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Complementary Therapy Training for Teenager in Reducing the Prevalence Rate of Stunting: An Experimental Study

[CA]Korompis Martha Debora, Frederika Nancy Losu, Sandra Gerce Jelly Tombokan
Poltekkes Kemenkes Manado, Indonesia
[CA]Corresponding Author

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Abstract

It is not yet known precisely which targets and forms of health education can be used in handling stunting both on a national and global scale. This gap requires study to find an effective and efficient solution. This research aimed to examine the target and whether complementary therapy methods, health education, are appropriate in preventing stunting. This research used quantitative methods with an experimental design. Carried out in Gogagoman Village, subdistrict of Kotamubagu Barat of Bolmong Raya, North Sulawesi. The population was 76 teenagers, and the sample was 50. The instrument used a questionnaire distributed online. The inclusion criteria was teenagers who lived in Bolmong Raya. The exclusion criteria was teenagers who lived outside Bolmong Raya. Primary data was from the questionnaires, pre and post-tests. The secondary data came from reputable journals. The training participants were divided into two groups, 25 people in the treatment group and 25 people in the control group. Data analysis used SPPS by conducting a paired t-test. The average knowledge value of 25 respondents in the control group after participating in the training increased by 16%. The treatment group was an increase of 7.3%. This complementary therapy training, play major role in preventing and overcoming stunting with a p-value (0.001 and 0.034) < 0.05, which means there is a significant difference between before and after training. It is recommended that complementary therapy and health education programs targeting teenagers in Bolmong Raya, North Sulawesi, be implemented as an effective strategy for preventing and addressing stunting.

✉Correspondence Address:
Poltekkes Kemenkes Manado – Indonesia
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INTRODUCTION

It is not yet known for certain which form of health education, targeting whom and with what means, can be used effectively in preventing stunting. Stunting is said to be a serious health problem in the world, especially in developing and developing countries, in Asia, Africa and Latin America (Brar et al., 2020; McGlynn et al., 2018). Stunting is an international problem that needs to be given priority considering that so far stunting has not been fully overcome, and many studies discuss various ways of coping, one of which is through health education (Wirth et al., 2017). Health education is used by researchers as a conventional medium for handling every health problem in the cheapest, most effective and efficient manner (Aqtam & Darawwad, 2018). Health education is used as a pioneer because it does not require large costs, it can be done anywhere, by anyone and at any time (Ribek et al., 2021). In every health service program, primary, secondary and tertiary, health education is carried out by health workers and transmitted to various groups in the non-health professional community as an extension of their hand in many health programs (Mustar, 2018). Moreover, if it is given to the right target with calculations that are academically accountable, through health education the goal can be achieved (Jersky et al., 2016).

The target for reducing stunting in Indonesia by 2024 is 17% (Anggraini & Rusdy, 2019). Currently, the average stunting rate is still above 24% in all provinces (Korompis & Losu, 2023).. This fact proves that carefulness is needed in dealing with it. Many studies describe various concepts and strategies for preventing and controlling stunting (Bach et al., 2020; Myatt et al., 2018; Ulfah & Nugroho, 2020). The main causes of stunting are malnutrition, a bad environment and a combination of both requires the involvement of teenagers, especially students (Korompis & Losu, 2023). Other researchers such as Tukayo, La Jumu and Anjaswarni have similar opinions, from different provinces in Indonesia. Tukayo et al and Anjaswarni stated that in health education to overcome stunting, they recommend the role of health students (Isak Jurun Hans Tukayo et al., 2022). The involvement of teenagers with health education is recommended considering that they are the future of the nation's health professionals who play a major role in contributing to health development (Puspitasari et al., 2021). At the international level, there are many recommendations for youth involvement, including WHO and UNICEF also providing similar recommendations (Abay Woday; Yonatan Menber; and Delelegn Tsegaye, 2018; Nasser, 2022). It's just which form of health education needs to be a priority when carrying out health education that needs to be studied further.

