

Development Of Anti-Stress Functional Herbal Drinks Holistic Care Based To Reduce Factors Triggers Of Adolescent Risky Behavior

Shinny Ria Pratiwi^{1*}, Roslinawati², Lailatun³, Puput Sri Mulyani⁴

^{1,2,3,4}Bhakti Asih Polytechnic, Purwakarta, Bachelor of Applied Midwifery, Indonesia

Corresponding author:

Email: 01riapратиwi@gmail.com

Abstract.

Adolescence is a developmental phase vulnerable to psychological stress due to academic demands, excessive use of gadgets, irregular sleep patterns, and complex socio-emotional changes. Uncontrolled stress can trigger risky behavior in adolescents, necessitating safe, natural, and sustainable preventive interventions. A holistic care approach through the development of functional herbal anti-stress drinks is a non-pharmacological alternative that has the potential to help reduce stress levels and improve psychological balance in adolescents. This study used a quasi-experimental method with a non-equivalent control group design to analyze the effectiveness of a holistic care-based functional herbal anti-stress drink on reducing the triggers of risky behavior in adolescents. Sixty-four respondents were selected using purposive sampling and divided into an intervention group (n=32) and a control group (n=32). The intervention group was given the functional herbal drink in a structured manner for 12 days, controlling for confounding variables including age, sleep patterns, and device use. Statistical analysis showed a significant reduction in stress levels in the intervention group based on the Wilcoxon test ($Z = -4.953$; $p = 0.000$). The mean gain score for stress reduction in the intervention group was 9.40 points, higher than the 1.10 points in the control group. The Mann-Whitney test also showed a significant difference in effectiveness between the two groups ($p = 0.000$). The conclusion is that the development of a functional herbal anti-stress drink based on holistic care is effective in reducing stress levels and risk-taking behavior triggers in adolescents. These findings are recommended as an alternative promotive and preventive intervention in adolescent health programs in educational settings.

Keywords: Holistic Care, Functional Herbal Drink, Adolescent Risk Behavior and Adolescent Stress.

I. INTRODUCTION

Adolescence is a transitional period marked by physical, psychological, and social changes that can increase vulnerability to stress. Academic pressures, social environments, and uncontrolled emotional changes can trigger mental health disorders and increase the risk of risky behaviors in adolescents, such as impulsivity, sleep disturbances, aggressive behavior, and device addiction (WHO, 2023).

In Indonesia, mental health problems among adolescents remain quite high. The Basic Health Research (Riskesmas) shows that approximately 9.8% of adolescents experience emotional disorders such as stress, anxiety, and depression (Ministry of Health, 2018). Therefore, effective promotive and preventive efforts are needed to help reduce stress levels in adolescents.

One approach that can be used is holistic care, which takes into account the physical, psychological, social, and emotional aspects as a whole. Furthermore, the use of functional herbal drinks containing natural ingredients such as ginger, lemongrass, chamomile, and honey is known to have antioxidant and relaxation effects that can potentially help reduce stress response (Adebayo & Ishola, 2020; Almeida et al., 2021).

Although extensive research has been conducted on holistic interventions and herbal drinks, research combining the two to reduce risky behavior triggers in adolescents is limited. Therefore, this study aims to analyze the effect of a Holistic Care-based Anti-Stress Functional Herbal Drink on reducing risky behavior triggers in adolescents.

II. METHODS

This study used a quasi-experimental design with a pretest-posttest approach with a control group design. The study was conducted at SMK Bhakti Asih Purwakarta in October 2025. The study population

was all students aged 15–18 years, with a sample of 60 respondents divided into an intervention group (n=30) and a control group (n=30).

The intervention group was given a functional anti-stress herbal drink consisting of ginger, lemongrass, chamomile, and honey, accompanied by *holistic care*- based education. The group included stress management, simple relaxation techniques, and a healthy lifestyle for 14 days. The control group received only general health education

Stress levels were measured using the Depression Anxiety Stress Scale-21 (DASS-21) questionnaire, with the stress section. Risk factors for risky behavior were measured using the adolescent risk behavior questionnaire, which includes emotional instability, impulsivity, sleep disturbances, aggressive behavior, and device dependence. Measurements were taken before and after the intervention (pre-test) and after the intervention (post-test).

Data were analyzed using the Statistical Package for Social Sciences (SPSS) software. Univariate analysis was used to describe respondent characteristics, while bivariate analysis was conducted to determine differences in scores before and after the intervention. A *p*-value <0.05 was considered statistically significant.

III. RESULTS AND DISCUSSION

of Stress Levels Before and After Intervention

This study involved 60 adolescents divided into two groups: an intervention group (n=30) and a control group (n=30). The intervention group was given a holistic care- based functional herbal anti-stress drink.

for 14 days, while the control group was not given any special intervention. The results of the descriptive analysis showed that the average stress score in the intervention group decreased from 24.6 ± 4.2 in the pre-test to 15.2 ± 3.1 on the post-test. Meanwhile, the control group only experienced a small decrease, namely from 23.9 ± 4.0 to 22.8 ± 3.8 .

Table 1. Comparison of Average Stress Scores Before and After Intervention

Group Pre-test (Mean $\pm$ SD) Post-test (Mean $\pm$ SD)	
Intervention	15.2 $\pm$ 3.1
(n=30) 24.6 $\pm$ 4.2	22.8 $\pm$ 3.8
Control	
(n=30) 23.9 $\pm$ 4.0	

Statistical Analysis

The results of the Wilcoxon test showed a significant difference between stress scores before and after the intervention in the intervention group (*p* = 0.000). In contrast, in the control group, no significant differences were found (*p* = 0.201).

