

Sexual criminal behaviour in individuals with Klinefelter syndrome (KS; 47, XXY) seems to be marginally pronounced compared to euploidy and likely associated with hormonal treatment and neuropsychological vulnerability

Evangelou K¹, Pavlidou L¹, Belimezakis N¹, Zervas V¹, Hadjiphilippou M², Louka C³

¹ Department of Medicine, National and Kapodistrian University of Athens, Athens, Greece

² Department of Nursing, National and Kapodistrian University of Athens, Athens, Greece

³ Department of Chemistry, University of Cyprus, Nicosia, Cyprus

INTRODUCTION

Klinefelter syndrome (KS; 47,XXY) is associated with hypogonadism, executive and social cognition deficits, learning difficulties and increased rates of mood, anxiety and psychotic disorders. These vulnerabilities may impair judgment, impulse control and social understanding in ways that are relevant to sexual boundaries and consent.

Past accounts have sometimes portrayed KS as strongly linked to deviant sexual behaviour, on the basis of small, biased samples that risk unjustified stigma. A more nuanced forensic perspective must separate baseline neuropsychological vulnerability, possible activating effects of androgen replacement and the independent contribution of personality and environmental factors.

Clarifying the magnitude and mechanisms of sexual offending risk in KS is important both for fair forensic evaluation and for ethically sound endocrine and psychiatric management.

AIM

To synthesise clinical and forensic literature on sexual criminal behaviour in individuals with KS, with particular focus on neuropsychological profiles, patterns of offending and the possible role of

testosterone or other hormonal treatments in facilitating sexually disinhibited or aggressive conduct.

METHODS

A targeted narrative review was conducted of five peer-reviewed publications reporting individual KS case histories, clinical series with documented forensic outcomes or surveys of KS prevalence in offender populations. Across studies, data were extracted on type and age of onset of sexual offending, co-occurring psychiatric diagnoses, intellectual and neurocognitive functioning, substance use and features of social functioning such as immaturity, suggestibility and impaired empathy.

Endocrine status and treatment were noted, including baseline hypogonadism, timing and dosage of testosterone replacement and any reported temporal relationship between dose changes and the emergence or escalation of sexual misconduct. Where possible, offending patterns in KS subjects were compared with those in euploid offenders and with non-sexual crimes committed by KS individuals. Extracted material was integrated using a forensic-clinical lens to infer plausible mechanisms and generate implications for risk assessment and treatment planning.

RESULTS

Across clinical descriptions, KS individuals who engaged in sexual offending commonly showed low average to borderline intellectual functioning, language-based learning difficulties, attentional problems and marked social naivety. Many had histories of social isolation and delayed psychosexual development, with dependence on pornography or solitary sexual practices rather than age-appropriate, reciprocal relationships. This profile appeared to contribute to poor understanding of consent, misreading of social cues and a tendency to seek sexual contact in opportunistic or age-inappropriate contexts.

Several case reports described temporal associations between initiation or up-titration of testosterone replacement and the onset or intensification of deviant sexual behaviour, including compulsive masturbation in public, use of illegal sexual material and attempted or completed sexual assault. In some instances, reduction or cessation of testosterone was followed by attenuation of sexual drive and behavioural dyscontrol, although concurrent psychosocial interventions limited causal inference.

Larger forensic samples suggested that the overall prevalence of KS among more than one thousand male offenders

was about two per cent, slightly higher than expected in the general male population, but that KS was not specifically over-represented among those convicted of sexual offences.

Within the KS subgroup, however, the relative liability to commit sexual rather than non-sexual crimes appeared increased, with sexual offences more frequent than property, arson, assault or homicide-related offences. Notably, most KS individuals identified in clinical or community cohorts had no criminal history, underscoring that KS is neither necessary nor sufficient for sexual offending.

Across reports, impulsivity, affective instability, autistic or schizotypal traits, adverse childhood experiences and contextual stressors such as unemployment and social rejection emerged as additional contributors to risk.

CONCLUSION

Available evidence suggests that KS may confer a modest increase in vulnerability to sexual offending, mediated less by an intrinsic “criminal” disposition and more by a combination of cognitive deficits, social immaturity, psychiatric comorbidity and, in a subset of cases, heightened libido or disinhibition associated with testosterone therapy. Forensic assessments involving defendants or convicted offenders with

KS should therefore include neuropsychological testing, detailed developmental and psychosocial history and close scrutiny of the temporal relationship between endocrine treatment, emerging sexual preoccupations and index offences, while avoiding deterministic assumptions based solely on the chromosomal diagnosis. Clinically, decisions about androgen replacement should balance somatic and psychological benefits against potential risks, with gradual titration, monitoring for changes in sexual drive and behaviour and close liaison between endocrinology, psychiatry and forensic services. Further prospective studies are required to clarify incidence rates, identify high-risk phenotypes within the KS population and develop preventive and rehabilitative strategies that reduce harm without exacerbating stigma.

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CORRESPONDENCE

Kyriacos Evangelou; National and Kapodistrian University of Athens; NKUA
evangeloukyriacos@gmail.com