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RESEARCH ARTICLE

Characteristics of Youth Presenting to a Canadian Youth Concurrent Disorders Program: Clinical Complexity, Trauma, Adaptive Functioning and Treatment Priorities

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Abstract

Objective: This study describes clinical characteristics of youth presenting for service at a Canadian youth concurrent mental health and substance use disorders (SUD) program. **Method:** Participants were 100 adolescents and emerging adults (aged 14-25) who attended a Canadian concurrent mental health and substance use disorders outpatient program. SUDs were assigned using the Structured Clinical Interview for DSM-IV. Self-reported mental health symptoms, trauma exposure and adaptive functioning were also assessed. **Results:** Eighty-three percent of participants scored over the clinical cut-off on at least one mental health scale and 33% reported at least one suicide attempt. Sixty-six percent met criteria for a current SUD; 96% met lifetime criteria. Exposure to adverse events was nearly universal (94%). Almost half of female (46%) and almost a third of male (31%) participants endorsed symptoms consistent with posttraumatic stress disorder (PTSD). Youth reported impairment and need for support in multiple domains of functioning, including school, peer, family and mental health. Substance use was least likely to be identified as a treatment priority. **Conclusions:** High rates of adverse events and PTSD highlight the need for trauma-informed care when providing services to this vulnerable population. Functional impairment in domains related to developmental transitions and tasks underscores the need for a developmental lens and integrated treatment that goes beyond mental health and SUD symptoms and addresses developmentally relevant domains during this transitional age.

Key Words: *concurrent disorders, posttraumatic stress disorder, trauma-informed care, youth, adolescent*

Résume

Objectif: Cette étude décrit les caractéristiques cliniques des adolescents qui se présentent pour obtenir un service à un programme canadien de troubles co-occurrents de santé mentale et d'utilisation de substances (TUS) pour adolescents. **Méthode:** Les participants étaient 100 adolescents et jeunes adultes (âgés de 14 à 25 ans) qui étaient inscrits à un programme canadien ambulatoire de troubles co-occurrents de santé mentale et d'utilisation de substances. Les TUS ont été attribués à l'aide de l'entrevue clinique structurée du DSM-IV. Les symptômes de santé mentale auto-déclarés, l'exposition à un traumatisme et le fonctionnement psychosocial ont aussi été évalués. **Résultats:** Quatre-vingt-trois pour cent des participants ont eu des scores supérieurs au seuil d'inclusion clinique à au moins une échelle de santé mentale et 33 % ont déclaré au moins une tentative de suicide. Soixante-six pour cent satisfaisaient aux critères d'un TUS actuel, et 96 % satisfaisaient aux critères de durée de vie. L'exposition à des événements indésirables était presque universelle (94 %). Près de la moitié des participantes (46 %) et presque le tiers des participants (31 %) présentaient des symptômes liés au trouble de stress post-traumatique (TSPT). Les adolescents déclaraient des incapacités et un besoin de soutien

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dans de nombreux domaines de fonctionnement, dont l'école, les pairs, la famille, et la santé mentale. L'utilisation de substances était la moins susceptible d'être identifiée comme une priorité de traitement. **Conclusions:** Les taux élevés d'événements indésirables et de TSPT font ressortir le besoin de soins qui tiennent compte des traumatismes lorsqu'on fournit des services à cette population vulnérable. L'incapacité fonctionnelle dans des domaines liés aux transitions et aux tâches développementales souligne le besoin d'une optique développementale et d'un traitement intégré qui vont au-delà des symptômes de santé mentale et de TUS et qui abordent les domaines qui relèvent du développement durant cet âge transitionnel.

Mots clés: *troubles co-occurrents, trouble de stress post-traumatique, soins qui tiennent compte des traumatismes, jeune, adolescent*

