Nugroho et al. Scr Med. 2024 May-Jun;55(3):317-25. DOI:10.5937/scriptamed55-48690

ORIGINAL ARTICLE

Prevalence and Risk Factors of Psychological Distress Among Indonesian Incarcerated Male Juveniles

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Citation:
Nugroho PA, Rungreangkulkij S, Jais S. Prevalence and risk factors of psychological distress among Indonesian incarcerated male juveniles. Scr Med. 2024 May-Jun;55(3):317-25.

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Abstract

Background/Aim: Adolescence is a developmental period that is rife with emotional problems as adolescents lack psychological maturity. Juvenile offenders who are incarcerated may be more vulnerable to psychological distress. Aim of this study was to analyse the prevalence and risks of psychological distress among male juveniles (MJs) incarcerated in Indonesia.

Method: The participants of this study were 206 male juvenile offenders (MJOs) aged 12-17 from 28 Special Child Development Institutions (Lembaga Pemasyarakatan Khusus Anak; LPKA) in Indonesia. The participants' socio-demographic data was gathered while the strength and difficulties questionnaire (SDQ) was used to assess the extent of their psychological distress.

Results: Of the 47.6 % of participants that reported psychological distress, peer relationship problems (64.6 %) was the most severe, followed by conduct problems (51.5 %). The binary logistic regression results revealed that education level ($p = 0.005$) and psychological trauma ($p < 0.001$) correlated with psychological distress and that they were responsible for 37.5 % of psychological distress. Therefore, education level and psycho-trauma significantly affect the extent of the psychological distress that MJOs in Indonesia experience.

Conclusion: Juveniles require support to further their formal or informal education. Furthermore, healthcare providers could develop appropriate interventions to manage specific traumatic events as well as prevent or improve the mental health of MJOs.

Key words: Incarceration; Male juvenile; Psychological distress.

Received: 13 January 2024
Revision received: 29 March 2024
Accepted: 30 March 2024

Introduction

Male juveniles (MJs) commit three times as many crimes as female juveniles.[1] When incarcerated, male juvenile offenders (MJOs) lose many of their freedom; such as the ability to engage in heterosexual relationships, recreational areas, furthering education and social activities.[2] As such, incarceration can often lead to low self-esteem and negative perceptions of one's self, leading to psychological distress.[3] Two-thirds of juvenile offenders suffer from at least one diagnosable psychological disorder.[4] Psychological disorders are psychopathological conditions; such as signs, symptoms and problematic traits; that adversely affect the cognition, emotions and behaviours of individuals as well as their quality of life and ability to socialise, work and engage in other im-

portant lifestyle activities for a duration exceeding two weeks.[5-9] Psychological distress can often lead to mental illnesses and mental disorders. A global meta-analysis concluded that juvenile offenders experience mental illnesses while a systematic review and meta-regression analysis reported that MJOs have diagnosable conduct disorders (61.7 %), attention deficit hyperactivity disorder (ADHD) (17.3 %), major depression (10.1 %), post-traumatic stress disorder (PTSD) (8.6 %) and psychotic illnesses (2.7 %).[10] A study on psychological distress among 17-year-old Australian MJOs who are incarcerated or in community based-programmes found that most incarcerated MJOs are significantly more likely to screen positive for depressive symptoms and psychosis than their peers in community based-programmes.[11] Another study of psychiatric morbidity among Nigerian MJOs aged ≥ 15 incarcerated at a juvenile correctional facility showed that 62.5 % experienced psychiatric disorders with disruptive behaviour disorders (40.8 %), substance abuse disorders (15.8 %), anxiety disorders (14.2 %), psychosis (6.7 %) and mood disorders (5.0 %).[12-13] A South Korean study, similarly, found that 90.8 % of MJOs aged ≤ 19 have at least one diagnosable psychiatric disorder while 75.1 % have psychiatric comorbidities.[13]

