The influence of the training of coping skills for stress on self-control and intensity of depression among adolescents with suicide risk

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Abstract

Background: Suicide was the second leading cause of death among 15–29 year-olds globally in 2012. While the key elements in developing a national suicide prevention strategy not only the health sector but also education so far the training of coping skills for stress was not being a part of health school program to prevent suicide.

Objective: This study conducted to explore the training of coping skills for stress on self-control and intensity of depression among adolescents with suicide risk.

Method: This research design using a quasi-experimental pre-posttest with control group. The sample consisted of each 40 adolescents in the intervention group and in the control group.

Results: We found that the adolescent’s self-control and the intensity of depression was improved significantly in the intervention group. The training of coping skills for stress appears to be effective in increasing self-control and decreasing intensity of depression. We recommended that the training of coping skills for stress for adolescents should become a health school program in suicide prevention.

Keywords: The Training of Coping Skills for Stress; Self Control; Intensity of Depression; Adolescents.

1. Introduction

Suicide is a global phenomenon in all regions of the world. According to WHO (2012) over 800,000 people die due to suicide every year and there are many more who attempt suicide. Hence, many millions of people are affected or experience suicide bereavement. Suicide occurs throughout the lifespan and was the second leading cause of death among 15-29 year olds globally in 2012; in fact, 75% of global suicide occurred in low- and middle-income countries in 2012. WHO (2012) also mentioned that in Indonesia, age-standardized suicide rate (per 100 000) for both sexes was 4.3. Suicide among adolescent is the health problem which develop with suicide prevalence to children and adolescent in a year between 1, 7 – 5, 9% (Ulmila, 2008).

Strategies in suicide prevention programs for adolescents and young adults classified into two conceptual categories strategies to identify and refer suicidal adolescents and young adults for mental health care and strategies to address known or suspected risk factors for suicide among adolescents and young adults (Caroll, Potter, & Mercy, 1994). Health Department of Indonesia (2006) also mentioned that suicide prevention program could be done by educating adolescents about suicide, increasing awareness of warning signs and teaching how to get help.

The use of psychotherapy is recommended for prevention of suicide. Manual cognitive behaviour psychotherapy for suicide prevention (CBT-SP) with twelve or more sessions has shown the feasibility in preventing the recurrence of suicidal behaviour in adolescents who have recently attempted suicide (Stanley, et al, 2010). Another form of psychotherapy used to prevent suicide is coping and support training (CAST). CAST is a high school-based suicide prevention program delivers life-skills training and social support in a small-group format (6-8 students per group), targeting youth 14 to 19 years old. The program consist of 12 sessions, 55 minutes, group sessions administered over 6 weeks by trained high school teachers, counsellors, or nurses with considerable school-based experience (SAMHSA, 2002). The goal of CAST is to deliver life-skills training to high-risk high school students in order to increase mood management skills, improve school performance, and decrease drug involvement. Since 1995, a number of studies have assessed the feasibility, safety and effectiveness of CAST speaking for its usefulness and lending tentative support for its efficacy (SAMHSA, 2002). Another programme on adolescent mental health in coping with stress, being developed by the Health and Behaviour Unit in the Regional Office for South-East Asia (WHO, 2003). This programme uses the life skills education approach which consist eight activity (sharing happy and unhappy moments; meaning of stress and cause of stress; understanding the physical, emotional and behavioral effects of stress; stress-causing events; to learn what causes stress; enacting, analyzing and discussing causes and effect of stress; incorrect ways of coping with stress and identifying strategies for coping with stress).
The present study examined the effectiveness of the training of coping skills for stress that is modified from guidance of suicide prevention (Health Department of Indonesia, 2006), CBT-SP (Stanley, et al, 2010), CAST (SAMHSA, 2002) and modules on adolescent mental health promotion (WHO, 2003). It aims to raise social skills, problem solving strategies, coping skills and help-seeking skills. The training consist of seven sessions: session 1. The training session consist of welcome and orientation; session 2. Group support & experience sharing about stress; session 3. Knowing the impact of stress, setting and monitoring goals; session 4. Building self-esteem and positive thinking; session 5. Stress management using Consequence, Activities, Belief (CAB) method; session 6. Stress management using Dealing Activity Event (DAE) method and thought stopping; session 7. Stress anticipation, recognizing progress & staying on track. Each session lasted for 60–90 minutes. The training could be conducted by a qualified psychiatric nurse.