Introduction

The overlap between substance use and mental health problems is substantial. In US studies, over half of youth with substance use disorders (SUDs) meet criteria for at least one mental disorder (Armstrong & Costello, 2002; Kessler, Chiu, Demler, Merikangas, & Walters, 2005). Canadian epidemiological research showed higher rates of concurrent disorders (3.8%) and greater overlap among mental health and substance use disorders among youth in comparison to older adults (Rush et al., 2008). Compared to youth with a single disorder, youth with concurrent mental health and SUDs (concurrent disorders; CD) present with: more severe symptoms; have poorer treatment outcome; are more likely to attempt suicide; and, are more likely to experience significant and chronic functional impairment such as academic or employment difficulties, legal challenges, and family and peer relationship difficulties (e.g., Grella, Hser, Joshi, & Rounds-Bryant, 2001; Kessler et al., 2005; Shane, Jasiukaitis, & Green, 2003). The high personal costs of CD are accompanied by substantial social costs both in direct health care costs and indirectly via criminality, homelessness, school failure, unemployment and family disruption and other areas of disability related to mental health and substance use (e.g., Erskine et al., 2015; Grella et al., 2001). Further, the developmental contexts of adolescence and emerging adulthood, particularly the high risk for failure in role transitions (e.g., increasing independence and autonomy within the family, increased expectations at school, and initiation of work responsibilities and vocational planning and engagement) and long term functional impairment among youth with CD, underscore the importance of understanding and effectively addressing these difficulties in adolescent and emerging adult populations (MacLeod & Brownlie, 2014).

Mental health and addictions service sectors have historically operated separately, despite high rates of comorbidities (e.g., Chaim, Henderson & Brownlie, 2013; Hawkins, 2009). Exclusionary criteria for services in both sectors have limited treatment options for individuals with CD although efforts to increase integration are ongoing (McKee, Harris, & Cormier, 2013). Further, despite hopes to the contrary, evidence for spillover effects of mental health treatment on substance use and vice versa is lacking (Ramchand, Griffin, Slaughter, Almirall, & McCaffery, 2014). The relative lack of emphasis on substance use and mental health symptom interactions has contributed to the paucity of effective evidence-based treatments for youth with CD (Bukstein & Winters, 2004).

Trauma Exposure and Posttraumatic Stress Disorder (PTSD)

Both mental health and substance use problems in youth are associated with increased incidence of adverse life experiences (Dass-Brailsford & Myrick, 2010; Rosenkranz, Muller, & Henderson, 2012; Rytilä-Manninen et al., 2014). Further, experiences of emotional abuse and neglect predict severity of substance use problems (Rosenkranz et al., 2012). Adverse event exposure and trauma responses, particularly PTSD, are important clinical considerations for youth with CD.

Information about common presentations and relevant domains of assessment that inform treatment and health care planning for youth with CD are critically needed. Developmentally-informed assessment and intervention require consideration of the impact of symptoms on academic, vocational, peer, family and romantic relationship domains. Further, developmental tasks and contexts vary for adolescents and for emerging adults. For example, identity development, an important developmental task of adolescence, can involve testing limits and risk-taking which can increase risk for substance use problems (Hamilton, Felton, Risco, Lejuez, & MacPherson, 2014). Peer relationships assume a primary role, and family conflict can increase as youth strive for increased independence (Pardeck & Pardeck, 1990). In emerging adulthood, youth typically enter a phase of exploration with a focus on autonomy and transition and family involvement is substantially decreased (Arnett, 2007; MacLeod & Brownlie, 2014). Mental health concerns are particularly common during adolescence; and substance use is at its highest level during emerging adulthood (Adams, Knopf & Park, 2014). Gender is also an important consideration. Mental health trajectories differ by gender (e.g., Chaiton et al., 2013; Chen & Jacobson, 2012; Dekker et al., 2007). Social contexts also differ. For example, exposure to sexual trauma is more common among young women; exposure to physical violence is more common among young men (MacLeod & Brownlie, 2014).

In this study, we describe clinical and psychosocial characteristics of a sample of youth seeking services from a Canadian concurrent disorders clinic. Specifically, we report on mental health symptoms, substance use disorders, exposure to adverse experiences and trauma symptoms, and adaptive functioning. Recognizing the high needs and multiple impacts of youth CD, we also report on youth priorities regarding areas of concern and desire for help. Given the developmentally different tasks of adolescence and emerging adulthood and the potential for differential impacts on psychosocial functioning (MacLeod & Brownlie, 2014), as well as gender differences in adolescent and emerging adult mental health trajectories and social contexts, age and gender are included in all analyses.

As treatment models shift towards more integration between mental health and substance use services, it is important to gather Canadian data on the needs and characteristics of this vulnerable population in order to inform programming. Our sample of youth seeking services in a concurrent disorders-specific Canadian clinic provided a unique opportunity to describe these characteristics in a specialized setting. We hypothesized that youth would present with high rates of adverse experiences and would prioritize help in non-substance use areas.

