



**OBJN**  
Online Brazilian Journal of Nursing

**ENGLISH**

Federal Fluminense University

AURORA DE AFONSO COSTA  
NURSING SCHOOL



## Standard nursing treatment on adolescents with early prodromal psychosis: a quasi-experimental study

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### ABSTRACT

**Aim:** to determine the effect of standard nursing treatment on anxiety and self-esteem among adolescents living in orphanages with early prodromal psychosis. **Method:** this is a quasi-experimental pre and post-test, without a control group, that was conducted with 77 adolescents, selected by the intentional sampling technique. Data were analyzed using the t-test. **Result:** after the standard nursing treatment was received, the adolescents showed a significant decrease in the symptoms of early prodromal psychosis (from 9.16 to 7.13) and an anxiety score (from 17.03 to 13.70) and a significant increase in self esteem (from 45.97% to 63.77%) with p-value <0.05. **Conclusion:** the standard nursing treatment is recommended for adolescents with early prodromal psychosis in the orphanage who have anxiety and low self-esteem.

**Descriptors:** Adolescent; Psychotic Disorders; Anxiety; Self Concept; Nursing Care.

## INTRODUCTION

Data from the American Psychiatric Association (APA) shows, that each year, 100,000 American teenagers and young adults experience the first-episode of psychosis (FEP)<sup>(1)</sup>, suggesting that the risk ratio of mental disorders is very high in the world. Thus, early prevention and treatment are necessary to overcome the worst conditions.

The prevalence of mental health disorders in Southeast Asia is lower than in other countries<sup>(2)</sup>. According to the results of the Indonesia Basic Health Research, carried out in 2013, the prevalence of emotional mental disorder in adolescence and young adulthood, aged 15-24 reaches 5.6% in national level. Based on the data obtained, it can be concluded that, in the world and in Indonesia, no data concerns the prevalence of early prodromal psychosis in adolescents. However, most clients who arrive at health services have experienced psychosis and schizophrenia.

Adolescents undergo biological, psychological and social changes that require them to adapt, as they encounter many challenges and conflicts, looking for self-identity, and enjoy fantasizing because they have excessive fantasy power<sup>(3)</sup>. The simultaneous existence of demands means that some adolescents fail to adapt well, especially unstable adolescents, easily stressed, depressed, helpless and experiencing emotional changes. Adolescents who are unable to adjust to stressors (stress causes) may find changes in functioning in their life, manifesting early prodromal psychosis symptoms such as sleep disorders, behavioral changes, poor affect, appetite impairment, unrealistic thoughts,

difficulty to understand conversations, as well as the changes in their appearance. The early stage of prodromal psychosis, however, is still quite difficult to treat due to the lack of public knowledge on the early detection and the existence of non-specific symptoms of the condition.

The stage of early prodromal psychosis may progress to early psychotic phases, marked by the onset of psychotic symptoms. The onset of this phase often occurs in adolescents and young adults, in this case, in the 15-25 year-old range. Therefore, early intervention is recommended at an early stage to prevent the progression of psychotic disorder. About this, studies found a correlation between anxiety and attenuated symptoms of psychosis in adolescents at high clinical risk<sup>(4)</sup> and low self-esteem<sup>(5)</sup>. These clinical criteria for attenuated psychosis can be used to identify adolescents who are at elevated risk of progression to a psychotic illness.

Research results show that children and adolescents at orphanage are at higher risk for low self-esteem compared to children and adolescents living with both parents<sup>(6)</sup>. This case shows the importance of early detection of the stage of early prodromal psychosis before the disease evolves into the psychotic phase. Many studies were carried out with adolescents; however, none of them underwent screening in the stage of early prodromal psychosis. Thus, it can be inferred that there is no research related to adolescents from orphanages that are in the phase of prodromal early psychosis in Indonesia. This research was carried out specifically in orphanages that have adolescents with different characteristics, with the aim to

determine the effect of the standard nursing treatment on the anxiety and self-esteem of adolescents from orphanages with early prodromal psychosis.

## METHODS

This is a quasi-experimental study using quantitative statistical methods, carried out from March to June 2017. The number of adolescents who have early prodromal psychosis in orphanages was investigated using the PQ-16 instrument (Prodromal Question-16), for which the inclusion criteria were applied. The PQ-16 includes 16 self-reported true/false items that screen for the risk of psychosis. Nine items assess perceptual abnormalities and hallucinations, five items assess unusual thought content, delusional ideas and paranoia, and two items assess negative symptoms. Respondents that endorse six symptom items or more are considered to be at risk for psychosis<sup>(7)</sup>.

