

EVALUATING ADOLESCENT PCOS MANAGEMENT: A RETROSPECTIVE STUDY

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Background:

- Polycystic ovary syndrome (PCOS) is a complex, multifactorial endocrine disorder characterised by a combination of clinical and/or biochemical features of androgen excess and ovarian dysfunction [1]
- It is associated with a broad spectrum of comorbidities, including infertility, metabolic syndrome, obesity, insulin resistance, dysglycaemia, increased cardiovascular risk, depression and obstructive sleep apnoea.
- Adolescent PCOS (A-PCOS) affects 6–10% of adolescent females globally [2].
- Since 2003, UHNM has had a dedicated Paediatric and Adolescent Gynaecology (PAG) service.
- Managing PCOS in adolescents is particularly challenging due to diagnostic uncertainty stemming from overlapping features with normal puberty, the frequent reliance on off-licence pharmacological treatments, and restricted contraceptive choices in those with obesity.

Aims:

This study evaluates the local A-PCOS service for adolescents and highlights the need to incorporate newer management approaches and a multidisciplinary approach.

Methods

- Retrospective cohort study from June 2022 to May 2024.
- 23 PAG clinics reviewed, encompassing 381 patients.
- Case notes were then interrogated to identify patients with PCOS based on a combination of history suggestive of anovulatory cycles, clinical features and biochemical investigations.
- Data points analysed: Demographics, Body Mass Index (BMI), biochemical screening, imaging, and treatment modalities.

Results

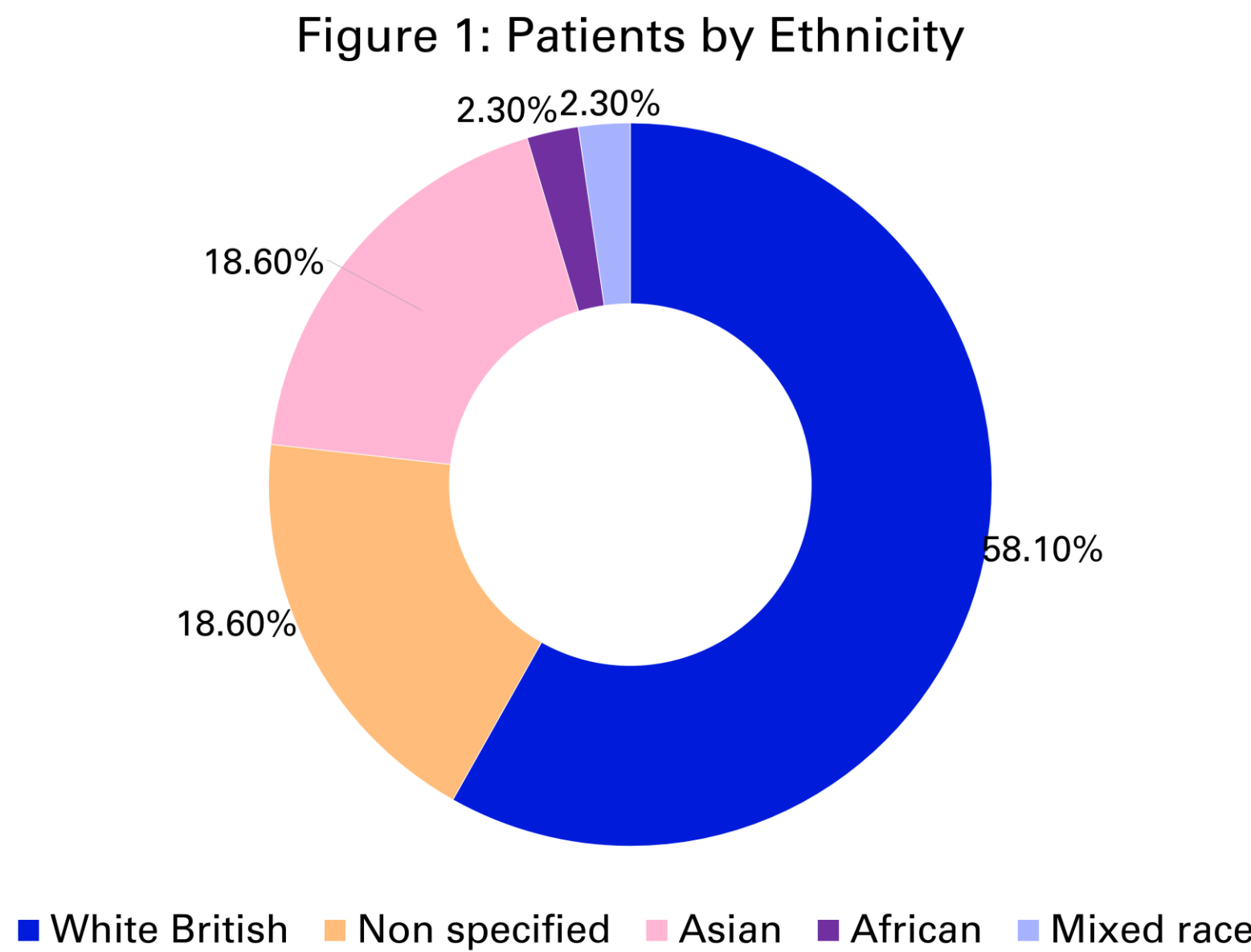
N = 43 diagnosed A-PCOS patients
Total Appointments: 109 (new + follow-up)
Age Range: 11–18 years (Mean 15.3)
Mean BMI: 30.6 (Range: 14.74 – 48.00)

Investigations:

