



The effectiveness of cognitive therapy and family psycho-education on prodromal psychosis and self-esteem of adolescents in orphanages[☆]



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Received 13 November 2018; accepted 17 April 2019

Available online 25 June 2019

KEYWORDS

Cognitive-therapy;
Family
psycho-education;
Prodromal psychosis;
Self-esteem

Abstract

Objective: This study aimed to determine the effect of cognitive therapy and family psycho-education on prodromal psychosis and self-esteem of adolescents in the orphanages.

Method: A quasi experimental pre–post test with a control group design was used in this study. The participants were 77 adolescents selected through purposive sampling method. Data were analyzed using ANOVA test with repeated measures and *t*-test.

Results: The use of cognitive therapy and family psycho-education alleviated the symptoms of prodromal psychosis approaching the prodromal score level limit and increased self-esteem significantly $p = 0.00$ ($p < 0.05$).

Conclusions: Cognitive therapy and family psycho-education are recommended for adolescents living in orphanages who experience prodromal psychosis with low self-esteem.

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Introduction

The adolescents undergo biological, psychological and social changes that require them to make adaptations.¹ They

encounter many challenges and conflicts, look for self-identity, and tend to fantasize about excessive power.¹ The various demands of the adolescents may result in poor adaptation, i.e. unstable emotion, stress, depression, and feeling of helplessness.¹

Adolescents who are unable to cope with the stressors may encounter difficulties in their daily functioning. This phenomenon is known as prodromal psychosis, marked by symptoms such as decreased concentration and attention, depressed mood, sleep disturbance, anxiety, social withdrawal, suspiciousness, and irritability.²

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[☆] Peer-review under responsibility of the scientific committee of the Second International Nursing Scholar Congress (INSC 2018) of Faculty of Nursing, Universitas Indonesia. Full-text and the content of it is under responsibility of authors of the article.

Data from World Health Organization (WHO) states that the increasing incidence of mental health disorders around the world has become a severe problem in various countries. It is estimated that 10% of the world's population is at risk of mental disorders and 25% are at risk of mental disorders at particular times in their life.³ The American Psychiatric Association (APA) reported that 100,000 adolescents and young adults the United States experience first-episode psychosis (FEP) every year.⁴ It can be implied that the risk of developing mental disorders is very high. Thus, early diagnosis and treatment are necessary to manage the symptoms before they become aggravated. The findings of the Indonesian Basic Health Research (2013) showed the prevalence of mental and emotional disorders in adolescents and young adults aged 15–24 years was 5.6%.⁵ Yet, no data are available on the prevalence of prodromal psychosis in adolescents in Indonesia and in the world. Most patients who visit health services have experienced psychosis and schizophrenia.

The early stage of prodromal psychosis is still difficult to overcome due to the lack of public knowledge about the early detection of the syndromes. But, the symptoms often emerge as being atypical. The prodromal psychosis may progress to early psychosis phases, by the onset of psychotic symptoms. The onset of this phase often occurs in adolescents and young adults aged 15–25.⁶ It is necessary to detect the symptoms of prodromal psychosis early in this age group. However, none of the studies on prodromal psychosis in adolescents involved screening phase. The main symptom observed in the phase of prodromal psychosis in adolescents is low self-esteem.⁷ Research shows that children and adolescents in orphanages are at a greater risk of having low self-esteem than those who live with their parents.

The double risk of prodromal psychosis among the adolescent living in the orphanages was the main backdrop of our study. This study was conducted as a follow-up to the results of four days workshop in Jakarta Indonesia. The workshop set up a collaborative group of academic nurses and researchers from Indonesia and the United Kingdom to produce some competitive grant bids to evaluate aspects of early psychosis care.⁸

Psychotherapy, especially cognitive therapy, can be administered to patients who are at risk of psychosis.⁹ Cognitive therapy can help reduce the severity of the symptoms in adolescents who are at risk of psychosis⁹ and those with prodromal psychosis even in the absence of symptoms of psychosis. Besides the individual therapy, provision of therapy to the family (caregiver) is of paramount importance. Nursing treatment in the early stage of the disease focusing on increasing the family's awareness of the patient's illness can improve dysfunctional family interactions.¹⁰ One type of family therapy is family psycho-education that aims to address the problems arising from caring for sick family members. This therapy deals with stress management and ways to overcome the burdens that arise because of a sick family member and to utilize the facilities in the community to help the patients and their families.

