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Implementing Self-Help Interventions in Nursing Practice for Children and Adolescents on Mental Health with Risk for Eating Disorders

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ABSTRACT

Background: Eating disorders are becoming increasingly prevalent among children and adolescents, significantly impacting physical health, mental well-being, social relationships, and academic performance. There is a critical need for effective and accessible interventions, particularly those that incorporate self-help strategies within nursing practice. **Objectives:** This study aimed to evaluate the effectiveness of a self-help intervention in addressing eating disorders and enhancing mental health among children and adolescents. **Methods:** A true experimental study with a pretest-posttest control group design was conducted in Kendari City, Southeast Sulawesi, Indonesia. Participants were randomly assigned to either an intervention group (n=51) or a control group (n=51). The self-help intervention comprised modules designed to improve eating behaviours and mental well-being. Data were collected using the SCOFF(Sick, Control, One, Fat, Food) Questionnaire and the Mood and Feelings Questionnaire – Self-Report (MFQ-Self), with statistical analysis performed using the Paired Wilcoxon test. **Results:** The intervention group showed a significant reduction in eating disorder risk, with the mean SCOFF score decreasing from 3.37 to 1.39, and a notable improvement in mental health, with the mean MFQ-Self score decreasing from 4.06 to 2.59. In contrast, the control group exhibited minimal changes in both measures. The Paired Wilcoxon test confirmed that the improvements in the intervention group were statistically significant ($p < 0.001$), while the changes in the control group were not. **Conclusion:** The self-help intervention proved effective in reducing the risk of eating disorders and enhancing mental health among adolescents. This approach represents a promising, cost-effective, and accessible strategy for integration into nursing practice.

Keywords: Adolescents; Children; Eating Disorder; Nursing; Self-help

INTRODUCTION

Eating disorders are increasingly recognized as a significant mental health concern among children and adolescents. Globally, it is estimated that 1 in 7 (14%) individuals aged 10–19 years experiences a mental health condition (WHO, 2020). Rising environmental pressures, severely disrupted eating behaviours, and constant exposure to "ideal" body images through social media have made children and adolescents more vulnerable to eating disorders such as Anorexia Nervosa (AN) and Bulimia Nervosa (BN). These disorders not

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only affect physical health but also have serious implications for mental well-being, quality of life, social relationships, and academic performance (Balasundaram & Santhanam, 2024).

Eating disorders are a growing global concern, with increasing prevalence reported across various regions. While prevalence rates vary, trends indicate that adolescents and young adults are particularly vulnerable worldwide. In the United States, for instance, 1–2 million women meet the criteria for Bulimia Nervosa (BN), and 500,000 for Anorexia Nervosa (AN), with 1% of adolescent females suffering from AN and 4% from BN (Hornstein *et al*., 2023). Similarly, prevalence rates in countries such as Egypt, Iran, Norway, Italy, Singapore, and Malaysia show that eating disorders affect both school-aged children and university students, although they are often underdiagnosed or untreated (Syros *et al.*, 2024). In Indonesia, the concern is equally pressing. National data show that 12–22% of individuals aged 15–29 suffer from chronic energy deficiency (BMI <18.5), which may be indicative of disordered eating patterns. Specifically in Southeast Sulawesi, 9.85% of those aged 15 and above are at risk of mental health issues, and in Kendari City alone, 79 adolescents aged 10–17 have been diagnosed with eating disorders. These figures underscore the urgent need for localized intervention strategies, especially in underserved regions like Southeast Sulawesi, where awareness, detection, and treatment resources remain limited (Kementerian Kesehatan Republik Indonesia, 2022).

Prolonged eating disorders can lead to hypotension, bradycardia, hypothermia, glandular swelling, anaemia, dehydration, and gastric rupture. More than 90% of adolescent females experience secondary amenorrhea due to chronic malnutrition (Paul, Ghanta & Chao, 2023). Children and adolescents at risk for eating disorders often face stigma and barriers to accessing appropriate mental health services. Some are embarrassed or afraid to seek help, while others encounter obstacles such as limited access to healthcare services or the inability to afford necessary care (López-Gil *et al*., 2023). Therefore, it is crucial to develop self-help intervention methods that are both easily accessible and effective for children and adolescents at risk of eating disorders (Pruessner *et al*., 2024). There is also an urgent need for innovative approaches to address these challenges—particularly those that can be seamlessly integrated into nursing practice.