Therefore, as MJOs clearly experience psychological distress, it warrants further examination and the development of management methods. The factors that contribute to psychological distress among incarcerated juveniles are age (≤ 20 years old), low levels of education, incarcerations of ≤ 1 year, being violent offenders, adhering to the Christian faith, experiencing traumatic events, misbehaviours and family factors.[14-24] Agustine examined psychological distress among MJOs in Jawa Barat Province, Indonesia using the strength and difficulties questionnaire (SDQ). The study found that 14.2 % of the 56 participants experienced psychological distress.[25] Agustine then conducted a pilot study involving 27 participants from the Sungai Raya Special Child Development Institution (*Lembaga Pemasyarakatan Khusus Anak*; LPKA) using the SDQ, which revealed that 11 % experienced psychological distress. Although multiple studies have examined many aspects of psychological distress among MJOs across the globe, Indonesian studies have only examined the prevalence of psychological distress. As such, this present study is the first domestic study aimed to examine the overall prevalence of psychological distress in a large population that is representative of Indonesian MJOs. It also identified the risk factors of psychological distress among MJOs incarcerated in Indonesia. As the mental health characteristics of MJOs differ from that of female juvenile offenders and there are more male juveniles incarcerated in Indonesia than female juveniles, this present study chose to examine MJOs.

This study aimed to examine the (1) psychological distress that the Indonesian MJO population experiences and (2) identify the risk factors that influence psychological distress among Indonesian MJOs.

Methods

An anonymous cross-sectional survey was conducted on 1324 MJOs aged 12-17 and incarcerated at 28 LPKAs across 33 provinces in Indonesia. The outcome variable of this study was a categorical scale with dichotomous variables; namely abnormal and normal.[26] Therefore, the present study used this proportion to calculate the ideal sample size using a formula that existing studies had used to calculate the prevalence rate.[27-28] Only one domestic study has examined the prevalence of psychological distress using the SDQ. The study, which was conducted at a Class II LPKA in Bandung, Indonesia, reported a prevalence rate of 14.2 % when the cut-off was ≥ 20. A further 10 % of the sample size was added in anticipation of incomplete questionnaires or refusals to participate.[29] As such, the participants of this present study numbered 206.

Stratified random sampling was used as the examined population comprised several strata or subgroups and separate samples had already been obtained from each subgroup. Probability proportional to size (PPS) sampling was used to determine the ideal sample size for each province. The inclusion criteria were incarcerated MJOs aged 12-17 at the time of the survey and had been incarcerated for at least a night while the exclusion criteria were MJOs who did not agree to participate, those with severe disabilities that affect their communication; such as slurred or unclear speech, non-verbal and impaired hearing.

Socio-demographic data; such as age, education level, religion, marital status, employment pre-incarceration, living arrangement, length of incar-

ceration, type of offense, history of misbehaviour pre-incarceration, parents' marital status and psychological trauma symptoms was collected. The SDQ was used to determine the extent of the participants' psychological distress.

All the socio-demographic variables of the participants were categorised. The age was grouped into early adolescence (12-15) and middle adolescence (16-17). The education was grouped into low (no schooling/had dropped out of school or only completed primary education) or high (completed secondary education). The religion was grouped into Muslim or non-Muslim while the marital status was grouped into single or married. The employment pre-incarceration was grouped into possessed a permanent job, worked as a day labourer or unemployed while the living arrangement was grouped into alone, with spouse without children and with family.

The length of incarceration was grouped into ≤ 1 year and > 1 year while the type of offense was grouped into violent (sexual crimes, murder, robbery, persecution and assault) and non-violent (property offenses, public order offenses, drug offenses, possession of offensive weapons and others). The history of misbehaviour pre-incarceration was grouped into having three misbehaviours (smoking, prior gang involvement, alcohol use or drug use), having two misbehaviours (thieving and smoking) and only one misbehaviour (thieving, smoking, prior gang involvement, alcohol use, or drug use). Lastly, the parents' marital status was grouped into divorced/widowed or married while the psychological trauma symptoms were grouped into no and yes.[30]

The global psycho-trauma screen (GPS) was used to measure the psychological trauma symptoms of the participants as it is a screening instrument that is designed to identify reactions to severe stressors or potentially traumatic events. It was translated to Indonesian by Indira Primasari, with a reliability of 0.83, sensitivity of 0.83 and specificity of 0.711. It comprised 17 symptomatic questions and five risk/protective factor questions, each answered by a Yes or No and one functioning item. Each item was given two response options and scored. More specifically, items 1-21 were scored No = 0 and Yes = 1 while Item 22 were scored No = 1 and Yes = 0. The GPS score is the sum of Items 1 to 17 and Item 18.[31] A GPS symptom score of ≥ 8 indicates the presence of psychological trauma symptoms while a score of < 8 indicates no psychological trauma symptoms.[32, 33]

As the SDQ was a tool for screening psychological distress among juveniles, it was used to examine the incarcerated MJOs.[34] The SDQ is Indonesia's standard mental health screening.[35] It has a reliability of 0.73, sensitivity of 0.67 and a specificity of 0.68. The SDQ comprised 25 items divided across five subscales; namely, 1) emotional symptoms (five items), 2) conduct problems (five items), 3) hyperactivity/inattention (five items), 4) peer relationship problems (five items) and 5) pro-social behaviours (five items); with three response options; namely, not true = 0, somewhat true = 1 and certainly true = 2. It took 10-20 minutes to administer test and its subscale scores range from 0-10.

