Childhood Maltreatment and Symptoms of PTSD and Depression Among Delinquent Adolescents in Malaysia

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Abstract Adolescents in the juvenile justice system are known to suffer from various psychological disorders. Less is known about how childhood psychological trauma is related to psychological disorders among delinquent adolescents in Malaysia. This study investigated the relationship between childhood maltreatment and depressive and Posttraumatic Stress Disorder (PTSD) symptoms. Of 327 adolescents 96% were exposed to at least one childhood victimization. Significant differences were found for all types of victimization (i.e. maltreatment, sexual abuse, severe assault, neglect, and family victimization) between delinquent and non-delinquent adolescents. Females were more likely to be involved in family victimization, while males were more likely to experience severe assault and crime victimization. Delinquent adolescents reported depressive and PTSD symptoms significantly more than non-delinquent adolescents. The prevalence of PTSD and depressive symptoms among delinquents was 20.8 and 52.7% respectively. Highly victimized delinquent adolescents and/or those victimized in family-related events were at significantly higher risk to develop psychiatric symptoms.

Keywords Trauma · Abuse · Victimization · Psychiatric symptoms

The number of youth detained in the juvenile justice system in Malaysia is increasing at an alarming rate. Police recorded

2955 juvenile cases in 2002, increasing to 6048 cases in 2009 (Hariati 2010) and 8704 cases in 2013 (Tahir 2014). Previous studies have documented that most juvenile offenders have experienced traumatic events and have a higher prevalence of Posttraumatic Stress Disorder (PTSD) compared to the general population (Abram et al. 2013; Adams et al. 2013; Ariga et al. 2008; Falk et al. 2014). Prevalence of PTSD among detained adolescents has been found to be two to eight times higher than community samples (Wolpaw and Ford 2004). The issue of high prevalence of trauma exposure and PTSD among youth in the juvenile justice system is a major concern (Abram et al. 2013; Teplin et al. 2002).

Previous studies found that two-thirds of male delinquents and three-quarters of female delinquents have one or more psychiatric disorders (Adams et al. 2013; Ariga et al. 2008; Teplin et al. 2002; Wasserman et al. 2002). For example, Adams et al. (2013) and Ariga et al. (2008) reported that most juvenile offenders have PTSD and were highly comorbid with other psychological disorders (i.e. depression, substance dependence, and eating disorders). A review of 33 studies showed that adolescent offenders were highly exposed to multiple types of trauma, and 30% of the offenders reported PTSD (Foy et al. 2012). Severe trauma experiences among delinquent adolescents have serious mental health sequelae, such as high prevalence of depression, substance abuse, anxiety, and suicidality (Foy et al. 2012). However, many delinquent studies have small samples of single-gender juvenile offenders (e.g. Foy et al. 2012), or are based on samples of pre-trial detainees (e.g. Adams et al. 2013) limiting generalizability to those who have adjudicated juvenile sentences. Also, studies often have not compared mental disorders between delinquent and non-delinquent adolescents.

Previous studies have shown that delinquent adolescents are at risk for developing mental illness (Colins et al. 2010;

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Teplin et al. 2002). Therefore, to better understand the clinical needs of delinquent youth, a prevalence study of psychiatric disorders among this population is needed. The only study related to delinquency in Malaysia was conducted by Choon et al. (2013), investigating the relationship between peer attachment, parental attachment and delinquent behaviour. No prevalence study of psychiatric disorders among delinquent adolescents in Malaysia is available in the literature. Living conditions could be a mediator of adolescent delinquent activity and behaviour problems (Demuth and Brown 2004; Griffin et al. 2000). Studies have shown that adolescents living with a single parent or in foster care had higher prevalence of misconduct or delinquency (Demuth and Brown 2004; Foy et al. 2012; Griffin et al. 2000). Adolescents living with a single parent or in foster care also show high levels of anxiety, depression, and PTSD (Kok and Goh 2012; Paley et al. 2013; Sawyer et al. 2007). However, limited research has linked delinquency with mental disorders in different living conditions among adolescents.

In previous studies, female adolescents reported re-experiencing symptoms whereas boys reported arousal symptoms after they were exposed to violence (Allwood and Bell 2008). Limited research has investigated gender differences in different types of traumatic events among adolescent delinquents; for example, which childhood traumas are most common between genders, which childhood traumas have the most severe psychological impact between females and males, and whether there are gender differences in reporting psychological symptoms. Another limitation of past research on juvenile delinquency and trauma is the lack of sufficiently standardized diagnostic assessments to generate reliable national estimates. The present study aims to fill these gaps in the existing literature.

