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Exposure to Childhood Interpersonal Trauma and Mental Health Service Urgency

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Research article

Exposure to childhood interpersonal trauma and mental health service urgency



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ABSTRACT

Background: Children and youth with a history of maltreatment experience different developmental, psychiatric and health problems. Ensuring there is streamlined access to services is imperative to recovery. Yet, few reports of standardized methods for directing and prioritizing risk for children seeking services exist.

Objective: The current study aims to address this gap and explore how mental health personnel triage highly vulnerable cases. Specifically, the goal of the current study is to examine whether experiencing childhood interpersonal trauma predicts service urgency.

Participants and setting: Participants were 19,645 children and youth, ages 4–18 years ($M = 11.1$ $SD = 3.4$) who completed the interRAI Child and Youth Mental Health Screener (ChYMH-S) at various community-based and residential children's mental health facilities across Ontario.

Methods: Retrospective data collected from the ChYMH-S was used to explore differences in maltreatment history, gender, and legal guardianship and their impact on service prioritization.

Results: Children and youth who were exposed to some form of interpersonal trauma were more likely to have mental health issues requiring urgent follow-up service compared to those who were not exposed. Findings also suggested that gender and legal guardianship impact service urgency.

Conclusions: Children and youth who have experienced maltreatment are significantly more likely to score high on mental health service urgency than those who did not. This provides valuable insight that can support the development of appropriate system-level changes to policy and practice when servicing children and youth with mental health needs in Canada.

1. Introduction

In Canada, approximately one in five children and youth experience a mental health disorder that requires professional care (Kessler et al., 2005). However, the prevalence of psychological distress in this population exceeds the resources available, with fewer than 25% of children and youth in need of services actually receiving them (Waddell, Mcewan, Shepherd, Offord, & Hua, 2005). Childhood trauma, as defined by the Diagnostic and Statistical Manual of Mental Disorders V (DSM-V), reflects the exposure to actual or threatened death, serious injury, or sexual violence (American Psychiatric Association, 2013). Examples of the most commonly cited forms of trauma experienced in childhood are bullying, motor vehicle accidents, exposure to domestic violence and child maltreatment (physical, sexual, emotional abuse and neglect). Approximately half of the mental health disorders in childhood are preceded by some form of abuse, neglect, or family dysfunction (Green et al., 2010). In Canada, rates of substantiated child

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maltreatment nearly doubled from 1998 (with 21.47 per 1000 children), to 2003 (with 39.16 per 1000 children; [Public Health Agency of Canada, 2010](#)). Identifying children and youth at risk, paired with early intervention, improves life trajectories and reduces the prevalence of mental health disorders in adulthood ([Noseworthy, McGurran, & Hadorn, 2003](#)). Thus, it is important to ensure mental health personnel across Canada can provide appropriate, accessible, and evidence-based mental health services to children and youth to ensure their issues are mitigated and improvement in well-being is established.

1.1. Importance of examining interpersonal trauma in children and youth

Over the years, there has been a substantial amount of research exploring the prevalence of child and youth physical, sexual abuse and domestic violence exposure. Using data from the 2014 General Social Survey on Victimization (GSS), Statistics Canada (2015) reported approximately 30% of Canadians had experienced physical and/or sexual abuse by an adult before the age of 15, and 10% of Canadians reported witnessing violence by their parent or guardian as a child. A majority of those who reported witnessing domestic violence (70%), also indicated that they had been the victim of childhood physical and/or sexual abuse themselves. In Canada, findings from the Canadian 2009 General Social Survey (GSS) study that examined national level data on children's exposure to domestic violence, indicated that over half (52%) of all spousal violence victims with at least one child, reported their child witnessed or heard a physical assault ([Perreault & Brennan, 2010](#)). Child abuse and neglect continue to be considered the most extreme forms of family dysfunction. They are related to a variety of internalizing and externalizing symptoms ([Baiden, Stewart, & Fallon, 2017a, 2017b; Baiden, Stewart, & Fallon, 2019](#)) and can lead to more compromised psychosocial and cognitive functioning. Research has suggested that there is a differential influence of age on a child's reactivity to maltreatment exposure, resulting in various presentations of behavioural impairments, with the earlier experiences of multiple forms of maltreatment related to more severe and long-lasting effects ([De Bellis, 2001; Van der Kolk, 2017](#)).

Children and youth who have experienced interpersonal trauma, specifically in the form of physical, sexual and emotional abuse (inclusive of exposure to domestic violence) have greater rates of psychiatric and medical service utilization than those without a history of maltreatment ([De Bellis, 2001; Stewart, Leschied, den Dunnen, Zalmanowitz, & Baiden, 2013](#)). Consequently, concern for the safety and well-being of these children is a high priority, particularly when accessing services ([Herrenkohl, Sousa, Tajima, Herrenkohl, & Moylan, 2008](#)). The alarming prevalence rates of childhood maltreatment and youth mental health issues implies a need for further research examining factors predicting prioritization of care for children and youth seeking services.