One of the trends in stunting prevention that is widely used by the nursing and midwifery professions in Indonesia is complementary therapy (Mirayanti et al., 2022). This therapy is believed to be more easily transmitted to the public, cheap, fast and easy to do (Primasari, 2023). Various studies state the efficiency and effectiveness of complementary therapies in babies (Mirayanti et al., 2022). However, there has been no research that discusses the involvement of teenagers in handling stunting with these complementary actions. This is what differentiates this research from previous related studies.

This quantitative research with an experimental design analyzes whether teenagers who are provided with complementary therapy skills can reduce the prevalence of stunting cases. The aim is to examine whether teenagers as targets with health education equipped with complementary therapy skills can be used to overcome stunting and at the same time reduce the prevalence rate. The implications of this research will contribute to the repertoire of national strategies for reducing stunting, which can be justified academically.

METHODS

This quantitative research used a quasi-experimental. Conducted in Bolmong Raya, North Sulawesi from March 18, 2024 to April 3, 2024. The research procedure included selecting and formulating the problem, selecting the subject and

measurement instruments, determining the research design, carrying out the procedure, analyzing the data, and formulating conclusions. The population was 76 teenagers, 50 of whom participated in the training. The research sample used the Slovin formula where the population size was known, provided that the value of e = 0.2 (20%) for a small population. Recruitment of participants used the purposive sampling method as a non-random sampling technique where researchers determined sampling by determining special characteristics in accordance with the research objectives so that they were expected to answer the research problems. Before being given treatment, a test was carried out using the non-equivalent Control Group Design. The inclusion criteria were teenagers who lived in Bolmong Raya. The exclusion criteria were teenagers who lived outside Bolmong Raya. Primary data was obtained from the results of questionnaires, pre and post-tests after training. Secondary data for this research was taken from reputable journals for the last five years (from 2018 onwards) and from official government sources and world health agencies such as WHO, in English and Indonesian languages. The pre and post-test questions were taken from valid research sources with a total of 15 multiple choice questions. The training participants were 50 teenagers who were currently studying, divided into two groups, 25 people in the treatment group and 25 people in the control group. Meanwhile, 26 respondents were not willing to take part in training. The results of the two tests were compared and data processing was carried out in a mixture of monovariate and bivariate. The maximum value of the training results for the two groups is 15 or 100%. Data analysis used SPPS by conducting a paired t-test. This test is used to determine the difference between the average score before being given treatment (pre-test) and the average score after being given treatment (post-test). The ethical elements in this research consist of: Informed Consent, Anonymity, and Confidentiality. Ethical clearance was obtained prior the commence of the study from Health Research Ethics Committee Poltekkes Kemenkes Manado, No. KEPK.06/02/104/2024, dated on 1 March, 2024.

RESULTS

Table 1. Data Demography (n: 76)

		n	%
Gender	Male	15	19.7
	Female	61	80.3
Education	Junior school	1	1.4
	High school	14	18.4
	University	61	80.3
	Σ	76	100

The table above shows that the number of females dominates the demographic data (80.3%), rather than males (19.7%). The majority of their educational background is dominated by university students (80.3%).

Table 2: Knowledge Based Stunting (n: 76)

Characteristics	Criteria	n	%
Experience of hearing stunting and complementary therapy for it	Yes	59	77,6
	No	17	22,4
Opinion of student being involved in handing stunting	Yes	60	78,9
	No	3	3,9
	Maybe	13	17,1
	Yes	47	61,8

Opinion of health student being involved in handing stunting	No	0	0
	Maybe	29	38,2
	Yes	57	75
Health education on stunting should cover practical skills	No	0	0
	Maybe	19	25
	Yes	10	13
Opinion on handling stunting in your area needs long process and continuation	No	9	12
	Maybe	56	75
	Σ	76	100

The table above proves that the majority of respondents have heard of complementary therapy (77.6%), they agree to be involved in stunting prevention (60%). They also think that health students need to be given skills (75%). Most stated that overcoming stunting in their area requires a long and continuous process.

