



The Impact of Stress Management Training on Reducing Stress Levels in Adolescents at the Mamuju Detention Center

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ABSTRACT

Introduction: Teenagers in detention centres often experience high levels of stress due to loss of freedom, an uncertain future, and social stigma. This study aims to determine the effect of stress management training on the stress level of adolescent inmates in detention centres.

Methods: Quasi-experimental research with pre-post test with control group design. The study sample was 72, divided into intervention and control groups of 36. Purposive sampling technique. Stress management training was conducted in 8 sessions. Instrument used: Depression Anxiety Stress Scale 42. Data analysis with paired t-test and independent t-test.

Results: The average age of respondents in the control group was 20.42 years, and the intervention group was 19.94 years. All respondents were male. The last education of the majority of respondents was high school; the control group was 55.6%, while the intervention was 69.4%. Most jobs before entering the prison were self-employed; the control group was 47.2%, while the intervention was 55.6%. Most cases were narcotics; the control group was 44.4%, while the intervention was 41.7%. The average length of stay in the detention centre in the control group was 2.69 months, while the intervention group was 2.61 months. There was a significant difference in reduced stress levels between the intervention and control groups ($p = 0.002$; $d = 0,75$).

Conclusion: Stress management training lowers stress levels in adolescents in Rutan. These findings open up an excellent opportunity to develop more holistic rehabilitation programs that focus on the recovery and self-development of juvenile inmates. To maximize the positive impact of the study's findings, the researchers recommend that correctional institutions integrate stress management training programs into existing rehabilitation programs.

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INTRODUCTION

The increase in crime rates involving adolescents has become a global issue of concern (1). Data obtained from 124 countries through the World Prison Brief database and the World Bank Data Portal in 2019 shows that the number of children detained throughout 2018 amounted to 160,000-250,000. This number increased in 2020 to 261,200, or an average of 29 per 100,000 children. The highest child detention rate occurred in North America at 32,200 or 137 per 100,000 children, followed by Latin America and the Caribbean at 50,300 or 77 per 100,000 children. West and Central Africa has the lowest child detention rate of 8,100 or 8 per 100,000 children (2,3). The database system of the Directorate General of Corrections in Indonesia recorded 2,579 inmates in the adolescent age group who were detained in prisons (4,5). Although the number of adolescents detained in Indonesia is relatively low compared to other countries, this data should not be taken lightly. A comprehensive approach is needed to prevent and address health problems resulting from juvenile incarceration.

Incarceration is a traumatic experience that has a significant impact on the physical, psychological, and social health of adolescents (6,7). One in nine incarcerated adolescents experienced mental health problems such as stress, depression, and anxiety (7,8). Research in Children's Prison Class I Kupang showed that 56.7% of adolescents experienced moderate stress (9), and previous research in Mamuju Detention Center showed that 41% of adolescents experienced moderate to severe stress (10). Stressors in adolescent inmates include overcrowded prison conditions, isolation from the outside world, inability to adapt to the internal order in prisons, violence, stressful experiences (11–13), low self-esteem, lack of social and family support (14), and community stigmatization (15,16). Stress in adolescent inmates, if not handled properly, can result in increased recidivism, high rates of substance abuse (17,18), increased likelihood of experiencing or committing sexual violence (19), poor prognosis of mental health problems, and psychosocial difficulties in adulthood (20). So, it is necessary to make efforts to overcome mental health problems when teenagers are detained in detention centres.

Handling mental health problems in correctional institutions has not been a priority so far. This condition is due to the lack of facilities, the ability of officers, and limited access to mental health services (21,22). In addition, health care still focuses on physical health. In line with government regulations that state that health services for inmates are carried out at least once a month, although in its implementation 20% of inmates reported not receiving health checks every month (23).

It is essential to provide mental health interventions to adolescent inmates who experience stress. The findings indicate that reducing stress levels among inmates can significantly lower the incidence of behavioural problems and psychological disorders (24,25). Stress management can be a solution that is relevant to the challenges faced by adolescents. The results of the research have shown that stress management is effective in lowering levels of stress, anxiety, and depression in adolescents, as well as improving their overall psychological well-being (26). Stress management is an effective intervention in helping adolescents overcome their daily emotional and social challenges by enhancing their ability to manage emotions, build healthy relationships, and make decisions (27). In addition to being beneficial for adolescent mental health, stress management can also improve academic performance, positive behavior, and overall teenage quality of life (28). Stress management can be an essential strategy in preventing more serious mental health problems later in life, such as anxiety disorders, depression, and substance abuse (29). Stress management techniques are more accessible and can be done in groups (30). Additionally, stress management techniques generally only require a minor specialization or training to be applicable (24). Nurses who work in correctional institutions can easily do it on juvenile inmates (25,31).

