

Mental health problems in children with chronic disease at the pediatric inpatient ward of Dr. Cipto Mangunkusumo Hospital

Lydia Wangke, Bernie Endyarni Medise, Angga Wirahmadi, Rini Sekartini, Hartono Gunardi, Soedjatmiko Soedjatmiko

Abstract

Background Since the survival of a patient with chronic physical illness has improved, major concerns arise about their quality of life and functioning. Childhood and adolescence are critical periods for promoting mental health because more than half of mental health problems begin at this stage, and many of those mental health problems will persist into adult life.

Objective To analyze the risk of mental health problems among children hospitalized with chronic disease.

Method An analytic observational study with a cross-sectional design was conducted using secondary data of 754 children aged 4-18 years admitted to the pediatric inpatient ward of Cipto Mangunkusumo Hospital, Jakarta between June 2021 and August 2022. We collected the results of subjects' mental health screening conducted by the Growth, Development, and Social Pediatrics Division, Department of Child Health, Cipto Mangunkusumo Hospital during the subjects' admission. Mental health problems evaluated in this study included psychosocial dysfunction screened using the *Pediatric Symptom Checklist 17* (PSC-17) and depression screened using the *Children's Depression Inventory* (CDI).

Results Of the 754 subjects included, 520 (69.0%) were classified as having a chronic disease. The prevalence of psychosocial dysfunction and depression in children with chronic diseases was 19.6% and 6.3%, respectively. Gender, nutritional status, and height had no significant association with psychosocial dysfunction and depression in children. Children with chronic disease were more likely to develop psychosocial dysfunction (OR 2.13; 95%CI 1.31 to 3.59; $P < 0.001$) and depression (OR 2.57; 95%CI 1.04 to 7.62; $P < 0.03$) compared with those who did not have chronic disease.

Conclusion Children with chronic disease were more likely to develop psychosocial dysfunction and depression compared to those without a chronic disease. These results highlight the importance of mental health support in pediatric patients with chronic disease. [Paediatr Indones. 2024;65:37-41; DOI: <https://doi.org/10.14238/pi65.1.2025.37-41>]

Keywords: chronic disease; psychosocial dysfunction; depression; mental health

The emotional health of pediatric and adolescent patients with chronic physical health issues has not always been given priority. On the other hand, more children with severe physical health disorders are living today due to advancements in treatment approaches that have extended their longevity. Concerns are raised regarding these children's quality of life. Since their chances of surviving have increased, there is now a greater focus on optimizing their quality of life and functioning, which has made mental health care a major concern.^{1,2}

The duration of a child's or adolescent's illness is a major factor in defining the chronic condition. The majority of definitions classify a disease as chronic if it has persisted for longer than three months, although some believe that a disease is considered chronic if it has persisted for at least a year. In addition, there are several other criteria, such as whether the disease is resistant to treatment and has consequences for the functioning of the child and adolescent.^{3,4}

From the Department of Child Health, Faculty of Medicine Universitas Indonesia/Cipto Mangunkusumo Hospital, Jakarta, Indonesia.

Corresponding author: Lydia Wangke. Department of Child Health, Cipto Mangunkusumo Hospital. Jalan Pangeran Diponegoro No. 71, Central Jakarta, Jakarta 10430, Indonesia. Email: lydia.wangke86@yahoo.co.id.

Submitted March 19, 2024. Accepted March 27, 2025.

A significant factor influencing survival rates for pediatric and adolescent patients with chronic disease is their heightened risk of developing one or more side effects associated with their condition, medications, or maladaptive health behaviors. The risk of experiencing adverse health outcomes, such as elevated rates of morbidity and mortality, depression, self-harm, suicide, issues with self-esteem, reduced physical function, elevated fatigue, obesity, elevated psychological distress, and reduced quality of life, can ultimately be elevated by engaging in maladaptive health behaviors.^{1,5}

Childhood and adolescence are critical periods for promoting mental health because more than half of mental health problems begin at this stage, and many of those mental health problems will persist into adult life.⁶ The ultimate goal of treating children and adolescents with chronic illnesses is not only to focus on their physical health but also to improve their overall quality of life, with particular emphasis on prioritizing mental health care.

