

**BACKGROUND**

Trans-abdominal pelvic ultrasound scan (PUS) is a non-invasive diagnostic investigation that visualizes the internal pelvic organs. The *East London Physical Health Management in Eating Disorders policy (2019)*, highlights 3 main indications for requesting a PUS:

- 1) patients older than 16 years with primary amenorrhea to exclude any medical causes for the primary amenorrhea;
- 2) patients at WFH more than 95% for 3-6 months but no resumption of menstruation (ROM);
- 3) patients' menstruation is reported at weight-for-height (WFH) lower than 95% and dysfunctional bleeding is suspected.

Maintaining a normal weight is essential for hypothalamic-pituitary-ovarian function which results in normal reproductive functioning and in girls with no pelvic structure abnormalities, menstruation. This is therefore used as the biological marker for a healthy weight in conjunction the individual's WFH to produce an individualised understanding of 'healthy weight'.

**AIM**

To evaluate the clinicians' compliance to the *East London physical health management policy in Eating Disorders (2019)*.

**METHODOLOGY**

Retrospective audit that included all patients who attended for a PUS examination between 1st Jan. 2016 to 31st Mar. 2021

**RESULTS**

- 61 patients attended PUS investigations, of which 1 patient was excluded as this was requested following the removal of a foreign body.
- The median age at which PUS was requested was 15.4 years, range 12.8-18 years.
- 46 of the total 60 patients (77%) were requested for a PUS in line with the protocol.

Initial reasons for PUS investigations		Count	In line with the protocol
Primary amenorrhoea	Primary amenorrhea >16 years	2 (3%)	Yes
	>95 %WFH for 3-6 months and no ROM	10 (17%)	Yes
Secondary amenorrhoea	< 95 %WFH for 3-6 months and no ROM	4 (7%)	No
	>95 %WFH for < 3-6 months and no ROM	1 (2%)	No
Menstruating at low WFH	Menstruating at WFH < 95%	34 (57%)	Yes
Irregular menstruations	Irregular periods for more than 3 months & WFH < 95%	6 (2%)	No
Others	Observation of cyst morphology (investigating PCOS, luteal cyst)	2 (2%)	No
	Regular menstruation at WFH >95%	1 (2%)	No

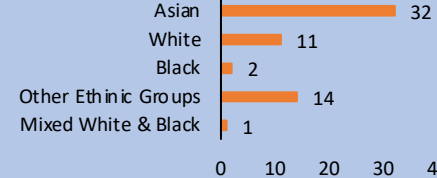
1. Regular training should be provided to clinicians in requesting PUS to help them better understand the rationale for PUS investigations;
2. A template should be used when requesting PUS examinations to aid sonographers provide enough information from the outset, avoiding the need of duplication;

- 9 patients had repeat PUS, reasons summarised below:

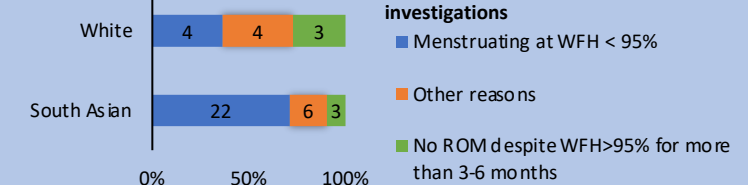
Reasons for repeating PUS	Count	In line with the protocol
Previous PUS scan was unclear	4	Yes
Re-confirming the cyst morphology as it was found abnormal in previous scan	3	No
Regular menstruation at WFH lower than 95%	3	Yes
No ROM despite at WFH > 95% for more than 3-6 months	1	Yes

- The ethnicity spectrum of the 60 patients is presented in Figure 1.
- The largest cohesive group was South Asian (SA) (n= 31, 52%). This included 26 Bangladeshi, 3 Pakistani, 1 Indian, 1 Sri Lanka followed by White (W) (n=11, 15%). This included 8 British, 1 Turkish, 1 other Republics of former Yugoslavia and 1 other/unspecified.
- SA patients were more likely to have PUS requested due to menstruating at low WFH (Figure 2).

**Figure 1. Ethical Composition**

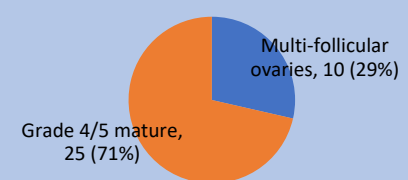


**Figure 2. Ethnically specific reasons for requesting PUS investigations**

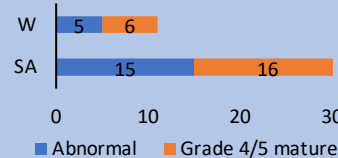


- Of the 22 SA patients and 4 W patients requested PUS for being menstruate at WFH < 95%, n=25, 71% had a mature pelvic organ grading (i.e. G 4 or 5), whilst n=10, 29% had multi-follicular ovaries that could indicate immature pelvic organ findings or PCOS. Detailed graphically in Figure 3.

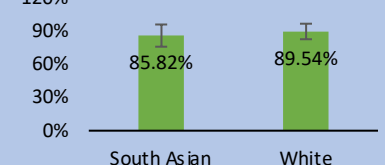
**Figure 3. Proportion of patients with mature pelvic organ but menstruated at WFH < 95%**



**Figure 4. Patients with fully matured organ by SA and W**



**Figure 5. %WFH of patients with fully matured pelvic organ**



- Of the whole 31 SA and 11 W patients, 16 SA and 6 W patients had a fully matured pelvic organ. A significantly lower %WFH with a fully mature pelvic organ was seen in SA patients compared to W, p < 0.05 (Figure 4&5).

**RECOMMENDATIONS**

3. A leaflet should be provided to patients to ensure adequate preparation of PUS examinations, avoiding slot cancellation due to inadequate preparation for the PUS;
4. Further research into healthy weight across ethnicities will help inform future recommendations and revision of the physical health management policy, due in 2022.