Method

This research was a quantitative research using a quasi experimental pre–post test design with a control group. The

control group received the standard nursing treatment while the intervention group received a cognitive therapy and a family psycho-education to their caregivers in orphanage, in addition to standard nursing treatment.

Measurements were recorded three times: before intervention (pre-test), after the standard nursing treatment (post-test 1), and after cognitive therapy and family psycho-education (post-test 2). First, all of adolescents with prodromal psychosis measured their self-esteem (pre-test). Second, in the first stage of intervention, all participants were given the standard nursing treatment to observe the scores for prodromal psychosis and the level of adolescent self-esteem (post-test 1). Third, in the second stage of intervention, the participants in the intervention group were given additional cognitive therapy and family psycho-education for their caregivers. Then, the changes in the scores for prodromal psychosis and the level of self-esteem were measured in post-test 2.

The first step was the provision of health education about prodromal psychosis and low self-esteem to adolescents. The steps of standard nursing treatment for low self-esteem consisted of identification of abilities and positive aspects of the adolescents, helping the adolescents assess abilities that can be used, discussing the abilities that can still be used that time, helping the adolescents choose and determine abilities that will be trained and finally, training the abilities which they selected.¹¹

The cognitive therapy was carried out in 3 sessions. In session 1, the participants identified their unpleasant experiences and their automatic negative thoughts then got trained on how to manage those automatic negative thoughts. In session 2, they were trained to use the rational responses to counteract the second negative thoughts. Lastly, session 3 was dedicated to cope with the third negative thoughts and ended with an evaluation of the benefits of the cognitive therapy.

On the other hand, the family psycho-education therapy consisted of 6 sessions, 30–45 min each. These six sessions were: (1) problem assessment, (2) caring for a teenager, (3) stress management of the family (caregiver), (4) family load management, (5) community empowerment, and (6) evaluation of the family psycho-education benefits.¹²

Prodromal psychosis assessment was carried out by using a 16-item version of the Prodromal Questionnaire-16 (PQ-16). A PQ-16 score ≥ 6 fell into a prodromal psychosis category by Loewy. Meanwhile, the participants' self-esteem was measured by using the Rosenberg Self Esteem Scale instrument. This scale has been tested for validity with $p < 0.05$ in all question items and reliability with Cronbach's alpha coefficient value of 0.893 (>0.361).

The population was adolescents living in the orphanages of Baubau city in Southeast Sulawesi province, Indonesia. The sample consisted of adolescents who had prodromal psychosis as identified in the screening. Of 125 adolescents from 4 orphanages who were screened, we obtained 78 participants. We assigned 39 of them in the control group and the other 39 in the intervention group with 11 caregivers. Family psycho-education in this study was conducted on the caregivers in orphanages who interacted with the adolescents everyday. During the study, 1 participant of intervention group fell ill and could not receive the therapy, so the total number of participants was 77.

Table 1 Effect of the standard nursing treatment on the scores of prodromal psychosis and self-esteem of the adolescents in the orphanages in both groups ($n = 77$).

Variable	Mean pre-test	Mean post-test 1	Mean diff	SD	p
Prodromal psychosis	9.16	7.13	-2.03	1.86	0.00
Self-esteem	13.79	19.13	5.34	4.14	0.00

Table 2 Effect of standard nursing treatment on the scores of prodromal psychosis and adolescent self-esteem in the control group ($n = 39$).