Method

Participants

Data were collected from 327 adolescents aged 12 to 17 ($M_{age} = 15.3$, $SD = 1.56$). By using G-power software with 95% confidence level, a minimum 248 adolescents were needed for this study. Two hundred and seven delinquent adolescents were recruited from child welfare institutions in Sarawak, Malaysia where they had been detained following conviction of a crime. The 120 non-delinquent adolescents were randomly recruited from mainstream high schools. To be included in the study, adolescents were required to be physically healthy, between 12 and 17 years of age, and voluntarily submit an informed consent document, including the consent of a parent or legal guardian. This protocol was followed in both delinquent and non-delinquent samples.

Of participants, 51.7% ($n = 169$) were female and 48.3% ($n = 158$) were male. Most were ethnic Malays (38.2%), followed by Iban (30.9%), Bidayuh (12.8%), Chinese (9.2%), and other ethnic groups (8.9%). More than half of non-delinquent participants (67.6%) stayed with both parents, 16.5% stayed with the mother only, 3.7% resided with both relatives and a foster family, 2.8% with friends and others, and 2.1% with child welfare institutions. With regards to delinquent adolescents prior to their detention, 52.3% lived with both parents, 22.7% with the mother only, 5.8% with both relatives and a foster family, 4.3% with both friends and others, 3.4% with child welfare institutions, and 1.4% with the father only.

Procedures

This study was approved by the Faculty of Medicine and Health Sciences, the University Malaysia Sarawak Ethical Committee, the Malaysian Ministry of Education, and the Sarawak Education Department. The delinquent participants were recruited from two detention facilities in the cities of Kuching and Miri. At the time of study, there were 292 delinquent adolescents in these two facilities. Participation was voluntary and dependent on written informed consent. Only 207 (69.9%) consented to participate in this study.

Non-delinquent participants were selected based on stratified randomized sampling. Thirty high schools were contacted, eight schools responded, and only five (63%) were willing to participate. One class from each grade (7th to 11th year) was randomly selected per school, and names were randomly selected from that name list.

After describing the study, written consent was obtained from the adolescents' legal guardians and a data collection date was set. An estimated 60% of students who were randomly selected refused to participate. During data collection, participants were briefed on issues related to confidentiality and their rights in this study. Participants were interviewed by trained researchers using established questionnaires described below.

Measures

Socio-demographic Questionnaire

We developed a one-page questionnaire to collect sociodemographic data including age, gender, ethnicity, and living conditions (living with both parents, one parent, other relatives or guardians, or in an institution) from all participants.

Center for Epidemiologic Study Depression Scale (CESD)

The CESD includes 20 items comprising six scales reflecting major symptoms of depression: depressed mood,

feelings of guilt and worthlessness, feelings of helplessness and hopelessness, psychomotor retardation, loss of appetite, and sleep disturbance. A high degree of internal consistency has been reported for this measure (Cronbach's alpha coefficients = 0.85 to 0.90; Radloff 1977). The Cronbach alpha for the CESD in the present study is good, $\alpha = 0.85$.

The Beck Youth Inventories–Second Edition (BYI) (Beck et al. 2001)

The BYI consists of five self-report scales: depression (Beck Depression inventory- BDI), anxiety (Beck Anxiety inventory- BAI), anger (Beck Anger Inventory-BANI), disruptive behaviour (Beck Disruptive Behaviour Inventory- BDBI), and self-concept (Beck Self-concept Inventory- BSCI). Each assessment contains 20 items. Participants were asked to indicate the extent to which the sentences described moods, behaviours, and thoughts on a four-point Likert scale (0 = never, 1 = sometimes, 2 = often, 3 = always). For each assessment, a total score was obtained and converted to a T-score with a mean of 50 and standard deviation of 10. Participants who obtained a T-score equal to or more than 55 for BDI, BAI, BANI, and BDBI, and a T-score of less than 55 for BSCI were considered to be clinically significant. The Cronbach alpha for BYI in the present study is excellent, $\alpha = 0.96$.

