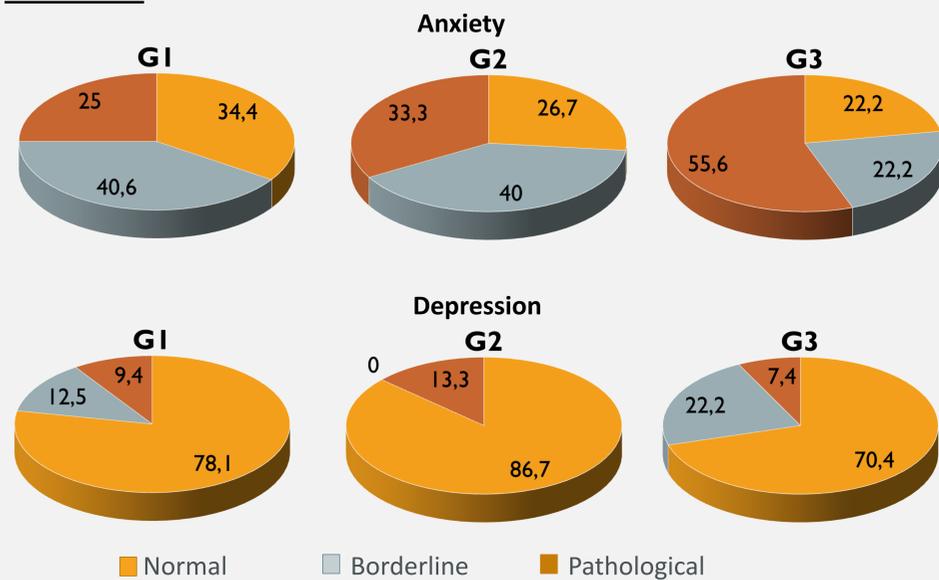
RESULTS:

Figure 1. The Hospital Anxiety and Depression Scale score distribution in adolescent girls with polycystic ovary syndrome (PCOS) (G1), girls with idiopathic hirsutism (G2) and control group of healthy girls (G3)

KEY CORRELATIONS

1. In G1 the Depression score was negatively related to BMI z-score (r=-0.4, p<0.05) and in G2 positively to Testosterone level (r=0.6, p<0.05).
2. In G1 the Perceived Stress score was negatively related to BMI z-score (r=-0.7, p<0.001).
3. In G2 the Perceived Stress score correlated negatively with Androstenedione level (r=-0.6; p<0.05) and 17OHprogesterone level (r=-0.8; p<0.01).
4. In G1 and G2 he Weight Concern was negatively related to BMI z-score (r=-0.4; p<0.05; r=-0.7; p<0.01 respectively).
5. In G1 there was significant relationship between Weight Concern and Hirsutism score (r=0.4; p<0.05).
6. In G3 Sexual Attractiveness was related to Testosterone level (r=0.6; p<0.01) and DHEAS (r=0.5; p<0.05) .

CONCLUSION: In adolescent girls clinical features of hyperandrogenism are not connected with increased anxiety and depression level. However biochemical hyperandrogenism could significantly influence the perceived stress and body esteem.

AUTHORS HAVE NOTHING TO DISCLOSE

CONTACT: Agnieszka Zachurzok, MD, PhD
Department of Pediatrics and Pediatric Endocrinology, Medyków St. 16; 40-752 Katowice, POLAND
agnieszkazachurzok@poczta.onet.pl

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Agnieszka Zachurzok
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