Quantitative research followed the quasi-experimental pre and post-test without a control group, measuring the self-esteem of adolescents who experienced early prodromal psychosis, using Rosenberg Self-Esteem Scale (RSES) instrument<sup>(8)</sup>. The RSES had ten items with four-point Likert scale ranging from 0 (strongly disagree) to 3 (strongly agree). In this study, the total score for this scale ranged from 15 to 25, and a score less than 15 indicated a low self-esteem experience by the adolescents.

For anxiety measurement, the Hamilton Anxiety Rating Scale (HARS) is used<sup>(9)</sup>. The instrument consists of 14 items with the four-point likert scale ranging from 0 (not present) to 4 (severe). The total scale ranged from

0–56, where  $\leq 17$  indicates mild severity, 18–24 mild to moderate severity and 25–30 moderate to severe. It measures both psychic anxiety (mental agitation and psychological distress) and somatic anxiety (physical complaints related to anxiety).

In addition, the researcher provided the standard nursing treatment to the adolescents in order to observe the changes in early prodromal psychosis and the level of self-esteem and anxiety. Before and after the intervention, a comparison between the intervention and the control groups was carried out with the t-test analysis. All analyses were performed in SPSS13.0 (SPSS Inc., Chicago, IL, USA), with a 0.05 set as the required level of significance.

The survey was conducted from March to June 2017 and its population corresponded to the total number of 117 adolescents living in four orphanages in the Baubau city area, Sulawesi province, located in Southeast Indonesia. Intentional sampling was used for adolescents who met the inclusion criteria: age between 12 and 15 years; able to read and write; able to communicate verbally well; living with caregivers in orphanages and willing to participate in the study. The sample included adolescents with early prodromal psychosis, who met the inclusion criteria. The number of adolescents who were first screened was 82 individuals. Exclusion criteria were: adolescents with health problems, such as epilepsy or head injury, with levels of early prodromal psychosis with a score of  $PQ < 6$  (that is, adolescents with severe early prodromal psychosis were excluded). Of these, 4 adolescents were excluded; therefore, 78 adolescents participated in the study.

During the research, one participant got sick and could not follow the further therapy. Thus, the total number of participants was 77 adolescents (see Figure 1).

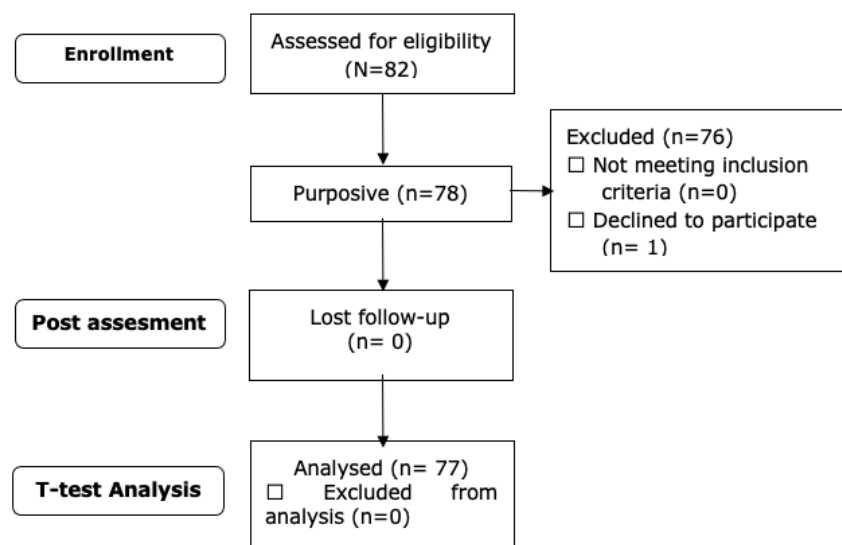
This study received the ethical approval from the Research Ethics Committee of the Nursing Faculty, University of Indonesia. The ethical requirements and the rights of the participants have been fulfilled since the preparation of the research up to the publication. There are four basic principles of this research: right to self-determination, respect for anonymity and confidentiality, right for fair treatment, and balancing harm and benefits.