1.2. Mental health service utilization

There is great disparity between those in need of mental health service and those actually accessing assessment and treatment. This reality results in several children and youth being added to waitlists to receive services. With the persistent waitlist concerns and the high number of at-risk children and youth requiring mental health services and attempting to access those services through multi-sectors, there is a significant need for agencies to collaborate and utilize streamlined triaging tools to effectively prioritize children and youth to the appropriate mental health care. Research indicates that children and youth with a history of maltreatment have greater rates of both psychiatric and medical service utilization than those without a history of maltreatment. So, it is evident that maltreated children and youth are in significant need ([De Bellis, 2001; Van der Kolk, 2017](#)). Those that have been exposed to domestic violence or have experienced neglect, physical, sexual and/or emotional abuse demonstrate an increase in the occurrence of poor mental health outcomes ([Cash & Bridge, 2009](#)). Consequently, whether these experiences place children in more urgent need of service requires examination ([Lapshina & Stewart, 2019; Stewart, Hassani, Poss, & Hirdes, 2017; Stewart, Poss, Thornley, & Hirdes, 2019](#)). Moreover, there is a need to further investigate how screening tools can be used to effectively triage and prioritize children and youth in need of mental health services. Greater understanding of the severe and persistent effects of maltreatment on the developing brain has given rise to many intervention and prevention programs substantiated as effective in promoting growth and recovery for maltreated individuals. Thus, ensuring these children and youth have streamlined access to these services is imperative to their recovery (Toth, Gravener-Davis, Guild & Cicchetti, 2003). Utilizing a standardized, reliable means of allocating priority for assessment and treatment is an important step towards improved delivery of appropriate, timely prioritization and triaging to needed services, especially for our most vulnerable children and youth.

2. The present study

Modest support in the literature exists regarding appropriate and timely prioritization of mental health services for high need children and youth (Smith, Hadorn & Steering Committee of the Western Canadian Waiting List Project, 2002). The current study addressed this gap. In the present study, an exploration of how mental health triage personnel prioritize highly vulnerable cases was conducted. Specifically, the goal of the study was to examine whether experiencing childhood interpersonal trauma predicts service urgency. Based on prior research in the area, it was hypothesized that children and youth who have experienced interpersonal trauma (i.e., physical and sexual abuse, exposure to domestic violence, death or loss of parent/guardian, parental substance abuse, and bullying) will be assessed as requiring higher mental health service priority over those who have not.

3. Method

3.1. Study design and population

To examine factors associated with prioritization and triaging needs, the study utilized secondary data collected from 19,645 participants from various community-based and residential children's mental health facilities across Ontario, who completed the interRAI Child and Youth Mental Health Screener (ChYMH-S; Stewart, Hirdes, McKnight et al., 2017; Stewart et al., 2018) assessment. Of the sample collected, 10,531 (53.6%) were male and 9114 were female (46.4%). Participant ages ranged from 4 to 18 ($M = 11.11$, $SD = 3.39$) years. For the purpose of analysis, the study sample was stratified into three age groups.

Children between 4 and 7 years of age comprised 17.1% of the sample; 31.5% were youth between the ages of 8–11 years and over half (51.4%) of the sample were 12 years or older. In terms of legal guardianship, 58.9% of the study sample were youth with both parents holding legal guardianship; 29.8% were of single parent mother-led guardianship; 4.3% were single parent father-led guardianship; 4.6% had other family members as legal guardians. In 2% of the sample, a child protective agency held legal guardianship and 0.4% were youth responsible for themselves. In addition, 5.1% of the children and youth identified the presence of a comorbid health diagnosis and 5.3% identified as having an intellectual disability.

3.2. Procedure

The current study was approved by the University of Western Ontario ethics board. Informed consent was obtained from guardians of the children as part of the standard clinical care at each respective agency across Ontario (Stewart & Babcock, 2020). Data collected from the software was de-identified, password protected, encrypted and stored on computers with no internet or USB ports to ensure confidentiality. interRAI licensing agreements with users and researchers were completed prior to accessing the de-identified data for secondary analysis required for the study. The service providers administering the ChYMH-S included nurses, psychiatrists, child and youth workers, speech and language therapists, developmental social service workers, social workers and psychologists. Prior to administration, all assessors were required to complete a full-day training session regarding how to administer and score the screener. Upon completion of the training, assessors completed the interRAI competency evaluation to receive an Assessment and Intelligence Systems (AIS) certificate.

3.3. Measures

The interRAI Child and Youth Mental Health- Screener (ChYMH-S) is a brief assessment tool used in assessing, prioritizing and triaging children and youth seeking mental health services. It is a standardized screener intended to provide seamless screening and support decision-making related to triaging, placement, and service urgency for children and youth with mental health needs (Stewart & Babcock, 2020; Stewart, Hirdes, McKnight et al., 2017). The screener was designed to be used in multiple settings, including inpatient, community programs and services as well as within schools. This is a manualized, semi-structured assessment tool consisting of 99 items and takes approximately 20 minutes to complete. It is divided into 10 subsections (identification information; mental state indicators; substance use or excessive behaviour; harm to self and others; behaviour; cognition, communication, and development; stress, trauma, and social relationships; education; summary; assessment information).