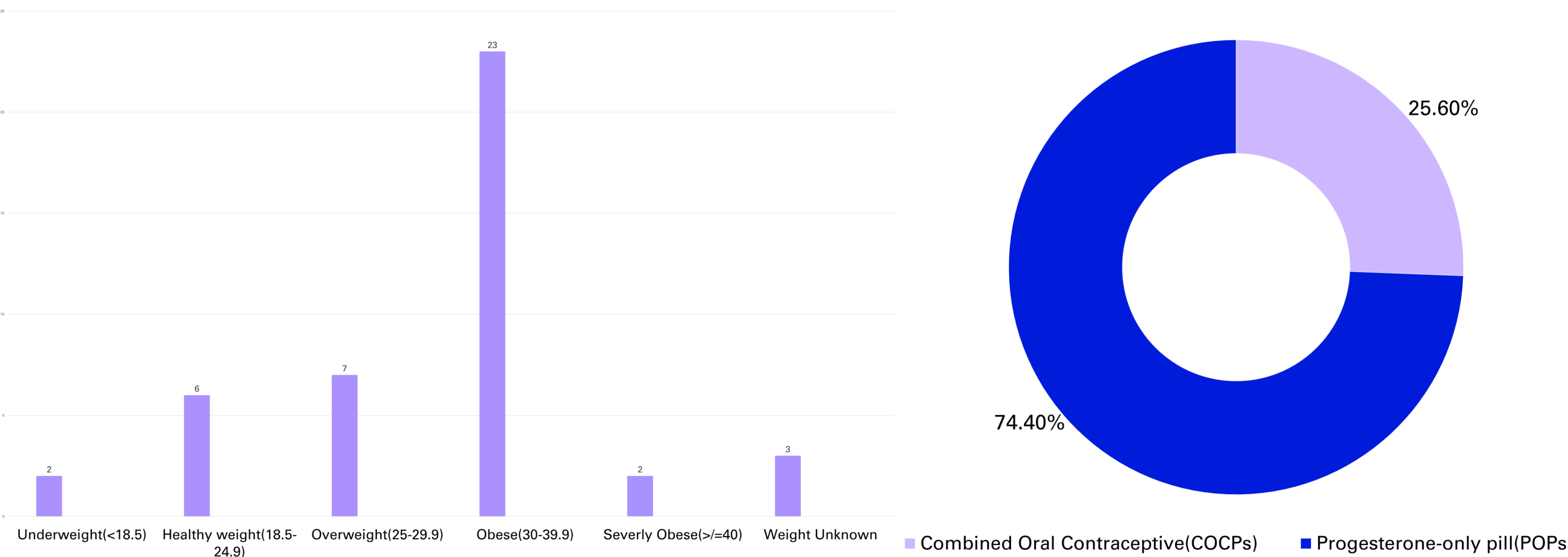
- Lipid profiles: 8 patients
- HbA1c: 24 patients
- Hormone profile: 42 patients
- Pelvic Ultrasound: 37 patients
- Liver function tests: 29 patients

Management:

- Lifestyle Advice: Provided to 27 patients



- 39 patients received hormone therapy
- Metformin: 6 patients



Discussion:

- The diagnostic process itself presents challenges unique to adolescents. Hormonal fluctuations during puberty can make the interpretation of hormone profiles complex.
- Pelvic ultrasound—performed in 37 patients—is controversial in this age group. Multi follicular ovaries are a normal physiological finding in adolescence. Relying on imaging can lead to overdiagnosis of PCOS.[3]
- PCOS is strongly associated with insulin resistance and metabolic syndrome. Out of 43 patients only 24 underwent HbA1c testing, and only 8 had lipid profiles performed. This suggests that metabolic risks may be under-assessed in this population, potentially due to the absence of standardised protocols.
- In this cohort 32 adolescents were overweight or obese. Unfortunately Metformin as a treatment option is underutilised within this patient demographic as it is off-licence for PCOS under the age of 18. Similarly, newer metabolic agents such as GLP-1 receptor agonists (e.g., semaglutide) which are gaining popularity for obesity management in adults remain off-licence and under-researched in adolescents, limiting their availability as treatment options.[4,5]
- Only 27 patients were documented as receiving lifestyle advice. The absence of documented lifestyle intervention in over a third of patients suggests missed opportunities for first-line non-pharmacological treatment. This suggests poor counselling but may also reflect the paucity of weight loss support services for adolescents.

- Of the 39 patients who received hormonal therapy, 29 were on POP (Desogestrel) and 10 on COCPs. A Drospirenone containing COCP would have been first choice for several patients with androgenic symptoms, unfortunately due to the prevalence of raised BMIs in this cohort this was not an option in many cases. [6]Patients with normal BMI were offered the choice of hormonal treatment resulting in menstruation or not. The Levonorgestrel releasing IUS was offered in a minority of cases but not accepted by any.

Conclusion:

These findings reveal key areas for improvement in the management of A-PCOS, including more consistent metabolic screening, standardised diagnostic pathways, and comprehensive, individualised treatment plans. Addressing these challenges will be essential to improving both immediate and long-term health outcomes for adolescents with PCOS.

Recommendations:

- Tailored Screening Protocols:** Implement routine assessments including lipid profiles, HbA1c, liver function tests, and relevant hormone profiles for all adolescents with suspected PCOS.
- Incorporate validated tools** such as the Epworth Sleepiness Scale and Berlin Questionnaire to evaluate the risk of obstructive sleep apnoea (OSA), a condition with increased prevalence in PCOS.
- Dedicated Weight Management Services:** Adolescent-focused services offering dietitian input, physical activity support, and pharmacological weight loss interventions.
- Psychological Support:** To address body image, acne, hirsutism, fertility concerns and mental health
- Exploration of Emerging Therapies:** Evaluate safety and feasibility of GLP-1 receptor agonists in adolescents
- Unified Clinical Guidelines:** Need for UK-specific, age-appropriate A-PCOS care pathways.

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