Data collection

Once ethical approval had been obtained from the Indonesian National Research and Innovation Agency and the Ministry of Laws and Rights, the permission letter was sent to the 28 LPKAs. The primary researcher then explained the data collection process to the LPKAs' staff and shared the data that the 28 research assistant had already collected. The research assistants comprised 17 undergraduate degree students and 11 bachelor's degree students living near each of the 28 LPKAs. Therefore, the total of research assistants was 28 people. Via a Zoom™ meeting, the primary researcher explained the research protocols for data collection to the research assistants to protect the participants and to strengthen the validity and reliability of the collected data. A data collection practice test was also given.

Each participant had to verbally consent to participate in the present study before they were administered the questionnaire by a research assistant in a counselling room at the facility in which the participant was incarcerated. Each completed questionnaire was labelled with a code number and the participant's age instead of their name to ensure anonymity. The participants and the research assistant were strictly prohibited from taking photo and videos during the session. If a participant was illiterate, the research assistant read the questionnaire to the participant. The participants were required to deposit their questionnaires in the research assistant's box at the front of the counselling room within 30 minutes. The research assistants were unaware of the re-

sponses in the questionnaires. The research assistants then mailed the questionnaires to the researchers *via* post office document delivery between October to November 2022. Therefore, only the researchers were aware of the responses in the questionnaires.

Data analysis

The means and frequencies of all the examined variables were calculated using descriptive statistics. The mean scores and prevalence of the SDQ outcomes was estimated. Binary logistic regression analyses were applied in three steps to analyse the correlations between the risk factors and the outcomes. A concurrent test was first designed to detect if a risk factor affected psychological distress. An individual test or single independent variable was then used to determine if a risk factor significantly affected psychological distress. Last, the odds ratios were calculated to determine the direction and magnitude of the risk factor.[36] This was repeated for all the risk factors examined. IBM's® Statistical Package for the Social Sciences (SPSS) 26, which was under the university's license, was used to analyse the collected data.

Results

More than 70 % of the participants were aged 16-17, Muslims, single and lived with their families with married parents. Even though most of the participants were unemployed (68.9 %), the participants had completed secondary school (68.9 %) and been incarcerated for < 1 year (84.0 %). Most of them were violent offenders (84.0 %) with only one history of misbehaviour pre-incarceration (79.6 %). Also, more than half of them exhibited symptoms of psychological trauma (Table 1).

Psychological distress

Over half of the MJOs experienced abnormal peer relationship problems and conduct problems. Emotional problems and hyperactivity were reported by 46.6 and 11.2 % of participants, respectively. Furthermore, 97.6 % of the MJOs exhibited normal pro-social behaviours, followed by 2.4 % abnormal. Therefore, the total difficulty score of the MJOs was abnormal (47.6 %) (Table 2).

Table 1: The sociodemographic characteristics of the male juvenile offenders (MJOs) (n = 206)

Variables	Categories	N	%
Age (Years)	12-15	37	18.0
	16-17	169	82.0
Education	No schooling/had dropped out of school/only completed primary education	64	31.1
	Completed secondary education	142	68.9
Religion	Muslim	185	89.8
	Non-Muslim	21	10.2
Marital status	Single	204	99.0
	Married	2	1.0
Employment pre-incarceration	Possessed a permanent job	9	4.4
	Worked as a day labourer	55	26.7
	Unemployed	142	68.9
Living arrangement	Alone	19	9.2
	With spouse sans children	1	0.5
	With family	186	90.3
Length of incarceration (years)	≤ 1	173	84.0
	> 1	33	16.0
Type of offense	**Violent**	**173**	**84.0**
	Sexual crimes	90	43.7
	Murder	32	15.5
	Robbery	25	12.1
	Persecution	18	8.7
	Assault	8	3.9
	Non-violent	**33**	**16.0**
	Property offenses	6	2.9
	Public order offenses	6	2.9
	Drug offenses	12	5.8
	Possession of offensive weapons	3	1.5
	Others	6	2.9
History of misbehaviour pre-incarceration	**Having three misbehaviours** (smoking, prior gang involvement, alcohol use, or drug use)	**42**	**20.4**
	Having two misbehaviours (thieving and smoking)	**0**	**0.0**
	Only one misbehaviour	**164**	**79.6**
	Thieving	15	7.3
	Smoking	110	53.4
	Prior gang involvement	26	12.6
	Alcohol and/or drug use	13	6.3
Parents' marital status	Divorced/widowed	61	29.6
	Married	145	70.4
Psychological trauma symptoms	No	92	44.7
	Yes	114	55.3

