ARTÍCULO ORIGINAL

Gac Méd Caracas 2023;131(1):24-30
DOI: 10.47307/GMC.2023.131.1.4

Culture-Based Education on Health Literacy About Stunting in Communities in South Sulawesi, Indonesia

Educación basada en la cultura sobre alfabetización en salud sobre el retraso en el crecimiento en comunidades del sur de Sulawesi, Indonesia

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SUMMARY

Stunting is commonly seen in rural areas with low rates of literacy and access to health care, suggesting that cultural methods may be useful in combating this problem. Therefore, this study aimed to determine the effect of culture-based education on stunting in South Sulawesi. Pre-Post Test Two Group Design was used. The result shows that culture-based educational videos effectively improve public health literacy about stunting.

Keywords: *Education, culture, health literacy, stunting*

RESUMEN

El retraso en el crecimiento se observa comúnmente en áreas rurales con bajas tasas de alfabetización y acceso a la atención médica, lo que sugiere que los métodos culturales pueden ser útiles para combatir este problema. Por lo tanto, este estudio tuvo como objetivo determinar el efecto de la educación basada en la cultura sobre el retraso del crecimiento en Sulawesi del Sur. Se utilizó el diseño de dos grupos de prueba previa y posterior. El resultado muestra que los videos educativos basados en la cultura mejoran efectivamente la alfabetización en salud pública sobre el retraso del crecimiento.

Palabras clave: *Educación, cultura, alfabetización en salud, retraso del crecimiento.*

DOI: https://doi.org/10.47307/GMC.2023.131.1.4

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Recibido: 6 de diciembre 2022
Aceptado: 14 de diciembre 2022

INTRODUCTION

Stunting is a child nutrition problem affecting the world. The World Health Organization (WHO) estimates that the prevalence of stunted children will be 22 % or 149.2 million in 2020 (1). The prevalence based on the Nutrition Status Study of Indonesia was 27.7 % in 2019 and 24.4 % in 2021. This shows that it is higher than Vietnam (23 %), Malaysia (17 %), Thailand (16 %), and Singapore (4 %) (2). According to the SSGI in 2021, East Nusa Tenggara and Bali are the provinces with the highest and lowest prevalence of stunting at 37.8 % and 10.9 %, while South Sulawesi is the same as Central Kalimantan at 27.4 %. Children

with stunting at 0-23 months were 20.8 %, and aged 0-59 months were 24.4 % (3). According to WHO, an area is chronic when the prevalence is more than 20 % therefore, Indonesia is still included in the chronic category.

Determinants of the causes of stunting are affected by several factors, including the energy intake of macronutrients and micronutrients (4), child factors, family factors, sanitation, and infectious diseases also affect the incidence. Moreover, low birth weight, parental education, low social economy, parents with malnutrition, a history of pregnancy, and poor sanitation are the most dominant factors causing stunting (5,6). Based on the results of the 2021 SSGI, the determinants of nutritional problems include respiratory disease 24.1 %, inadequate sanitation 18.1 %, incomplete immunization 34.2 %, birth length <48 cm 19.4 %, LBW 6.6 %, not carrying out early initiation of breastfeeding 51.4 %, and not exclusive breastfeeding 47.5 %. The distribution of exclusive breastfeeding rates across provinces in South Sulawesi shows 57.1 % (3).

The consequences of stunting in the short and long term include increased morbidity and mortality, poor child development and learning capacity, risk of infection and non-communicable diseases, susceptibility to fat accumulation, lower fat oxidation, expenditure of lower energy, insulin resistance and higher risk of developing diabetes, hypertension, dyslipidemia, decreased work capacity and unfavorable maternal reproductive outcomes in adulthood. Furthermore, stunted children who experience rapid weight gain after two years have an increased risk of becoming overweight or obese (7). Stunting can have long-term effects on cognitive development, school performance, economic productivity in adulthood, maternal reproductive health conditions, and the future risk of chronic disease (8,9). It is associated with increased morbidity and mortality, decreased physical capacity, neurological and economic development as well as a high risk of metabolic disease (10).