Several instruments within the interRAI Child and Youth suite have been developed to provide an integrated health information assessment system with multiple applications (Stewart & Hirdes, 2015; Stewart, Theall, Perry et al., 2015; Stewart et al., 2016; Stewart, Morris, Asare-Bediako, & Toohey, 2019) with strong reliability and validity (Hirdes et al., 2020; Lau, Stewart, Saklofske, & Hirdes, 2019; Lau, Stewart, Saklofske, Tremblay, & Hirdes, 2018; Stewart & Babcock, 2020; Stewart, Celebre, Hirdes, & Poss, 2020; Stewart & Hamza, 2017; Stewart, Morris et al., 2019; Stewart, Poss et al., 2019). These applications have also been designed for children, youth and adults with developmental disabilities (Billawala, Hamza, & Stewart, 2018; Fries et al., 2019; Lapshina & Stewart, 2019; Stewart, Hirdes et al., 2017; Stewart, Theall, Perry et al., 2015; Stewart et al., 2016; Stewart, Hassani et al., 2017).

3.3.1. Outcome measure

The interRAI Children's Algorithm for Mental Health and Psychiatric Services (ChAMhPS; Stewart, Hirdes, McKnight, et al., 2017; Stewart et al., 2018) is an empirically based decision-support tool that can be used to inform the need and urgency of timing for a comprehensive, face to face mental health assessment. The ChAMhPS score is computed and applied to each case utilizing items from the interRAI ChYMH-S. The score reflects an evidence-based algorithm that has been developed utilizing specific determinants of urgency based on research, clinical relevance, and statistical power. There is a separate service urgency algorithm for three different age groups. This decision-making framework is based on research that suggests determinants of service urgency differs depending on the child or youth's developmental stage. There are various pathways that could lead a child to a higher score of service urgency. For children 7 years of age and under, the level of urgency ranges from 0-5. The determinants drawn from the ChYMH-S include danger to self, violence to others, nightmares, and lack of motivation. For children 8–11 years of age, the level of urgency ranges from 0-5. The determinants drawn from the ChYMH-S are: danger to self, danger to others, made negative statements, socially inappropriate behaviour, hyperactivity, and family/placement breakdown. Lastly, children 12 years of age and older reflected in the level of urgency range from 1-6. The determinants drawn from the ChYMH-S are: danger to self, danger to others, considered performing a

self-injurious act, family/placement breakdown, intrusive thoughts/flashbacks, expresses intent to quit school, lack of interest in social interactions, expression of guilt or shame, violence to others, victim of emotional abuse, and concern for self-injury risk (see Stewart, Hirdes, McKnight et al., 2017 for further information).

Across all three pathways, a score of three or higher is considered a high score and it is recommended that the clinical team consider the child to be prioritized for needed treatment. If the score is on the lower end, a score of 0–2, it is unlikely that a comprehensive assessment is needed or a specialized service would be needed, or the young person could wait for a period of time being seen. For the purpose of the current study, a high score (3+) represents high urgency for further mental health service, and a low score represents low mental health service urgency (0–2) (Stewart, Hirdes, McKnight et al., 2017).

3.3.2. Independent measures

The proposed study utilized various items in the ChYMH-S to determine if children and youth with a history of interpersonal trauma exposure were ranked as higher in mental health urgency than those without trauma exposure. History of childhood maltreatment was measured based on the experience of physical abuse, sexual abuse, witnessing domestic violence, bullying, death or loss of a parent or guardian, and parental addiction or substance abuse. In the ChYMH-S, physical abuse refers to any incident resulting in non-accidental injury, physical confinement, or excessive physical discipline experienced by the child regardless of his or her age when the incident(s) occurred. Sexual abuse was defined as any form of exposure of genitals, sexual touching or coercion, rape experienced by the child regardless of his or her age when the incident(s) occurred. Witnessing domestic violence referred to the child having an awareness of, or knowledge of, or witnessing physical or verbal actions or threats toward another family member. Parental addiction or substance abuse referred to situations where a parent or primary caregiver was engaging in the repetitive and persistent use of alcohol or drugs (Stewart, Hirdes, McKnight et al., 2017).

The interpersonal trauma items included in the analysis are coded on the ChYMH-S on a scale of 0–5 indicating the prevalence and chronicity of the maltreatment (0 = never, 1 = more than 1 year ago, 2 = 31 days to 1 year ago, 3 = 8–30 days, 4 = 4–7 days, and 5 = in last three days). For the purpose of this study, the maltreatment variable was solely measured by the presence of interpersonal trauma or not, but not the severity or chronicity. While polyvictimization (e.g., types of abuse such as physical or sexual) could be determined, the specific severity and chronicity of the maltreatment could not. The specific details of its severity (e.g., specifics of the abuse such as penetration and length of the abuse) were addressed within the care planning guidelines (Stewart et al., 2016; Stewart, Theall, Perry et al., 2015) and intervention approaches utilized the *Traumatic Life Events Collaborative Action Plan* as part of the assessment-to-intervention process as it relates to best practice (Stewart, Theall, Morris et al., 2015; Stewart et al., 2018). Consequently, these items were re-coded as binary variables "0 = Present" versus "1 = Absent." A sum score of childhood interpersonal trauma was computed by summing the six childhood maltreatment variables. The study controlled for age, gender and legal guardianship.