The Child Posttraumatic Stress Reaction Index (CPTS-RI)

CPTS-RI items include Diagnostic and Statistical Manual of Mental Disorders–Fourth Edition (DSM-IV) PTSD symptoms from each of three main subscales describing PTSD criteria - symptoms of re-experience (Criterion B), numbing and avoidance (Criterion C), and physiological arousal (Criterion D) (APA 1994). Items were scored on a five-point Likert scale ranging from 0 to 80, with 12–24 indicating mild symptoms, 21–39 moderate, 40–59 severe, and 60–80 indicative of very severe PTSD symptoms. Child and adolescent PTSD could be assessed manually as meeting the DSM-IV criteria for PTSD (APA 2000): An item score must be equal to or more than three to count as a symptom for a diagnosis. A subclinical level of PTSD is obtained if the respondent meets two out of three criteria and misses the last criterion by only one symptom. The subclinical evaluation does not apply to the re-experiencing subscale, which must be reached. The Cronbach alpha for CPTS-RI in the present study is good, $\alpha = 0.87$.

Juvenile Victimization Questionnaire (JVQ; Hamby et al. 2004)

The JVQ provides a comprehensive survey of victimization experienced by adolescents. The questionnaire asks

adolescents to report experiences that fall under five general areas of victimization: conventional crime, maltreatment, victimization by peers and siblings, sexual victimization, and witnessing/indirect victimization among youth (aged 8–17). The JVQ consists of 33 items and participants must answer the questions in a “yes/no” format. The Cronbach alpha for JVQ in the present study is good ($\alpha = 0.86$).

Translation and Back Translation

All instruments were translated from English into Bahasa Malaysia and back-translated by two academics expert in both languages. The content validity and reliability of the translated version were evaluated and tested. Detailed psychometric properties will be published in separate papers.

Data Analysis

All analyses were conducted using the Statistical Program for the Social Sciences (SPSS, version 16.0) package. A descriptive analysis of means and standard deviations (*SD*) of socio-demographic characteristics, depression, and anxiety scores were analysed. To confirm relationships of depressive and anxious symptoms with other socio-demographic (categorical) data and psychological symptoms, Pearson's Chi square test and bivariate correlation test were used. A *p*-level of 0.05 was interpreted as significant.

Results

Results show that 95.7% of delinquents had experienced at least one victimization, with 17.9% highly victimized (i.e. 13% with 16 to 20 types of victimization; 4.8% with 20 and above). Only 3.4% had never been victimized. By contrast, only 5% of non-delinquent adolescents were highly victimized and 5.8% had never been victimized. Also, 26.1% of delinquents had been victimized 11 to 15 times compared to 7.5% of non-delinquents. These differences were significant, $X^2 = 34.36$, $p < .001$. More than half (52.2%) of delinquents had experienced an average of 10 traumas in his or her lifetime ($M = 10.2$, $SD = 5.70$).

Table 1 shows reported victimization by delinquent and non-delinquent adolescents. There was a significant difference in reporting frequency of being sexually abused between delinquents and non-delinquents, with family victimization, neglect, severe assault, and maltreatment in order of diminishing significance. Bivariate correlation showed that delinquent adolescents who have history of family victimization were very likely to have been maltreated ($r = .72$, $p < .001$) and severely neglected ($r = .64$, $p < .001$).

Gender was significantly related to family victimization ($X^2 = 10.56$, $p = .014$), crime victimization ($X^2 = 6.31$,

Table 1 Percentage and percentage difference in reporting types of victimization by delinquents and non-delinquents ($N = 327$)

Victimization	Delinquent ($n = 207$)	Non-delinquent ($n = 120$)	Difference (%)	Chi square (X^2)
Maltreatment	55.6	25.8	29.8**	$X^2 = 27.15, p < .001$
Peer	66.7	65.0	1.7	$X^2 = 0.09, p = .76$
Sexual abuse	77.8	36.7	41.1**	$X^2 = 54.89, p < .001$
Severe assault	49.8	17.5	32.3**	$X^2 = 33.58, p < .001$
Neglect	53.1	17.5	35.6**	$X^2 = 40.18, p < .001$
Highly victimized	70.0	31.7	38.3**	$X^2 = 45.41, p < .001$

** $p < .001$

$p = .012$), and severe assault ($X^2 = 8.91, p = .003$). More females (16.7%) experienced family victimization than males (5.1%). More males experienced severe assault (Male: 58.9%; Female: 41.1%) and crime victimization (Male: 58.8%; Female: 41.2%). Forty-nine percent of delinquents of both genders experienced early sex or statutory rape. Females (31.1%) experienced significantly more emotional abuse than males (8.5%; $X^2 = 17.28, p < .001$). Sexual assault by known adults was significantly more frequent among females (24.4%) than males (11.1%; $X^2 = 6.44, p = .011$), as was forced sex (Female: 24.4%; Male: 11.1%; $X^2 = 5.132, p = .023$).