Variable	Nursing standard treatment					p
	Mean	Mean Diff	SD	95% CI		
				Min	Max	
<i>Prodromal psychosis</i>						
Pre	8.85	-2.34	2.379	8.07	9.62	0.00
Post 1	6.77		1.912	6.15	7.39	
Post 2	6.51		1.890	5.90	7.12	
<i>Self-esteem</i>						
Pre	13.72	7.27	4.401	12.29	15.14	0.00
Post 1	19.05		3.471	17.93	20.18	
Post 2	20.54		3.486	19.41	21.67	

The study was conducted in March–June 2017. The research location was selected because it was far from the mental health service and yet was accessible for the researchers.

We maintained the ethical principles, including the right to self-determination, respect to anonymity and confidentiality, right to fair treatment, and balance harm and benefits. We obtained ethical approval from the Ethics Committee of the Faculty of Nursing, Universitas Indonesia.

Results

The adolescents who experienced prodromal psychosis in this study had the mean age of 14 years old and mean length of stay in orphanage of 3 years. The other demography characteristics were: having history of physical disease (40.26%), experiencing a history of unpleasant impression (74.03%), non-achievement (36.36%), male sex (57.14%), experience of remedial class/late entry to school/dropout (32.47%), and family status of single parent or divorced parents (51.95%). However, adolescents who had complete parents had poor economic conditions and tended to wander around. Therefore, it could be implied that almost all of the participants had low family functions. Some of these characteristics are the etiological factors for prodromal psychosis and low self-esteem.

Table 1 shows that the average score of prodromal psychosis of the participants in pre-test was 9.16 (maximum score = 16) which implied that it was more than half of total prodromal psychosis symptoms. The average score of adolescent self-esteem who experienced a prodromal psychosis was as much as 13.79 (45.97%). It showed that less than half of the total self-esteem could be achieved.

Furthermore, as summarized in Table 1, the average score for prodromal psychosis decreased significantly from 9.16 to 7.13 reaching the limit score of prodromal psychosis symptoms after the intervention (post-test 1) with $p < 0.05$ ($p = 0.00$). The adolescents' self-esteem increased significantly from 13.79 (45.97%) to 19.13 (63.77%). Thus, the participants' self-esteem increased by 17.8% after the intervention (post-test 1), at $p < 0.05$ ($p = 0.00$). However, 36.23% of the adolescents had not yet reached the maximum self-esteem score.

Table 2 shows that, after standard nursing treatment (post-test 1) and continued self-training (post-test 2), the mean score of prodromal psychosis of adolescents in the orphanages had a significant decrease from 8.85 to 6.51, reaching the limit score of prodromal psychosis symptoms. In post-test 1 and 2, the mean score of the participants' self-esteem also increased significantly by 22.73% from 13.72 (45.73%) to 20.54 (68.47%). Of note, 31.53% the adolescents had not yet reached the maximum self-esteem score. The results show a significant change in the scores for prodromal psychosis and self-esteem of the adolescents in orphanages in the control group, at $p < 0.05$ ($p = 0.00$).

Table 3 shows that the mean score of prodromal psychosis of the participants decreased significantly from 9.47 to 6.32 after receiving standard nursing treatment plus cognitive therapy, and family psycho-education (post-test 2). This indicates that the severity of the prodromal psychosis of the adolescents was reduced to the lowest score level of prodromal psychosis. Meanwhile, the mean self-esteem score of the adolescents who experienced prodromal psychosis increased from 13.87 (46.23%) to 22.39 (74.63%) after receiving standard nursing treatment which was followed with a cognitive therapy and family psycho-education. In other words, the self-esteem of adolescents who

Table 3 Effect of nursing standard treatment, cognitive therapy, and family psycho-education on the scores of prodromal psychosis and adolescent self-esteem in the orphanages of the intervention group ($n = 38$).

