

EFFECTS OF GROUP PSYCHOLOGICAL COUNSELING ON NONSUICIDAL SELF-INJURY (NSSI) BEHAVIORS OF COLLEGE STUDENTS WITH DEPRESSION

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SUMMARY

Background: The depression of college students requires psychological intervention based on clinical drug treatment. Group psychological counseling is an effective psychological intervention. This study aims to explore the effect of group psychological counseling on negative emotions and Nonsuicidal Self-injury (NSSI) behaviors of college students with depression.

Subjects and methods: A total of 84 students with depression by screening diagnosis at Qingdao University in March 2018 were divided into the control group (n=42) and the intervention group (n=42). Students in the control group only received drug therapy, whereas the intervention group underwent group psychological counseling intervention based on drug therapy. A comparison between depression, self-injury behaviors, and sense of life purpose of the two groups before and after the intervention was performed.

Results: The post-test Self-Rating Depression Scale (SDS) standard score of students in both groups was significantly lower than the pre-test SDS standard score ($P<0.05$). The SDS standard scores of the post-test and the trace test in the intervention group were significantly lower than those in the control group ($P<0.05$). Compared with the pre-test value, the total scores in the Meaning in Life Questionnaire (MLQ) of the post-test in both groups significantly increased. The intervention group received significantly higher scores in the MLQ of the post-test and trace test compared with the control group ($P<0.05$). Both groups also received significantly higher scores in the post-test in the Quality System Audit (QSA) compared with the pre-test ($P<0.05$). The intervention group also received higher scores on the post-test and trace test in some dimensions in the QSA compared with those of the control group ($P<0.05$).

Conclusions: Group psychological counseling intervention for college students with depression can alleviate their depressive symptoms, improve their sense of life meaning, reduce the risk of suicide, and control their NSSI behaviors.

Key words: group psychological counseling – depression - college students - Nonsuicidal Self-injury (NSSI) - sense of life meaning

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INTRODUCTION

Depression is a relatively common mood disorder and it ranks second only to cardiovascular disease in the list of factors affecting disability-adjusted life year in 2020 (Moreno-Agostino et al. 2021), with more than 350 million people suffering from depression worldwide. Depression is characterized by chronic and recurrent episodes, roughly 20% of the global population suffers from depression (Musa et al. 2020). In recent years, the incidence of depression is prominent in younger people. Early adulthood (18 to 35 years old) is the stage of high incidence of depression. Patients with depression in this age group have strong suicidal thoughts and are prone to self-injury and suicidal behavior (Bjezancevic et al. 2019, Cong et al. 2020). Lockman et al. (2018) pointed out that campus suicides and attempts have occurred more and more frequently, and nearly 8% of Chinese college students have suicidal thoughts (Ru et al. 2019).

The occurrence mechanism of depression remains unclear. Fundamentally, the occurrence mechanism involves monoamine neurotransmitters, neuron damage, neuroendocrine, and so on. Etiology believes that

depression is the result of psychological, social, and biological factors, and it is a functional brain disease (Ménard et al. 2016, Nikolic et al. 2020). The cause of depression in college students can be attributed to genes, stress, personality, allergies, and other factors, of which stress may play an important role. College students are in the special transition from minors to adults. This period typically entails various pressures, such as education, employment, and social pressure, so students with poor psychological adjustment ability are more prone to have depression. Treating depression in college students must comprehensively consider the severity of the illness, the characteristics of individual, physical, and mental development, suicide factors, social environment, and other factors. Given the rapid change of depression and prominent suicide behaviors in college students, achieving the ideal effect by simply using antidepressant drugs is difficult; therefore, psychological intervention based on drug therapy is often used for clinical treatment. According to results of several epidemiological surveys (Rong et al. 2020, He et al. 2021), the incidence of depression was between 3%-8%; Gao et al. (2020) pointed out that the overall prevalence of depression in Chinese college students

was 28.4% ($n=185787$, 95% confidence interval was 25.7%-31.2%), indicating that the overall prevalence of depression in Chinese college students was relatively high. Feng et al. (2020) found that the depression level of Chinese college students increased by 6.04 according to the Self-rating Depression Scale, and male college students showed higher levels of depression through inter-generational cohort changes in depression level among Chinese college students from 2000 to 2017. Anxiety and depression symptoms of college students with depression have been significantly improved after the psychological cognitive intervention. The scores of material life, physical health, mental health, and social function were significantly increased, indicating that psychological cognitive intervention can reduce psychological fluctuations of college students with depression and improve their cognitive function and quality of life (Bargiel-Matusiewicz et al. 2019) Zhu et al. (2019) demonstrated that structured group cognitive behavior therapy can improve depressive symptoms and social function of patients with mild depression.