## RESULTS

The screening was completed using the PQ-16 instrument. The number of adolescents with early prodromal psychosis was 77 of 117 adolescents (65.8%). It indicates that adolescents in the orphanage were at risk of suffering from psychosis. The adolescents who experienced early prodromal psychosis

at the orphanage had an average age of 13.69 years and length of stay in orphanage of 2.98 years. The majority of them were male (57.14%); had no history of physical disease (59.74%); had trauma in the past (74.03%); they have never had bad school achievement (63.64%); have no school problem (67.53%); and family status of divorced parents (19.48%) (Table 1). However, in general, adolescents living with both parents generally had an inadequate economic condition. Therefore, it can be understood that almost all of them have low family functions. Some of these characteristics are the etiological factors of early prodromal psychosis and low self-esteem.

Based on Table 2, the average early prodromal early psychosis score of the adolescents living orphanages before the standard nursing treatment was 9.16, that is, more than half of the total 16 symptoms of early prodromal psychosis. Meanwhile, the average adolescent anxiety score before the standard nursing treatment was 17.03, which means



**Figure 1.** Consort flow chart of nursing standard treatment for adolescents with prodromal early psychosis. Indonesia, 2017

that it was in mild severity. The average self-esteem score was 13.79 (45.97%), indicating low self-esteem.

**Table 1.** Distribution of characteristic of adolescents with early prodromal psychosis living in orphanages. Indonesia, 2017 (n=77).

Variables	M(SD)	P
Age (years old)	13.69(1.10)	0.38
Length of stay in orphanage (year)	2.98(1.58)	0.55
	N	%
Gender		
Male	44	57.14
Female	33	42.86
Ever had physical illness in the past		
Yes	31	40.26
No	46	59.74
Ever had trauma in the past		
Yes	57	74.03
No	20	25.97
Never bad school achievement		
Yes	49	63.64
No	28	36.36
Have school problem		
Yes	25	32.47
No	52	67.53
Status marriage of parents		
Divorce	15	19.48
Married	62	80.52

Based on Table 2, it is known that the average early prodromal psychosis decreased significantly from 9.16 to 7.13. It was inferred that the score approached the category of early prodromal psychosis after the standard nursing treatment, with a p-value<0.05.

**Table 2.** The effect of standard nursing treatment for early prodromal psychosis and self-esteem in orphanage adolescents. Indonesia, 2017(n=77)

Variable	Previous average	Posterior average	Average diff	SD	p value
Early prodroma psychosis	9.16	7.13	-2.03	1.86	0.00
Anxiety	17.03	13.70	-3.33	3.37	0.00
Self-esteem	13.79	19.13	5.34	4.14	0.00

The anxiety decreased from 17.03 to 13.70 (p<0.05), remaining in the mild severity after the standard nursing treatment. Meanwhile, adolescents' self-esteem change increased significantly from 13.79 (45.97%) to 19.13 (63.77%). In other words, self-esteem increased 17.8% after the standard nursing treatment (p<0.05). It means 36.23% of the adolescents did not present an indicative score of self-esteem. Nevertheless, 36.23% of self-esteem score had not been reached by the adolescents.

## DISCUSSION

Early prodromal psychosis was found at a rate of 65.6% in adolescents living in orphanages. It shows the early prodromal psychosis experienced by adolescents was developed by more than half of the total adolescents screened. It can be inferred that the rate was relatively high and needed to be overcome. Based on the result, a strong assumption is that if adolescents who experienced early prodromal psychosis are not cared for immediately, they will be impacted in the short or long term.

Stevens states that prior intervention should be made immediately in adolescents with prodromal symptoms<sup>(10)</sup>. Early intervention is needed to prevent the further impact, particularly if they evolve into the initial psychosis. The negative impacts that may occur in the

adolescents are suicidal behavior, violence, disruption of role functions, among others. An important implication based on this study is the short-term impact that can occur due to early prodromal psychosis, which is low self-esteem. It is started by a variety of unpleasant problems experienced by adolescents and results in the emergence of automatic negative thoughts about the problems of their lives before orphanage, ranging from very mild to very severe.

