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Original Research

Self-Image Strengthening Program In Children With Disabilities And Chronic Illnesses: A Quasi-Experimental Research

Frilya Rachma Putri[1], Sri Andarini[2], Nuretha Hevy Purwaningtyas[2], Ariani[3], Dyahris Koentartiwi[3], Kresna Septiandy Runtuk[4], Pallavi Abhilasha[5], Puspa Maharani[6], Herman Yosef[7], Janice Valencia[8], Elvira Irene Tjahyadi[9], Monica Sari Devy[9], Mayniar Ayu Rahmadian[9]

[1]Psychiatry Department, Faculty of Medicine, Universitas Brawijaya, Malang, Indonesia
[2]Family Medicine Department, Faculty of Medicine, Universitas Brawijaya, Malang, Indonesia
[3]Pediatry Department, Faculty of Medicine, Universitas Brawijaya, Malang, Indonesia
[4]Psychiatry Department, Universitas Brawijaya Hospital, Malang, Indonesia
[5]Psychiatry Department, CMC Ludhiana, Punjab, India
[6]Psychiatry Resident, Faculty of Medicine, Universitas Airlangga, Surabaya, Indonesia
[7]Psychiatry Resident, Faculty of Medicine, Universitas Udayana, Denpasar, Indonesia
[8]Faculty of Medicine, Universitas Ciputra, Surabaya, Indonesia
[9]Alumni, Faculty of Medicine, Universitas Brawijaya, Malang, Indonesia

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Correspondence Author:
Email: frilya.putri@gmail.com

Abstracts

Introduction: Children with disabilities/chronic illnesses often have difficulties in socializing and tend to have a low self-image. Parents, as the main children's self-image-forming factor, also experience difficulties in dealing with their children. This study aims to increase children's and parents' knowledge about self-image and acceptance, hence improving children's self-image. **Methods:** A quasi-experimental research study with the intervention of three modules for children and parents was carried out between June and September 2022. Thirty children and their parents from the Community for Empowerment of Parents of Children with Special Needs, the Heart Warrior Community, and the Foundation for Development of Disabled Children were included. Pretest and posttest were measured and statistically tested using the Wilcoxon test. At the end of the interventions, the Rosenberg Self-Esteem Scale, Self-Harm Inventory, Strengths and Difficulties Questionnaire, and Pediatric Quality of Life were measured. **Results:** There was a significant increase in knowledge on 3 child modules and 1 parent module. The Rosenberg Self-Esteem Scale score is 17.17 ± 2.618 (good self-image); the Self-Harm Inventory score is 2.18 ± 3.275 (low risk of self-harm); the Strength and Difficulties Questionnaire score is 18.37 ± 5.230 (moderate difficulty); and the Pediatric Quality of Life value is 34.64 ± 12.077 (favorable quality of life). **Conclusion:** The self-image strengthening module intervention is effective in increasing children's and parents' knowledge. Children with disabilities/chronic illnesses have a good self-image, low self-harm tendencies, and relatively favorable quality of life.

Keywords: Self-image, Disability, Chronic illness, Self-injury, Quality of life.

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INTRODUCTION

Children with physical disabilities and chronic illnesses have limitations not only in activities but also in social functioning. They tend to have low self-esteem and experience isolation from their peers [1]. Asher and Coie's study found that children with disabilities and chronic illnesses who experienced peer rejection tended to have less interest in school, inhibited social experiences, and were motivated to be harmed. It affected self-concept and academic performance too [2].

Children with low self-esteem often have difficulty managing emotions, tend to withdraw from peer groups, and are socially isolated [3]. Self-image is related to children's understanding of their conditions and successful psychosocial functioning. Understanding their conditions can help them set realistic goals and manage their emotions [4]. Family support and peer relationships also play an important role in influencing children's self-image. Children who receive positive support from parents, teachers, and peers have a more positive self-concept [5]. However, parents are often unable to provide this support because they have difficulty accepting their children's disabilities and chronic illnesses, feel depressed and tired, and lack knowledge about their children's conditions. In addition, many parents don't understand the importance of mental health.

This study aims to increase children's knowledge of self-image, managing emotions, and dealing with peer pressure, as well as parents' knowledge of children's disability and chronic illness conditions, managing expectations and acceptance, mental health literacy, and stress management. It is expected that the interventions for children with disabilities and chronic illnesses and their parents will improve children's self-image.