Many psychological intervention methods exist for treating depression, including psychodynamic psychotherapy, behavioral therapy, interpersonal therapy, cognitive therapy, family therapy, and so on, all of which have achieved some results in improving the depressive symptoms of college students (Chaves et al. 2019). Among them, group psychological counseling promotes individuals to realize self-experience, self-consciousness, and self-knowledge through the interaction of group relations, group atmosphere, and other group factors, thus promoting individuals to grow up psychologically. As an important means of psychological counseling, group counseling has been widely used in the psychological treatment of depression, which is a healthy and effective psychological intervention. Group counseling based on life education has achieved a significant effect on improving individuals' mental health (Li 2019).

Group psychological counseling is an effective method of psychological intervention, which plays a positive role in alleviating individuals' negative emotions. Zhang (2018) performed group psychological counseling for patients with myocardial infarction, and the results indicated that their anxiety and depression levels were significantly reduced, while their social ability and independence were significantly enhanced. The anxiety and depression symptoms of elderly inpatients are significantly relieved after group psychological counseling (Teo et al. 2020). In the 1960s, the United States launched life education to improve the love of life among young people and reduce the threat of suicide and homicide. Influenced by the ideological trend of life education, some western countries, such as Australia, Britain, Germany, New Zealand, and so on, have also started life education on life, humanity, love, and other related topics and have gradually attracted the attention of Asian countries (Hawthorne

et al. 1995, Shaw et al. 2019). Life education was first carried out in Hong Kong and Taiwan, whereas life education in the mainland started relatively late, and there exists no unified view on the content of life education at present. Some experts believe that life education promotes the healthy growth of individuals, quality improvement, and harmonious development of body and mind, whereas some scholars believe that life education is an education that integrates body, morality, society, ethics, and creativity to encourage individuals to pursue the meaning and value of life (Gunes et al. 2020). Although no normative interpretation of the definition of life education exists, it is generally agreed that the purpose of all life education is to pursue the meaning of life, improve quality of individuals, face life setbacks, and encourage individuals to strive to achieve a better life. Although life education can help alleviate the degree of depression in elderly patients using a retrospective-narrative approach (Lee et al. 2018), its effect cannot be maintained for a long time.

In recent years, the mental health problems of college students have attracted wide attention from all walks of life. It has become a topic of common concern in the education and psychological circle how to effectively intervene in college students with depression, reduce the risk of self-injury and suicide, help them out of psychological difficulties and realize the value of their life. It can give full play to group role of group psychological counseling using group psychological counseling to carry out life education, help individuals establish correct life values, and respect and cherish life to obtain a good and lasting effect of life education. This study plans to implement group psychological counseling for college students with depression from the perspective of life education, explore and discuss its implementation effect through randomized controlled research, and then provide a reference for the rehabilitation intervention of college students with depression.

SUBJECTS AND METHODS

Sample

In this study, 1682 college students from three departments in Qingdao University received Self-Rating Depression Scale (SDS) for depression screening in March 2018. The total score of $SDS \geq 50$ was regarded as the positive standard for depression. All patients with an SDS score of 50 or more were arranged for face-to-face communication with psychiatrists who will diagnose them based on the "Chinese Classification and Diagnostic Criteria of Mental Disorders" (CCMD). After obtaining informed consent from the students, 84 college students with depression were finally selected as subjects of this study via a random number table and were divided into two groups ($n=42$ in each group). The experimental group had 15 boys and 27 girls aged 18 to

22 with an average age of 20.41 ± 1.84 , the total scores of SDS were 53-64, with an average score of 58.75 ± 6.29 . The control group had 18 boys and 24 girls aged 18 to 24 with an average age of 21.07 ± 1.39 , the total scores of SDS were 54-65, with average score of 57.63 ± 5.47 . No significant differences exist in gender composition ratio, age, and total score of SDS between the two groups at $P > 0.05$. This study was approved by the Ethics Committee of the School of International Education, Qingdao University.

