

# Level of Satisfaction of Children with Chronic Disease That Follows the Method *Bemo Keliling* "Si Boling" During Hospitalization at Sanglah Hospital

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**Abstract:** Chronic disease in childhood and adolescence can have psychological and mental disorders because they have to come to visit repeatedly, lay down in hospital, fear, and boredom while undergoing treatment. Play intervention therapy is expected to reduce the negative impact of hospitalization. The purpose of this study is to determine the level of satisfaction of children with chronic diseases to the therapeutic method of playing *Bemo Keliling* (*Si Boling*). Cross-sectional study design using a questionnaire that assesses the level of satisfaction of children with chronic diseases that hospitalization at Sanglah Hospital Denpasar to the *Boling* intervention therapy in October 2018. Sample of 25 children with chronic diseases such as hematological cancer and solid tumors, auto-immune and hematological disorders. From the results of the patient response questionnaire after *Boling* found 64% expressed very satisfied, 64% expressed no sadness when seeking hospitalization at the Sanglah Hospital, 56% stated the information/insight increased, and 76% were willing to continue treatment. In the 5-7 years age group, 75% prefer coloring activities and educational games, and the 8-18 year age group prefer to reading. Related to the type of reading, the 5-7 years age group prefers the flora/fauna type (83%), while the 8-18 year age group types of folklore, encyclopedias and novels. There was no significant differences in the level of satisfaction of patients who prefer coloring activities and educational games than reading activities ( $P=0.640$ ). *Boling* is expected to have a positive impact on children with chronic diseases undergoing hospitalization at Sanglah Hospital.

**Keywords:** Children with Chronic Diseases, Play Intervention Therapy, *Boling*

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## 1. Introduction

Generally, the length of patient care depends on the type of illness. Patients with chronic disease, such as malignancies, heart failure, nephrotic syndrome, systemic lupus erythematosus, will require longer period of treatment and often relapse. Children with chronic disease have higher risk to get impaired quality of life than healthy children. Various pressures can affect their psychological development, including those that related to their illness (have to take many medication, pain, spasm, unconfidence with their physical appearance) and other pressures such as from environment and school [1].

Chronic disease is defined as a physical or mental condition, which affects the functioning of individual every day at interval more than three months, or hospitalization more than one month [2]. Chronic disease include: leukemia, cancer or solid tumor, heart disease, chronic kidney failure, cerebral palsy, diabetes, epilepsy, syndrome Down and other congenital chromosomal anomalies, cystic fibrosis, juvenile arthritis, asthma, dermatitis (including severe eczema and psoriasis) and various other types of anemia (thalassemia, hemophilia, Von Willebrand). Epidemiological studies show that about one in ten children under the age 15 years old suffer chronic disease. Other epidemiological studies estimate that one third of children under 18 years old suffer from one or more chronic disorder [3].

This age can be classified as adolescent group, with average age 10-19 years old. This group is transitional age from children to adults, a period when great change of physical, psychological and social are happens [4].

Prolonged hospitalization and repeated treatment will certainly affect the mental and psychological condition of patient with chronic disease, such as frequent absent from school, high levels of boredom during patient care and anxiety undergoing therapeutic procedures. This condition will affect inpatient satisfaction while undergoing treatment. To evaluate the quality of nursing services and patient satisfaction, hospital can conduct a questionnaire [5]. According to Soejadi, factors or variables that influence inpatient satisfaction are doctor's services; nurse services; physical environment; providers of medical and non medical facilities.

Sanglah General Hospital has make serious effort to increase patient satisfaction during hospitalization, by providing library and playroom facilities, waiting rooms, medical and non-medical services according to the Joint Committee International (JCI) and *Komite Akreditasi Rumah Sakit* (KARS) medical standard. *Bemo Keliling (Si Boling)* is a playing intervention method that was developing by Pediatric Departement. This tool provides a mobile library, coloring media, and educational games, thus, it was expected to reduce the boredom, anxiety and provide comfort while undergoing treatment in Sanglah Hospital. The purpose of this study is to know the level of satisfaction of pediatric inpatients with chronic diseases after receive a playing interventional therapy using *Bemo Keliling (Si Boling)*.

## 2. Methods

This study used a crosssectional design and a questionnaire to determine the satisfactory of children patients in Sanglah Hospital with chronic disease after receiving playing intervention therapy with *Bemo Keliling (Si Boling)*. Period of study was October 2018. The target population was children patients with chronic disease. Affordable population were children patients with chronic disease who were treated at Sanglah Hospital, Denpasar, October 2018. Inclusion criterias of this study were children 5-18 years olds, children who have chronic disease. Their parents or relatives were willing to participate in this study and have signed informed consent. Exclusion criterias includes patient with mental/psychological disorders, and patients who are not cooperative during treatment.