Risk factors of psychological distress

Backward (conditional) binary logistic regression analysed significant variables (Table 3). The final model revealed that the prevalence odds ratio (POR) of education level was 0.357 (95 % CI: 0.174-0.733) and 0.098 for psychological trauma symptoms (95 % CI: 0.050-0.193), which correlat-

Table 2: The psychological distress of the male juvenile offenders (MJOs) (n = 206)

Domains		M	SD	N	%
Emotional problems		4.49	2.807	206	100.0
	Normal			110	53.0
	Abnormal			96	47.0
Conduct problems		3.73	2.207	206	100.0
	Normal			100	49.0
	Abnormal			106	52.0
Hyperactivity		4.02	2.002	206	100.0
	Normal			183	89.0
	Abnormal			23	11.0
Peer relationship problems		4.16	1.791	206	100.0
	Normal			73	35.0
	Abnormal			133	65.0
Pro-social behaviours		8.15	1.839	206	100.0
	Normal			201	98.0
	Abnormal			5	2.0
Total difficulty score		16.40	5.947	206	100.0
	Normal			108	52.0
	Abnormal			98	48.0

M: mean; SD: standard deviation; N: number of respondents; %: percentage of total number of respondents;

ed with psychological distress among incarcerated MJOs. The Nagelkerke R^2 was 0.375, which indicates that the ability of the independent variable to explain the dependent variable was 37.5 %, meaning that 62.5 % of other factors outside the model describe the dependent variable.

Table 3: The result of the binary logistic regression of the risk factors for emotional and mental problems (n = 206)

Risk factors	B	p-value	POR	95 % CI
Educational level	-1.030	0.005	0.357	0.174 - 0.733
Traumatic events	-2.321	< 0.001	0.098	0.050 - 0.193
Constant	1.586			

Nagelkerke pseudo-R^2: 0.375; POR: prevalence odds ratio; CI: confidence interval;

Each variable had a significant and partial effect on psychological distress. Education level had a significant and partial impact on incidences of emotional and mental problems while psychological trauma symptoms had a significant and partial impact the incidences of psychological distress. The POR indicated the magnitude of these influences. Participants with no schooling, had dropped out of school, or only completed primary education are 0.357 times more likely to experience psychological distress than their peers who completed their secondary education. Furthermore, MJOs with psychological trauma symptoms were 0.098 times more likely to experience psychological distress than their peers without psychological trauma symptoms. As the B value was negative, education level and psychological trauma symptoms inversely correlate with incidences of psychological distress. Therefore, the higher the level of education, the lower the likelihood of experiencing psychological distress. Also, the fewer the psychological trauma symptoms, the lower the likelihood of experiencing psychological distress.

Discussion

The socio-demographic characteristics of the incarcerated MJOs were similar to that of ordinary adolescents in Indonesia.[37] More specifically, most of them further their education, were single, unemployed, lived with family and their parents were married. However, they commit acts of violence as well as exhibit psychological trauma symptoms and had misbehaviours.

The findings indicate that almost half of the MJOs had abnormal emotional problems and that more than half of them had abnormal conduct and peer relationship problems. This present study's SDQ's total difficulty score was higher than that of the only other Indonesian study as the latter was conducted at only one LPKA (Sungai Raya Special Child Development Institution) and its sample size was small (27 participants). However, the abnormal emotional problem finding of this present study is similar to that of a study on Brazilian MJOs, which reported that more than a half of Brazilian MJOs have difficulties related to emotional and mental health.[38] This could be because MJOs are in a transitional period, during which adolescents experience emotional, behavioural and social changes.[39] Therefore, when MJOs conduct criminal acts, they lack psychological maturity and rational thinking.[40] They may also have emotional, conduct and peer relationship problems.