METHODS

This study is quasi-experimental research with a one-group pretest-posttest design method. This study was conducted in Malang, East Java, from June to September 2022. All subjects have given their written informed consent with oral and written explanations beforehand. This research received permission from the Research Ethics Commission of Universitas Brawijaya, number 104/EC/KEPK/05/2020.

The children and parents involved in this research were members of the Community for the Empowerment of Parents of Children with Special Needs (ABK), the Community of Heart Warriors (KPJ), and the Foundation for the Development of Disabled Children (YPAC). This research was conducted using non-probability sampling with a consecutive sampling method. The inclusion criteria in this study were all children and parents who were part of the Community for the Empowerment of Parents of Children with Special Needs (ABK), the Heart Warrior Community, and the Foundation for the Development of Disabled Children, Malang, Indonesia, in June-September 2022. The exclusion criteria in this study are children and parents who cannot read the questionnaire.

This study measures changes in children's and parents' knowledge. The interventions consisted of 3 training modules for children and 3 training modules for parents. The topics for children's training modules included improving self-image, managing emotions, and dealing with peers. Parents were given modules on strategies for becoming prosperous parents of disabled children (managing expectations and acceptance, stress management, and mental health literacy), seminars on physical disabilities and chronic illnesses, and the role of family support in strengthening children's self-image, as well as parenting and communication skills. Before and after each training module, a pretest and posttest were carried out according to each topic. Training modules are conducted in hybrid (online and offline) three-session seminars in each community. The interval of each session was around 2 weeks with a duration of around 8 hours, including delivery of material, rest, and prayer. A 30-min-

ute discussion was delivered after each topic. The pretest and posttest scores obtained were compared and statistically tested using the Wilcoxon test.

At the end of the intervention series, the Rosenberg Self-Esteem Scale (RSES), Self-Harm Inventory (SHI), Children's Strengths and Difficulties Questionnaire (SDQ), and Pediatric Quality of Life Questionnaire (PedQoL) were measured. Interpretation of the RSES is carried out by calculating the average score of all respondents. The average score of ≥15 means a child has a good self-image, whereas those with less have a poor self-image. SHI interpretation is carried out by calculating the average score of all respondents. Scores with a mean value of ≥5 have a high risk of engaging in self-harming behavior or being suspected of being a borderline personality. The SDQ questionnaire is interpreted by calculating the total mean value and classified based on interval values. The score interval 0 to 13 is classified as mild difficulty, 14 to 27 as moderate difficulty, and >27 as severe difficulty. The PedQoL questionnaire is interpreted by calculating the total mean value and classified based on interval values. A score interval of 0 to 18 means a high quality of life, a score of 19 to 37 a excellent quality of life, a score of 38 to 57 a moderate quality of life, a score of 58 to 76 a poor quality of life, and a score of more than 76 a catastrophic quality of life.

RESULTS

Demographic data on 30 children shows that the majority gender is male, with an average age of around 11 years, and the highest education is elementary school. It was found that before intervention, children tended to remain silent when angry. When experiencing bullying, children also tended to remain silent or report it to their parents and/or teachers. Most children are close to both parents and tend to have activities alongside their parents. A total of 16 respondents were children with chronic illnesses (congenital heart disease, rheumatic heart disease, and other heart disease in children), and 14 respondents were children with disabilities. These data are summarized in Table 1.

Table 1. Demographic data of the involved children with disabilities and chronic illnesses (n=30)

Parameter	Proportion	Mean ± Standard Deviation
Gender		
Male	18	
Female	12	
Age (years)		10.96 ± 3.66
Education		
Elementary (SD)	19	
Junior High (SMP)	6	
Senior High (SMA)	5	
Things children do when angry		
Slamming things	3	
Hitting/pinching others	1	
Remain silent	21	
Other	5	
Things children do when getting bullied		
Remain silent	9	
Fight back with physical force	2	
Fight back with a verbal attack	6	
Report to parents/teachers	11	
Other	2	
Close with father		
Yes	28	
No	2	
Close with mother		
Yes	30	
No	0	
Activities with family		
Breaking bread	7	
Watching TV/playing	13	
Having a vacation/traveling	5	
Conversation	3	
Never spend time together with any family member	2	
Case type		
Disabilities	14	
Chronic illnesses (heart disease in children)	16	
Disability type		
Quadriplegic/physically handicapped	3	
Deaf	6	
Blind	0	
Speech impaired	0	
Multiple disabilities	4	
Other (autism, intellectual disability, or other neurodevelopmental impairment)	1	