The sample size was determined using a single sample formula to estimate the proportion of a population using 20% absolute accuracy, with P value is 50%, a type I error 0.05; and we obtained 25 patients [6].

This study was approved by the Ethics Committee Faculty of Medicine, Udayana University with no. 2092/UN.14.2.2 VII.14/LP/2018. We already took the samples according to the inclusion and exclusion criterias and collected the data in October 2018. Sex, age, level of education, type of chronic disease were characteristic data collected.

Data obtained using questionnaire related to patient

characteristics, patient response after receive a playing interventional therapy using *Bemo Keliling (Si Boling)*, preferred type of service, preferred type of reading material, as well as the patient's willingness to continue treatment after *Bemo Keliling (Si Boling)*. The Age of children was divided into two groups, including the age 5-7 years old and 8-18 years old. Level of education was grouped into unschooled, kindergarten, elementary school, junior high school and senior high school. Chronic disease is defined as a physical or mental condition, which affects the functioning of individual every day at interval more than three months, or hospitalization more than one month, such as malignancies (hematologic malignancies and solid tumors), hematologic abnormalities (thalassemia, hemophilia, aplastic/hypoplastic anemia, Idiopathic Thrombocytopenic Purpura (ITP)), auto-immune disease (Systemic Lupus Erythematosus (SLE), nephrotic syndrome or chronic kidney disease. The level of satisfaction after receive a playing interventional therapy using *Bemo Keliling (Si Boling)* was measured from questionnaire's result either filling directly by the patient itself or filling by the patient's parents or relative. *Bemo Keliling (Si Boling)* is a method of playing interventional therapy with a mobile cart which provides mobile library, coloring media, and educational games that provided twice a week (Monday and Thursday) at 16.00-18.00 pm. Boling services were carried out by researchers and assisted by assistants (residents). After providing services, researchers asked the contents of the questionnaire directly to the patient. Type of books are literature that was provided during *Si Boling's* services, such as picture book (flora/fauna book), and story telling book (folklore book, fairy tale, encyclopedia and novel). Type of educational games are games that available during *Si Boling's* services, such as puzzles, board play, alphabet blocks, and dolls. Comparison of satisfaction levels based on the type of activity from *Si Boling* divided into enough and satisfied. For patients who answered enough based on the questionnaire grouped into enough satisfaction levels, while patients who answered satisfied and very satisfied were grouped into the satisfied group.

Characteristics data of sample present descriptively in table form. Validity and reliability of the questionnaire using computer program. The questionnaire is valid if corrected coefficient correlation at least 0.3. There were 15 questions that have been asked, with 6 of them have value  $\geq 0.3$  (P7, P10, P11, P12, P13, P14). Reliability of the questionnaire is approved by calculating Cronsbach's alpha  $> 0.6$ .

## 3. Results

This study has 25 patients with chronic disease who came for treatment in October 2018. Table 1 shows the patient characteristics revealed of 15 male patients, age range 5-7 years and 8-18 years by 12 and 13 patients, respectively. Based on the level of education revealed 12 kindergarten patients, 5 elementary school patients, 2 junior high school patients, and 6 high school patients. Based on type of disease, 60% were hematologic malignancy, followed by solid tumors (28%), nephrotic syndrome (4%) and aplastic anemia (8%).

Table 2 shows the results of the questionnaire related to the type of activities by "Si Boling" service based on age group. Depend on type of activities, the 5-7 year age group prefer coloring and educational games, and the 8-18 year age group as much as 100% prefer to reading.

Table 3 shows the results of type of reading preferred by "Si Boling" service based on age group. Depend on type of reading, the 5-7 year age group likes the flora/fauna book, while the 8-18 year age group prefer folklore, encyclopedias and novels.

Table 4 is a questionnaire about patient's satisfaction after "Si Boling's" service. The questionnaire is related to the patient's satisfied during play intervention, get any additional information, and the willingness to continuing the treatment.

In this study, there was no significant difference between the level of patient satisfaction and the types of activities provided (P=0.640) shown in table 5.

Table 1. Characteristic samples.

Characteristic	Frequency (N=25)	Percentage (%)
Gender		
Male	15	60
Female	10	40
Age, year		
5-7	12	48
8-18	13	52
Level of education		
Kindergarten	12	48
Elementary school	5	20
Junior high school	2	8
Senior high school	6	24
Type of Chronic disease		
Hematologic malignancies	15	60
Solid tumors	7	28
Nephrotic Syndrome	1	4
Aplastic Anemia	2	8

Table 2. Type of Activities based on Age Group.