3.4. Data analyses

Statistical analysis was executed using SPSS, version 25 for Windows (SPSS Inc., Chicago, IL, USA) and variables were considered significant if the p-value was less than .05. Descriptive statistics for all variables were conducted using percentages for the categorical independent and outcome variables. To examine the hypothesis and establish the effects of maltreatment on the likelihood that participants score high on the ChAMhPS, multiple Pearson chi-square tests of association were performed. Subsequently, bivariate association between ChAMhPS scores and various covariate variables were also conducted using the Pearson chi-square test of association. Additionally, the effect size of each association was also examined. The phi coefficient was applied to all 2×2 association, and the Cramer's V coefficient was applied to association with contingency tables larger than 2×2 . The strength of the effect sizes was interpreted according to Cohen's conventions for phi and Cramer's V (Aron, Aron, & Coups, 2009).

In the current study, multiple analyses were conducted to examine the potential relationship between mental health service urgency and exposure to interpersonal trauma. Multiple testing frequency increases the probability of committing a Type I error and obtaining a significant finding due to chance. To control against the possibility of this statistical error, the current study applied a Bonferroni Correction that generated an adjusted confidence interval of .017, as there were three separate analyses.

4. Results

Overall, 12,900 children and youth reported experiencing some form of interpersonal trauma (65.9%). Among all children and youth who reported experiencing trauma, 11.9% reported physical abuse; 6.8% reported sexual abuse; 23.7% reported domestic violence exposure; 20.6% reported emotional abuse; 17.8% reported parental substance abuse; 43.9% indicated a history of being bullied; and 18.7% reported experiencing the death or loss of a parent (Table 1). Since the ChAMhPS scores differ based on developmental level (4–7 years, 8–11 years, 12+), the main analyses for each developmental level are presented separately. In addition, approximately one-quarter of the 19,645 children and youth sample had high mental health service urgency (25.4%) compared with low mental health service urgency (74.6%). Furthermore, 35% of adolescents, 18.7% of youth, and 8.5% of children had a high urgency score.

Table 1
Distribution of Childhood Interpersonal Trauma Exposure by Age Group (N = 19,645).

Variable	Developmental Age Group			Total N (%)
	Under 7 N (%)	8–11 N (%)	12 and older N (%)	
Interpersonal Trauma Exposure				
Absent	1656 (49.4)	2225 (36.1)	2787 (27.8)	6668 (34.1)
Present	1698 (50.6)	3946 (63.9)	7256 (72.2)	12,900 (65.9)
Sexual Abuse History				
Absent	3261 (96.1)	5933 (95.8)	9123 (90.4)	18,317 (93.2)
Present	104 (3.1)	260 (4.2)	964 (9.6)	1328 (6.8)
Physical Abuse History				
Absent	3089 (91.8)	5611 (90.6)	8598 (85.2)	17,298 (88.1)
Present	276 (8.2)	582 (9.4)	14.89 (14.8)	2347 (11.9)
Witnessing DV History				
Absent	2549 (75.8)	4693 (75.8)	7740 (76.7)	14,982 (76.3)
Present	816 (24.2)	1500 (24.2)	2347 (23.3)	4663 (23.7)
Death/Loss of Primary Caregiver				
Absent	2850 (84.7)	5069 (81.9)	8060 (79.9)	15,979 (81.3)
Present	515 (15.3)	1124 (18.1)	2027 (20.1)	3666 (18.7)
Bullying Victim History				
Absent	2623 (77.9)	3625 (58.5)	4773 (47.3)	11,021 (56.1)
Present	742 (22.1)	2568 (41.5)	5314 (52.7)	8624 (43.9)
Parental Addiction or Substance Use				
Absent	2801 (83.7)	5177 (84.4)	7954 (80)	15,932 (82)
Present	545 (16.3)	959 (15.6)	1986 (20)	3490 (18)

4.1. Mental health service urgency and maltreatment

4.1.1. Developmental age group 1: children age 4–7 years

Of the 1698 children in this age group with a history of interpersonal trauma, 10.5% scored high on mental health service urgency, while 89.5% scored below the cut off on mental health service urgency. Chi-square tests of independence were conducted to examine the relationship between mental health service urgency and presence of interpersonal trauma for children 4–7 years old. For this age group, experiencing any form of interpersonal trauma was significantly associated with mental health service urgency at the bivariate level. Specifically, a significantly larger proportion of those scoring high on mental health service urgency had a history of interpersonal trauma (62.8%) compared to those without a history of maltreatment (37.2%) ($\chi^2 = 18.49$, $df = 1$, $p < 0.001$). However, the effect size for this finding was small, $\phi = .07$, $p < .01$.