Neglect among delinquent adolescents was significantly related to their living conditions, $X^2 = 16.22, p = .023$. Delinquent adolescents who lived in child welfare institutions (100%) and foster families (83.3%) experienced high levels of neglect from care-givers, followed by those staying with their father only and friends (both 66.7%), relatives (58.3%), mother only (57.4%), other living conditions (44.4%), and both parents (43.5%). Living condition was significantly related to peer victimization too, $X^2 = 14.15, p = .049$. All (100%) delinquents who stayed with their father only experienced peer victimization, followed by child welfare institutions (85.7%), mother only (80.9%), friends (77.8%), relatives and foster family (both 75%), other living conditions (66.7%), and both parents (55.6%).

All delinquents (100%) exhibited at least one severe psychological disorder symptom (i.e. PTSD, depression or anxiety). Table 2 shows the reported psychological symptoms by delinquent and non-delinquent adolescents. Disruptive behaviour was the most significant difference between delinquent and non-delinquent adolescents, followed by depressive symptoms, anger, anxiety symptoms, low self-concept, and PTSD symptoms. Bivariate correlation showed that all symptoms were significantly correlated ($p < .001$) except for low self-concept (Table 3).

Significant gender difference was found for depressive score, $X^2 = 6.07, p = .014$, with females (60%) reporting more depressive symptoms than males (42.7%) when depressive symptoms were assessed by BDI. Females were two times more likely (95% CI: 1.15–3.51) than males to report depressive symptoms. There was also gender difference in controlling anger, $X^2 = 4.44, p = .035$. Females (47.8%) were 1.83 times less able to control anger than males (33.3%; 95% CI: 1.04–3.22). Gender was not related to PTSD symptoms, $X^2 = 2.90, p = .408$. There was no gender difference among delinquents for self-concept, anxiety, and disruptive behaviour.

Living condition was significantly associated with depressive symptoms among delinquent adolescents as measured by BDI, $X^2 = 33.15, p < .001$. One hundred percent of delinquents who were staying with their father only or with child

Table 2 Percentage of psychological symptoms by delinquents and non-delinquents ($N = 327$)

	Delinquent ($n = 207$)	Non-delinquent ($n = 120$)	Difference (%)	Chi square (X^2)
Beck Inventory				
Low self-concept	65.2	49.2	16**	$X^2 = 8.12, p = .017$
Anxiety	46.9	25	21.9**	$X^2 = 15.28, p < .001$
Depression	50.2	13.3	36.9**	$X^2 = 44.54, p < .001$
Anger	39.6	10.8	28.8**	$X^2 = 30.53, p < .001$
Disruptive behaviour	67.6	10.8	56.8**	$X^2 = 78.96, p < .001$
Other measures				
CESD	52.7	14.2	38.5**	$X^2 = 47.52, p < .001$
CPTS-RI	20.8	3.3	17.5**	$X^2 = 36.85, p < .001$

** $p < .001$

Table 3 Bivariate correlation between psychological symptoms reported by delinquent adolescents ($n = 307$)

	BSCI	BAI	BDI	BANI	BDBI	CPTSRI_PTSD	CESD
BSCI	1						
BAI	0.084	1					
BDI	−0.129	0.412**	1				
BANI	0.014	0.348**	0.628**	1			
BDBI	−0.029	0.277**	0.344**	0.391**	1		
CPTSRI_PTSD	−0.057	0.382**	0.462**	0.317**	0.286**	1	
CESD	−0.119	0.251**	0.546**	0.372**	0.213**	0.343**	1

** $p < .001$

welfare institutions exhibited depressive symptoms. Depressive symptoms were reported by 83.3% of delinquents staying with relatives, followed by friends (66.7%), mother only (66%), foster family (58.3%), both parents (34.3%), and others (33.3%). A similar significant result was found when depressive symptoms were assessed by CESD. Adolescents who stayed with child welfare (85.7%), foster family (83.3%), fathers and friends (both 66.7%), mother only (63.8%), both parents (44.4%), and others (22.2%) exhibited depressive symptoms.