Effective and evidence-based interventions can be implemented at population, sub-population and individual levels to prevent suicide and suicide attempts. The training of coping skills for stress as the prevention suicide program for adolescents in senior high school at West Java never done before and was not being a part of health school program. With adequate coping skills for stress, make adolescents feel less helpless and have more choices responding to stress.

The research questions are:

- What is the influence of the training of coping skills for stress on self-control and intensity of depression among adolescents with suicide risk?
- Does the intervention improve self-control and intensity of depression among adolescents with suicide risk?

2. Method

Our design adopted quasi experimental using quantitative statistical method. In this study, Indonesian version of SPS, SCS and ADRS were used. Also via pre-test post-test with control group (40 adolescents) and intervention group (40 adolescents), SCS and ADRS were evaluated. We used simple random sampling for 80 adolescents who met the inclusion criteria (age between 12 years to 18 years; informed consent; have a risk to commit suicide with scale range between 72–144 using SPS; have intensity of depression with scale range 10–44 using ADRS). A qualified psychiatric nurse applied group the training of coping skills for stress training using modules which was prepared, while the control group only received standard treatment by school counsellor.

The standard therapy (ST) was used as a control condition. ST in the Depok area administered by school counsellor and thus assures ethicality of our procedure. Treatment involves regular individualized school counselling. ST assist adolescent to identify the problem and focusing discussion on the impact of their academic. ST was tailored to the adolescents’ specific needs. Control participants did not undergo the training of coping skills for stress. While the training of coping skills for stress educate adolescent how to cope with psychological stress, handle peer pressure, deal with their emotions, resolve conflict, build bridges with friends and family, develop self-confidence. The principal goal of the training of coping skills for stress is to make adolescents aware of and manage their stress, and practice it in their daily life. The training consists of seven modules. The module of training has been compiled for Indonesian-speaking and got approval from psychiatric nursing committee in Indonesia University. Each module is administered to a group of six to eight adolescents. The intervention group was administered each session once weekly. Participants were invited to participate 7 sessions of 60–90 minutes duration and received homework assignments between sessions.

1.1. Participants

The sampling technique used in this research was simple random sampling. Participants were recruited in the Depok City (West Java, Indonesia), from two randomly-selected public schools. Participants were on nine grade senior high school. Each patient adolescent include was informed of the following: the aims of the study, the extent and the nature of their participation, including randomization, a description of the control and experimental interventions as well as the two evaluations (pre and post). The adolescents included were also informed about the confidentiality of the data and their right to withdraw from participation at any time. They received a written description of the study. Approval was obtained from the Nursing Faculty of Indonesia University ethics committee.

The following criteria led to exclusion (1) age less than 14 or more than 16 years and (2) suicide probability score using suicide probability scale (SPS: Cull & Gill, 1988) less than 72. Nine weeks after the baseline, that is, after one complete training, a reassessment was conducted. The completion rate was 100% and no one dropped out in both intervention and control groups. An administration mode of one session per week was used in this study, so that within 7 weeks adolescents could complete the training. No compensation for both of the treatment sessions and reassessment were provided.

There were 229 adolescent in senior high school who met eligibility for the trial. Of these, 162 met the criteria for assessing suicide risk score using SPS between 72-144. Sixty-seven participants did not meet inclusion criteria and eighty-two refused to participate. Eighty adolescents were willing to participate in the trial, fulfilled inclusion criteria and randomly divided on the intervention group and the control group (see figure1).

![Flow Chart](image-url)
1.2. Instruments

The Indonesian version of the SPS, Rosenbaum's Self-Control Scale (SCS; Rosenbaum, 1980) and Adolescent Depression Rating Scale (ADRS; Revah-Levy, et al, 2007) were used for our study. The adolescents with suicide risk was screening by SPS instrument. Then, participants were assessed in pre- and post-tests using SCS which measures self-control and ADRS which measures the intensity of depression by senior psychiatric nurse. Assessor were blind to treatment allocation to prevent a Rosenthal effect (i.e., assessors did not work at times when the training was performed; before each assessment participants were asked to keep group status to themselves; assessors and trainers were not permitted to speak about adolescents during the trial phase).

1.2.1. Risk of suicide

The SPS was administered to confirm the suicide risk. The SPS is a 36-item self-report measure designed to evaluate suicide risks in adolescents and adults. Individuals are asked to rate the frequency of their subjective experiences and past behaviours using a 4-point Likert scale ranging from “None (1)” to “all of the time (4)” (in total, 36-144 possible points). Higher points indicate higher risks. SPS measures only a subset of factors predictive of suicide, including suicidal ideation, hopelessness, and social isolation (Larzelere, et al, 1996). The validity and reliability (alpha = .96) of the SPS in the Indonesian version are good.