One promising approach is self-help intervention, which enables children and adolescents to access resources and support to improve their mental health independently of direct assistance from mental health professionals. This intervention includes modules specifically designed to address eating disorder symptoms and enhance overall mental well-being (Sandgren *et al*., 2023). Self-help interventions can influence adolescent eating disorders in several ways: biologically (through promoting healthy eating patterns, increasing nutritional knowledge, and reducing physical health impacts), psychologically (by providing information and insight into eating disorders and addressing negative body image) (Tuncer & Çetinkaya Duman, 2024), and socially (by fostering support, interaction, and increased engagement in social life) to help individuals manage their symptoms and improve their mental health independently (Zoahira & Purnamasari, 2023). By empowering patients to take an active role in their recovery, self-help interventions can complement professional care and offer a more accessible and cost-effective solution (López-Gil *et al*., 2023). Implementing these strategies within nursing practice can enhance the capacity of healthcare providers to meet the growing needs of this vulnerable population.

Incorporating self-help interventions into nursing practice requires careful consideration and adaptation to ensure they are effective and appropriate for the target demographic. Nurses can play a crucial role in guiding and supporting children and adolescents through these interventions, integrating them into broader treatment plans (Purnamasari *et al*., 2023). By providing education, monitoring progress, and addressing any challenges that arise, nurses can help maximize the benefits of self-help interventions. This approach not only enhances the overall quality of care but also supports the development of more comprehensive and personalized treatment strategies for managing eating disorders in younger populations (Wahyuni *et al*., 2024).

Eating disorders among children and adolescents are a pressing global health concern, with increasing prevalence noted in both developed and developing countries. While clinical treatments remain essential, there is a growing need for accessible, preventive strategies, especially in low-resource settings. Mental health issues such as anxiety, depression, and body image disturbances often precede or accompany eating

disorders, highlighting the importance of early, holistic intervention. In recent years, self-help interventions have emerged as a promising avenue within nursing and mental health practice. These approaches aim to empower individuals to manage symptoms independently, often using structured tools and psychoeducational resources (Barakat *et al*., 2023). Studies by Andersen *et al*, (2023) and Kemp *et al*. (2023) have demonstrated that self-help interventions can significantly reduce disordered eating behaviours and improve psychosocial outcomes among children and adolescents. However, the majority of this evidence comes from Western contexts, and little is known about how self-help frameworks can be culturally adapted and implemented in Southeast Asia, including Indonesia. Therefore, this study aims to explore the implementation of self-help interventions to improve mental health in children and adolescents at risk for eating disorders in Indonesia. The study uses the SCOFF (Sick, Control, One, Fat, Food) Questionnaire and the Mood and Feelings Questionnaire (MFQ-Self) as evaluation instruments to assess mental health risks and intervention effectiveness.

METHODOLOGY

Study Design

A true experimental study with a pretest-posttest control group design was conducted from July to September 2024 in several junior and senior high schools in Kendari City, Southeast Sulawesi, Indonesia. Two groups—an intervention group and a control group—were selected randomly. Sample size determination using the G*Power program indicated that 102 participants were required, with 51 respondents in each group, based on a significance level of $\alpha = 0.05$ and power of 80% ($\beta = 0.20$). Participants were selected through stratified random sampling, ensuring a representative sample to provide reliable data for addressing the research problem (Purnamasari *et al*., 2022).

Research Instrument

The instruments used include the SCOFF Tools, which consists of five questions designed to identify individuals at risk for eating disorders. The questions in the SCOFF Tools address symptoms associated with eating disorders (Morgan, 2020). Additionally, the Mood and Feelings Questionnaire - Self Report (MFQ-Self), comprising 13 items with scores ranging from 0 to 26, is used to assess the mental health of children and adolescents (Zoahira & Purnamasari, 2023). The self-help module has been evaluated by six experts and has demonstrated an appropriate level of content and face validity based on its indices: Item-Level Content Validity Index (I-CVI) of 0.83, Scale-Level Content Validity Index Average (S-CVI/Ave) of 0.83, Content Validity Ratio (CVR) of 0.99, and Scale-Level Face Validity Index Average (S-FVI/Ave) of 0.92. Internal consistency was also confirmed with a high reliability score, Cronbach's alpha = 0.941.

Statistical Analysis

Before conducting statistical analysis, the data was tested for normality using the Kolmogorov-Smirnov test. The results showed that the data was not normally distributed. Therefore, the Wilcoxon signed-rank test, a non-parametric test suitable for non-normal data was used to compare pre-test and post-test scores. This non-parametric test is suitable for comparing paired samples when the normality assumption cannot be satisfied, providing a robust method for evaluating the effectiveness of the variables in the research (Gninenko *et al.*, 2024).