This study aims to determine the effect of stress management training on reducing adolescent stress levels in Mamuju Prison, West Sulawesi, Indonesia. This research is vital because stress management training is a practical step in efforts to reduce stress among adolescent-assisted residents. Through stress management training, adolescents can develop skills in managing emotions, coping with stress, and building resilience. The results of this study can also provide a strong foundation for developing more humane correctional policies. Thus, teenagers who have completed their sentences have a greater chance of reintegrating into society and becoming productive citizens.

METHOD

Quasi-experimental research with pre-post test with control group design. The research design uses a control group, but it cannot fully function to control the external variables that affect the implementation of the experiment (32) The population in this study is all inmates in the Class II B Mamuju Detention Center. The sample was obtained

by purposive sampling, with the inclusion criteria of adolescents aged 12-21 years (33) who were suspects or defendants, able to read and write, willing to be respondents in the research, cooperative, not diagnosed with a mental disorder, and not on sedatives. Exclusion criteria were inmate status, the preparation process of being transferred to a prison or a free process and being treated for mental disorders. The number of samples that met the inclusion criteria was 72 people. Furthermore, a simple random was carried out based on the sequence number made by the Rutan officer. Respondents with odd sequence numbers were used as the control group, and even sequence numbers were used as the intervention group. The number of samples in the control group and the intervention group were 36 people each. The research was conducted in Class II B Mamuju Prison, West Sulawesi. The study was conducted from May to August 2019.

Stress management training was conducted in 8 sessions for 4 weeks. Participants were divided into 6 groups, and 6 facilitators were trained beforehand. First session: The facilitator explained the stress management training and the number of meetings and agreed on a schedule with the participants. Furthermore, get acquainted with fellow teenagers in the group, various experiences about pleasant and unpleasant events, and provide mutual support between teenagers. Session two: Facilitators explain the process of stress using flipcharts. Next, participants discussed and shared their experiences with the stress they experienced in the group. Session three: The facilitator explains and demonstrates the four basic emotions (anger, joy, fear, and sadness). Next, adolescents practice expressing the four basic emotions in groups. Session four: Facilitators explain the impact of stress on physical, emotional, and behavioural. Furthermore, participants shared their experiences overcoming the effects of stress in the group. Fifth session: The facilitator performs physical exercises with breathing exercises and progressive muscle relaxation. Next, participants practiced in groups. Session six: The facilitator conducts a positive thinking exercise by giving several statements to the participants to identify as negative or positive thoughts. Furthermore, the facilitator asked each participant to read his positive thoughts and then asked each participant to assess what his friend said. Session seven: The facilitator trains participants using the thought-stopping technique using a rubber band on the wrist. If negative thoughts arise, the rubber jolts on the wrist. Eighth session: The facilitator trains how to anticipate stressful events by asking each participant to identify everyday events that can trigger stress, identify solutions to each event, and write them down in a workbook. Stress management training activities are conducted for 45-60 minutes each session. Before and after the training, pre-tests and post-tests are carried out. The instrument used was the Depression Anxiety Stress Scale 42 (34). The instrument consists of 42 questions on a Likert scale with a score of 0-126. The reliability of Cronbach's alpha instrument is 0.756 (31).

Univariate analysis uses frequency distribution and central tendencies to explain the characteristics of respondents. A paired t-test was used to analyze stress levels before and after the intervention. An independent test of t-test to compare stress levels between the control group and the intervention after stress management training. The level of confidence used is 95% (α 0.05).

Ethical consideration

This research has received ethical approval from the Health Research Ethics Commission of the Makassar Health Polytechnic (No. 138/KEPK-PTKMKS/II/2019). The researcher also conducted research licensing at the Mamuju Regency Kesbangpol (No. 070/49/V/2019/BKBP). Apply for permission to the Head of Class II B Mamuju Detention Center and inform respondents before the research is conducted.