Given the consequences, prevention and treatment of stunting are essential. In Ethiopia, women's education and health programs reduce childhood diseases and improve community sanitation (11). In countries that are included in Sub-Saharan Africa, several approaches are taken to prevent and deal with stunting. The approach should include counseling sessions for mothers to improve breastfeeding and maternal nutrition practices. Furthermore, public health campaigns should be conducted to raise awareness of good sanitation and hygiene practices. Interventions to improve child malnutrition should also focus on cash transfer initiatives to tackle poverty and improve access to food (12). However, stunting prevention has shortcomings because most of them are classified as developing countries. Various efforts are mostly conducted by institutions and social institutions such as UNICEF. In Indonesia, the government has made several contributions such as the first 1 000 days of life, early detection of infectious diseases, early initiation and exclusive breastfeeding, monitoring of falls, providing additional food, early stimulation of child development, nutrition programs for school children, as well as clean and healthy life behavior (13). Sirajuddin's study suggested that nutritional literacy interventions for mothers can reduce stunting in children aged 0-6 months. The group that was given nutritional literacy intervention experienced a decrease of 9.3 % (14). Another study on stunting health literacy in cadres showed good results, with obstacles related to the communication process and cultural background (15).

There are still many villages whose customs and culture are preserved therefore, they can be used to prevent stunting. The Faculty of Public Health at Sam Ratulangi University and the Ministry of Health in Indonesia have taken a cultural approach to stunting prevention. Local traditional/cultural activities such as monendeaga and gongsingan can contribute positively to preventing the high prevalence (16). The National Population and Family Planning Agency also carried out the same program in Pangkajene Islands Regency, South Sulawesi. One of the causes of stunting was that the parents were not ready to marry at an early age. Local culture has an understanding ready to circle the kitchen seven times. This implies the maturity of building a household (17). In the Takalar district, the government also uses a cultural approach to stunting prevention. This approach involves customary institutions or groups to increase the number of stakeholders involved. The

involvement of various stakeholders will ensure the sustainability of the program. An example of the involvement of traditional institutions is reminding the community that breastfeeding their babies is a religious heritage. Meanwhile, the heritage should be maintained and enhanced during the formula milk rush. Different types of nutritious foods are also needed, such as sweet potatoes and moringa, which should be consumed with different processing (18).

A culture-based approach to stunting prevention targets the community because they are the main actors. People who hold fast to their culture will be more receptive to various stunting prevention efforts when these can be adapted and applied to local cultural values. Indonesia's stunting rate will decrease when public literacy on stunting has increased. Furthermore, the good effect is that children will grow normally and are well-nourished because their parents understand a good and healthy diet. This can also improve the community's welfare by creating superior-quality human resources.

Based on the description above, culture is one of the important factors supporting the delivery of health information to the public. Therefore, this study is interested in using culture-based video media on public health literacy. It determines the effect of culture-based education on health literacy about stunting in South Sulawesi.

METHOD

The design is to use the Pre-Post Test Two Group Design, which provides an initial test (pre-test) before being given culture-based health education. Meanwhile, a final test (post-test) after health education uses a standard health literacy questionnaire (HLQ). There are a total of 44 questions with details as follows: question items include 4 questions on health service support, 5 on information on managing health, 5 on activeness in managing health, 5 on social support for health, 5 on assessment of health information, 5 on ability involved a health care provider, 6 questions on the ability to explore the health system, 5 on the ability to find good information about health, and 5 on understanding health information.

This study was conducted in two ethnic communities in South Sulawesi, specifically in Jeneponto and Bone, South Sulawesi districts from April to June 2023. The population is a community in South Sulawesi estimated at 8 771 970. The samples used were divided into 2 groups, with the number of each group of 20 people. The inclusion criteria are Local community/ indigenous people, Willing to be a respondent and Indigenous people of Makassar and Bugis tribes. Meanwhile, the exclusion criteria are refusal to be a participant and having a mental disorder. All respondents signed an informed consent form.