Ethical Consideration

The research obtained ethical clearance from the Ethics Committee of Bani Saleh University, Indonesia with reference number EC.0192/KEPK/STKBS/VII/2024 on 15th December 2023.

RESULTS

Characteristics

The total number of respondents involved in this study was 102, comprising 51 individuals in the intervention group and 51 individuals in the control group. The demographic characteristics of the respondents are presented in the table below:

Table 1: Demographic Characteristics of Study Respondents

Respondent Characteristics	Frequency Distribution (n=102)			
	Intervention (n=51)		Control (n=51)	
	f	%	f	%
Gender				
Female	24	47.1	20	39.2
Male	27	52.9	31	60.8
Age				
14 years	12	23.5	16	31.4
15 years	19	37.3	24	47.1
16 years	4	7.8	5	9.8
17 years	11	21.6	3	5.9
18 years	5	9.8	3	5.9

Table 1 presents the demographic characteristics of the 102 respondents, equally divided into intervention and control groups. The intervention group shows a nearly equal gender split, while the control group has more males. Both groups are mainly composed of 14- and 15-year-olds, with fewer participants in older age brackets. These demographic differences may affect the study's findings.

Table 2: Characteristics of Body Weight, Height and Body Mass Index of Study Respondents

Respondent Characteristics	Frequency Distribution (n=102)							
	Intervention (n=51)				Control (n=51)			
	Pre Test		Post Test		Pre-Test		Pos-Test	
	f	%	f	%	f	%	f	%
Body Weight								
30-40 kg	12	23.5	6	11.8	11	21.6	8	15.7
41-50 kg	31	60.8	35	68.6	33	64.7	25	49.0
51-60 kg	5	9.8	8	15.7	5	9.8	10	19.6
61-70 kg	2	3.9	2	3.9	1	2.0	6	11.8
71-80 kg	1	2.0	0	0.0	1	2.0	2	3.9
Height								
140-150 cm	10	19.6	3	5.9	8	15.7	5	9.8
151-160 cm	24	47.1	16	31.4	28	54.9	25	49.0
161-175 cm	17	33.3	32	62.7	15	29.4	21	41.2
Body Mass Index (BMI)								
Underweight	39	76.5	14	27.5	38	74.5	38	74.5
Normal	4	7.8	34	66.7	4	7.8	6	11.8
Overweight	7	13.7	3	5.9	8	15.7	5	9.8
Obesity	1	2.0	0	0.0	1	2.0	2	3.9

Table 2 summarises the respondents' body weight, height, and BMI before and after the intervention or control. The intervention group showed notable improvements in body weight and BMI, with an increased proportion of respondents moving from underweight to normal BMI after the intervention. Height distribution also shifted slightly, with more participants in the taller category post-intervention. In contrast, the control group exhibited only minor changes in weight, height, and BMI distributions over the same period. These results suggest the intervention had a greater positive impact on respondents' physical health compared to the control.

Risk of Eating Disorders in Children and Adolescents

Table 3: Risk of Eating Disorders

Risk of Eating Disorder	Intervention (n=51)				Control (n=51)			
	Pre-Test		Post-Test		Pre-Test		Post-Test	
	f	%	f	%	f	%	f	%
Diet	0	0.0	15	29.4	0	0.0	0	0.0
Eating Control	0	0.0	10	19.6	1	2.0	3	5.9
Emotions	36	70.6	17	33.3	33	64.7	32	62.7
Food Restriction	11	21.6	9	17.6	11	21.6	13	25.5
Anxiety	4	7.8	0	0.0	6	11.8	3	5.9
Mean	3.37		1.39		3.43		3.31	
Median	3.00		2.00		3.00		3.00	
Std. Deviation	0.631		1.097		0.728		0.678	

Table 3 shows the comparison of eating disorder risk between the intervention and control groups before and after the intervention. In the intervention group, there was a clear reduction in emotional, dietary, and anxiety-related risks, reflected in a decrease in the mean score from 3.37 to 1.39 and a shift toward lower-risk categories. In contrast, the control group showed minimal changes, with the mean score slightly decreasing from 3.43 to 3.31. These findings suggest the intervention had a meaningful impact on reducing eating disorder risk, whereas the control group experienced no significant improvement.