RESULTS

The average age of respondents in the control group was 20.42 years, the intervention group was 19.94 years. All respondents were male. The last education of the majority of respondents was high school; the control group was 55.6%, while the intervention was 69.4%. The majority of jobs before entering the prison were self-employed; the control group was 47.2%, while the intervention was 55.6%. Most cases were narcotics; the control group was 44.4%, while the intervention was 41.7%. The average length of stay in the detention centre in the control group was 2.69 months, while the intervention was 2.61 months (Table 1).

Table 1. Characteristics of respondents

Variable	Control (n = 36)	Intervention (n = 36)
	Frequency (%) or Mean ± SD (95% CI)	Frequency (%) or Mean ± SD (95% CI)
Age (years)	20.42 ± 0.91 (20.11 – 20.72)	19.94 ± 1.36 (19.49 – 20.40)
Sex		
Male	36 (100 %)	36 (100 %)
Education		
No School	-	1 (2.8 %)
Primary school	6 (16.7 %)	6 (16.7 %)
Junior High School	8 (22.2 %)	4 (11.1 %)
High School	20 (55.6 %)	25 (69.4 %)
College	2 (5.6 %)	-
Work		
Self-employed	17 (47.2 %)	20 (55.6 %)
Student	15 (41.7 %)	12 (33.3 %)
Labourer	4 (11.1 %)	3 (8.3 %)
Driver	-	1 (2.8 %)
Case		
Drugs	16 (44.4 %)	15 (41.7 %)
Theft	10 (27.8 %)	9 (25 %)
Persecution	3 (8.3 %)	4 (11.1 %)
Child protection	1 (2.8 %)	4 (11.1 %)
Murder	2 (5.6 %)	1 (2.8 %)
Order	-	2 (5.6 %)
Use of sharp weapons	-	1 (2.8 %)
Deceit	1 (2.8 %)	-
Gambling	1 (2.8 %)	-
Traffic violations	2 (5.6 %)	-
Long stay in Detention Center (months)	2.69 ± 0,93 (2.37 – 3.02)	2.61 ± 0,93 (2.29 – 2.93)

The paired t-test results showed that the reduction in stress levels in the intervention group was more significant ($p = 0.001$; $d = 1.45$) compared to the control group ($p = 0.001$; $d = 0.36$). The results of the independent t-test also showed a significant difference in the reduction in stress levels between the intervention and control groups ($p = 0.002$; $d = 0.75$). Stress management greatly impacted stress reduction in the intervention group (Table 2).

Table 2. Analysis of stress levels of control groups and interventions

Group	N	Paired t-test						Independent t-test					
		Mean ± SD	95% CI	t	df	p	d	Mean ± SD	95% CI	t	df	p	d
Control	36	19.44 ± 12.75	24.19 – 30.92	9.15	3	0.001	0.3	24.44 ± 14.95	(-13.69)	-3.19	7	0.002*	0.7
Intervention	36	27.56 ± 9.94	15.13 – 23.76	16.6	3	0.001	1.4	16.03 ± 5.28	(-3.18)		0		5

*significant < 0,05

DISCUSSION

This study successfully showed that stress management training had a significant influence in reducing the stress level of adolescents in Mamuju Prison. These findings are consistent with previous studies showing that stress management can lower cortisol levels in the body (35), thus lowering stress levels (31), Stress is a complex reaction

resulting from the interaction between the individual and their environment (8). How a person responds to a situation is greatly influenced by their perceptions, experiences, and resources (36). Inmates often feel stressed because they have to deal with a very different and stressful environment (37). Negative feelings such as being overwhelmed, tense, anxious, and worried are natural reactions to this difficult situation (8). Efforts are needed to help them manage their stress well so that they do not experience further mental health problems.

This stress management training can also increase adolescents' understanding of the stress experiences they experience. Training that begins with cognitive improvement will make it easier for adolescents to identify the causes, signs, and symptoms of stress experienced and how to cope with stress. Previous research also explained the need to conduct assessments on the stress level of inmates (8,38), influencing factors (39,40) the impact of stress (41,42) and stress management carried out by adolescents when experiencing stress (27,43). It is essential to determine effective interventions for lowering stress levels and improving prisoners' mental health and overall well-being.

