Early Childhood Education Program Integration to Prevent Stunting (PAUD-Incasting) Through Audiovisual Media to Improve Clean and Healthy Living Behavior in Preschool Children

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Abstract. Introduction Stunting is a chronic nutritional problem that affects children with a picture of growth failure before and after birth due to a lack of nutrient intake. Clean and healthy living habits are one of the factors that stunt preschoolers' development. Clean and Healthy Living Behavior is an effort to educate the public to increase knowledge, attitudes, and behaviors. Stunting prevention was effective with clean and healthy behavior education, including Clean and Healthy Living Behavior demonstrations in the material by doing six hand washing steps with soap. Purpose–This study aims to analyze the improvement of clean living behavior in preschoolers after being given the intervention of the influence of the PAUD INCASTING program through audiovisual media. Methodology/Approach–This research used quantitative methods with quasi-experiment research designs with pre-test and post-test designs. The respondents of 39 preschoolers using purposive sampling were divided into intervention and control groups. This study's data analysis used the Wilcoxon and the Mann-Whitney tests. A 6-step handwashing questionnaire measured handwashing behavior. Findings–The study's findings yielded a p-value of 0.042, indicating a significant difference in post-test handwashing behavior between the intervention and control groups.

Keywords: Stunting · PAUD INCASTING Audiovisual · handwashing behavior · Preschooler

1 Introduction

The World Health Organization (WHO) stated that Indonesia is among the countries with a relatively high prevalence of stunting, namely 30–39%; even Indonesia is ranked fifth among low-income countries with the highest burden of stunting children [1]. In 2019, Indonesia's national stunting prevalence rate fell to 27.67%. Despite the decrease, stunting in Indonesia is still considered a severe problem because the figure is higher than 20% and does not meet WHO recommendations [2].

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The prevalence of stunting in Yogyakarta in 2018 was severe stunting at 6.3% and stunting at 15.1% [3]. Indonesia's government policy of health 2020–2024 tries to improve health services leading to universal health coverage. It emphasizes strengthening essential health services (Primary Health Care) and increasing preventive and promotive efforts supported by innovation and technology. The primary target indicator of health policy in 2020–2024 is to reduce the prevalence of stunting in toddlers from 30.8% in 2018 to 19% in 2024 [3].

Stunting is a chronic nutritional problem that children with a picture of growth failure before and after birth experience because the body does not get enough nutrients [4]. Stunting will not occur if nutrients are adequate and used efficiently for physical growth, brain development and working ability to achieve optimal levels of health [5].

Poor sanitation allows infectious diseases, which is one of many factors of stunting (Sinatrya and Muniroh, 2019). Infectious diseases are a direct cause of nutritional problems in toddlers. The stunting determining factor in toddlers in rural areas is diarrheal diseases [6]. Two-year-old babies who suffer from diarrheal diseases have a higher risk of stunting than babies who do not suffer from stunting [7].

Herawati et al. found that 19 children (89.5%) experienced stunting while living in an unsanitary environment [7]. Therefore, education on clean and healthy living behavior, including demonstrations in the material by doing six steps of handwashing using soap, proved effective in stunting prevention [8].

Community nurses play a role in disease prevention, one of which is primary health promotion prevention, an activity to improve public health status. By conducting health education, public health counseling (PKM) such as nutrition-related counseling, observation of child growth and development through early detection and improvement of people's nutritional status (Mubarak & Chayatin, 2009) [9]. Community nurses' most important aspect is reducing health risks and improving health in undernourished toddlers. Therefore, nurses' roles in the community are enhanced to overcome toddlers' nutritional problems (Kusumawardani et al., 2020).

Regulation of the Minister of National Education no. 58 of 2009 concerning the standard of Early Childhood Education (PAUD) mentioned that the golden age could already be taught about handwashing to keep themselves clean. Media plays a role in learning, especially in early childhood education, because children think based on what they experience, see, and hear since, during this period, children develop by thinking concretely and naturally [10] (Wong, 2009). Audiovisual media in the video can be a medium during counseling and has many advantages since it is directly related to the five senses of sight and hearing. Approximately 75% to 87% of human knowledge was from sight, 13% from hearing and 12% from other senses (Arsyad, 2006, in Rini 2020).