4.1.2. Developmental age group 2: children age 8–11 years

Of the 3946 children in this age group with a history of interpersonal trauma, 21.5% scored high on mental health service urgency, while 78.5% scored low on mental health service urgency. Chi-square tests of independence were conducted to examine the relationship between mental health service urgency and interpersonal trauma for children 8–11 years old. For this age group, experiencing any form of interpersonal trauma was significantly associated with mental health service urgency at the bivariate level. Specifically, a significantly larger proportion of those presenting with maltreatment history, compared to those without a history of maltreatment, were rated as having high urgency (73.7% vs. 26.3%, $\chi^2 = 58.82$, $df = 1$, $p < 0.001$). However, the effect size for this finding was small, $\phi = .10$, $p < .01$.

4.1.3. Developmental age group 3: children age 12 years and older

Of the 7256 children in this age group with a history of interpersonal trauma, 40.1% scored high on mental health service urgency, while 59.9% scored low on mental health service urgency. Chi-square tests of independence were conducted to examine the relationship between mental health service urgency and interpersonal trauma for children 12 years and older. For this age group, experiencing any form of interpersonal trauma was significantly associated with mental health service urgency at the bivariate level. Specifically, a significantly larger proportion of those presenting with maltreatment history (82.4%) compared to those without a history of maltreatment (17.6%), were rated as having high urgency ($\chi^2 = 278.21$, $df = 1$, $p < 0.001$). However, the effect size for this finding was small, $\phi = .16$, $p < .01$.

4.2. Mental health service urgency and gender

4.2.1. Developmental age group 1: children age 4–7 years

Of the 287 children in this age group with high mental health service urgency, 25% were female and 75% were male. Overall, 6.4% of the children age 4–7 were males with high service urgency ($n = 215$), and 2.1% of this group were females with high service urgency ($n = 72$). Chi-square tests of independence were also conducted to examine the relationship between mental health service

urgency and gender. Results revealed that scores on mental health service urgency and gender were significantly related for this age group ($\chi^2 = 6.96$, $df = 1$, $p < 0.017$). There was a significantly greater proportion of males who scored high on mental health service urgency when compared to females (74.9% vs. 25.1%). Additionally, a larger proportion of males in this age group had high service urgency (9.4%) compared with the proportion of females who had high service urgency (6.7%). However, the effect size for this finding was small, $\Phi = .05$, $p < .01$.

4.2.2. Developmental age group 2: children age 8–11 years

Of the 1158 children in this age group with high mental health service urgency, 25.9% were female and 74.1% were male. Overall, 13.9% of the children age 8–11 were males with high service urgency ($n = 858$), and 4.8% of this group were females with high service urgency ($n = 300$). Chi-square tests of independence were also conducted to examine the relationship between mental health service urgency and gender. Results revealed that scores on mental health service urgency and gender were significantly related for this age group ($\chi^2 = 63.27$, $df = 1$, $p < 0.017$). A significantly greater proportion of those who scored high on mental health service urgency were males (74.1% vs. 25.9%). Additionally, a larger proportion of males in this age group had high service urgency (21.7%) compared with the proportion of females (13.4%). However, the effect size for this finding was small, $\Phi = .10$, $p < .01$.

4.2.3. Developmental age group 3: children age 12 years and older

Of the 3541 children in this age group with high mental health service urgency, 63.5% were female and 36.5% were male. Overall, 12.8% of the children 12 years or older were males with high service urgency $n = 1291$, and 22.3% of this group were females with high service urgency $n = 2250$. Chi-square tests of independence were also conducted to examine the relationship between mental health service urgency and gender. Results revealed that scores on mental health service urgency and gender were significantly related for this age group ($\chi^2 = 80.19$, $df = 1$, $p < 0.017$). A significantly greater proportion of those who scored high on mental health service urgency were females (63.5% vs. 36.5%). Additionally, a larger proportion of females in this age group had high service urgency (38.8%) compared with the proportion of males (30.1%). However, the effect size for this finding was small, $\Phi = .09$, $p < .01$.

4.3. Mental health service urgency and legal guardianship

4.3.1. Developmental age group 1: children age 4–7 years

Mental health service urgency was significantly associated with legal guardianship for children 4–7 years ($\chi^2 = 14.69$, $df = 5$, $p < 0.017$) and a small effect size was found (Cramer's $\Phi = .07$, $p < .01$). For this age group, the greatest proportion of high mental health urgency among the legal guardianship categories were children who had a Child Protection Agency (CAS) as their guardian (16.1%). Subsequently, 10.4% with a single mother as guardian had high urgency, 10.8% with neither parent(s) but other relatives or non-relatives as guardian had high urgency, 8.1% with a single father as guardian had high urgency, 7.3% with both parents as guardians had high urgency. Furthermore, half of the subsample who scored high on mental health service urgency had both parents as legal guardian. Single mother guardianship represented 35.2% of those with high mental health service urgency, while single fathers represented 3.5% of high mental urgency scorers. CAS guardianship represented only 3.5% of the children with high mental health service urgency, and neither parent(s) but other relatives or non-relatives as guardian represented 6.3%.