Variable	Nursing standard treatment, cognitive therapy and family psycho-education					<i>p</i>
	Mean	Mean Diff	SD	95% CI		
				Min	Max	
<i>Prodromal psychosis</i>						
Pre	9.47	-3.15	2.21	8.75	10.20	0.00
Post 1	7.50		2.32	6.74	8.26	
Post 2	6.32		2.27	5.57	7.06	
<i>Self-esteem</i>						
Pre	13.87	8.52	4.60	12.36	15.38	0.00
Post 1	19.21		4.51	17.73	20.69	
Post 2	22.39		3.03	21.40	22.39	

experienced prodromal psychosis increased by 28.40%. The results of the analysis shows a significant change in the scores of prodromal psychosis and self-esteem of the participants before and after receiving nursing standard treatment, cognitive therapy, and family psycho-education in the case group, at $p < 0.05$.

Furthermore, the mean score of prodromal psychosis of the adolescents in intervention group was lower than those in control group, but the difference was not significant ($p = 0.680$) (Table 4). Whereas, the mean score of self-esteem of the participants in the intervention group was higher and of significant different with the participants in the control group ($p = 0.015$).

Discussion

A major finding of this study is regarding the impact of prodromal psychosis in the short-term period, i.e., low self-esteem. Prodromal psychosis starts with a variety of unpleasant problems experienced by the adolescents. It then results in the emergence of negative thoughts on the problems in their life, which can be mild to very severe, as they come from different life backgrounds to the orphanages. Moreover, the adolescents who experience prodromal psychosis are more prone to depression and stress. The condition of prodromal psychosis combined with the problem of low self-esteem can put these adolescents at a high risk of emotional and behavioral disorders.¹³ Some of the adverse impacts of prodromal psychosis in adolescents are self-harm and suicidal behavior, violence, and disruption of role functions, among others.⁹ In this study, we found that one of our participants with prodromal psychosis wanted to hurt herself.

The symptoms of prodromal psychosis in the adolescents decreased significantly after they received nursing standard treatment (mean score dropped from 57.25% to 44.56%). With regard to self-esteem, our participants' mean score was 45.97%, a figure that indicates lower self-esteem. A prior study also showed the significant difference of the self-esteem of orphans and of children who live with their parents,¹⁴ with the orphans having significantly lower self-esteem. These findings highlight the emotional state

and the personal development of children who live in orphanages.¹⁴ After receiving the standard nursing treatment, the adolescents who experienced prodromal psychosis in the orphanages showed a significant increase in their self-esteem from 45.97% to 68.47%. This finding is in line with the findings of another study that standard nursing treatment provided by a mental health nurse specialist was able to increase self-esteem of patients experiencing kidney failure.¹⁵

The score for prodromal psychosis among adolescents in the orphanages decreased significantly from 9.47 (59.19%) to 6.32 (39.50), i.e., a mean reduction of 19.69%, after the additional cognitive therapy and family psycho-education were administered. We found that our participants reported the decreasing symptoms of: feeling of being disliked by others, loss of interest in things that used to be enjoyed, confuse between reality and imagination, and feelings of anxiety when meeting people for the first time. It is important to note, however, that prodromal psychosis symptoms may be alleviated with the current treatment modality, but further treatment is needed to address the unresolved symptoms.

The findings of this study are consistent with the previous study findings that the cognitive therapy can reduce the severity of symptoms of adolescents who are at risk of psychosis.⁹ This means cognitive therapy is appropriate for adolescents in the prodromal phase of psychosis that show no signs and symptoms of psychosis. Furthermore, providing therapy to the family (caregiver) plays an important role to support and care for the adolescents having prodromal psychosis. A research suggested that nursing care in the early-stage of the disease should focus on the family's awareness about the patient's illness, to improve family interactions which could become dysfunctional if not addressed in time.¹⁰ Family treatment can help families overcome dysfunctional interactions; it can also help reduce the economic and emotional burden of the families.¹⁶ In this study, family therapy was provided with family psycho-education to help the families manage the emerging problems when caring for the adolescents from orphanages; to provide stress management techniques; to help reduce the burden of the families (caregiver) that adopt children with prodromal psychosis and

Table 4 Differences in the scores of prodromal psychosis and self-esteem of adolescents in the orphanages between intervention group and control group ($n = 77$).