1.2.2. Control scale

The SCS was designed to assess individual differences in self-control skills. The questionnaire examines self-reported use of knowledge and strategies to solve problems in order to deal with the emotional and physiological reactions. The questionnaire consists of 32 items that represent different information on the skills of self-control. The reliability coefficients were evaluated using alpha Cronbach method in the Indonesian version with high internal consistency (alpha = .96).

1.2.3. Intensity of depression

The ADRS is a measure used to quantify the intensity of depression in adolescents aged from 13 to 20 years. The 11-item clinician-report and 44-item self-report versions of the ADRS were developed from a qualitative phase involving interviews of experts and adolescents. The ADRS demonstrated good internal consistency (alpha Cronbach coefficient >.70). It also discriminated a significant difference in depression scores and post-test depression scores and post-test depression scores and post-test depression scores. The indicator of the effectiveness of the training of coping skills for stress in adolescents a lead to a significant difference in the results of this group. Considering all the variances in the pre-test, such a difference is the result of interventions: the training of coping skills for stress (See table 3, 4 and 5).

3. Results

3.1. Adolescent demographics

The socio-demographic and background characteristics of the two groups were analysed using univariate analysis and cross table statistics. Adolescents age were 15 years old on average. Most of the adolescents were girls (59%). Most of adolescent live with their parents (88.8%) and parents job were government employees (66.2%). These and other characteristics are summarized in Table 1. Note that the intervention and control groups did not differ significantly on any variable at baseline.

Table 1: Socio Demographic Variables at Baseline

<table>
<thead>
<tr>
<th>Variables</th>
<th>Intervention</th>
<th>Control</th>
<th>p value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Background</td>
<td>Test</td>
<td>Control</td>
<td></td>
</tr>
<tr>
<td>Sex (male/female)</td>
<td>14/26</td>
<td>19/21</td>
<td>.915</td>
</tr>
<tr>
<td>Age in years</td>
<td>15.10</td>
<td>15.15</td>
<td>.581</td>
</tr>
<tr>
<td>Parent’s marriage</td>
<td>33/7</td>
<td>38/2</td>
<td>.077</td>
</tr>
<tr>
<td>(Live together/ divorce)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Occupational status of the parent</td>
<td>18/22</td>
<td>35/5</td>
<td>.000</td>
</tr>
<tr>
<td>(government employee/private employee)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3.2. Self-control

Data were analysed using SPSS for Windows (SPSS Inc., Chicago, IL, USA). The pre-test scores are close in both intervention and control groups; however, post-test scores of the intervention group has considerably increased, while post-test scores of the control group decreased to some degree (see table 2).

Table 2: Self-Control Scores

<table>
<thead>
<tr>
<th>Groups</th>
<th>Sample Size</th>
<th>Pre-Test</th>
<th>Post-Test</th>
<th>Subtraction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>40</td>
<td>42.65</td>
<td>43.20</td>
<td>0.55</td>
</tr>
<tr>
<td>Control</td>
<td>40</td>
<td>44.25</td>
<td>43.70</td>
<td>-0.55</td>
</tr>
</tbody>
</table>

A comparison of the self-control post-test for the intervention and control group, using independent t-test, shows that there is a significant difference between the intervention and the control group. Considering all the variances in the pre-test, such a difference is the result of interventions: the training of coping skills for stress (See table 3, 4 and 5).

Table 3: Comparison of Self-Control Scores for the Pre-Test

<table>
<thead>
<tr>
<th>Groups</th>
<th>Sample Size</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>40</td>
<td>42.65</td>
<td>1.86</td>
<td>1.81</td>
<td>0.001</td>
</tr>
<tr>
<td>Control</td>
<td>40</td>
<td>44.25</td>
<td>2.14</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 4: Comparison of Self-Control Scores for the Post-Test

<table>
<thead>
<tr>
<th>Groups</th>
<th>Sample Size</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>40</td>
<td>43.20</td>
<td>1.36</td>
<td>3.96</td>
<td>0.001</td>
</tr>
<tr>
<td>Control</td>
<td>40</td>
<td>43.70</td>
<td>2.04</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5: Comparison of Changes in Self-Control Scores