4.3.2. Developmental age group 2: children age 8–11 years

Mental health service urgency was also significantly associated to legal guardianship for children 8–11 years ($\chi^2 = 39.93$, $df = 5$, $p < 0.001$), and a small effect size was found (Cramer's $\Phi = .08$, $p < .01$). For this age group, one-quarter of children with Child Protection Agency (CAS) as their guardian had high mental health service urgency (24.1%). Single mother guardians had the second largest proportion of high mental health urgency among the legal guardianship categories (22.9%). Approximately, 21.2% with neither parent(s) but other relatives or non-relatives as guardian had high urgency, 16.4% with both parents as guardians had high urgency, and 15.9% with a single father as guardian had high urgency. Furthermore, over half of the subsample who scored high on mental health service urgency had both parents as the legal guardian (53.3%). Single mother guardianship represented 35.8% of those with high mental health service urgency, while single fathers represented only 3.1% of high mental urgency scorers. CAS guardianship represented only 2.3% of the children with high mental health service urgency, neither parent(s) but other relatives or non-relatives as guardian represented 5.4%, and those categorized as responsible for themselves represented less than 1%.

4.3.3. Developmental age group 3: children 12 years and older

Mental health service urgency was also significantly associated to legal guardianship for children 12 and older ($\chi^2 = 62.12$, $df = 5$, $p < 0.001$), with a small effect size (Cramer's $\Phi = .08$, $p < .01$). For this age group, close to half of the children who had a Child Protection Agency (CAS) as their guardian had high mental health service urgency (47%). Similarly, 48.3% of children in this group who were responsible for himself or herself had high mental health service urgency. Single mother guardians had the next largest proportion of high mental health urgency among the legal guardianship categories (38.7%). Next, 38.4% with a single father as guardian had high urgency, 38% with neither parent(s) but other relatives or non-relatives as guardian had high urgency, and 32.1% with both parents as guardians had high urgency. Furthermore, half of the subsample who scored high on mental health service urgency had both parents as legal guardians. Single mother guardianship represented 35.5% of those with high mental health service

urgency, while single fathers represented only 5.3% of high mental urgency scorers. CAS guardianship represented 2.9% of the children with high mental health service urgency, neither parent(s) but other relatives or non-relatives as guardian represented 4.9%.

5. Discussion

In the present study, factors associated with the brief screening of child and youth mental health service prioritization were examined. In addition, the process in which mental health personnel triage highly vulnerable cases was also explored. The purpose of the present study was to examine the link between service urgency and potential experiences of early exposure to interpersonal trauma in children and youth. The primary hypothesis, that children and youth who have experienced interpersonal trauma would be assessed as a higher mental health service priority over those who have not, was supported. Proportions of youth with interpersonal trauma histories and high mental health service urgency was examined across the three age groups. Children 4–7 years old who presented with interpersonal trauma history were 25.6% more likely to have high mental health service urgency than those who did not report such trauma. Children 8–11 years of age were 47.4% more likely and children 12 years of age and older were 65% more likely to have high urgency than those who did not report such trauma. These current study findings are consistent with previous research indicating children and youth who are exposed to interpersonal trauma are more likely to have mental health issues requiring urgent follow-up service. Specifically, prior research indicates that those with a history of trauma have greater rates of both psychiatric and medical service utilization than those without a history of maltreatment (De Bellis, 2001; Van der Kolk, 2017).

Across all three age groups, participants with a history of interpersonal trauma were overrepresented in the more urgent category compared to those who have not had a history of such trauma. The current study found that nearly 25% of the sampled youth met the cut off for high mental health service urgency, indicating they required immediate follow-up service/assessment. These findings are consistent with literature suggesting the need to intervene early and support these high need children and youth. These results additionally highlight a specific need for clinicians to take a trauma-informed approach to triaging and ensure they are assessing for traumatic experiences when formulating a client's presentation (Adams, 2010; Arbeau, Theall, Willoughby, Berman, & Stewart, 2017; Ko et al., 2008). Without asking about histories of interpersonal trauma, clinicians run the risk of over-diagnosing specific mental health disorders and missing the potential underlying causes for their difficulties.

Despite having a significantly larger proportion of participants presenting with trauma histories scoring higher on mental health service urgency than those without, the initial descriptive results revealed relatively low proportions of those with high mental health service urgency and exposure to interpersonal trauma. Specifically, results of the present study indicated that the majority of youth who had reported experiencing at least some form of interpersonal trauma scored below the cut off for high mental health service urgency. These findings are consistent with previous research that not all children experience trauma in the same way (Gamache Martin, Van Ryzin, & Dishion, 2016). Only a sub-sample of children and youth exposed to trauma actually experience serious signs and symptoms. Although experiencing interpersonal trauma in childhood or adolescence can have serious and long-lasting impacts on mental health and well-being, only some traumatized children are considered to be in high need for treatment, while others experience mild and manageable symptoms.