Variable	Group	n	Mean	SD	SE Mean	Mean diff	95% CI		p
							Min	Max	
Prodromal psychosis	Control	39	6.51	1.89	0.30	-0.197	-0.750	1.14	0.680
	Intervention	38	6.32	2.27	0.37		-0.753	1.15	
Self-esteem	Control	39	20.54	3.49	0.56	-1.856	-3.34	-0.37	0.015
	Intervention	38	22.39	3.03	0.49		-3.34	-0.38	

low self-esteem; and to encourage the families to utilize the facilities in the community to help the adolescents and themselves.

After receiving standard nursing standard treatment, cognitive therapy and family psycho-education, the self-esteem score of the adolescents in the orphanages increased significantly from 46.23% to 74.63%. Thus, it can be concluded that the provision of cognitive therapy and family psycho-education increases the self-esteem of adolescents who experience prodromal psychosis. A prior study measured the self-esteem of adolescents in special counseling institutions for children at risk of low self-esteem.¹⁷ The results showed that nursing standard treatment, cognitive therapy, and family psycho-education (case group) had a greater effect in increasing the adolescents' self-esteem compared than standard nursing treatment only (control group).¹⁷ According to the another study about those therapies, standard nursing treatment can increase the self-esteem while the addition of cognitive therapy and family psycho-education treatment can result in a greater improvement.¹⁵

A study on family psycho-education found that family psycho-education therapy can improve the family's ability to care for the patients with low self-esteem.¹⁸ Therefore, cognitive therapy should be combined with family psycho-education therapy especially for patients who require direct monitoring by their parents or caregivers.

Cognitive therapy can be administered to adolescents who experience low self-esteem. The adolescents in our intervention group had, in average, two negative thoughts that led to cognitive distortion. Cognitive therapy is a form of psychotherapy based on the concept of the pathology of the soul, and focuses on modifying cognitive distortion and maladaptive behavior.¹⁹ Cognitive therapy can help the patients identify and correct their maladaptive thoughts, understand automatic thoughts, and alter self-behavior dominated by impulsive emotions.²⁰ Thus, cognitive therapy can be applied to manage the low self-esteem symptoms in adolescents experiencing prodromal psychosis; however, it needs to be combined with other therapies to address additional symptoms.

The diverse family backgrounds of the adolescents in orphanages pose a challenge to therapists and caregivers when working to maintain the self-esteem of the adolescents. Unpleasant past experiences and family conditions cannot be changed. The adolescents can maintain and increase their self-esteem through having cognitive therapy to overcome the negative thoughts in their daily life

and to think positively when assessing themselves and their environment.

The impact of the standard nursing treatment with cognitive therapy and family psycho-education is evident from the changes in the mean scores between control group and case group. Both groups showed a decrease in the severity of symptoms; however, the change was slightly higher in the group that received cognitive therapy and family psycho-education. Further treatment involving various therapies and meetings is needed to manage the symptoms of prodromal psychosis.

The increase in the self-esteem of the adolescents in the orphanages was significantly higher in our intervention group (28.4%), than in the control group (24.23%). This finding indicates that the standard nursing treatment with cognitive therapy and family psycho-education is more effective than standard nursing treatment alone for the adolescents experiencing prodromal psychosis. Our finding confirms a prior study finding conducted at the Institute of Special Child Development which used the same instrument.¹⁷

Our study has some limitations including the limitation in the caregiver inclusion. We only had 11 caregivers from the orphanages so there was less supervision for the adolescents. In addition, we used a purposive sampling method with the intervention group recording a higher mean score of prodromal psychosis than the control group. This could influence the results of the study. Another limitation was that the PQ-16 instrument that had been translated into Indonesian language did not undergo a backward translation.

Conflict of interests

The authors declare no conflict of interest.

Acknowledgement

This work is supported by Hibah PITTA 2017 funded by DRPM Universitas Indonesia No. 370/UN2.R3.1/HKP.05.00/2017.

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