Method

Participants and Procedure

Participants were 100 youth (*M* = 18.9, *SD* = 2.7; 58% female) consisting of 54 adolescents aged 14-18 (*M* = 16.8, *SD* = 1.2) and 46 emerging adults aged 19-25 (*M* = 21.3, *SD* = 1.8) who attended at least two appointments at a youth CD program. The program was located in Vancouver, British Columbia in a clinic that is situated in a Children's Hospital. Youth in this program are referred by community providers because of mental health and substance use concerns but do not necessarily have one or more formal diagnoses at intake. Referral sources and treatment history at intake are mixed with some participants having been seen in other treatment settings first, with insufficient treatment response, and others having had very little assessment or intervention. One hundred and seventy two individuals were approached for participation in the study. Forty-three declined (25%) and 27 (15.7%) were agreeable but not captured due to lack of attendance at follow-up appointments or scheduling challenges with availability of research staff. Two participants withdrew (1%). Participants' self-identified ethnic backgrounds were predominantly Caucasian/European (62%), with 19% reporting multiple ethnicities. Three quarters (76%) reported living with one or both parents, 11% on own, and 13% in other arrangements including with friends or boy/girlfriend, or in unstable housing. Only 7% of youth (all female) reported a history of foster care placements.

Consent to participate was obtained by research staff; for youth under 19, guardian consent and youth assent were obtained. With the exception of the PTSD questionnaires and mental health symptom questionnaires, which were specific to this study, data were gathered from the youth's clinical assessment. The additional questionnaires were administered by a research assistant in a standardized order, at a convenient time, typically after a scheduled appointment. Most participants completed questionnaires after their second visit or later. Participants received a $5 gift card for participation. This study received approval from the University of British Columbia / Children's and Women's Health Centre of British Columbia Research Ethics Board.

Measures

Alcohol and SUD diagnoses and symptoms. The alcohol and substance use modules of the Structured Clinical Interview for DSM-IV (adult version for those over 19 or child version for those under 19) were administered (First, Spitzer, Gibbons, & Williams, 1996; Hien et al., 1994). These are gold-standard semi-structured interviews with good reliability (Lobbestael, Leurgans, & Arntz, 2011) and validity (Basco et al., 2000). Diagnoses are true/false based on DSM-IV criteria (one or more symptoms positive from abuse criteria; three or more symptoms positive from dependence criteria).

Mental health symptoms. Participants under age 19 completed the Youth Self-Report (YSR; Achenbach, 1991) and those over 19 completed the Adult Self-Report (ASR; Achenbach & Rescorla, 2003). Participants rate symptoms on a 3-point scale. The following DSM-oriented scales, which parallel diagnostic criteria, were used in the present study: anxiety, depression, somatic problems, ADHD, and conduct/antisocial problems. Internalizing and externalizing broadband scales are also reported. The YSR and ASR are reliable and valid measures across normative and clinical samples (Achenbach & Rescorla, 2003; Sisteré, Domenèch Massons, Pérez, & Ascaso, 2014).

Adverse event exposure. Exposure to potentially traumatic experiences was assessed with the Life Events Checklist (Blake et al., 1995) which asks about potentially traumatic events in different categories. For the present study experiencing an event (yes/no) was used to indicate the presence of an adverse experience in each category (serious accident, physical assault, sexual assault, being held against one's will, witnessing the death of another, and other). Psychometric properties are adequate (Gray, Litz, Hsu, & Lombardo, 2004).

Posttraumatic symptoms. Participants under age 19 completed the Child PTSD Symptom Scale (CPSS; Foa, Johnson, Feeny, & Treadwell, 2001) and those over 19 completed the Posttraumatic Stress Diagnostic Scale (PDS; Foa, Cashman, Jaycox, & Perry, 1997). Both self-report instruments assess individual PTSD symptoms following a distressing

event on a 3-point scale and provide a DSM-IV PTSD diagnosis and a severity scale score that ranges from 0 to 51. Both are reliable and valid measures of PTSD (Foa et al., 1997; Foa et al., 2001). Participants completed these measures if they reported having had a traumatic experience.