The training module intervention given to children showed a significant increase

in knowledge in the self-image module (p=0.002), the emotion management module (p≤0.001), and the dealing with peers module (p≤0.001), which is summarized in Table 2. The training modules given to parents (Table 3) showed a significant increase in knowledge in parenting and communication seminars (p≤0.001), but there was no change in knowledge in strategy for achieving prosperous ABK parents modules (management of expectations, acceptance, and stress management in parents) (p=0.527) nor seminars on physical disabilities and chronic illnesses in parents and the role of the family in strengthening children's self-image (p=0.136).

Table 2. Mean value of training modules for children

Training Module Topic	Pretest	Posttest	P Value
Strengthening Self-Image	68.18 ± 30.650	90 ± 14.800	0.002
Managing Emotions	61.38 ± 19.951	86.21 ± 14.246	≤ 0.001
Dealing With Peers	76.80 ± 17.963	90.40 ± 11.719	≤ 0.001

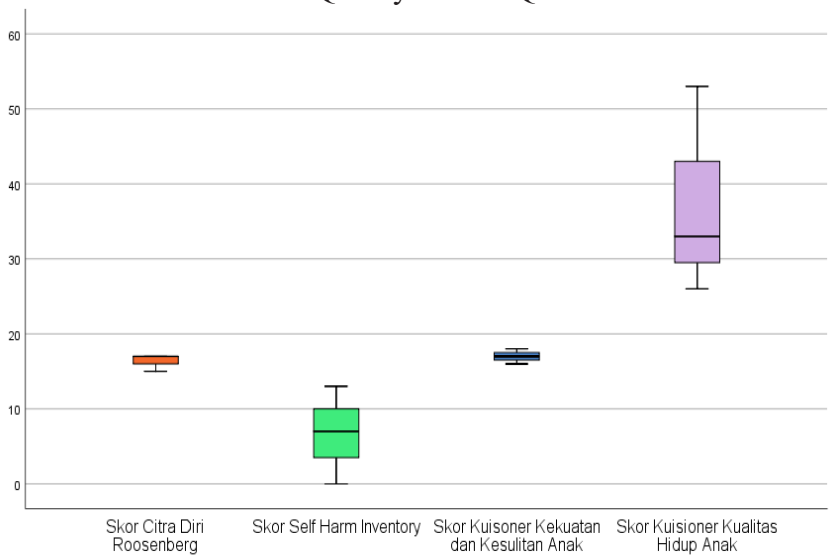
Table 3. Mean value of training modules for parents

Training Module Topic	Pretest	Posttest	P Value
Strategies For Achieving Prosperous Parents Of Disabled Children (expectation and acceptance management, stress management, and mental health literacy)	58.57 ± 21.432	61.43 ± 16.575	0.527
Seminar on Physical Disabilities and Chronic Illness and the Role Of The Family In Strengthening Children's Self-Image	79.78 ± 15.825	90.64 ± 12.134	0.136
Parenting Style and Communications	67.44 ± 26.556	86.05 ± 13.477	≤ 0.001

At the end of the training module, the RSES score was obtained with a mean value of 17.17 ± 2.618, which shows a mean score above 15, so it is concluded that children who received the intervention had positive a good self-image. The training module intervention also produced a SHI score with a mean value of 2.18 ± 3.275, which shows a mean score below 5, so it can be concluded that children who receive the intervention have a low tendency to self-harm or a low risk of having borderline personality, although it needs to be observed that 5 children have a score of ≥ 5 and thus need further supervision after this program intervention.

The SDQ score was measured with a mean value of 18.37 ± 5.230, so it was found that the child's intervention effect had a moderate difficulty value. Apart from that, the PedQoL Questionnaire score was obtained with a mean value of 34.64 ± 12.077, so it was found that the child had a favorable quality of life (figure 1).