Andriani (2014), in his research, stated that audiovisual methods could affect handwashing behavior using soap in preschoolers [10]. Before being given health education with audiovisuals, 90% (30 children) behaved quite well in handwashing using soap, and 9.1% (3 children) exhibited poor behavior. After being given health education using audiovisuals, all preschoolers at Aisyiah Dalung PAUD behaved well in washing hands using soap.

Based on a preliminary survey by Luthfansa in November 2019 in Jets District, Bantul Regency 2018, the prevalence of stunting toddlers (until February 2019) in Catalan

Village amounted to 9.6% of the total 739 toddlers. Nutritionists at the primary health center stated that the leading originator of stunting in the village was childcare, infant and child feeding consumption patterns. Exclusive breast milk coverage was 77.5%, and the short birth baby scale was 7.59%.

God has ordered mothers to breastfeed their children exclusively for two years, which is helpful for growth and development and strengthens the immune system because breast milk contains the components the child needs. Besides, humans are ordered to always be holy by purifying to keep themselves awake from dirt and feces. Personal hygiene is essential to be a bulwark of self-defense from all diseases caused by bacteria and dangerous viruses. Islam teaches its worshippers to have Clean and Healthy Living Behavior (PHBS) contained in surah Al-Ma'idah: 6, Meaning:

> O you who believe! If you want to pray, wash your face and hands up to your elbows, sweep your head, and (wash) both feet. Take a shower if you're a junub. And if you are sick, on your way to or from a place of defecation (toilet), or touching a woman and do not have access to water, be in good dust (holy); wipe your face and hands with it. God does not wish to trouble you; instead, He desires to cleanse you and perfect His favor for you to be grateful.

Based on the background presented, the researchers are interested in finding out how much the influence of education increases a clean and healthy lifestyle to prevent stunting in preschoolers.

2 Method

The research design was a quasi-experiment design with a pre-test and post-test design. Researchers treated the intervention group to determine the causal relationship between the two variables. The two variables in question were the PAUD Incasting program and the handwashing behavior of preschool children.

The population of this study was 1,345 preschoolers in Bantul Regency. The sample in this study was 39 preschoolers with health conditions in Bantul Regency. The sampling technique used was purposive sampling, which is sampling by setting unique characteristics according to research objectives. The sample was determined using the experimental research sample large formula and the sample large estimation formula to test the hypothesis of 2 independent group averages.

The research was conducted at PAUD KB' Aisyiyah Surya Melati as an intervention group located in Brajan, Tamantirto, Kasihan, Bantul, DIY and PAUD Integrated Fullday Aisyiyah Kasihan as a control group located in Padokan Kidul, Tirtonirmolo, Kasihan, Bantul, DIY. The research time was conducted from March to April 2021.

The instruments in this study used the checklist handwash questionnaire on Clean and Healthy Living Behavior adopted from a previous study written by Susanti (2016) and audiovisual media. Checklist assessment was done by looking at post-test and pre-test scores by assessing questionnaires given to children. Filling out the checklist was done by the child with parental assistance.

Table 1. Distribution of respondent frequency based on the child's gender and parental education (n = 39)

Characteristics of respondents	Intervention group (n = 20)		Control group (n = 19)	
	F	%	F	%
Gender of the child				
– Male	11	55	7	36,8
– Female	9	45	1	63,2
Parental education				
– Elementary school and Junior high school	1	5	2	10,5
– Senior high school	10	50	5	26,3
– College	9	45		63,2

Table 2. PHBS picture of handwashing behavior in preschool-age children in the intervention group (n = 20)

Research variables	Before the intervention (n = 20)		After the intervention (n = 20)		P*
	Min-Max	Md ± SD	Min-Max	Md ± SD	
PHBS Handwashing behavior	8–14	12 ± 2.03	10–14	14 ± 1,45	0,007

* P<0.05 based on the Wilcoxon test

3 Result

Table 1 shows that in the gender characteristics of respondents, there is a difference between the intervention group and the control, wherein the intervention group, most of the men and the control group, are primarily women. Parental education in the intervention group is high school; in the control group, most are college.

Table 2 shows an increase in PHBS in handwashing behavior in preschool-age children in the intervention group.

Table 3 above shows no difference in PHBS handwashing behavior in the control group of students.

Table 4 shows that the intervention of PAUD INCASTING can increase the PHBS of handwashing behavior in preschool-age children.

4 Discussion

The results showed that before the intervention, the handwashing behavior of preschool-aged children got a score of 12, with a minimum score of 8 and a maximum score of 14. Thus, preschool-age children's handwashing behavior was good, but some only washed their hands without the six steps.