Numerous studies have examined why some children who have been maltreated suffer serious mental health issues while some are able to buffer the effects of the abuse and cope in more positive ways (Bogar & Hulse-Killacky, 2006). The findings of the current study are similar to research which suggests that the way an individual processes a trauma will influence how he or she copes with the experience. Some children who experience more severe maltreatment may find ways to cope more effectively and therefore do not present with high mental health service urgency. Moreover, there may be protective factors in the child's life not assessed in the present study that could affect the child's resiliency including social supports, spirituality and treatment options (Bogar & Hulse-Killacky, 2006; Folger & Wright, 2013). Resiliency factors such as social support, accessible intervention, and spirituality can buffer the potential negative impact of the trauma (Folger & Wright, 2013).

Furthermore, this study examined associations between mental health service urgency with respect to living arrangements and gender. Legal guardianship status and gender had a significant impact on mental health service urgency for all ages examined. Overall, children with Children's Aid (CAS) Society as their guardian had a greater proportion of high mental health service urgency compared to all other guardian status categories. This finding was true across all age groups. The age group with the highest proportion was children 12 and older, where almost half the youth with CAS as guardian had high mental health service urgency. It is clear from the results of the present study that the current association with CAS appeared to have a large impact on their urgency for mental health service. These findings are consistent with previous research that suggests that children involved with the child welfare system are at heightened risk for maltreatment and mental disorder through childhood into adulthood (Greeson et al., 2011; Scott, Smith, & Ellis, 2010). Often those who have experienced forms of interpersonal trauma are removed from the care of their parents and family. The CAS guardianship related findings in the present study coincide with literature that indicates a child is most often processed through the Child Welfare System (CWS) when an occurrence of maltreatment is substantiated. The CWS aims to provide safety, security, and stability to children/youth, thus the main goal of the CWS is to protect and care for children and youth who have experienced maltreatment (Greeson et al., 2011). Many of the present study's sampled children/youth could have attained CAS guardianship due to a substantiated incidence of maltreatment, which additionally supports the noteworthy association between mental health service urgency and CAS guardianship.

In the current study, single mother guardianship had the second greatest proportion of high mental health scores compared to those below the cut-off, for children under 12 years old. In contrast, the results revealed that children reporting as being responsible for themselves represented the second largest proportion of high mental health scores compared to those below the cut-off, only for children over 12 years of age. Single mother guardianship represented the next greatest proportion of high mental health service

urgency for children 12 years and older. Single mother guardianship also appeared to be related to high service urgency, this too is consistent with literature in the field that indicates that children from single-parent families are twice as likely to suffer from mental health problems and psychiatric disorders as those living with married parents (Behere, Basnet, & Campbell, 2017; Blum, Boyle, & Offord, 1988).

The study results are in keeping with research examining the impact of family structure and mental health service utilization. Children of single-parent households are at a heightened risk for a variety of social, emotional and behavioural problems that greatly impact academics and social functioning (Lipman, Boyle, Dooley, & Offord, 2002). The study results are also consistent with literature that suggests single parenting reduces financial and social support that may put these families at a heightened risk for child maltreatment (Schneider, 2017), indicating the sampled children/youth are more vulnerable to the adverse effects of maltreatment and likely require urgent mental health care. In addition, the current study results that found children over 12 years who reported being responsible for themselves (emancipated minor) represented a large proportion of high mental health service urgency scores are also consistent with prior literature. Specifically, researchers have shown that emancipated youth, both from parents and foster care system, are at higher risk for mental disorders (Edidin, Ganim, Hunter, & Karnik, 2012; Toro, Dworsky, & Fowler, 2007). Youth emancipated from guardianship are more likely to report various mental problems, drug addictions, or suicide attempts compared to non-emancipated peers. The current study further highlights the need for clinicians to examine the relationship between guardianship within a trauma-informed approach when triaging children and youth seeking services.

The present study also provided significant findings to contribute to research in the area of sex differences among children and youth with high mental health needs. Results indicated that three-quarters of children in groups 4–7 years of age and 8–11 years of age with high mental health service urgency were males. In contrast, the majority of children ages 12 or older who scored high on mental health service urgency were female (63.5%). This finding is consistent with prior literature that indicates female gender is associated with lower rates of mental health service use because females seek services less frequently and are less likely to be subsequently diagnosed than males (Burns et al., 1995; Posserud & Lundervold, 2013). The present results indicated that younger males were three times more likely than females to receive a high score on the service urgency algorithm. For the two younger age groups, determinates of high mental health service urgency included items related to danger to self/others, mood disturbances, making negative statements, and hyperactivity. This is consistent with prior literature that males, during childhood and early adolescence, present with more externalizing symptoms, which are easier to recognize than internalizing symptoms (Paula et al., 2014; Posserud & Lundervold, 2013).