Adaptive functioning and distress. Self-reported domains of adaptive functioning, distress and need for treatment were assessed in participants under 19 using the Teen-Addiction Severity Index (T-ASI; Kaminer, Bukstein, & Tarter, 1991) and in those 19 - 25 with the Addiction Severity Index – Fifth Edition (ASI; McLellan et al., 1992). The ASI is a well-established measure of domains of impairment and perceptions of treatment needs in individuals with substance use problems. Each domain (medical, legal, mental health, alcohol and drug use, employment, family, peer/social) includes questions about functioning and self-reported distress (how troubled/bothered are you) and self-rated need for treatment (how much do you need help), on a 5-point scale. The T-ASI uses the same 5-point scale but omits the medical domain and includes the school domain (legal domains in both measures were omitted in the present study). The ASI has good reliability and validity (Leonhard, Mulvey, Gastfriend, & Shwartz, 2000). Reliability and validity for the T-ASI are also acceptable (Kaminer et al., 1991; Kaminer, Wagner, Plummer, & Seifer, 1993).

Non-suicidal self-injury and suicide attempts. Information on non-suicidal self-injury (NSSI) and suicide attempts were gathered from self-reported information as part of the clinical assessment. All individuals are asked whether they have a history of NSSI and whether they have made a serious attempt to end their own life (both yes/no responses).

Data Analysis

Descriptive statistics are provided for SUD diagnoses, self-reported mental health symptoms including PTSD, suicide attempts and NSSI, exposure to adverse experiences, adaptive functioning, areas of distress and treatment priorities. Both mean scores and proportion meeting clinical criteria are shown. In order to test for differences by gender, age (adolescent vs. emerging adult) and for gender by age interactions, ANOVA, logistic regression, and Poisson regression were used for continuous, binary and count variables, respectively. To control Type I error (familywise α = .05) Bonferroni-adjusted α levels were used for mental health symptom scales (seven scales; test-wise α = .007), adverse event exposure (six event types; test-wise α = .008), and self-rated impairment and desire for help (six domains; test-wise α = .008).

Table 1. Current substance use diagnoses (SUD)

	Adolescents n (%)	Emerging Adults n (%)
Alcohol use disorder	16 (32.0%)	17 (44.7%)
Cannabis use disorder	20 (40.0%)	12 (33.3%)
Other SUD (any)	15 (30.0%)	12 (31.6%)
Cocaine	11 (22.0%)	7 (18.9%)
Hallucinogen	5 (10.0%)	2 (5.3%)
Hypnotics/anxiolytics	0 (0%)	2 (5.3%)
Stimulant	4 (8.0%)	2 (5.4%)
Opioid	3 (6.0%)	4 (10.5%)

Adolescents aged 18 and under (n = 50). Emerging adults aged 19 and older (n = 38 except cocaine and stimulant n = 37; cannabis n = 36).

Results

Substance Use and Mental Health Disorders

Rates of current DSM-IV-TR SUDs are presented in Table 1. Overall, 65.9% met criteria for a current SUD and 95.5% of youth met lifetime criteria for a SUD. The median number of lifetime SUDs was 3.0 (range 0 – 7). Compared to adolescents, emerging adults had significantly more lifetime SUD diagnoses, $\chi^2(1, N = 88) = 4.45$, $p = .04$.

Self-reported mental health and PTSD symptoms are shown in Table 2. Broadband internalizing and externalizing symptoms are shown as well as DSM-oriented scales. Most participants (83%) scored in the clinical range on at least one DSM-oriented scale with highest overall rates of depression (54%) and conduct/antisocial (53%). Sixty-five percent (65%) scored in the clinical range on multiple scales. Forty percent met criteria for PTSD on the CPSS/PDS. Emerging adults scored higher on internalizing symptoms, $F(1, 85) = 8.24$, $p = .003$ and attention deficit hyperactivity disorder (ADHD) symptoms, $F(1, 85) = 20.42$, $p < .001$ than adolescents. After controlling for multiple comparisons, no other differences were found by age. There were no gender effects or age by gender interactions on the DSM-oriented scale standard scores (which are normed by gender).

Comorbidity was substantial. Eighty-seven percent (87%) endorsed symptoms consistent with both SUD and mental disorder including PTSD. Eight percent of participants had a SUD but did not score in the clinical range on mental health and 4% had clinically significant mental health challenges but no SUD diagnosis. Only one participant (1%) did not report clinically significant concerns in either area.