Methods

This was a cross-sectional analytic study to assess the risk of mental health problems in children and adolescents with chronic diseases treated in the pediatric inpatient ward of Dr. Cipto Mangunkusumo Hospital (RSCM). The study was conducted using secondary data of pediatric patients admitted at RSCM between June 2021 and August 2022. Subjects were selected through a consecutive sampling method, targeting pediatric and adolescent patients treated in the inpatient ward at RSCM who met the eligibility criteria.

The inclusion criteria for this study were patients aged 4-17 years who were treated with chronic diseases from June 2021 to August 2022 and who had complete PSC-17 and CDI screening result data. Chronic disease was defined based on the definition used in the Dutch National Consensus.³ Patients with incomplete data or a history of mental disorders diagnosed prior to admission were excluded from the study. Bivariate analysis was used to evaluate the association between psychosocial disorders, depression, and chronic illness.

Results

A total of 754 subjects met the inclusion criteria. There were 394 (52.3%) male and 360 (47.7%) female subjects. The average age of the subjects was 10 (SD 4.31) years. Three hundred and sixty two (48%) had normal weight, 203 (26.9%) were underweight, and 103 (13.7%) had malnutrition. Five hundred and twenty subjects (69.0%) suffered from chronic illness. Using PSC-17, 126 (16.7%) subjects were identified as having psychosocial dysfunction and screening with the CDI revealed that 39 (5.2) subjects were suffering from depression (**Table 1**).

Of the 754 subjects screened using PSC-17, 124 (16.4%) had total internalization scores ≥ 5 classified as internalizing disorder, 20 (2.7%) had a total externalization score ≥ 7 categorized as externalizing disorder, and 10 (1.3%) had total attention scores of ≥ 7 , classified as attention disorder.

Table 2 shows the association of various subject characteristics with psychosocial dysfunction and depression. Children with psychosocial dysfunction had a significantly higher mean age compared to those without, as did children with depression. The study found that gender, nutritional status and stature were not associated with the occurrence of social dysfunction and depression in children.

The impact of chronic illness on psychosocial dysfunction and depression is described in **Table 3**. The prevalence of social dysfunction and depression in children with chronic diseases was 19.6% and 6.3%, respectively. Children with chronic diseases were more

Table 1. Demographic characteristics

Subject characteristic	N=754
Gender, n(%)	
Male	394 (52.3)
Female	360 (47.7)
Mean age (SD)	10.77 (4.31)
Nutritional status, n(%)	
Severe malnutrition	103 (13.7)
Underweight	203 (26.9)
Overweight	46 (6.1)
Obesity	40 (5.3)
Stunted, n(%)	171 (22.7)
Chronic disease, n(%)	520 (69.0)
Psychosocial dysfunction, n(%)	126 (16.7)
Depression, n(%)	39 (5.2)

likely to experience social dysfunction (OR 2.13; 95%CI 1.31 to 3.59; $P < 0.001$) and depression (OR 2.57; 95%CI 1.04 to 7.62; $P = 0.03$) compared with children without chronic diseases.

Discussion

Advances in medical science have enabled more children with severe physical health conditions to survive and live longer lives. With increased survival, there are more efforts to maximize their quality and functioning of life, and as a result, their mental health care should also be given priority.

In our study, 69% of subjects suffered from chronic illness. Although the exact global prevalence of chronic illness in children is unknown and largely dependent on the definition of chronic illness used, several studies have shown an increased prevalence of chronic conditions among pediatric patients.^{7,8}

Chronic diseases can affect the emotional, physical, and social development of children and often have long-lasting health and healthcare consequences.⁹⁻¹¹ Unlike adults with multiple

chronic conditions (MCC), children with MCC will face unique challenges in terms of treatment compliance, disease reception, lifestyle modification, care coordination, reduced exposure to risk factors for chronic conditions, and transition to adult healthcare settings.¹²

Children with chronic health conditions may have some activity limitations, pain or discomfort, abnormal growth and development, as well as more hospitalization, street care visits, and medical care. Children with severe disabilities are sometimes unable to participate in school and peer activities.⁸

In this study, the examination using PSC-17 identified 16.7% of subjects with psychosocial dysfunction, while screening with CDI revealed 39 (5.2) subjects suffered from depression. In subjects screened using PSC-17, internalization disorder (16.4%) had the highest occurrence compared to externalization and attention disorder. Various longitudinal studies of child mental health often associate issues of exposure to parenting patterns, family stressors, and cultural influences in society as risk factors influencing the occurrence of mental problems in children. A previous study reported a 30%