Figure 1. Box plot of the Rosenberg Self-Esteem Scale, Self Harm Inventory, Children's Strengths and Difficulties Questionnaire, and Pediatric Quality of Life Questionnaire



DISCUSSION

Evaluation of the training module intervention on 30 children with disabilities and chronic diseases showed a significant increase in the level of children's knowledge about self-image (from 68.18 ± 30.650 to 90 ± 14.800), emotion management (from 61.38 ± 19.951 to 86.21 ± 14.246), and coping with peer pressure (from 76.80 ± 17.963 to 90.40 ± 11.719). This shows the effectiveness of the intervention in the form of seminars and modules in increasing children's knowledge about self-image, emotion management, regulation and overcoming peer pressure. Measurement of children's self-image using the parameters of the Rosenberg Self-Esteem Scale also showed a good score. This is consistent with previous studies on self-image interventions for children with disabilities or chronic illnesses. Self-image training that was integrated into school education by Ron-Saphira et al. in 2023 in Spain improved the image and confidence of children with learning difficulties (due to various causes) and even improved their academic achievement [6]. Similar interventions in Lebanon also improved self-confidence in children with special needs in Lebanon [7]. In Korea, self-image and social skills training improved children's confidence with problematic behavior [8]. Meanwhile, self-imaging interventions improved self-image and body satisfaction and decreased negative eating behaviors in students with eating disorders in Canada [9].

Disabilities and chronic diseases may pose risk factors for low self-image in children and adolescents. Such constraints may impede children in their daily activities, academic achievements, and socializing with others. Children with disabilities are more likely to have a poor perception of themselves, so they can have low self-confidence [6]. The gender (especially female), the age at which the child has begun to pay attention to self-perception (particularly adolescent age), the perception of parents, the teacher's perception, the acceptance of peers, as well as the environmental conditions of the child (specifically school) can affect the child's self-image [6], [10]–[12]. Chronic illness can make the child feel guilty, afraid of limitations, anxious about acceptance by peers, and a loss of hope, thereby lowering the child's image and self-confidence [11]. These risk factors align with the training module's topics, which include self-imaging, emotion regulation, and coping dealing with peer pressure.

Children with disabilities have different ways of interpreting emotional stimuli from outside, so they need different adjustments as well. Many of the children with disabilities showed aggressive behavior, frustration, depression, or self-image problems [13], [14]. Emotional intelligence training, including emotional management, is effective in improving communication and social skills in children with disabilities [15]. Emotional management training is also effective in reducing negative emotions and enhancing positive emotions so that it can reduce emotional failure and self-sufficient behavior in children [16]. However, not all children with disabilities or chronic diseases have a lower self-image than healthy children. Some meta-analyses show that children with chronic diseases have a fairly good self-image [17]–[19]. A meta-analysis by Miyahara and Piek also showed that kids with major disabilities have positive a good self-image [20]. This is consistent with the findings in this study where children with disabilities and chronic illnesses have a pretty good self-image, a relatively low risk of self-deficiency, as well as a rather high quality of life. Research by Lee in 2019 showed that children with chronic diseases have better intrinsic life goals than children without chronic illnesses, so children have a better quality of life. Specific conditions such as disabilities and chronic diseases can inhibit the activity of children and adolescents, but on the other hand, they can have a positive impact on their emotional development and character [17]. Children with major disabilities (such as those involved in this study) have physical limitations from birth, so they have accepted their condition or even have other skills to compensate for their physical limitations [20].

In this study, all the research subjects involved, along with their parents, are already integrated into a community that has a good understanding, acceptance, and support system. Parents' acceptance and support of their children and their fellow parents can be a factor in supporting a good child's self-image. This is consistent with previous research that showed that the spiritual support of the closest people, especially the parents, plays an important role in the formation of the child's self-image [21].

