

Variability in FSH levels limits the reliability of hormone testing for POI diagnosis



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Introduction

Serum follicle-stimulating hormone (FSH) is commonly used to support the diagnosis of premature ovarian insufficiency (POI). Current NICE (NG23), IMS, ESHRE, BMS and TMS guidelines recommend FSH testing in symptomatic women aged under 40; however, **diagnostic thresholds vary widely**, with cut-offs ranging from 25 to 40 IU/L.

These recommendations are not supported by high-quality evidence, and many symptomatic women with **normal or low FSH** are **refused hormone treatment**. Given the marked variability in hormone levels in POI, reliance on a single FSH measurement may be insufficient for accurate diagnosis.

Aim

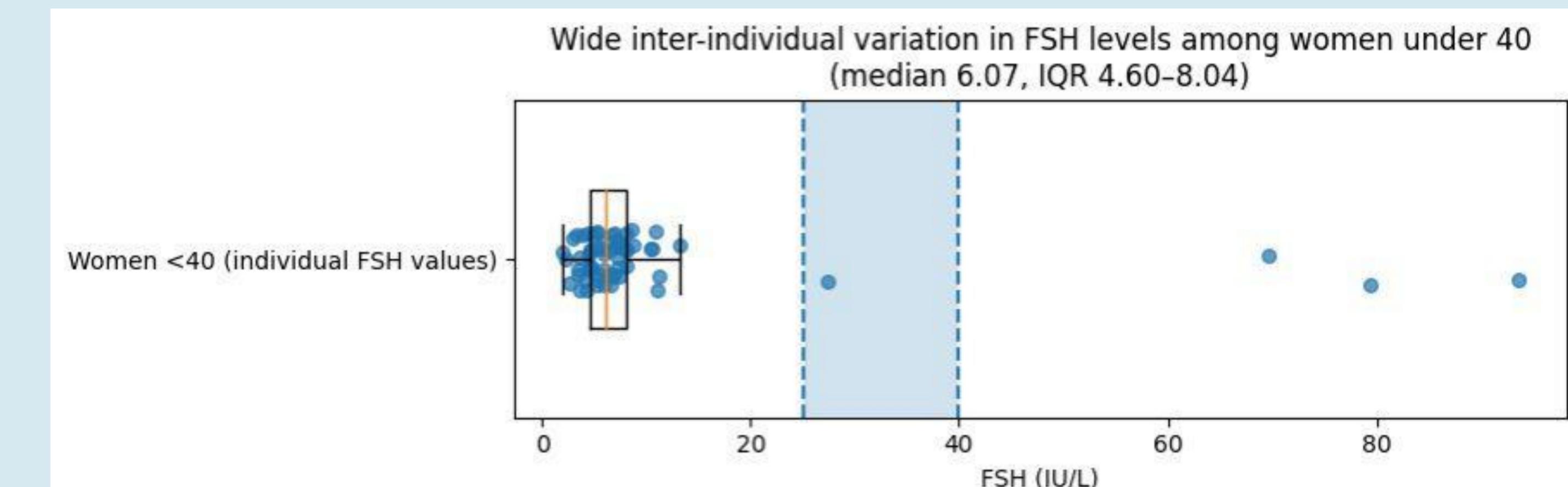
To quantify levels of serum FSH among women under 40 assessed for suspected POI, and to evaluate whether FSH level is a reliable diagnostic indicator in this age group as outlined in national and international menopause guidelines.

Methods

This retrospective cohort study included women ($n = 61$) under 40 attending Newson Clinic with baseline hormone testing performed. Serum FSH (IU/mL) concentrations were analysed by Nationwide Pathology (Leicestershire, UK) using the Atelica IM Enhanced Estradiol (eE2) assay.

Results

Serum FSH levels varied widely among women under 40 (range 1.91-93.65 IU/L; median 6.07, IQR 4.52 - 8.05). Most values were low, but a small number of elevated results extended beyond current diagnostic thresholds for POI.



Conclusion

These findings indicate that **single-timepoint FSH measurement provides limited diagnostic reliability for POI in women under 40**. This challenges current guidelines for POI and calls for their reconsideration. This also has particular relevance given the growing use of commercial self-testing services offering single-result FSH hormone tests.