Table 2. The association of subject characteristics with psychosocial dysfunction and depression

Variables	Psychosocial dysfunction			Depression		
	Yes	No	P value	Yes	No	P value
Gender, n(%)						
Male	57 (14.5)	337 (85.5)	0.084 ^a	18 (4.6)	376 (95.4)	0.433 ^a
Female	69 (19.2)	291 (80.8)		21 (18.62)	339 (94.2)	
Mean age (SD)	13.6 (2.77)	10.2 (4.35)	<0.001 ^b	14.44 (1.68)	10.57 (4.32)	<0.001 ^b
Nutritional status, n(%)						
Severe malnutrition	25 (4.3)	78 (75.7)	0.198 ^a	8 (7.8)	95 (92.2)	0.299 ^a
Underweight	33 (16.3)	170 (83.7)		11 (5.4)	192 (94.6)	
Normal	52 (14.4)	310 (85.6)		13 (3.6)	349 (96.4)	
Overweight	8 (17.4)	38 (82.6)		4 (8.7)	42 (91.3)	
Obesity	8 (20.0)	332 (80.0)		3 (7.5)	37 (92.5)	
Stature, n (%)						
Stunted	35 (20.5)	136 (79.5)	0.134 ^a	9 (5.3)	162 (94.7)	0.951 ^a
Normal	91 (15.6)	492 (84.4)		30 (5.1)	553 (94.9)	

^aChi-squared test; ^bindependent samples T-test

Table 3. Impact of chronic disease on psychosocial dysfunction and depression

Chronic disease	Psychosocial dysfunction				Depression			
	Yes	No	OR (95%CI)	P value	Yes	No	OR (95%CI)	P value
Yes, n(%)	102 (19.6)	418 (80.4)	2.13 (1.31 to 3.59)	0.001	33 (6.3)	487 (93.7)	2.57 (1.04 to 7.62)	0.03
No, n(%)	24 (10.3)	210 (89.7)			6 (2.6)	228 (97.4)		

risk of mental disorders in the form of externalization disorders and internalization disorders in preschool children (aged 4-5 years). In children aged 8-9 years, there was a 20% risk of externalizing disorders and 23% risk of internalizing disorders. These data indicate that externalization disorders are more prevalent in early childhood, while internalization disorders are more common in older children.¹³

We found that gender, nutritional status, and stature were not associated with social dysfunction and depression in children. However, there were significant age differences in children with or without psychosocial disorders, and the same is true of children with and without depression. The prevalence of children and adolescents with mental disorders will be different and vary depending on gender, age, child residence (e.g., urban and rural areas), race or ethnicity, and other sociodemographic characteristics.¹⁴ The impact of chronic health conditions on children depends heavily on their developmental stage when the condition occurs. Children with a chronic condition that appears in infancy will respond differently than children who experience the condition during adolescence. School-age children are likely most affected by the inability to go to school and form ties with peers. Teenagers may struggle with their inability to be independent when they need assistance from parents and others for many of their daily needs. Teenagers place great importance on being similar to peers, so they find it very difficult to be considered different.^{8,9}

In our study, the prevalence of social dysfunction and depression in children with chronic disease was 19.6% and 6.3%. Children with chronic diseases are more likely to develop social dysfunction and depression than those without chronic disease. Some previous studies have also shown that children with chronic illnesses have a higher risk of developing mental disorders.^{5,15-16} Mental health problems can be present alongside physical complaints such as somatization as a manifestation of anxiety. In addition to complicating the diagnosis and management of chronic health conditions, especially when they live side by side, mental health conditions can also significantly affect the outcome of physical health conditions.^{1,17}

The results highlight the importance of periodic mental health screening and mental support for child

patients with chronic illnesses. Although integrated mental and physical healthcare is a challenge especially for children who are still growing and developing, it is one of the keys to improving the long-term prognosis and quality of life of children with chronic illnesses conditions. Multi-stakeholder involvement is also one of the contributors to optimum integrated governance success.

Conflict of interest

None declared.

Funding acknowledgment

The authors received no specific grants from any funding agency in the public, commercial or not-for-profit sectors.

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