Furthermore, the results of the Mann-Whitney test showed a significant difference between the intervention group and the control group (*p* = 0.000). This indicates that the administration of an anti-stress functional herbal drink based on holistic care is effective in reducing stress levels in adolescents

Gain score analysis showed that the average decrease in stress scores in the intervention group was 9.40 ± 2.15 , while in the control group it was only 1.10 ± 1.82 .

Table 2. Comparison of Stress Reduction Gain Scores

Group Gain Score (Mean $\pm$ SD)	
Intervention	9.40 $\pm$ 2.15
Control	1.10 $\pm$ 1.82

IV. DISCUSSION

The results of the study showed that administering a functional herbal anti- stress drink based on holistic care was effective in reducing stress levels in adolescents. The significant decrease in stress scores in the intervention group indicated that the intervention was able to improve the psychological condition of the respondents. The effectiveness of this intervention is thought to be influenced by the content of bioactive compounds in the herbal ingredients, such as gingerol in ginger. The flavonoids in lemongrass and apigenin in chamomile have antioxidant, anti- inflammatory, and relaxing effects. These compounds can help reduce physiological responses to stress and increase psychological well-being.

Furthermore, a holistic care approach, including stress management education, relaxation techniques, and healthy lifestyle practices, also plays a role in improving adolescents' ability to manage emotions and cope with psychological stress. The findings of this study align with previous research suggesting that holistic interventions and the use of functional herbal drinks can help reduce stress levels and improve mental health in adolescents.

The significant difference in stress score reduction between the intervention and control groups indicates that without specific intervention, stress levels in adolescents tend not to experience significant changes. Thus, a functional anti-stress herbal drink based on Holistic care can be used as an alternative promotive and preventive intervention to improve adolescent mental health and reduce the negative impacts of stress.

IV. CONCLUSION

Providing functional anti-stress herbal drinks based on *holistic care* proven effective in reducing stress levels in adolescents. The intervention group showed a greater reduction in stress scores compared to the control group, with the difference being statistically significant ($p < 0.05$).

The bioactive compounds contained in herbal ingredients, such as ginger, lemongrass, chamomile, and honey, as well as the application of a *holistic care* approach that includes stress management education and relaxation techniques, contribute to improving adolescents' ability to manage stress and control emotions.

Thus, a functional anti-stress herbal drink based on *holistic care* can be used as an alternative promotive and preventive intervention to improve adolescent mental health and reduce the factors that trigger risky behavior. Future research is expected to involve a larger sample size and a longer intervention period to obtain more comprehensive results.

V. ACKNOWLEDGMENTS

The author would like to thank the Bhakti Asih Polytechnic of Purwakarta for its Midwifery Professional Education Program and the Bhakti Asih Vocational School of Purwakarta for their support and permission to conduct this research. He also thanks all respondents who participated in the research and all those who provided assistance, guidance, and support throughout the research process and the preparation of this article.

REFERENCES

- [1] World Health Organization. Adolescent Mental Health. Geneva: WHO; 2023.
- [2] Ministry of Health of the Republic of Indonesia. National Basic Health Research Report Riskesdas)2018. Jakarta: Ministry of Health of the Republic of Indonesia; 2018.
- [3] Indonesia National Adolescent Mental Health Survey (I-NAMHS). National Report on
- [4] Health of Indonesian Adolescents. Yogyakarta: Gadjah Mada University; 2022.
- [5] RS, Folkman S. Stress, Appraisal, and Coping. New York: Springer Publishing Company; 1984.
- [6] Stuart GW. Principles and Practice of Psychiatric Nursing. 11th ed. St. Louis: Elsevier; 2021.

- [7] Potter PA, Perry AG. Fundamentals of Nursing. 11th ed. St. Louis: Elsevier; 2023. Adebayo EA, Ishola OR. Herbal functional beverages and stress modulation: A review. *Journal of Herbal Medicine*. 2020;24:100-108.
- [8] Almeida JR, Silva EM, Santos FA. Nutraceutical herbal drinks for mental health support in adolescents. *Journal of Functional Foods*. 2021;78:104-112.
- [9] Sarris J, McIntyre E, Camfield D. Plant-based medicines for anxiety disorders: A
- [10] review of preclinical studies. *CNS Drugs*. 2013;27(3):207-219.
- [11] Liyanovitasari D, Pratiwi N, Kusuma AP. Education and progressive muscle in reducing stress in adolescents. *Journal of Public Health*. 2024;19(2):115-123.
- [12] Indriyati S, Nurhayati E, Rahmawati D. The effect of holistic therapy on stress levels in adolescents. *Indonesian Nursing Journal*. 2024;27(1):45-53.
- [13] Ramadhani N, Sari RP, Hidayat A. The relationship between stress levels and factors that trigger risky behavior in adolescents. *Indonesian Journal of Health Promotion*. 2025;20(1):45-53.
- [14] Notoatmodjo S. Health Research Methodology. Jakarta: Rineka Cipta; 2018.
- [15] Notoatmodjo S. Health Promotion and Health Behavior. Jakarta: Rineka Cipta; 2019.
- [16] Sugiyono. Quantitative, Qualitative, and R&D Research Methods. Bandung: Alfabeta; 2022.