Methods

The college students in these two groups received antidepressant drug treatment after being diagnosed with depression by clinical psychiatrists. During the experiment, the control group only received drug treatment, including oral sertraline (Shanghai New Asia Pharmaceutical Minhang Co., LTD., NMPN: H20050834) 45 mg once a day for 6 weeks, must closely monitor the presence of adverse drug reactions, must stop taking the medicine immediately if obvious adverse reactions occur, and then continue taking the medicine after symptoms are relieved. The control group received the same group psychological counseling intervention as the intervention group one month after the end of the experiment. The intervention group received group counseling intervention while receiving drug treatment (usage and dosage were the same as the control group). At 7:00 PM every Saturday, they received group psychological counseling in the mental health group counseling room of the school. Each psychological counseling was performed by one professional psychologist and assisted by two assistants, once a week, 1.5 hours each time, and college students were asked to write down their feelings about the activity six times. Based on existing studies, the group psychological counseling program was formulated and revised repeatedly by members of the research group. The group psychological counseling program has been evaluated and reviewed by authoritative psychological experts, which has good scientific nature and maneuverability. The specific contents were as follows:

- *Initial Stage (Week 1)*: Activity themes were “Miracle of Life”, including “Self-introduction”, “Pat on their back each other”, “Evolution of eggs” and “Miracle of life growth”. 42 college students with depression were divided into four groups (10 to 12 people in each group) and carried out group activities. The purpose of the activities was to enable them to know each other, experience the birth process of life, experience the greatness of life, and promote understanding of life.
- *Transition Stage (Week 2)*: Activity themes were “You are unique”, including “Lotus blossom”, “Ten me”, “Starts and gray dots”, “I’m unique” and “I want to say to you”. The purpose of the activities was to enable college students with depression to recognize their uniqueness, help others to accept

their uniqueness, and promote the degree to which they can accept themselves and others.

- *Normative Stage (Week 3)*: Activity themes were “Life is so wonderful”, including “Bowling good balls”, “Work together”, “Create good”, “Do your best” and “I believe”. The purpose of the activities was to enable college students with depression to experience all kinds of beautiful moments in life, feel the warmth of human nature and the power of love, inspire their sense of responsibility and love of life, and deeply feel the meaning of life.
- *Work Stage (Week 4 and 5)*: Activity themes were “The wind and rain of life” and “The meaning of my Life”, including “Sending books and uncle”, “Untie the bracelet”, “Card of fate”, “Journey of life”, “Life canvas”, “Soul map”, “My harvest” and other activities. The purpose of activities was to enable college students with depression to feel frustrations in life, experience fragility and precious life, understand the meaning of frustration in life, and realize the value and meaning of life.
- *Ending Stage (Week 6)*: Theme of activities was “Love my life”, including “Blowing the wind”, “Leaving my favorite”, “Where will you go”, “Thank you” and “Love life.” The purpose of the activities was to arouse the feeling of gratitude among college students with depression, enable them to obtain positive emotional experiences, and encourage them to realize the meaning of life.

Measuring Tools

The SDS compiled by Zung et al. (1972) is one of the scales recommended by the United States Department of Education and Health for psycho-pharmacological studies. The scale comprises 20 items in four dimensions of psychotic affective symptoms, somatic disorders, psychomotor disorders, and psychological disorders of depression. A four-level scoring method was adopted. Each item was scored from 1 to 4 for “none,” “sometimes,” “often,” and “continuous,” of which 10 items are reverse scoring. The sum of scores is the raw score. The raw score multiplied by 1.25 and the round figure is index score, with index scores of $SDS \geq 50$ indicate the depression, the higher the score is, the worse the degree of depression is. In this study, Cronbach’s α was 0.899, and the Kaiser-Meyer-Olkin value was 0.888, indicating good reliability and validity.

The Meaning in Life Questionnaire (MLQ) comprises 20 items (Wang et al. 2016), divided into 4 dimensions, including quality of life, life goal, value of life and life autonomy. Each item was rated on Likert-type scale with scores ranging from 0 to 7. Total scores of >112 indicate a clear life goal and meaning, total scores of 92–112 indicate uncertainty about life goal and meaning, and total scores of < 92 indicate lack of sense of life meaning. The Chinese version of the scale has good reliability and validity in college students.

The Quality System Audit (QSA) compiled by Xiao et al. (1999) comprised 29 items and was divided into 4 dimensions, including the cognition of the nature of suicidal behavior, attitude toward suicide, attitude toward family members, and attitude toward euthanasia. Each item was scored from 1 to 5 (“totally agree”, “somewhat agree”, “neutral”, “somewhat disagree”, “totally disagree”), of which 13 items were scored in reverse order. The higher the score, the lower the suicide risk. The reliability and validity of the questionnaire were good.

Statistical Analysis

The data were analyzed and processed using SPSS 20.0. The enumeration data (%) were evaluated by conducting a χ^2 -test. The measurement data ($\bar{x} \pm s$) were evaluated by analyzing variance (ANOVA). $P < 0.05$ indicates statistical significance.