Variable	Category	
	Reading	Coloring & Educational Games
5-7 years old, (n, %)	3 (25)	9 (75)
8-18 years old, (n, %)	13 (100)	0 (0)
Total (N=25)	16 (64)	9 (36)

Table 3. Type of Reading based on Age Group.

Variable	Category			
	Flora/fauna	Folklore	Encyclopedia	Novel
5-7 years old, (n, %)	10 (83)	2 (27)	0 (0)	0 (0)
8-18 years old, (n, %)	0 (0)	4 (31)	7 (54)	2 (15)
Total (N=25)	10 (40)	6 (24)	7 (28)	2 (8)

Table 4. Questionnaire about Patient's Level of Satisfaction after "Si Boling's" Services.

Variable	Assessment category, n (%)		
	Enough	Agree	Strongly Agree
Satisfied	1 (4)	8 (32)	16 (64)
Not feeling sad	4 (16)	16 (64)	5 (20)
Not feeling disturbed	0 (0)	8 (32)	17 (68)
Get additional information	1 (4)	14 (56)	10 (40)
Prefer reading than playing gadgets	8 (32)	16 (64)	1 (4)
Willingness to continuing the treatment.	0 (0)	6 (24)	19 (76)

Table 5. Fisher's Analysis Comparison between Level of Satisfaction and Type of Activities.

Variable	Level of satisfaction, n (%)		
	Enough	Strongly Agree	P Value
Reading	9 (75)	3 (25)	0.640
Coloring, Educational game	0 (0)	13 (100)	
Total	9 (36)	16 (64)	

### 4. Discussion

Epidemiological studies show that about one in ten children under the age 15 years old suffer chronic disease. Other epidemiological studies estimate that one third of children under 18 years old suffer from one or more chronic disease [3]. In this study, 25 research samples, 0-18 years old, was treated with various types of chronic disease such as leukemia, solid tumor, hematologic disorders, and auto-immune diseases.

Chronic disease is a very difficult challenge for children,

because their activities will be reduced, they have to lie down in a hospital in the long period of time, and they often have fear either due to the illness or treatment process, and also boredom while undergoing the treatment. Various studies have shown the impact of hospitalization on children's emotions and behavior [7, 8]. Study from Rennick JE, et al in 2014 showed that 25% of children experienced loss of self-esteem and emotional well-being, they also have increase in anxiety and negative behavioral changes (sleep disorders, socially isolated) [9]. MH Bakri, et al has been done research at 2014 that found children who experienced recurrent hospitalization,

have significantly higher level of anxiety or depression, somatic symptoms, withdrawal, and aggressive behavior, compared to the control [10]. These negative feelings certainly provide a low level of satisfaction with hospital services. Because of those effects, patients with chronic disease very need psychological support. Childhood and adolescent period are a fun phases of growth and development with a lot of playing and learning activities, also many social interactions between each others. Therefore, special services have been developed to overcome these problems, such as playing therapy, children's library and counseling services in hospital [11]. These services were carried out to provide comfort to patients.

In Andriani S (2009) found that patient satisfaction has a significant relationship with the quality of hospital services. The more quality of patient service, the higher level of patient satisfaction. The quality of hospital services is influenced by several factors, such as tangibles, reliability, responsiveness, assurance, empathy. Tangibles include physical facilities, equipment and hospital materials and the appearance of medical personnel, reliability related to the ability of the hospital to provide services, responsiveness including willingness and concern to help patients, assurance including competency of medical staff in maintaining safety and courtesy, and empathy means ease in making good communication relationships, attention and understanding patient needs. Improving the quality of hospitals could be done by creating new services or products that were innovative and creative [12]. "*Si Boling*" was an innovative intervention method that aims to increase the satisfaction of hospitalized pediatric patients with chronic disease.

Florence Erikson was the first nurse at 1958 that conduct an interventional study using toy and storytelling to prepare hospitalized children who will receive medical procedures. Study from William HC Li, using play distraction to reduce patient anxiety during medical procedures. Example for distraction play, such as provide games that attract the children's attention (story book, music, relaxation techniques). Another method is development play which is developed psychosocial abilities and prevent regression during treatment. Example of development play are playing puzzles, playing boards, and coloring [13].

Based on Rosalia D's systematic reviews at 2016, that various studies has been conducted to evaluate the effectiveness of playing therapy methods for children in hospital, such as using toy, story telling therapy, role playing, coloring, clay. Although most studies suggest play therapy is very useful for reducing anxiety and improving patient behavior while undergoing therapeutic procedures, evidence of the effectiveness is still questionable because there is no definite operational definition and too many research methods that has been used [14].