Mental Health of Children and Adolescents

Table 4: Mental Health

Mental Health	Intervention (n=51)				Control (n=51)			
	Pre Test		Post Test		Pre Test		Post Test	
	f	%	f	%	f	%	f	%
Mood	10	19.6	17	33.3	10	19.6	8	15.7
Self-Esteem	5	9.8	9	17.6	7	13.7	8	15.7
Hope	8	15.7	8	15.7	7	13.7	7	13.7
Interest	5	9.8	12	23.5	6	11.8	6	11.8
Concentration	12	23.5	5	9.8	11	21.6	14	27.5
Socialisation	3	5.9	0	0.0	4	7.8	1	2.0
Eating Patterns	4	7.8	0	0.0	2	3.9	4	7.8
Fatigue	2	3.9	0	0.0	2	3.9	0	0.0
Anxiety	1	2.0	0	0.0	1	2.0	3	5.9
Depression	2	3.9	0	0.0	1	2.0	0	0.0
Mean	4.06		2.59		3.86		3.92	
Median	4.00		2.00		4.00		4.00	
Std. Deviation	2.412		1.417		2.289		2.189	

Table 4 summarises mental health outcomes in the intervention and control groups before and after the intervention. In the intervention group, there was a clear improvement, with a drop in the mean score from 4.06 to 2.59, indicating better mental health status. Reductions were observed in issues like concentration, socialisation, eating patterns, fatigue, anxiety, and depression. In contrast, the control group showed no meaningful changes, with the mean score remaining relatively stable (3.86 to 3.92). The reduced standard deviation in the intervention group suggests more consistent mental health improvements across participants.

Implementation of Self-Help Interventions in Nursing Practice

Table 5: Paired Wilcoxon Test

Statistic	Intervention (Pre-Post)		Control (Pre-Post)	
	Eating Disorder	Mental Health	Eating Disorder	Mental Health
Mean Rank				
Negative Ranks	22.50	16.45	6.50	5.62
Positive Ranks	0.00	18.00	6.50	5.00
Z	-5.838	-4.653	-1.732	-1.941
***p*-value**	0.000	0.000	0.083	0.052

Table 5 displays the results of the Paired Wilcoxon test comparing pre- and post-test scores within both intervention and control groups for eating disorder risk and mental health. In the intervention group, both outcomes showed statistically significant improvement following the self-help intervention. For eating disorder scores, all participants had lower post-test scores (mean rank = 22.50, $Z = -5.838$, $p < 0.001$), indicating a clear reduction in symptoms. Similarly, mental health scores improved significantly ($Z = -4.653$, $p < 0.001$), with the positive mean rank (18.00) exceeding the negative rank, suggesting improved mental well-being after the intervention.

In contrast, the control group showed no statistically significant changes in either domain. For eating disorder scores, ranks were balanced (mean rank = 6.50 for both directions), with a non-significant result ($Z = -1.732$, $p = 0.083$). Mental health scores also showed minimal change ($Z = -1.941$, $p = 0.052$), falling just short of

statistical significance. These results highlight the impact of the self-help intervention in reducing eating disorder symptoms and improving mental health among participants in the intervention group, which was not observed in the control group.

DISCUSSION

The present study demonstrated that self-help interventions, when integrated with structured mental health frameworks, significantly reduced the risk of eating disorders and improved overall mental health among adolescents. The results from Tables 3, 4, and 5 show consistent and statistically significant improvements across multiple indicators, including dietary control, emotional regulation, body mass index, and various mental health dimensions, among participants in the intervention group. These findings reinforce the efficacy of self-help models in adolescent populations, particularly when facilitated through a structured and supportive environment.

Notably, the intervention group experienced a significant decrease in mean SCOFF scores—from 3.37 to 1.39—indicating a reduced risk of disordered eating behaviors post-intervention. This is in stark contrast to the control group, which only saw a minimal change (3.43 to 3.31). The improvement is further substantiated by the Wilcoxon test results ($Z = -5.838$, $p < 0.001$), which underscore the effectiveness of the self-help approach in reducing pathological eating patterns. These findings align with prior research that supports the use of brief, self-guided interventions to mitigate early symptoms of disordered eating, particularly in school-based settings (Andersen *et al*., 2023).