One third (33%) reported at least one suicide attempt, with similar rates for male and female participants. More female participants (70.4%) endorsed NSSI than male participants (43.9%), $B = 1.11$, $SE = 0.44$, Wald $\chi^2 = 6.56$, $p = .011$, OR

Table 2. Mental health concerns and adaptive functioning

	Adolescents (n = 46)			Emerging adults (n = 43)		
	M	SD	% Clinical	M	SD	% Clinical
Internalizing*	66.6	11.2	41.3	74.1	11.6	67.4
Externalizing	69.6	7.2	54.3	70.9	10	48.8
DSM-Oriented Scales						
Depression	69.5	10.5	41.3	75.3	10.9	67.4
Anxiety	63.9	8.9	32.6	66.3	7.8	44.2
Somatic	61.7	8.9	15.2	66.5	13.1	34.9
ADHD*	64.4	7.2	17.4	72.9	9.6	55.8
Conduct /Antisocial	69.0	8.8	52.2	69.8	9.8	53.5
PTSD Severity Scale[a]	17.6	11.4	40.4	19.9	12.0	40.5
Adaptive Functioning[b]	37.1	12.4	---	38.9	9.1	---

Internalizing, externalizing, and DSM-oriented scale T scores were normed by gender and age. Items in broadband scales overlap with items in DSM-oriented scales.

[a] PTSD Severity Scale was completed by participants who acknowledged an impactful trauma; n = 39 adolescents, and 36 emerging adults, respectively; % clinical reflects percentage meeting criteria for PTSD from the whole sample.

[b] Adaptive functioning refers to T scores on YSR total competence scale or ASR mean adaptive score. Low scores indicate poorer functioning; clinical cut-offs are not reported due to varying cut-off criteria between the two measures. n = 34 adolescents and 43 emerging adults.

*$p < .05$ (Bonferroni adjusted test-wise $\alpha = .007$). No other age, gender, or age by gender interactions were present.

= 3.05. No age differences or gender by age interactions in suicide attempts or NSSI were found.

Exposure to Adverse Experiences

Exposure to adverse events was nearly universal with 94% of participants reporting at least one category of adverse experience. Two thirds (66%) reported experiencing physical assault, 52% reported experiencing sexual assault, and 58% reported experiencing other categories of adverse experiences. Female participants were significantly more likely to indicate that they had experienced sexual assault than male participants (69% vs 25%), $B = 2.02$, $SE = 0.54$, Wald $\chi^2 = 13.95$, $p < .001$, OR = 7.52. After controlling for multiple comparisons, no other types of adverse event exposure differed by gender or age, and there were no gender by age interactions.

A Poisson regression was conducted to examine the relationship between gender and age and adverse experiences, with number of categories experienced as the dependent variable. Emerging adults reported more types of adverse experiences than adolescents, χ^2 (1, $N = 84$) = 9.86, $p = .002$. There was also a main effect of gender, with female participants reporting more types of adverse experiences than male participants, χ^2 (1, $N = 84$) = 11.58, $p = .001$. There was a significant gender by age interaction (χ^2 (1, $N = 84$) = 4.75, $p = .03$) in which adolescent boys reported exposure to fewer adverse experience categories (*Mdn* = 2, range, 0-5; *IQR* = 2) than adolescent girls (*Mdn* = 3, range, 0-8; *IQR* = 2.75) or emerging adult men (*Mdn* = 4, range, 2-5; *IQR* = 2.5) or women (*Mdn* = 5, range, 1-8; *IQR* = 2.75).

Adaptive Functioning

Information on adaptive functioning using norm-referenced measures (YSR or ASR) is shown in Table 2. Participants scored more than a standard deviation below the mean across multiple domains of adaptive functioning (peer, employment, school, extracurricular).

Overall, 62% of adolescents were enrolled in school, 21% were in alternative school arrangements and 17% were not enrolled in school. School functioning among youth enrolled in school tended to be poor. On average, youth missed 6.1 school days in the past month (*SD* = 8.1). Among emerging adults, 52.3% reported no paid employment in the past month, and those employed worked an average of 6.6 days in the past month (*SD* = 9.5). Only 22.7% of emerging adults reported full time paid employment. Half (50.0%) reported being enrolled in an educational program of some kind, whereas 20.9% were neither working nor attending school. Emerging adults reported experiencing medical problems on average 9.9 days (*SD* = 12.5) in the past month and 21.1% experienced medical problems every day.