Table 3. PHBS picture of handwashing behavior in preschool-age children in the control group (n = 19)

Research variables	Pre-test (n = 19)		Post-test (n = 19)		P*
	Min-Max	Md ± SD	Min-Max	Md ± SD	
PHBS handwashing behavior	6–14	13–2,75	6–14	12 ± 2,9	0,131

* P<0.05 based on the Wilcoxon test

Table 4. Effect of PAUD INCASTING on respondents' handwashing behavior in preschool-age children (n = 39)

Research variables	Intervention group (n = 20)		Control group (n = 19)		P*
	Min-Max	Md ± SD	Min-Max	Md ± SD	
PHBS Handwashing behavior	10–14	14 ± 1,45	6–14	12 ± 2,9	0,042

* P<0.05 based on Mann Whitney test

Hand hygiene in preschoolers is still not optimal and only limited to knowing hands must be washed after eating and playing [11]. Many children under the age of 10 are still low in maintaining hand hygiene, such as washing hands [12]. Therefore, many children are susceptible to getting sick [11]. Lack of information about proper hand washing causes children to wash their hands only with water-soaked soap [13].

Kushartanti said preschool children's knowledge influences their handwashing compliance using soap [14]. Children are less able to apply hand washing measures caused of knowledge. They are not exposed to information, and the unavailability of information media such as posters or pictures that teach how to wash their hands. Muninjaya (2015) stated that information such as print media and news from friends, teachers, family, and health workers could affect the act of washing hands in children.

Saputra mentioned that several factors could influence children to wash their hands, such as parents' and teachers' lack of external stimuli [15]. The results revealed that most parents rarely recommended hand washing. Parents are role models for children, while teachers are individuals children in the school environment often encounter. The duties are to teach hygiene to the children. Saputra agreed with Africa's opinion (2016), saying handwashing habits, in general, should be introduced to children by parents at home at an early age or from preschool to elementary school [15].

The results from 39 respondents can be seen in Table 4.3. The differences in pre-test and post-test scores using the Wilcoxon test in the intervention group obtained a value of p = 0.007 or p 0.05, indicating an increase in PHBS handwashing behavior in preschool-age children. Table 4.4 shows that the differences in pre-test and post-test scores using the Wilcoxon test obtained a value of p = 0.131 or p > 0.05 in the control group. There was no increase in PHBS handwashing behavior in preschool-age children.

Learning activities can use audiovisual media education. Education about hand hygiene using audiovisual media improved the ability of hand hygiene in children, with statistical results ($P < 0.05$) and an average score of 2.00. Hence, audiovisual methods influenced health education.

The audiovisual method is an animated film that contains the right time, benefits, and the correct steps to wash hands with soap. Teaching using these media will be more varied, not only verbal communication through the speech of words by teachers. The aim is to attract the children and keep the teachers' energy. Teaching will attract more students' attention to foster learning motivation [16].

Providing the information can directly influence PHBS Handwashing behavior and preschoolers' knowledge to add children's insights into daily life practices. This study found an increase in PHBS handwashing behavior in the control group. In contrast, there was no increase in PHBS handwashing behavior in the control group because it was not directly informed.

This study aimed to determine whether or not the effect of PAUD INCASTING on PHBS in preschool-age children in PAUD KB' Aisyiyah Surya Melati. Table 4 shows that the value of $p = 0.042$ or $p < 0.05$ means a significant difference in post-test handwashing behavior in the intervention and control groups. The results revealed an influence of PAUD INCASTING on improving PHBS handwashing behavior in preschool-aged children of PAUD Aisyiyah Surya Melati.

Audiovisual media to conduct HEALTH EDUCATION PHBS handwashing behavior effectively conveys information to respondents. Audiovisual media with good content and interesting animated images make respondents quickly accept and remember what they see because it involves two senses that significantly influence the capture of information, namely vision and movement.

This research aligned with Sasmitha and Ilmi's in 2017, finding differences in students' level of knowledge before and after receiving health education and hand washing [17]. The results revealed that delivering information about handwashing with health counseling through audiovisual media could change students' understanding of SDI 142 Pannara Jeneponto Regency.

5 Conclusion

Based on the findings, there was an increase in PHBS of handwashing behavior in preschoolers after being given interventions under the influence of the PAUD-INCASTING program through audiovisual media.

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