<table>
<thead>
<tr>
<th>Groups</th>
<th>Sample Size</th>
<th>Mean</th>
<th>SD</th>
<th>t</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>40</td>
<td>0.55</td>
<td>1.21</td>
<td>3.70</td>
<td>0.001</td>
</tr>
<tr>
<td>Control</td>
<td>40</td>
<td>-0.55</td>
<td>0.81</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

All the significant differences between mean scores of the post-test and pre-test in control and intervention group reveals that the introduction of independent variable in the intervention group leads to a significant difference in the results of this group. This is the indicator of the effectiveness of the training of coping skills for stress method in improving self-control; while in the control group responded unchanged. The first hypothesis is verified, considering the statistical resources and the significant difference in the group that is shown by the subtraction of pre-test scores and post-test scores. The training of coping skills for stress increases self-control.

3.3. Intensity of depression

Data were analysed using SPSS for Windows (SPSS Inc., Chicago, IL, USA). The results show that the coping skills for stress in the intervention group has significant changes. The intensity of depression scores have decreased (see table 6).
The comparison of the intensity of depression post-test for the intervention and control group, using independent t-test, shows that there is a significant difference between the intervention and the control group. However, there is no significant change in the post-test scores for the control group. (See table 7 and 8).

Table 6: Intensity of Depression Score for the Intervention Group

<table>
<thead>
<tr>
<th>Groups</th>
<th>Sample Size</th>
<th>Mean</th>
<th>SD</th>
<th>T</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Test</td>
<td>40</td>
<td>31.40</td>
<td>6.50</td>
<td>7.20</td>
<td>0.001</td>
</tr>
<tr>
<td>Post-Test</td>
<td>40</td>
<td>27.30</td>
<td>3.34</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 7: Intensity of Depression Variable

<table>
<thead>
<tr>
<th>Groups</th>
<th>Sample Size</th>
<th>Mean</th>
<th>SD</th>
<th>T</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>40</td>
<td>31.40</td>
<td>6.50</td>
<td>1.29</td>
<td>0.001</td>
</tr>
<tr>
<td>Control</td>
<td>40</td>
<td>30.70</td>
<td>6.66</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 8: Changes in the Intensity of Depression Scores in the Intervention and Control Group

<table>
<thead>
<tr>
<th>Groups</th>
<th>Sample Size</th>
<th>Mean</th>
<th>SD</th>
<th>T</th>
<th>P&lt;</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intervention</td>
<td>40</td>
<td>27.30</td>
<td>3.34</td>
<td>3.70</td>
<td>0.001</td>
</tr>
<tr>
<td>Control</td>
<td>40</td>
<td>30.65</td>
<td>6.15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. Discussion

In the participants demographic showed that most of the adolescents were girls (n=47). Girls reported significantly more interpersonal problems with peers and with the immediate family than boys (Santacana, et al, 2012). Several studies have highlighted the greater tendency among girls to establish relationships and friendships with their peers in search of social support and to devote more time to cultivating friendships. (Rose & Rudolph, 2006). Adolescent who live separate with their parents only 11.2%.

Armstead et al. (1990) analysed that coping with parental divorce and found that only avoidance coping, which was used less often, was related to internalization and externalization syndromes. Krenke (1995) mentioned that type of stressor, internal and social resources are all important determinants of the coping response. Malin (2011) mentioned that the increased family support and peer support are associated with decreased suicidality, and peer support and community connectedness moderated the relationship between depressive symptoms and suicidality. Although some risk factors for suicide seem to differ across racial and ethnic groups, depression is consistently identified as one of the most significant risk factors associated with adolescent suicidal behaviour (Colluci & Martin, 2007; Kung, Liu, & Juon, 1998; Lyon et al., 2000; Reifman & Windle, 1995).

Adolescent depression is the suicide risk condition. Up to now, stress management is increasingly used in depression and suicide prevention. The present study investigated the influence of the training of coping skills for stress which focused on group. The results assert that the training of coping skills for stress increase self-control and at the same time reduces intensity of depression. The result was in accordance with the opinion of Doan, Roggenbaum and Lazear (2003) who stated that general suicide education was one of the prevention program based on school which combine with many activities to develop self-esteem and social competency. All adolescents were retained in the group and no adverse events were noted such as dropped out. Clearly, adolescents’ acceptance can by no means be taken as a proxy results of a simple randomized with external randomized and assessor blind assessment. The modules are standardized. It aims to make aware of and manage their stress by means of correcting experience via the exercises. Personal examples of stress by participants and discussion ways to encounter them provide corrective experiences in supportive atmosphere.