Youth-Reported Distress and Treatment Priorities

Table 3 shows the percentage of adolescents and emerging adults who reported significant impairment (very or extremely bothered) across six domains. On average,

Table 3. Perceptions of areas of significant difficulty by age

	Adolescents n (%)	Emerging Adults n (%)
Substance use (alcohol or drug)		
Alcohol*	1 (2.2%)	12 (33.3%)
Other substances	9 (19.6%)	8 (22.2%)
Mental health	39 (73.6%)	30 (85.7%)
Adaptive functioning		
School/Employment[a]	26 (53.1%)	9 (32.1%)
Peer/Social	19 (35.8%)	18 (48.6%)
Family	26 (49.1%)	11 (28.9%)
Medical	--	9 (24.3%)

Adolescents completed the T-ASI; emerging adults completed the ASI. Sample size for alcohol, other substance, mental health, school/employment, peer/social, family, medical, respectively: 46, 46, 53, 49, 53, 53 adolescents; 36, 36, 36, 28, 37, 39, 28 emerging adults.

[a]Adolescents reported on school functioning and emerging adults reported on employment.

*$p < .05$ (Bonferroni adjusted test-wise $\alpha = .008$). No other age, gender, or age by gender interactions were present.

participants reported just over two domains of significant impairment (*Mdn = 2,* range, 0-6) with no differences by gender or age group. Participants were overwhelmingly more likely to be bothered by mental health concerns than substance use concerns (see Table 3). Table 4 reports on participants' perceptions of help needed (very or extremely in need) across domains. Mental health again emerged as the most common area where participants felt they needed help. Nonetheless, family and social functioning, medical concerns, school needs and for some subgroups alcohol and substance use all emerged as areas where a significant minority of participants felt they needed help. Emerging adults were more likely than adolescents to report a need for help to address problems with alcohol, $B = 1.80$, $SE = 0.63$, Wald $\chi^2 = 8.22$, $p = .004$, OR = 6.07 and problems with mental health, $B = 1.41$, $SE = 0.53$, Wald $\chi^2 = 7.13$, $p = .008$, OR = 4.09.

Discussion

This study examined mental health, substance use, trauma and adaptive functioning in 100 adolescents and emerging adults referred for outpatient services in a youth concurrent disorders clinic in Vancouver, Canada. Results paint a picture of complex intersecting issues and vulnerabilities faced by youth and highlight the need for integrated, developmentally appropriate services that consider domains of functioning beyond mental health and substance use.

Substance Use and Mental Health

In addition to symptoms consistent with both SUD and mental health disorders, participants reported high levels of distress. A substantial proportion reported past suicide attempts and/or NSSI. Although they serve different functions, these behaviors overlap for some youth, and both are reflective of significant distress and challenges (Hamza, Stewart & Willoughby, 2012; Preyde et al., 2014). Mental health was most commonly identified by youth as causing significant distress and was also most commonly identified as a priority for treatment by youth themselves. In contrast, the majority of participants reported relatively little distress about their alcohol and other substance use challenges despite clear evidence of impairment and were less likely to indicate that they wanted help with their substance use. This is consistent with literature suggesting that youths' motivation to change substance use behaviours is often low, and an important target for change (Jensen et al., 2011). Motivational interviewing is integrated into many treatment models for youth SUDs, although effectiveness as a stand-alone treatment in this population is mixed (Hogue, Henderson, Ozechowski, & Robbins, 2014).

Trauma and PTSD

Virtually all participants reported exposure to at least one category of adverse experience in their lifetime and almost half endorsed symptoms consistent with PTSD. These high rates of exposure to multiple adverse experiences underscore the complex and difficult life circumstances present in youth with CD. The impact of adverse childhood experiences on a wide range of health, mental health, and

Table 4. Desire for help across domains by age and gender	Adolescents n (%)	Emerging Adults n (%)
Substance use (alcohol or drug)		
Alcohol*	4 (8.7)	14 (38.9)
Other substances	10 (21.7)	13 (36.1)
Mental health*	30 (56.6)	30 (83.3)
Adaptive functioning		
School/Employment[a]	14 (28.6)	--
Peer/Social	10 (18.9)	15 (40.5)
Family	12 (22.6)	13 (34.2)
Medical	--	15 (40.4)

Adolescents completed the T-ASI and adults completed the ASI. Desire for help was defined by a rating of "very much" or "extremely" vs. "not at all" "a little bit" or "a fair amount". Sample size for alcohol, other substance, mental health, school/employment, peer/social, family, medical, respectively: 46, 46, 53, 49, 53, 53 adolescents; 36, 36, 36, 28, 37, 39, 28 emerging adults.

