Five-Year Follow-Up for Adolescents With Conduct Disorder Referred to an Urgent Psychiatric Consult Clinic: A Descriptive Study

To the Editor: The publication[1] on the incidence rates of treated mental disorders in children and adolescents inspired us to revisit the idea of clinical trajectories in individuals with conduct disorder.

Conduct disorder (CD) is diagnosed in children or adolescents displaying persistent patterns of behavior violating the basic rights of others.[2] Prevalence estimates of CD vary widely from 0.2% to 8.7%.[3] CD is increasingly viewed as a neurobiological syndrome involving antisocial behaviors and callous unemotional traits.[4] Genetic studies[5,6] have identified patterns of heritability. Autonomic hypoarousal,[7] depressed serotonergic and opioid neurotransmission,[7,8] reduced brain glucose metabolism,[9] and white matter alterations in the corpus collosum[10] may underpin abnormal emotion processing, behavioral control, and reward-related learning associated with CD.

As there are no evidence-based treatments for CD, pharmacologic[11] and psychosocial interventions[12] are largely applied to treatable comorbidities. Recently, urgent psychiatric consultation services for high-risk adolescents have emerged as potential harm-reduction venues.[13,14] This study aimed to describe the adult clinical trajectories of a cohort of adolescents diagnosed with CD after referral to an urgent psychiatry service using a retrospective record-linkage approach.

Methods. After seeking ethics approval, we retrospectively identified a cohort of all adults (≥18 years old) diagnosed with CD after assessment at a university-affiliated child and adolescent mental health urgent consult clinic (CAMHUCC). Details of the study were published previously.[13–15] After linking CAMHUCC records with several regional databases, we extracted relevant characteristics at baseline and 5-year follow-up to establish a clinical trajectory. We used SPSS[16] to conduct basic descriptive and inferential analyses (using a significance threshold of .05).

Results. Our cohort consisted of 32 individuals (characteristics are described in Table 1). At initial presentation, the mean age was 15.3 years (SD = 1.05), 69.1% were male, 91.1% reported a family history of CD, 81.3% reported substance use, 43.8% reported abuse, and 37.5% were registered with children's aid. Suicidal ideation (71.9%) and aggression/anger (25.0%) were the most common reasons for referral. Attention-deficit/hyperactivity disorder (ADHD) (59.4%) and substance use disorders (SUDs) (18.8%) were the most commonly diagnosed comorbidities.

After transitioning to adult services, there were a mean of 3.41 (SD = 1.86) emergency psychiatry visits, 0.38 (SD = 0.98) psychiatric admissions, and 1.22 (SD = 1.86) outpatient psychiatry appointments. ADHD (65.6%), SUD (34.4%), and antisocial personality disorder (ASPD) (21.9%) were the most commonly diagnosed adult comorbidities, with 81.3% on psychotropic medications and 46.9% in psychotherapy.

Logistic regression—accounting for sex, abuse, comorbidity, and family history—was statistically significant, explaining 38.9% (Nagelkerke R^2) of the variance in adult ASPD diagnostic status, correctly classifying 78.1% of cases. Males were 18.1 times more likely to develop ASPD than females (95% CI, 1.2–287.0; $P = .039$).

Discussion. Our study indicates that adolescents with CD who were referred to urgent psychiatric services have persistent psychiatric comorbidity and continue to require mental health services in adulthood. Of our sample, 21.9% received a diagnosis of ASPD in adulthood, with male sex the only statistically significant predictor for ASPD diagnosis. While this rate is lower than previous estimates of 40%

Table 1. Adolescent and Adult Clinical Characteristics of the Study Sample (N = 32)[a]

Adolescent Characteristics	Study Sample	Adult Characteristics	Study Sample
Family psychiatric history		ED psychiatric visits	
Any	32 (100)	No. of visits, mean (SD)	3.41 (6.81)
Antisocial behaviors	29 (90.6)	None	18 (56.3)
Mood disorders	19 (59.4)	Multiple	14 (43.8)
Psychotic disorders	7 (21.9)	Active psychiatrist	
Anxiety disorders	6 (18.8)	No	16 (50.0)
Individualized education plan		Yes	16 (50.0)
Yes	18 (56.3)	Outpatient psychiatric visits	
No	14 (43.8)	No. of visits, mean (SD)	1.22 (1.86)
Chief complaint		None	17 (53.1)
Suicidal ideation	23 (71.9)	Once	8 (25.0)
Anger/aggression	8 (25)	Multiple	7 (21.9)
Homicidal ideation	6 (18.8)	Psychotherapy	
Self-harm	6 (18.8)	Any	15 (46.9)
Substance abuse	6 (18.8)	Addictions-focused	6 (18.8)
Depression	4 (12.5)	Counseling	9 (28.1)
Behavioral problems	3 (9.4)	DBT	9 (28.1)
Substance use		Pharmacotherapy	
Any	26 (81.3)	Any	26 (81.3)
Cannabis	25 (78.1)	Psychostimulants	19 (59.4)
Alcohol	10 (31.3)	Antipsychotics	13 (40.6)
Stimulants	6 (6.3)	Antidepressants	5 (15.6)
Abuse or trauma history		Mood stabilizer	2 (6.3)
Any	14 (43.8)	Benzodiazepines	1 (3.1)
Physical	8 (25.0)	Melatonin	1 (3.1)
Emotional	11 (34.4)	Prazosin	1 (3.1)
Sexual	7 (21.9)	Opioid agonist therapy	1 (3.1)
Psychiatric admissions		Psychiatric admissions	
None	25 (78.1)	None	25 (78.1)
Once	4 (12.5)	Once	5 (15.6)
Multiple	3 (9.4)	Multiple	2 (6.2)
Psychiatric comorbidity		Psychiatric diagnoses	
ADHD	19 (59.4)	ADHD	21 (65.6)
SUD	6 (18.8)	SUD	11 (34.4)
ODD	1 (3.1)	ODD	5 (15.6)
Learning disability	1 (3.1)	Learning disability	4 (12.5)
Mood disorder	1 (3.1)	Mood disorder	3 (9.4)
Anxiety disorder	1 (3.1)	Anxiety disorder	1 (3.1)
FASD	1 (3.1)	FASD	1 (3.1)
Intellectual disability	1 (3.1)	Intellectual disability	1 (3.1)
Conduct disorder	32 (100)	ASPD	7 (21.9)

[a]Data are presented as n (%) unless otherwise specified.
Abbreviations: ADHD = attention-deficit hyperactivity disorder, ASPD = antisocial personality disorder, DBT = dialectical behavioral therapy, ED = emergency department, FASD = fetal alcohol spectrum disorder, ODD = oppositional defiant disorder, SUD = substance use disorder.

for males with CD,[17] we cannot make a causal inference about CAMHUCC's role.

While our study had minimal attrition, the small sample size and absence of a suitable control group restricted the extent and power of our analysis. As the sample considered by this study comes from an urgent consultation clinic, the severity of the CD presentations considered is likely to be higher than what would typically be seen in other outpatient settings. While our findings may not be generalizable to other CD populations, they do suggest that males with CD are at greater risk of developing ASPD and may benefit from intensive and focused harm-reduction interventions. In a similar vein, future studies comparing the clinical characteristics of adolescents with CD across various settings may be of value to enhance the body of knowledge regarding CD.

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