Living condition was significantly associated with PTSD symptoms among delinquent adolescents, $X^2 = 34.81$, $p = .030$. Of delinquents, 66.7% of those who stayed with their father only exhibited PTSD symptoms, followed by child welfare institutions (42.9%), relatives (33.3%), mother only (25.5%), friends and others (both 22.2%), both parents (15.7%), and foster family (8.3%).

Among highly victimized delinquents, 89.2% reported disruptive behaviour ($X^2 = 26.68$, $p < .001$); 73% had low self-concept ($X^2 = 20.36$, $p = .002$); 54.1% exhibited both BDI-depressive symptoms and CESD-depressive symptom ($X^2 = 13.09$, $p = .004$ and $X^2 = 25.46$, $p < .001$ respectively). Additional analyses among highly victimized delinquents also found that 75.7% of them exhibited anxiety symptoms ($X^2 = 21.76$, $p < .001$); 51.4% were less able to control their anger ($X^2 = 8.76$, $p = .033$); and 16.2% reported experiencing PTSD symptoms ($X^2 = 38.18$, $p < .001$).

Table 4 shows the percentage of delinquent adolescents exhibiting psychological symptoms after types of victimization were analysed. Chi square analysis yielded mostly significant differences compared with non-delinquents (Table 5). Delinquents with previous experience of family victimization report greater frequency of almost all psychological symptoms. Bivariate correlation showed most types of victimization positively correlated with psychological symptoms except for self-concept as expected, since more victimization should result in lower self-concept.

Discussion

The present study, the first study conducted on delinquent adolescents in Malaysia, showed that 95.7% of participants have exposure to at least one traumatic event and more than half of them experienced an average of 10 traumatic events. The high prevalence of trauma exposure and poly-victimization in the present study is consistent with other findings in a western context, such as Finkelhor et al. (2007) and Ford et al. (2010). Further analysis showed that the most significant difference between delinquent and non-delinquent adolescents was sexual abuse, followed by family victimization, neglect, severe assault, and maltreatment.

There was significantly more family victimization among females than males, and significantly more severe assault

Table 4 Percentage of psychological symptoms in delinquent adolescents with history of victimization ($n = 207$)

	Low self-concept	Anxiety symptoms	BDI-depressive	CESD-depressive	Anger	Disruptive behaviour	PTSD symptoms
Maltreatment	73.9**	59.1**	61.7**	66.1**	49.6**	81.7**	25.2**
Sexual abuse	67.1**	52.2**	55.3**	58.4**	45.3**	75.8**	23.6**
Severe assault	72.8	55.3**	53.4	56.3	44.7	77.7**	24.3
Neglect	76.4**	59.1**	58.2**	64.5**	47.3**	73.6**	22.7**
Highly victimized	73**	75.7**	54.1**	54.1**	51.4**	89.2**	16.2**
Peer victimization	71.7**	58**	60.9**	60.9**	45.7**	75.4**	26.8**
Family victimization	81**	85.7**	76.2**	61.9**	61.9**	76.2**	33.3**

** $p < .001$

Table 5 Chi square analysis of psychological symptoms in delinquents with history of victimization and non-delinquents ($n = 307$)

	Low self-concept	Anxiety symptoms	BDI-depressive	CESD-depressive	Anger	Disruptive behaviour	PTSD symptoms
Maltreatment	8.88*	15.65**	13.68**	18.72**	10.71**	23.52**	17.20**
Sexual abuse	12.72*	8.22*	7.36*	9.54*	9.94*	21.95**	14.70*
Severe assault	5.25	5.92*	0.82	1.10	2.18	9.44*	7.30
Neglect	13.30**	14.10**	5.92*	13.31**	5.76*	3.87*	9.42*
Peer victimization	8.04*	20.53**	18.71**	11.20**	6.31*	11.30**	31.57**
Family victimization	21.74*	20.92**	134.76*	29.55**	15.00*	24.11**	22.39*

* $p < .05$; ** $p < .001$

among males than females. Previous studies have found male juvenile offenders more likely to be exposed to community violence (Stimmel et al. 2014) and female juvenile offenders more affected by interpersonal traumas (Kerig et al. 2012). With different types of victimization, juvenile offenders of different genders expressed symptoms in different ways (Miazad 2002; Spohn and Beichner 2000). Female juvenile offenders were more likely to internalize symptoms, such as depression and low self-esteem, and conduct more covert non-disruptive juvenile behaviours than males (Miazad 2002; Spohn and Beichner 2000). Treatment plans targeted more toward internalizing symptoms may be helpful for female juvenile offenders whereas targeting behavioural modification may be more helpful for males (Miazad 2002; Spohn and Beichner 2000).