The results showed that the adolescents self-control increasing in the intervention group. It is supported with the development of adolescence’s operational formal way of thinking, such as abstract thinking, hypothesis, perspective, future, visualize any opportunity and consequences from event (Hockenberry & Wilson, 2011; Ali & Ansori, 2009), so that they can make a decision. Adolescents were able to develop their analysis ability and settle the problems logically and systematically. Rosenbaum (1990) defined self-control as a set of targeted cognitive skills, these skills enable individuals to achieve their goals, and to overcome the difficulties associated with the ideas, emotions, and behaviours, and to postpone the gratification of needs and desires, and dealing with the pressure, and the use of cognitive skills and strategies to solve problems in order to deal with the internal responses, and believing in the ability to adjust this internal responses.

Ronen (2003) also mentioned that self-control is a set of secondary and behavioural skills that an individual learns in order to suppress and control many undesired behavioural patterns without any external influence. In addition, this result is in line with Bandura (1976) suggested that self-control covers three areas: mental, behaviour, emotional. He stressed the role played by the self-control in the thought and behaviour of humans and directing many of the mental and intellectual processes, and aligning them with the principles of logic and practicality and away from the passions and human emotional tendencies. That is, higher levels of self-control leads to more deliberation, accuracy, and analysis in the performance of tasks, problem solving, choice, judgment, and decision-making, and on the other hand, low levels of this variable (self-control) means a totalitarian thinking, impulsivity, and lack of precision in these matters (Merrell, 1990).

In this study, we also found that intensity of depression to the intervention group was significantly decreased. The statistical test result showed that there were no significant differences in intensity of depression in the control group. The result was in accordance with the opinion of Rosenbaum (1990) who highlights that the difference between the individuals' response to success or failure is the result of his or her perception on having the required abilities to achieve the success. This is one of the most significant factors that trigger the individual’s motivation towards learning; when he believes that his success was due to his abilities and capacities and not due to some external factors, his self-efficacy level rises which makes him expect even more success and thus his motivation is increased. We attributed the decrease of intensity of depression in the intervention group to the stimulation of the training of coping skills for stress.

Results from the subjective assessment of the training, the adolescents feel that the training is not boring, fun and would like to recommend it to others. The adolescents enjoyed the group support and they could share their experience, so that the awareness increasing. They also learn the impact of stress and setting new goal for their life. Adolescents who have received session about building self-esteem and positive thinking; session stress management using Consequence, Activities, Belief (CAB), they found that the training is useful and applicable to daily routine. After the training, the adolescents feel encouraged and learn how to improve their social interaction at school and have a good relationship with others. They also learn how to cope their negative thinking and thoughts about death using thought stopping.

4.1. Limitation

This study has several limitations. First, the results may not be generalizable to all Indonesian high school students. The sample consisted of two high schools in one county in the West Java region, and thus, the results may not be representative of all Indonesian adolescents. For future studies, sample could have given to smaller sizes that would generalize the data to other populations. A second limitation of the study was conducted using three different scales that might have been exhausting for the student during the answering process, so we recommend that the research is conducted once again using the same scales but with a reduced number of items or they can be divided and administered over several stages.
5. Conclusion

Despite these limitations, this study contributes to the health school program for suicide prevention in four ways: (a) it provides new evidence about the efficacy of the training of coping skills for stress among adolescents with suicide risk; (b) it provided an important contribution to increase the adolescents’ self-control; (c) it provided an important contribution to minimize the adolescents’ intensity of depression; (d) it provides guidance on suicide prevention and intervention of the training coping skill for stress.

5.1. Recommendation

Since the results showed that the training of coping skills for stress can be successfully applied by psychiatric nurse and should be offered as a health school program in suicide prevention. The training of coping skills for stress could optimize the increasing of self-control and the decreasing of intensity of depression. The training of coping skills for stress should be directed to incorporating the preventive curative programs and interventions applied to students in senior high school.

Longitudinal research with follow-up assessments needs to be done on the adolescents with suicide risk to examine the extent to which the adolescents’ improved self-control are sustained.

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References


[23] Santacana, Maria Forns., Kirchner, Teresa, Abad, Judit, Amador, Juan Antonio. (2012). Differences between genders in coping: Different coping strategies or different stressors? Amurio de Psicología, 42, 5-18.