[a]Adolescents reported on school functioning. Due to an error in coding, desire for help with employment was not captured for emerging adults.

*$p < .05$ (Bonferroni adjusted test-wise $\alpha = .008$). No other age, gender or age by gender interactions were present.

socio-economic outcomes is well established, as is the cumulative effect of trauma (e.g., Edwards, Holden, Felitti, & Anda, 2003). Using a longitudinal design, Haller and Chassin (2014) examined evidence for a variety of pathways between PTSD and SUD and found the strongest support for the self-medication pathway in which PTSD symptomatology predicted more severe substance use in adolescents and emerging adults, after controlling for pre-existing family adversity with each additional PTSD symptom conferring an additional 10% increase in risk for substance use problems. Nevertheless, pathways linking adverse events, PTSD and SUD are complex and can be multidirectional. Adverse experiences early in development predispose individuals to mental health and substance use challenges. Mental health and substance use disorders also increase the chance of further ongoing traumatic experiences which, in turn, can fuel further substance use and worsening mental health (Haller & Chassin, 2014). Moreover, trauma and responses to adverse events can be important factors in engagement and outcomes of treatment. Severity of PTSD symptoms is associated with substance use treatment dropout (e.g., Tull, Gratz, Coffey, Weiss, & McDermott, 2013) and conversely PTSD symptom reduction is associated with successful management of substance use after treatment (e.g., López-Castro, Hu, Papini, Ruglass, & Hien, 2015). Taken together, these findings as well as the high rates of adverse experiences in the current study highlight the importance of addressing the impact of trauma and PTSD in this population with treatment models that incorporate trauma-informed practices emphasizing engagement, choice and collaboration into all aspects of treatment (Jennings, 2004).

There is an increasingly well-understood relationship between family instability, traumatic event exposure, and emotional dysregulation as risk factors across psychopathology including CD (e.g., Willemen, Schuengel, & Koot, 2009). For example, Rosenkranz, Muller, and Henderson (2014) found that complex PTSD symptoms, which include challenges in self-regulatory capacities including distress tolerance, partially mediated the relationship between childhood trauma and substance use severity among adolescents receiving outpatient treatment. Given the high level of trauma in this population, emotional dysregulation should be considered as a potential target for treatment for youth with CD so that improvements in one domain are not associated with relapse in other domains, as preferred coping strategies are challenged (Weiss, Tull, Anestis, & Gratz, 2013). The capacity for emotion regulation is also a key mediator of treatment outcomes in youth with SUD and PTSD (Staiger, Melville, Hides, Kambouropoulos, & Lubman, 2009). Dialectical behaviour therapy (Linehan, 1993), which specifically targets self-harm behaviour, suicidality, and substance abuse, has a significant focus on regulating emotions (Harvey & Rathbone, 2013). It has been shown to decrease adolescents' suicidality, self-harm and depressive symptoms in adolescents with recurrent NSSI (Mehlum et al., 2014).

Interpersonal Relationships

Peer and family struggles were commonly distressing for youth, with a significant subset of participants reporting being very distressed by these relationships. Participants' perceptions that it is very important to receive help in the area of interpersonal relationships highlights the need to go

beyond the individual-level lens and recognize that from youths' perspectives help with family and peer functioning are often key priorities. Given the significant trauma histories for many of these youth and the challenges parenting a youth with substance abuse problems, many are likely in emotionally dysregulated environments (Siegel, 2015). Treatments that focus on relationships such as interpersonal therapy, which has been adapted for adolescents, including those with suicide risk (Tang, Jou, Ko, Huang, & Yen, 2009), may be helpful in this group. Interventions that target the parent-child relationship and help parents to provide more consistent regulating responses in the face of their child's externalizing behaviour hold promise in this population, even with emerging adults who are still living at home. Connect, a group-based parenting intervention (Moretti, Obsuth, Craig, & Bartolo, 2015) has been shown to improve parent-child relationships and decrease affect dysregulation and internalizing and externalizing symptoms in youth with conduct disorder, and may be a promising approach for youth with CD.