Present study found that low levels of education strongly correlate with incidences of psychological distress. Studies from Malaysia, the United Kingdom, Chile, Kenya and Cambodia, have, similarly, concluded that MJOs with low levels of education; such as primary education only, no schooling, did not complete schooling, dropped out of school, or did not pursue a secondary education; had higher and more severe incidences psychological distress. Education is essential for adolescents as adolescents with low levels of education cannot make logical judgments as they cannot efficiently utilise their cognitive skills.[41] It is neces-

sary to improve their cognitive abilities to enable them to think logically and critically and understand emotions that affect their mental health.[42] Therefore, low levels of education significantly affect incidences of psychological distress.

Present study also found that psychological trauma symptoms correlate with incidences of psychological distress. An extant study, similarly, reported that incidences of psychological trauma pre-incarceration; such as a history of child, sexual, emotional and physical abuse as well as exposure to bullying, neglect and homelessness; correlate with higher incidences of psychological distress.[43] Traumatic events can significantly alter the emotions, thoughts and behaviours of individuals, leading to high-risk mental health challenges in later life.[44] As adolescence is a transition period, MJOs have unstable feelings and cannot control their emotions, thoughts and behaviours, which affect their coping mechanisms. As such, adolescents cannot cope with internal or external stressors due to their inability psychologically and cognitively. Therefore, MJOs with fewer psychological trauma symptoms have fewer incidences of psychological distress.

To the best of authors' knowledge, only one 2018 study has examined the prevalence of psychological distress at an LPKA in Indonesia. It then went on to examine the risk factors of psychological distress among incarcerated Indonesian MJOs. Therefore, the findings from the 206 MJOs incarcerated at 28 LPKAs may represent problems that can be generalised to the rest of the country. However, as this present study solely focused on MJOs, the collected data cannot be evaluated from a gender perspective as female juvenile offenders were excluded as there were too few of them. Lastly, as this present study was a cross-sectional, it could not determine if the MJOs developed symptoms of psychological distress pre-incarceration or due to a chronic event that occurred during incarceration.

Future studies may consider developing appropriate interventions that help juveniles, especially incarcerated MJOs, manage and overcome psychological distress. Furthermore, the government, especially the Ministry of Law and Rights, should help every juvenile offender to continue their education and implement policy campaigns that address symptoms of psychological distress among juveniles. Apart from that, healthcare providers could promote the importance of educational attainment to ordinary adolescents. They may also recruit the help of the family if an adolescent has problems in school and communicate with teenagers to prevent them from committing acts of juvenile delinquency and avoid incarceration. Healthcare providers may also prevent adolescents from developing symptoms of psychological distress by giving them mental health education and counselling or therapy. Meanwhile, healthcare providers could encourage incarcerated juveniles to further their education. They may also screen them for symptoms of psychological distress and recommend trauma-specific counselling for specific events; such as PTSD, disturbances in self-organisation (DSO), anxiety, depression and insomnia.

Conclusion

The psychological distress of Indonesian MJOs is a public health concern that warrants comprehensive mental health care to be integrated into the present healthcare system for incarcerated juveniles. Furthermore, education level and symptoms of psychological distress must be examined when routine mental health examinations are conducted followed by the implementation of appropriate treatments. Government and healthcare providers should make an effort to implement support, education and psychological health management in juvenile facilities.

Ethics

The study was approved by The Khon Kaen University Ethics Committee For Human Research, decision No HE652141, dated 16 August 2022. The study was organised and implemented based on the Belmont report and GCP in social and behavioural research.

Acknowledgement

We would like to sincerely thank all those who have contributed to this study. Our sincere thanks to the Indonesian Ministry of Law and Rights for permitting us to conduct this research at their

Special Child Development Institutions (Lembaga Pemasyarakatan Khusus Anak; LPKAs). We would also like to thank the head of the Special Child Development Institutions, the research assistants and the participants for their kind cooperation and for helping us collect the data successfully. Lastly, our special thanks to the Graduate School of Khon Kaen University for facilitating the manuscript camp and to Asst Prof Dr Samoraphop Banharak for reviewing a final draft.

Conflicts of interest

The authors declare that there is no conflict of interest.

Funding

The KKU Scholarship supported this research for ASEAN and GMS Countries (Grant No 751/220).

Data access

The data that support the findings of this study are available from the corresponding author upon reasonable individual request.

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