In this study, an assessment of the strategies achieved by the parents of the prosperous ABK was carried out. Based on the pre-test and post-test results of the expectation, reception, and stress and fatigue management modules in the parents, of all 30 parents who took the module, there was no significant improvement ($p = 0.527$). This differs from previous research that showed a decrease in psychological rigidity, reduction in stress, improved psychological well-being, and decreased tendency to suppress thoughts and emotions through a psychological flexibility intervention program based on Acceptance and Commitment Therapy (ACT) [22]. Most parents of children with disabilities or chronic diseases show difficulties in setting up time to take care of their children and work, increased stress and stress levels, financial difficulty, lower levels of satisfaction with life, and higher divorce rates. Therefore, parents of children with disabilities and chronic illnesses need a high level of emotional intelligence, including knowledge of perceived emotions, understanding of the circumstances experienced, awareness of other people's conditions, ability to cope with difficult conditions that cause intense emotional stress, and control of the stresses that arise. In childhood and adolescence, parents are the most important people for children, especially children with disabilities and chronic diseases. Emotional intelligence training, in this case, including management of expectations and acceptance, as well as management of stress and fatigue, is important for parents in caring for children with disabilities. Parents with good emotional intelligence tend to be able to raise a child with good emotional intelligence [20], [23], [24].

In this study, interventions were conducted through seminars, unlike previous stud-

ies using the Acceptance and Commitment Therapy (ACT) intervention program, where ACT is a behavioral approach by applying six core processes (acceptance, contact with the present moment, cognitive defusion, self as context, applying values, and actions of commitment) to psychological flexibility. To achieve good expectations and acceptance management as well as stress and fatigue management in parents of children with disabilities and chronic illnesses, seminars may not be enough, but they also need a behavioral approach like the ACT.

From the assessment of the role of the family in strengthening the child's self-image by pre-test and post-test of 30 parents of children with disabilities and chronic diseases, significant improvement in parents' knowledge ($p = 0.136$) of the condition of physical disability and the chronic disease, as well as the family's role in the strengthening of the children's self-image, is not obtained. Previous research has shown that the level of knowledge of parents about the disability condition or disease that their children experience can affect their acceptance and perception of their children. Parents' knowledge of disability conditions or diseases that children experience also enables parents to seek more focused health services, better access to education, and better patterns of parenting suitable for children. Parents' perception of children with disabilities or chronic diseases affects how parents behave in caring for children [25]–[27]. Parental acceptance affects the child's emotional development, social skills, and adaptability. Without good acceptance or perception from parents, children can feel depressed and develop emotional disturbances [28]. Parental supports in a parent-child relationship also play an important role in the depression risk of an adolescent [29]. Parents' level of knowledge of the child's condition also allows parents to think more rationally so that they can have more adaptive coping mechanisms [30]. Although no significant increase in knowledge has been achieved, the average baseline of parents' knowledge of physical disability and chronic disease conditions, as well as the role of the family in self-imagery strengthening, has been included, which is 79.78. This may be due to the parents included in this study being involved in the community of parents of children with disabilities and chronic illnesses, so they have previously had good social knowledge and support. This is consistent with previous research showing the importance of social support and community engagement for parents to have a better acceptance of their children and more adaptive coping mechanisms [28].

The study also assessed parents' knowledge of patterns of caring and communication. From the pretest and posttest, there was a significant increase in knowledge in parents ($p \leq 0.001$) about patterns of caring and communication. In the development of the child's self-image, several factors influence its formation, one of which is the pattern of care [31]. Patterns of parental care contribute significantly to the formation of child psychopathology [32]. A study showed a correlation between nursing patterns and adolescent life satisfaction. The higher the communication, autonomy, and self-disclosure in the pattern of caring, the higher the child's level of life satisfaction. Strengthening communication and interaction between parents and children can strengthen the child's self-image and level of life satisfaction in children [33].

The training modules and the measurement methods used in this research can be used for interventions in later days for similar populations. The weaknesses of this study are that there is no comparison of the control group with the healthy child of the age, no measurement of the baseline values of the parameters of self-image, self-esteem, strength, and difficulty of the child, and the quality of life of children from the interventions of this training module and no long-term evaluation and monitoring.

This research needs to be continued with a true experimental method using randomized

controlled trials that compare the population of children with disabilities with chronic diseases with the control group (children without disabilities or chronic diseases) with long-term evaluation and monitoring. It also requires comparisons with the population of children with disabilities and chronic diseases as well as the parents of the general population (who are not involved in the community).

CONCLUSION

Interventions of self-image-strengthening training modules have effectively increased the knowledge of children and parents. Children with disabilities and chronic illnesses have a positive self-image, a low self-esteem tendency, and a relatively positive quality of life.

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CONFLICT OF INTEREST

The authors have no conflicts of interest to declare.

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