RESULTS

SDS Scores

The two groups did not show any statistically significant differences in their standard scores of the pre-test SDS ($P > 0.05$). However, the standard scores of the post-test SDS of both groups decreased significantly ($P < 0.05$), and the standard scores of the trace test SDS of the two groups were close to the post-test scores ($P > 0.05$). The standard scores of the post-test and trace test SDS of the intervention group were significantly lower than those of the control group at $P < 0.05$. Results are shown in Table 1.

MLQ Scores

The total scores of the pre-test MLQ of both groups were highly similar ($P > 0.05$). Compared with the pre-

test scores, the total scores of the post-test MLQ of both groups significantly increased ($P < 0.05$). Compared with the post-test scores, the total scores of the trace test MLQ of both groups significantly decreased ($P < 0.05$). The total scores of the post-test and trace test MLQ of the intervention group were significantly higher than those of the control group ($P < 0.05$). Results are shown in Table 2.

QSA Scores

The two groups did not show any statistically significant differences in their total pre-test QSA scores for each dimension ($P > 0.05$). Compared with the pre-test value, the scores of the post-test QSA of the two groups for each dimension increased significantly ($F = 4.32, 3.76, 6.02, 3.00, 8.02, 4.14, 6.72, 3.78, P < 0.05$). The scores of the trace test QSA of the two groups for each dimension decreased significantly compared with the scores of the post-test QSA, but the difference was not significant ($F = 1.01, 0.25, 0.66, 0.72, 1.117, 0.35, 0.14, 0.36, P > 0.05$). The scores of the post-test and the trace test QSA of the intervention group (cognition of suicidal behavior, attitude toward family members of suicidal people, attitude toward suicide, and attitude toward euthanasia) were significantly higher than those of the control group ($P < 0.05$). Results are shown in Table 3.

Occurrence of NSSI

During the follow-up visit, there was one college student in the intervention group who had NSSI, with an incidence of 2.38%, and five college students in the control group had NSSI (of which one student had twice NSSI), with an incidence of 11.9%. The total incidence of NSSI in the intervention group was significantly lower than that of the control group ($\chi^2 = 6.83, P = 0.01$).

Table 1. Standard scores of the two groups before and after the intervention ($\bar{x} \pm s$, scores)

Groups	No.	Pre-test	Post-test	Trace test
Intervention group	42	58.75±6.29	50.33±4.52	51.36±4.33
Control group	42	57.63±5.47	55.21±3.28	55.82±3.69
	F_{time}	1.14	0.24	0.14
	P	0.09	1.02	1.10
	$F_{inter-group}$	0.62	14.62	10.87
	P	0.24	0.00	0.00
	F_{cross}	3.05	4.84	6.01
	P	0.01	0.01	0.00

Table 2. Total MLQ scores of the two groups before and after the intervention ($\bar{x} \pm s$, scores)

Groups	No.	Pre-test	Post-test	Trace test
Intervention group	42	105.17±4.72	113.64±6.37	109.25±4.33
Control group	42	106.14±3.69	108.73±5.49	106.81±4.01
	F_{time}	0.10	7.95	8.14
	P	0.34	0.00	0.00
	$F_{inter-group}$	0.52	13.96	9.96
	P	0.67	0.00	0.00
	F_{cross}	1.62	9.30	7.25
	P	0.06	0.00	0.00

Table 3. QSA scores of the two groups before and after the intervention ($\bar{x} \pm s$, scores)

Dimension	Groups	Pre-test	Post-test	Trace test
Cognition of suicidal behavior	Intervention group	1.17±0.51	4.16±0.33	4.07±0.74
	Control group	1.20±0.74	1.97±0.75	1.82±0.57
	<i>F_{time}</i>	0.71	2.62	7.36
	<i>P</i>	0.15	0.03	0.00
	<i>F_{inter-group}</i>	0.31	10.97	8.74
	<i>P</i>	0.76	0.00	0.00
	<i>F_{cross}</i>	0.69	2.45	6.58
	<i>P</i>	0.15	0.04	0.00
Attitude toward family members of suicide	Intervention group	1.02±0.45	4.12±0.74	3.98±0.69
	Control group	1.06±0.43	2.31±1.06	2.21±0.72
	<i>F_{time}</i>	0.36	3.11	6.81
	<i>P</i>	0.07	0.01	0.00
	<i>F_{inter-group}</i>	0.17	18.22	13.01
	<i>P</i>	0.87	0.00	0.00
	<i>F_{cross}</i>	0.24	6.02	7.00
	<i>P</i>	0.12	0.00	0.00
Attitude toward suicide	Intervention group	1.25±0.56	4.26±1.14	4.16±1.25
	Control group	1.20±0.49	3.30±0.87	3.22±0.79
	<i>F_{time}</i>	0.62	3.62	4.95
	<i>P</i>	0.10	0.02	0.01
	<i>F_{inter-group}</i>	1.02	6.84	5.32
	<i>P</i>	0.32	0.00	0.01
	<i>F_{cross}</i>	0.57	6.95	7.96
	<i>P</i>	0.14	0.00	0.00
Attitude toward euthanasia	Intervention group	1.25±0.43	3.38±0.73	3.21±0.67
	Control group	1.22±0.50	2.15±0.69	2.07±0.55
	<i>F_{time}</i>	0.34	5.02	5.74
	<i>P</i>	0.35	0.00	0.00
	<i>F_{inter-group}</i>	0.79	9.25	8.14
	<i>P</i>	0.43	0.00	0.00
	<i>F_{cross}</i>	1.16	9.25	8.01
	<i>P</i>	0.07	0.00	0.00