Children seeking service for urgent mental health needs tend to be males with aggressive and violent presentations. According to previous research, following the experience of interpersonal trauma, the externalizing reactions to trauma for children 6–11 years include irritability, angry reactive outbursts, tendencies towards fighting, and hyperactivity (National Institute of Mental Health (NIMH), 2001). The internalizing behaviours common to young male children who have experienced interpersonal trauma include distress during separation from caregiver, regressive behaviours, extreme withdrawal, irrational fears, flat affect, depression and anxiety symptoms (National Institute of Mental Health (NIMH), 2001). Furthermore, females with the same type of diagnosis and severity of symptoms were less likely to be referred to services than males. It is apparent that females must present as more impaired than boys to be referred for assistance. The present study, consistent with previous findings, suggests a need for greater attention to this disparity and the unequal access to mental health care.

The findings in the current study that indicate older females were more likely to have higher mental health service urgency than males were incongruent with previous research on gender disparity among service utilization. This inconsistency may reflect the fact that the ChYMH-S urgency algorithm used in the present study may be more effective in triaging children based on need. Furthermore, these findings are consistent with previous research demonstrating the differential influence of sex on a child's reactivity to interpersonal trauma exposure, presenting as different behavioural indicators (Crosson-Tower, 2010). The items in the ChYMH-S utilized as the determinants of urgency in children and youth are consistent with the research extant and clinical relevance. The determinants relate to danger to self or others, and various symptoms associated with posttraumatic stress disorder (PTSD). Commonly cited throughout the literature is a sex disparity for risk of PTSD following a traumatic event. Females appear to be more likely to develop PTSD after experiencing trauma than males (Breslau, 2009; Moore, Gaskin, & Indig, 2013). Thus, the present results appear to be consistent with the literature in this area that reports higher rates of PTSD symptom experience and self-harm following trauma exposure by female than male adolescents (De Bellis, 2001; Van der Kolk, 2017).

Overall, it is apparent that childhood interpersonal trauma exposure has an impact on mental health service urgency. These findings, along with the gender and guardianship analyses, yielded important implications that provide significant contributions to the growing body of literature. Yet, the prevailing rates of childhood maltreatment and youth mental health issues implies a need for continued research examining the barriers that impact child and youth mental health waitlists, and factors that predict prioritization of care for children and youth seeking services. The current study employed the ChYMH-S tool, a mental health screening protocol utilized across multiple sectors of the child and youth mental health system to support triaging and service allocation.

The current study provides an important contribution to support evidence-informed improvements to the child and youth mental health service. Specifically, the study utilized an evidence-based assessment instrument intended to support decision-making related to triaging, placement, and service utilization across all child and youth mental health service sectors. This tool, the ChYMH-S, can be utilized to effectively mitigate some of the systemic barriers to appropriate, timely access to mental health services for children and youth in need across service sectors across the lifespan (Stewart, Hirdes et al., 2017). Considering that 75% of children in Canada who suffer from mental health disorders do not have their needs effectively met, there is a great need for appropriate prioritization and allocation of service and support to combat the waitlist issues and help the unserved high-risk youth. The service urgency algorithms

in the current study were developed specifically for the ChYMH-S, to enhance triaging and prioritization and promote more efficient and effective clinical practice across the child and youth mental health services.

5.1. Limitations and future directions

While this study has meaningful implications for the child and youth mental health field, several limitations are worth noting. First, the data was collected from clinically-referred children and youth. This limits the generalizability of results to children and youth of the broader population in need of mental health services. Second, the nature of assessing child maltreatment may have resulted in an underestimate as respondents may not recall their experiences accurately or fear the stigmatization of abuse disclosure. Third, the child or youth's caregivers may be less inclined to report their abusive behaviours that are both socially undesirable and criminal. Finally, as outlined in previous studies, chronicity and severity of maltreatment can increase the risk for serious mental health issues (Sundermann & DePrince, 2015). This study did not consider the chronicity and frequency of interpersonal trauma.

Despite these limitations, this study identified that children and youth who have experienced maltreatment are significantly more likely to score high on mental health service urgency than those who have not. Future studies should replicate these findings in various tertiary care or community-based mental health service agencies across Canada. Researchers in the field should also expand on this study by examining additional characteristics related to the severity and chronicity of interpersonal trauma that had occurred. Examining these characteristics of maltreatment would contribute to further understanding of the mental health sequelae of maltreated children and youth. In addition, future research should seek to examine the impact of resiliency and protective factors related to the association between maltreatment exposure and high mental health service urgency. As many factors such as social support, spirituality, and access to treatment options appear to buffer the effects of the maltreatment for some youth resulting in adaptive coping strategies (Bogar & Hulse-Killacky, 2006). Future research is currently underway to examine the impact of resilience on service urgency in traumatized children and youth.

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Declaration of Competing Interest

None.

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