The high prevalence of psychological symptoms among delinquents found in the present study (i.e. 100%) was not surprising in light of other findings with even larger sample size (Falk et al. 2014; Harzke et al. 2012). Harzke et al. (2012) showed that 98% of their sample ($N = 11,603$) were diagnosed with at least one psychological disorder, with conduct disorder most prevalent, followed by substance use disorder, bipolar disorder, attention-deficit/hyperactivity disorder, and depression.

The present study showed that prevalence of PTSD symptoms was high (20.8%) in comparison with the national rate of PTSD among adolescents (7.1%) found in Ghazali et al. 2014, suggesting the need for more specific attention and concern regarding the psychological well-being of delinquent adolescents. The higher prevalence of PTSD may be attributable to high exposure to various kinds of victimization. For example, Stimmel et al. (2014) found that juvenile offenders exposed to multiple types of trauma had more severe emotional and behavioural problems. They also showed that this group of delinquents endorsed a higher level of PTSD symptomatology.

The present findings suggest that delinquents may also be more likely to meet criteria for depression, PTSD, anger, anxiety, and disruptive behaviour than non-delinquent adolescents, in line with the findings of Adams et al. (2013),

Breslau et al. (2014), and Ford et al. (2010). Individuals with PTSD generally have a history of anxiety disorder and emotional dysregulation problems (Storr et al. 2007). Furthermore, a meta-analysis showed that history of pre-existing disorders predisposes to PTSD (Breslau et al. 2013). This supports the higher prevalence of depression, anxiety, and disruptive behaviour than PTSD in the present study. In addition, the present study finds that delinquent adolescents may suffer from various psychological disorders. This was supported by Breslau et al. (2014) who showed juvenile behaviours increase PTSD risk in adulthood even after ruling out the effect of childhood maltreatment.

Consistent with other research, females reported a higher level of depressive symptoms at two times the risk than males (Adams et al. 2013). Nolen-Hoeksema and Watkins (2011) commented that delinquency and depression may contribute to interpersonal stress or emotion dysregulation which exaggerates risk for depression in female juvenile offenders. On the other hand, the present findings were inconsistent with previous research in that no gender differences were found in PTSD symptoms. Most studies found that females with high exposure to multiple traumatic events were more likely to report PTSD symptoms (Adams et al. 2013; Kerig et al. 2012). However, some reports have also shown that as many men as women report depression and PTSD (Martin et al. 2013; Tolin and Foa 2006).

It has been suggested that there has been an under-reporting of psychological symptoms among males (Kerig and Becker 2012). Ciarrochi and colleagues found that males express their psychological mood and symptoms differently than females (Ciarrochi et al. 2000), such that current PTSD and depression diagnostic criteria may not fit males well (Martin et al. 2013; Tolin and Foa 2006). This may be attributable to masculinity or socialization into gender roles that shape male behaviours, attitudes, and values (O'Neil 1981; Courtenay 2000). Males that adhere to traditional masculine norms tend to not show emotion or ask for help (Addis and Mahalik 2003; Courtenay 2000). The present young male sample might conform less to traditional masculine norms in showing high levels of PTSD symptoms.

Several limitations should be noted. Conclusions drawn above should be cautiously considered in light of the sample size. The use of cross-sectional retrospective self-report data precludes establishment of a causal relationship between the trauma experience, PTSD, and delinquency. Aspects of delinquency status might confer greater risk for psychological problems even after accounting for trauma exposure, thus more prospective and longitudinal studies are needed in the future. Despite these limitations, the findings provide support for the high prevalence of trauma exposure and psychological disorders among delinquent adolescents in Malaysia.

In light of the current findings, youth detention facilities should ensure that mental health professionals are an integral part of the staff and are trained in trauma informed care. Additionally, trauma screening for delinquent adolescents upon intake is strongly recommended. Screening would enable more optimal allocation of limited resources and ensure those most in need receive treatment. Finally, caregivers ought to be made aware of the mental health needs of this population and provided with appropriate resources.

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Compliance with Ethical Standards

Conflict of Interest All authors declare that they have no conflicts of interest to report.

Ethical Standards and Informed Consent All procedures followed were in accordance with the ethical standards of the responsible committee on human experimentation [institutional and national] and with the Helsinki Declaration of 1975, as revised in 2000. Informed consent was obtained from all patients for being included in the study.

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