In addition, adolescents who experience early prodromal psychosis feel easily depressed and stressed. Adolescents with psychotic symptoms are likely to have other psychiatric conditions, such as major depression, bipolar disorder or dissociative states<sup>(10)</sup>. This situation, involving the problem of low self-esteem more dominant, experienced by adolescents in early prodromal psychosis, presents the risk of emotional and behavioral disorders. Another impact that may occur if the management of early prodromal psychosis is postponed is the development of self-mutilation behavior. Consistent with this study, the researcher found that psychotic-like experiences were associated with suicidal ideation among the adolescent psychiatric patients<sup>(11)</sup>.

The early prodromal psychosis in adolescents decreased after standard nursing treatment, a fact clearly demonstrated by the decrease in the average score of early prodromal psychosis from 57.25% to 44.56%.

Anxiety is one of the most common nursing diagnoses in adolescents with early prodromal psychosis<sup>(4)</sup>. Based on the results of the present study, the average anxiety score of adolescents who experienced early prodromal psychosis was in a mild severity before

the therapy. The results of this study do not cover the research that states that anxiety increases in adolescents at the clinical high risk (CHR) of developing psychosis compared with healthy control<sup>(12)</sup>. Regarding sociodemographic characteristics, the relationship between parents and family characteristics towards anxiety is obtained by the prevalence of major anxiety disorders in children and adolescents living in families with low levels of education, income, employment and family functions<sup>(13)</sup>.

The results of this study are not in agreement with previous research findings, since this fact can be caused by environmental factors, where the average length of stay in the orphanage is around 3 years. Thus, adolescents may have adapted to the environment with the psychosocial services provided to orphans, who reported current well-being; they claim; they are happy because it changes their lives and makes them stronger<sup>(14)</sup>.

Still on this issue, the researcher of this study found three participants who lived in the orphanage for less than a year (2 to 6 months), and whose anxiety levels were in the category of moderate to severe. It can be concluded that environmental factors, such as living in a place for a long time, greatly affect stress and can cause anxiety. The longer a person lives in one place, the lower their level of anxiety. In addition, the economic condition in the orphanage is quite stable. Thus, all the needs of adolescents can be fulfilled. Based on the situations, it can be concluded that adolescents' anxiety is in a mild severity that can be influenced by the environmental factors.

Based on this study, the anxiety experienced by the adolescents decreased significantly in the mild severity (from 17.03 to 13.70). It means anxiety remained in the minor category after the standard nursing treatment in the adolescents who experienced early prodromal psychosis in orphanages. It can be inferred that standard nursing treatment can overcome anxiety symptoms. The results of this study are also in accordance with the research conducted by Hidayat<sup>(15)</sup>. She proposed that relaxation of breathing is effectively able to reduce anxiety. Other studies about five-finger hypnotic therapy have proved to decrease anxiety in hypertensive clients<sup>(16)</sup> and in students who are preparing a thesis<sup>(17)</sup>. In addition, other research has also demonstrated that the standard nursing treatment overcomes anxiety in clients with physical illness and improve the ability of their families<sup>(18)</sup>. This treatment, which can be performed by nurses for overcoming anxiety, aims to discuss their causes, occurrences, signs and symptoms and discuss the results of anxiety, trained physical relaxation, distraction techniques, finger hypnosis and spiritual way<sup>(19)</sup>. From the explanation above, it can be concluded that the standard nursing treatment can reduce anxiety of adolescents who experience early prodromal psychosis in orphanages.

Moreover, the self-esteem of adolescents in orphanages before the standard nursing treatment has reached the average score. It indicates that this level is still below half the level of self-esteem. Another research has found that institutionalized orphans face challenges due to limited resources and decrease parental affection, yet they do have

satisfactory well-being. In addition, orphans have lower self-esteem than children living with both parents do. The findings imply an increase in availability for emotional engagement involvement on the part of the caregivers of these children<sup>(20)</sup>.

Based on this study, after the standard nursing treatment of adolescents who experienced early prodromal psychosis in the orphanage, their self-esteem was significantly increased from 45.97% to 68.47%, results that agree with those found in a systematic review developed by Das et al<sup>(21)</sup>. This research found that creative community-based activities, such as music, dance, singing, theater, and visual arts have a positive effect on teenagers' self-esteem.