Table 3: Scores Differentiation between pre and post-test

Characteristics	**Pre-Test**		**Post-Test**	
	Frequency of control group	**Frequency of treatment group**	**Frequency of control group**	**Frequency of treatment group**
Scores	12.2 or 81.3%	12.3 or 82%	14.6 or 97.3%	14.7 or 98%
Variable	Mean (*SD*)	T- Score	Alpha (α)	*p-value*
Pretest and Post Test of Treatment group	-1,1341 (0,778)	-7,985	0,05	0,001
Pretest and Post Test of Control group	-0,4342 (1,287)	-1,851	0,05	0,034

The table above shows that the average knowledge value of 25 respondents in the control group after participating in the training experienced an increase of 2.4 or 16%. The average knowledge value of 25 respondents in the treatment group after attending training increased by 1.1 or 7.3%. The p-value (0.001 and 0.034) < 0.05 indicates that there is a significant difference between before and after training in the treatment group.

DISCUSSION

The results of this experimental research leave four fundamental problems. First, this research proves that teenagers are one of the main strategies in efforts to prevent and overcome stunting (Table 2). Second, the involvement of teenagers is needed, especially those who are health students through provision of complementary therapy skills (Table 2). Third, in practice, prevention and management requires a long and continuous process (Table 2). Fourth, the role of training is very large in increasing the knowledge and skills of teenagers involved in preventing and overcoming stunting, as evidenced by the differences between those who took part in the training and those who did not (Table 3).

The number of teenagers in the world has reached 18% or around 1.2 billion (Khuda, 2019). In Indonesia, the population of teenagers aged 10-19 years is around 23.18%. Towards Indonesia's golden era, teenagers will be counted as a productive age who have a very big role in determining the nation's goals (Fitriahadi et al., 2021). Many studies examine the role of teenagers

in various areas of development, including in the health sector. They discuss the role of teenagers in efforts to prevent and overcome stunting in several areas. Another researcher Korompis did the same thing in Manado, North Sulawesi. This is also what Jumu and his friends did in Papua regarding stunting involving teenagers (Jumu et al., 2022). Jumu et. al. put more emphasis on the role of health students. Those three research results prove that teenagers are the main actors with great potential when involved in various development activities. In the health sector, especially stunting, the involvement of teenagers who are studying health sciences will be more focused and directed. For example, anthropometric measurements, efforts to improve nutrition, maintaining a healthy environment, routine examinations of pregnant women, health education for teenagers and prospective brides, and so on.

This is also the case with aspects of complementary therapy skills revealed in this research, where it is proven that complementary therapy is not only a strategy for dealing with stunting, but can also be used as a means of sharpening teenager competence. Many researchers say that complementary therapies are trending in Indonesia (Lusmilasari et al., 2020). Complementary therapy can not only be carried out by health professionals, but ordinary people can also carry out similar actions (Halimatunnisa et al., 2020; Hsieh et al., 2022). Therefore, providing teenagers, in this case health students, with complementary therapies through training by health professionals is highly recommended as a new breakthrough in accelerating the process of preventing and overcoming stunting. Various studies have also proven the effectiveness and efficiency of training to accelerate competency improvement (Purwanti, 2019; Sopiatun & Maryati, 2021). This fact is also proof that complementary therapy training is a strategy that can be implemented which has great value in stunting prevention programs.

CONCLUSION

The research proves that there is a significant difference between before and after training. Complementary therapy training affected the prevalence rate of stunting. Teenagers are the potential target perpetrators who can be integrated with professionals or other sectors to prevent and/or overcome stunting. The results of this research are also supported by various previous research evidence as discussed in the discussion section. The limitation of this research is that the scope of respondents is not extensive, because it is only available in part of a district in North Sulawesi.

SUGGESTION

This study suggests expanding complementary therapy and health education programs to teenagers in other regions as an effective strategy for preventing and addressing stunting, following an evaluation of their appropriateness and target audience.

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CONFLICTS OF INTEREST

No conflict of interest has taken place during the research process of all researchers.

AUTHOR CONTRIBUTIONS

Martha Debora Korompis: making idea, conceptualization, data collection, data analysis, research methods, discussion, conclusion, references collection and reviewing the articles. Frederika Nancy Losu: data collection, data analysis, research methods, discussion, conclusion, references collection and reviewing the articles. Sandra Gerce Jelly Tombokan: data collection, data

analysis, research methods, discussion, conclusion, references collection and reviewing the articles.

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