This study, revealed 64% samples were very satisfied with *Si Boling*'s service. In the 5-7 years age group prefer to coloring and educational games, and the age group 8-18 years prefer to reading. As for the type of reading, the 5-7 year age group choosed the flora/fauna, and the 8-18 year age group

choosed folklore, encyclopedias and novels. There was no significant difference found in the level of satisfaction of patients who chose reading and coloring activities and playing educational games ( $P = 0.640$ ). Based on the theory that has been submitted by Jean Piaget that intellectual growth and development is the result of interaction between child's maturity and environment, which is divided into 4 stages. The first stage, sensory-motor (0-2 years old), where children like rhythmic repetition activities or games. The second stage, pre-operational (2-7 years old) children begin to operate something. Characteristics of children at this stage, children begin to learn to actualize themselves through language, playing, and drawing (doodles). At this stage, children like books that show simple picture, figure and plot that reflect the child's behavior and pattern (such as coloring, animal and plant books). The third stage, concrete operational (8-11 years old), children begin to be able to make general characteristic classification such as figure characteristics (good and bad), sorting the alphabet, numbers, large and small. Characteristics reading of this development stage include: narrative books (folklore, fairy tale). The fourth stage, formal operations (12 years old and above). At this stage, children are able to think scientifically, theoretically, and looking for a causal relationship (like encyclopedia), or books that show a more complex storyline (novel) [15, 16].

Based on "Undang-Undang No. 47/2007" about the library, the function of library is as recreational vehicle to improve intelligence and empowerment of the nation. Another function is in the term of education, that supporting education for its readers [17]. According to Sulisty-Basuki, the hospital's library is a library in the hospital whose collections can be used by medical staff (doctors, nurses) and patients. Dharmais Hospital Jakarta has a children's library located in a children's cancer room with various activities such as reading, drawing, educational games, making handicrafts and wall magazines [11]. Although Sanglah Hospital already has a reading room, however, visting number to this room are still low because most of the patients with chronic disease have limited activity, and they more lying down on the bed.

Reading material as a method of interventional therapy is also known as bibliotherapy. The functions are to shift orientation and provide a positive and optimistic outlook so it can help the patients to shift their pain and anxiety. In addition, children become entertained and their boredom at the hospital can be reduced. Bibliotherapy can increase children's curiosity about the books in order to increase children's interest in reading. Unfortunately, the studies related to effectiveness of bibliotherapy, especially in Indonesia, still not well researched [16]. Aprilawati's study in 2011, showed that children undergoing hospitalization in Islamic Jakarta Hospital who received bibliotherapy had lower anxiety level compared to those who did not received [18].

In this study, as much 75% of children in the 5-7 years age group chose coloring activities and educational games. Earlier studies stated that coloring and art activities have a significant therapeutic effect to overcome anxiety, depression, give entertainment in several diseases include cancer. The types of

educational games that available in this study, such as puzzle, board play, block, alphabet. Playing has been considered an important element in the normal growth and development of children, and has been studied to reduce stress in pediatric patients during hospitalization. Through games, children are given the opportunity to develop self and environment control, improve interpersonal and social skills and also creativity of the children [13].

Boredom, sadness, anxiety, and discomfort feeling will certainly affect the patient's compliance to the treatment. *Si Boling* is expected able to reduce the level of patient's sadness during treatment and increase the willingness to continue the treatment. From the questionnaire's results, 76% samples were willing to continue the treatment after *Si Boling*. *Si Boling* provides the opportunity for doctors, nurses and medical volunteers to interact with the patients. There are several factors that influence the relationship between medical personnel and the patients, such as the level of knowledge related to their disease, side effects of therapy, patient's age, and demographic factors [19]. Reading funny and interesting comic that are related to chemotherapy against the cancer are expected to increase awareness and understanding of patients related to their disease and increase their willingness to continue therapy.

This study was the first study at Sanglah Hospital about the benefits of playing interventional therapy as a supportive therapy for patients that hospitalized due to chronic diseases. Limitation of this study is the research design which used cross-sectional study using questionnaire related to the patient's opinion about *Si Boling*. This study still as preliminary study/pilot study with a small sample size, limitations in providing reading material, types of games and coloring, so further study is needed with a larger number of samples to look for relationship between each variables.

## 5. Conclusion

*Boling* is expected to have a positive impact on children with chronic diseases undergoing hospitalization at Sanglah Hospital.

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