By using standard nursing treatment, nurses identify positive aspects that are still owned by adolescents, help them assess their ability and discuss skill that can still be used, help adolescents to choose and determine their ability to be trained, and practice the abilities that have been selected. These treatments can increase the adolescents' awareness of the positive aspects that are still owned. As a result, it can increase the adolescent's self-esteem.

This study shows that the average age of adolescents who have early prodromal psychosis is approximately 14 years and adolescents who have this remain in the orphanages for almost three years.

Regarding to the history of adolescents' physical illness, more than half of the total number of adolescents does not have the history of physical pain and the others present head trauma and fever. Adolescents have experienced unpleasant experiences in the past, mostly

by at least one loss, rejection and physical/mental violence. Furthermore, in terms of school achievement, the data obtained showed that more than half of the adolescents achieved good results in their school and the orphanage. The results of the analysis showed that the orphanage adolescents involved in this study were mostly males.

Moreover, based on the characteristics of the school experience, the data obtained showed that more than half of the adolescents who experienced early prodromal psychosis in the orphanage have no history of delays or drop out in school. Besides, the status characteristics of their family show that adolescents who still have both parents were sent to orphanages due to economic circumstances, as their parents wander out of town and abroad with the aim to raise the children independently. Therefore, it can be inferred that the results of the adolescents surveyed who experienced early prodromal psychosis in the orphanages showed that more than half of adolescents were screened. Thus, they need attention and further treatment for the prevention of psychosis. The early prodromal psychosis in these adolescents before the intervention showed an average score of half of the total score. It clearly indicated the severity of perceived symptoms.

The anxiety of the adolescents before the intervention is in mild severity. In the meantime, the adolescents' self-esteem is at an average score lower than half the total self-esteem score. The standard nursing treatment reduced the symptoms of early prodromal psychosis and anxiety as well as significantly increased the self-esteem of the adolescents in the orphanages.

Based on the results, it is expected that the community nursing services can apply the standard nursing treatment in the orphanage and collaborate with nurses in the mental health service of nursing practitioners and registered nurses through cooperation with the school health service, being able to refer specialist nurse, if necessary, for further treatment. Another study suggests that the integration of health services is needed as a part of the preventive, educational and collective activities based on the socioeconomic and cultural environment of the individual<sup>(22)</sup>. The standard nursing treatment can be used for adolescents in orphanages to decrease the early prodromal psychosis symptoms, decrease anxiety, and increase the adolescents' self-esteem, which come with various problems in their lives. In addition, the nursing standard treatment can be taught to caregivers in the orphanages, so they can teach and monitor the adolescents who have prodromal early psychosis, anxiety, and low self-esteem. A longitudinal study needs to be conducted every six months for adolescents with early prodromal psychosis, monitoring the predisposition and precipitation factors of early prodromal psychosis. As a result, it is desired to reduce the symptoms of this condition, which causes decrease of anxiety and increase of the self-esteem of adolescents.

#### **Conflict of interest**

No potential conflict of interest relevant to this article was reported.

#### **Acknowledgement**

We are thankful to all participants in this research and to the Nursing Faculty of Univer-



sitas Indonesia, Directorate of research and development in society (DRPM) that funded this research, and to all participants at the Orphanage in Baubau City.

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All authors participated in the phases of this publication in one or more of the following steps, in according to the recommendations of the International Committee of Medical Journal Editors (ICMJE, 2013): (a) substantial involvement in the planning or preparation of the manuscript or in the collection, analysis or interpretation of data; (b) preparation of the manuscript or conducting critical revision of intellectual content; (c) approval of the version submitted of this manuscript. All authors declare for the appropriate purposes that the responsibilities related to all aspects of the manuscript submitted to OBJN are yours. They ensure that issues related to the accuracy or integrity of any part of the article were properly investigated and resolved. Therefore, they exempt the OBJN of any participation whatsoever in any imbroglios concerning the content under consideration. All authors declare that they have no conflict of interest of financial or personal nature concerning this manuscript which may influence the writing and/or interpretation of the findings. This statement has been digitally signed by all authors as recommended by the ICMJE, whose model is available in [http://www.objnursing.uff.br/normas/DUDE\\_eng\\_13-06-2013.pdf](http://www.objnursing.uff.br/normas/DUDE_eng_13-06-2013.pdf)

Received: 2018/05/26

Reviewed: 2019/02/19

Approved: 2019/03/2019

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Brazilian Journal of Nursing**



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