Improvements in mental health scores (from 4.06 to 2.59 in the intervention group) were equally noteworthy. Participants reported positive changes in mood, concentration, interest, self-esteem, and a decline in symptoms such as fatigue, anxiety, and depression. The Wilcoxon test result ($Z = -4.653$, $p < 0.001$) further validates these findings, suggesting that the intervention had a clinically meaningful impact on mental health. These outcomes mirror the evidence presented by O'Brien *et al*. (2024), who found that cognitive-behavioral and mindfulness-based self-help programs lead to significant psychological improvements in adolescents, especially when administered in a structured, consistent format.

One of the most compelling aspects of the intervention was its effect on BMI categories (Purnamasari *et al*., 2023). The proportion of underweight individuals in the intervention group dropped significantly (from 76.5% to 27.5%), while those in the normal BMI category rose (from 7.8% to 66.7%).This suggests that the intervention also contributed to healthier nutritional and lifestyle habits, which are often neglected in mental health-focused interventions. According to Hazzard *et al.* (2021), interventions that target both eating behaviors and psychological well-being tend to produce more sustainable outcomes in adolescent populations.

Despite these promising results, the study has several limitations. First, the lack of control for confounding variables such as family support systems, previous psychological treatment, nutritional access, or socioeconomic status could affect the internal validity of the findings. Self-reported instruments like SCOFF and MFQ-Self, while widely used, are subject to response biases, including social desirability and inaccurate recall (López Soler *et al*., 2024). Additionally, the six-week duration of the intervention, though effective in this context, limits conclusions about long-term sustainability and relapse prevention (Andas *et al*., 2025).

Another consideration is the observed variability in participant response, as reflected in the standard deviations. While the intervention led to overall improvement, not all individuals benefited equally. This underlines the importance of personalising self-help interventions to match the unique psychological, social, and environmental context of each adolescent. Factors such as personal motivation, digital literacy (for app-based components), and peer support may play critical roles in intervention success (Hornstein *et al.*, 2023; Li *et al*., 2024)).

From a nursing perspective, the findings support the inclusion of self-help strategies as part of routine nursing care in schools, clinics, and community-based programs (Savela *et al.*, 2023). Nurses can serve as facilitators, providing guidance, monitoring progress, and addressing barriers to adherence (Andas *et al*., 2024). This is especially relevant in low-resource settings, where mental health professionals may be scarce. Training nurses to deliver self-help modules such as those based on mindfulness, cognitive restructuring, or

behavior activation—can increase the scalability of mental health care while empowering adolescents to take charge of their own well-being (Andas *et al.*, 2023).

Moreover, the study supports a paradigm shift toward proactive, preventive mental health strategies. Integrating self-help into existing frameworks promotes resilience, autonomy, and a strengths-based approach to adolescent development (Syros *et al*., 2024). It also enables healthcare systems to optimise resource allocation by reducing the burden on specialised mental health services and improving early intervention outcomes (Chong *et al.*, 2024).

This study adds to a growing body of evidence supporting self-help interventions as effective, low-cost, and scalable solutions to address eating disorders and mental health challenges in adolescents (Muruthi *et al*., 2025). The results demonstrate measurable improvements across physical and psychological domains and highlight the potential of nurse-led implementation. Future research should investigate long-term outcomes, explore blended models of self-help with peer or professional support, and adapt content to culturally diverse and socioeconomically disadvantaged populations for broader applicability and equity (Larsen *et al*., 2025; Wang, Zhang & An, 2023).

Limitation

The study involved a relatively small sample size of 51 participants per group, which may limit the study findings to a broader population. As the study is conducted in Kendari City, Southeast Sulawesi, Indonesia, the study results might not be fully applicable to other geographic or cultural contexts. The specific cultural and contextual factors of Southeast Sulawesi could influence both the effectiveness and reception of the self-help intervention. Variations in cultural attitudes towards eating disorders and mental health may affect degree of translation of intervention to different settings.

CONCLUSION

The findings of this study provide strong evidence supporting the effectiveness of self-help interventions in improving mental health and reducing the risk of eating disorders among children and adolescents within nursing practice. Overall, the study concludes that the intervention has a significant and positive impact on managing eating disorder risks and enhancing mental well-being in the targeted population. These results underscore the intervention's value as a therapeutic approach for addressing such issues in young individuals. Future research should examine the long-term effects of the intervention and its applicability across diverse cultural and geographical contexts. Furthermore, exploring the integration of this self-help approach with other therapeutic methods may offer a more comprehensive strategy for managing eating disorders and mental health concerns. Assessing the intervention's scalability and cost-effectiveness in various healthcare settings could also support its practical implementation and wider adoption.

Conflict of Interest

The authors declare that they have no competing interests.

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