Educational and Vocational Functioning

A clear picture emerged of youth commonly struggling in educational and vocational domains. High rates of school non-attendance among adolescents, and under- or unemployment among emerging adults highlight the significant risks at this developmental stage that can have long-term economic and health implications, particularly when combined with mental health and substance use struggles (MacLeod & Brownlie, 2014). Educational and vocational supports must be integrated into treatment models given the high risk for role transition failure and the subsequent long term effects on quality of life. Emerging adults need developmentally sensitive services similar to services designed for adolescents rather than older adults. Educational and vocational domains were among the most widely endorsed treatment priorities among adolescents. Offering assistance with educational and vocational functioning may also be an appropriate technique to facilitate engagement with other areas of need. Similar to the "housing first" model of substance abuse treatment (Padgett, Stanhope, Henwood & Stefancic, 2011), helping youth with these developmentally crucial domains of functioning may open a window towards consideration of other priorities (Chaim et al., 2013).

Age and Gender

In this sample, emerging adults reported more lifetime SUDs and higher levels of ADHD and internalizing symptoms compared to peers. Adolescents reported similar levels of distress about mental health to emerging adults but were less likely to report needing help. Adolescents also reported less distress related to alcohol problems and less desire for help to address problematic alcohol use than emerging adults. These results underscore important developmental differences in readiness for help, even among treatment seeking youth. Attention to motivational aspects of treatment are critical for all individuals but may be most important for younger individuals (Jensen et al., 2011). Additionally, developing youth friendly services that are acceptable and engaging to youth is critical (Chaim et al., 2013). Emerging adults were not significantly different from adolescents in their concern about family and peer relationships, underscoring the importance of addressing relational and contextual issues in a developmentally informed way.

Both age and female gender increased risk for number of categories of adverse experiences. Adolescent girls and young women reported experiencing higher rates of sexual assault and reported higher rates of NSSI than adolescent boys and young men. The mental health scales were normed by gender, which may partially account for the lack of gender differences. Other factors that may have played a role include characteristics of this help-seeking sample of youth with CD, which may not parallel epidemiological findings, as well as low power for some subgroup analyses.

Limitations

This paper reports on youth presenting to one of the very few programs in Canada that is specifically designed for youth with CD. Generalizability may be limited to the specific urban context, as well as characteristics of the program (e.g., hospital location) that may engage specific subgroups of youth or referral sources, and may not be accessible to some youth. Location of services has been identified as barrier to treatment access and engagement for youth that disproportionately affects marginalized youth including street-involved, impoverished and Indigenous youth (Chaim et al., 2013; MacLeod & Brownlie, 2014). Thus, the sample reflects youth receiving services, rather than youth in need of services. Further, not all participants were invited to participate due to limited resources and scheduling limitations. However, there were no known youth factors (e.g., participation in selective programs) that would have biased recruitment. In addition, full structured diagnostic assessments for mental health disorders were not available. Finally, this cross-sectional, descriptive study examined youth as they entered the program and cannot tease out temporal relationships between substance use, mental health, and adaptive functioning.

Conclusions and Future Directions

In summary, youth accessing services for CD are likely to have a range of challenges in addition to mental health and substance use concerns, including trauma symptoms, relationship difficulties, and poor adaptive functioning in developmentally relevant domains including academics and work. Programs for young people experiencing mental health and substance use challenges would do well to consider the social determinants of health, prevalence of

traumatic experiences and PTSD and multifactorial needs (health, interpersonal, educational/vocational) in designing programming at all levels. Youth engagement and trauma-informed principles should be woven throughout (Chaim et al., 2013). While there are several promising or established, evidence-informed treatment approaches that may be appropriate with this population, the challenge is to provide services that meet multiple needs simultaneously, and in complimentary ways. Further work is needed to examine the efficacy of integrated treatment models, which address mental health, substance use and trauma, and include developmentally relevant outcomes including role transitions and long term functioning.

Acknowledgments / Conflicts of Interest

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