In addition, stress management training can improve the physical health of adolescent inmates. This training teaches breathing exercises and progressive muscle relaxation techniques. Breathing exercises and progressive muscle relaxation can lower stress levels and improve physical and mental health (44,45). Progressive muscle relaxation techniques are methods used by individuals to provide a feeling of calm and coolness by actively contracting and relaxing specific muscle groups (46). Progressive muscle relaxation techniques show significant effects on quality of life, stress levels, and anxiety so that they can be trained on juvenile inmates in correctional institutions.

Stress management training can also change the negative thoughts that often arise in adolescent inmates. This training trains teenagers using the thought-stopping technique with a wrist rubber band. If negative thoughts arise, the rubber jolts on the wrist. Thought Stopping is a form of mind suppression and can improve a person's coping skills (47). Thought Stopping can lower stress and anxiety levels (48) and eliminate negative thoughts (49). The thought-stopping technique using rubber bands is very efficient for adolescent inmates because the tool is simple and does not require particular time.

Stress management training is provided in groups to improve adolescents' interpersonal relationships during prisoner detention. Group therapy is an interpersonal process that conceptualizes problems and treatment approaches in a group setting (50). The main therapeutic factors in group therapy include group cohesion and interpersonal feedback. This factor is essential for fostering a supportive environment where members can receive and provide feedback, leading to improved interpersonal skills (51,52). Providing training in groups makes adolescents more excited and able to interact with their peers. Peer support is indispensable when they are in prison (53). Stress management training can be a promotional and preventive effort for mental health in prisons (54).

Implementing ongoing stress management training for adolescent inmates may face diverse challenges. The success of the program is highly dependent on the ability of nurses to carry out interventions, so it is necessary to conduct comprehensive training, including stress management techniques, understanding of adolescent development, trauma, and other mental health issues, tailored to the context of the prison. Likewise, logistical barriers, such as scheduling training sessions, providing materials, and adequate venues, also need to be overcome through careful planning. Institutional resistance to change and mental health interventions requires ongoing socialization and education efforts, involving all relevant parties and demonstrating evidence of program effectiveness. In addition, comparisons with alternative interventions, such as individual therapy or mindfulness-based programs, can help program managers choose the most appropriate intervention. By addressing these barriers and considering alternative interventions, stress management training programs can be effectively integrated into juvenile correctional services, providing significant benefits to the welfare and rehabilitation of inmates.

Implications

This study provides strong evidence that early intervention through stress management training can be an effective preventive measure in preventing more serious mental health problems in adolescents in correctional settings. Equipping adolescents with stress-coping skills not only improves their current condition but also prevents the emergence of new issues in the future, such as depression, anxiety, or aggressive behaviour.

Limitations

This study has limitations, such as the respondents being only male, so it cannot be generalized to inmates of the female gender. The research design used is quasi-experimental, so the potential for bias may exist because the intervention given can be distributed to a control group in the same room as the intervention group. However, the researcher conveyed to the intervention group that the control group would be treated the same way after completing the intervention.

Recommendations

Stress management in adolescents in detention centers needs to be considered a nursing intervention that correctional care providers can provide. Facts that support the implementation of stress management include ease of implementation both individually and in groups and accessibility, which means nurses can provide stress management without the need for special skills. It is necessary to consider confounding factors such as previous mental health problems, coping mechanisms used by adolescents, and social support they have if they want to adopt this study.

CONCLUSION

This study proves that stress management training reduces stress levels in adolescents in detention centres and encourages significant self-transformation. By mastering relaxation techniques, changing negative mindsets, and building better relationships, these teens have shown tremendous potential to grow into more resilient and empowered individuals. These findings recommend that prison policymakers integrate stress management into correctional health standard services, train prison staff on the principles of stress management, develop sustainable intervention programs, and conduct further research to evaluate intervention models and other factors affecting the well-being of adolescents in the justice system.

AUTHOR'S CONTRIBUTION STATEMENTS

The first author is responsible for the conception and design of the research, data analysis, script preparation, and manuscript revision. The second and third authors are in charge of writing protocols, monitoring data collection, and assessing the quality of each article of the manuscript that is included. All authors have read and approved the manuscript and are fully responsible for its content.

CONFLICTS OF INTEREST

The author has no conflict of interest regarding this article.

DECLARATION OF GENERATIVE AI AND AI-ASSISTED TECHNOLOGIES IN THE WRITING PROCESS

The authors declare that they did not use Generative AI or AI-Assisted Technologies during the writing of this manuscript.

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