DISCUSSION

The main clinical manifestations of patients with depression were mental retardation, low mood, decline of will, and so on, and patients with severe depression may have also had reduced cognitive function and loss of social function. Given the decline of will and negative attitude toward life, patients with such mental disorders easily acquire self-injury and suicidal thoughts, and even behaviors, thus leading to serious adverse effects on themselves, family, and even society. Therefore, early detection of depression and timely adoption of effective treatment and intervention measures are crucial in reducing NSSI behaviors of patients.

Tables 1 and 2 show that the SDS scores of the intervention group (immediately after the intervention and one month after the intervention) were lower than those of the control group, and the total MLQ scores were higher than those of the control group. This result

agrees with the findings of the relevant study (Yang et al. 2015), which conducted group counseling with the theme of life education for 120 college students. This study reveals that scores of life meaning experience, self-esteem, and psychological capital of the experimental group after the intervention significantly increased, and scores of depression significantly decreased. Such difference was statistically significant compared with the control group. This study believes that group guidance with the theme of life education significantly affects improving the sense of life meaning of college students. Moreover, psychological counseling of life education can reduce depression symptoms and improve sense of life meaning for patients. With the end of the group intervention, the intervention effect decreased to some extent, but it still had a certain persistence. This may be because psychologists emphasized the cognitive level of self-perception in group psychological counseling. Moreover,

given the influence of the group's atmosphere and the group's discussion regarding life attitude, life goal, life value, life meaning, and life value, patients' perceptions have changed significantly after the intervention and have increased their sense of life meaning. Life education has a close relationship with positive psychology, group psychological counseling created a sincere, friendly, and relaxed atmosphere by gathering patients through emotional experience. Consequently, individuals will experience being understood and accepted in such an atmosphere, be open to relaxing their psychological defense mechanism, become more communicative, gain support from others, and obtain positive emotional experiences, thereby gradually improving their depressed mood.

Results in Table 3 show that the QSA scores of the two groups are lower for each dimension (cognition of suicidal behavior, attitude toward family members of suicide, attitude toward suicide, and attitude toward euthanasia) before the intervention, indicating that college students with depression had a higher risk of suicide, which is consistent with the findings of Parker et al. (2019). The rates of suicidal thoughts, suicidal planning, and self-injury of patients with depression or bipolar disorder were significantly higher than those of people without depression, and the rates of suicidal thoughts, suicidal plans, and self-injury of women were generally higher. Suicide, self-harm, and other self-injury behaviors have always been significant public health issues. Relevant studies pointed out that suicide is the second cause of death among college students, and most college students with suicide behaviors suffer from depression (Zhang et al. 2020). Results in Table 3 present that the QSA scores of the intervention group after the intervention for each dimension increased significantly. Meanwhile, the QSA scores of the intervention group were significantly higher than those of the control group, and the total incidence of self-injury behavior in the intervention group was significantly lower than that of the control group. These results indicate that group psychological counseling intervention based on life education can reduce the suicidal tendency of college students with depression and control their NSSI behaviors. The reason is mainly that life education can change a patient's attitude toward life by perceiving the magic and beauty of life so that they can have passion for life, and then cherish and love life more, thus eliminating suicidal thoughts and self-harm ideas.

CONCLUSION

Group psychological counseling intervention for college students with depression can alleviate their depressive symptoms, improve their sense of life meaning, reduce the risk of suicide, and control their NSSI behaviors. Ultimately, it has a positive intervention effect on college students with depression, which is worthy of promotion and application.

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Contribution of individual authors:

Yudong Zhang: conception and design, analysis.

Kun Huang: planning and designing data collection.

Hongqun Cong: draft preparation, and approval of the final version.

Mengmeng Wang: material preparation, statistical analysis.

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