The instruments include an intervention in the form of education to the community. Furthermore, the design is presented in the scheme below:

Subject	Pretest →	Intervention	Post Test →	Intervention →	Post Test →	Intervention →	Post Test
E1	O1	X1	O2		O3		O4
E2	O1	X1	O2		O3		O4

Figure 1. Study Design Schematic.
Description:
E : The group that received the intervention
O1: Pre-test (observation)
O2 : Post-test (second observation)
O3: Post-test (third observation)
O4 : Post-test (fourth observation)
X: cultural-based educational video intervention

Data processing was performed using the SPSS program to perform data analysis with univariate and bivariate tests. A univariate test was carried out on each variable to determine the characteristics of the health literacy image. Besides looking at the effect of pre and post-test health education, this study will analyze differences in health literacy between Makassar and Bugis, in South Sulawesi. Meanwhile, the bivariate test was carried out by comparing the two terms before and after the intervention using repeated ANOVA. The Friedman test was performed to determine the difference in each domain.

RESULTS

An overview of community health literacy about stunting before and after the cultural-based educational video intervention.

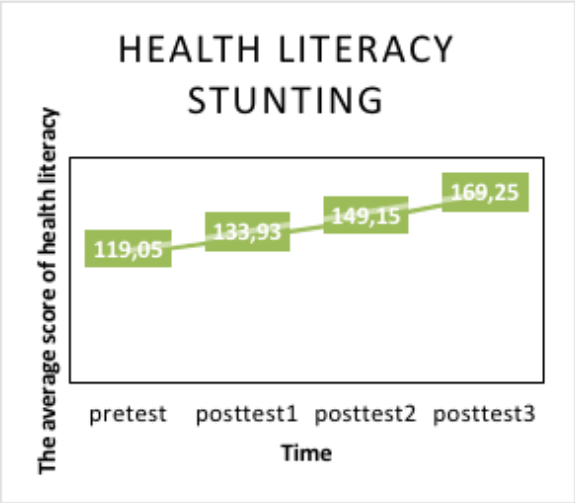

Figure 2. Health literacy stunting.

Figure 2 shows that there is an increasing average of community health literacy about stunting at each measurement time after the cultural-based educational video intervention stage 1, 2 to 3.

Table 1. Differences in health literacy mean between the time of measurements in group 1 and group 2

Group	Pre-test		1st Post-test		2nd Post-test		3rd Post-test		P
	Mean	SD	Mean	SD	Mean	SD	Mean	SD	
Group 1	118.45	5.64	134.15	4.04	148.90	3,78	169.00	2.99	P<0.001
Group 2	119.65	5.66	133.70	3.29	149.40	2.78	169.50	2.16	P<0.001
P	0.506	0.702	0.637	0.548					

In the post-hoc paired-wise test, all comparisons between groups were <0.001, while in the Anova test, to obtain differences between groups, P>0.05 was obtained.

Table 1 shows the highest mean value in the post-3 measurements of groups 1 and 2, with 169.00 and 169.50. The two groups statistically showed differences in each measurement where health literacy increased after the intervention stages 1 to 3. Furthermore, health literacy between groups 1 and 2 did not show a difference.

Differences in the mean of public health literacy about stunting between domains is shown in Table 2.

Table 2. Differences in domain health literacy mean between the time of measurements in group 1 and group 2

Health Literacy Domain		Group 1				Group 2			
		Pre Mean	Post 1 Mean	Post 2 Mean	Post 3 Mean	Pre Mean	Post 1 Mean	Post 2 Mean	Post 3 Mean
D1	Feeling understood and supported by healthcare providers	2.57	2.85	3.17	3.71	2.53	2.72	3.16	3.65
D2	Have sufficient manage health	2.63	3.02	3.23	3.71	2.77	3.00	3.17	3.71
D3	Actively manage health	2.59	2.76	3.25	3.68	2.56	2.73	3.19	3.73
D4	Social support for health	2.65	2.95	3.35	3.78		277	3.20	3.78
D5	Assess health information	2.68	2.79	3.23	3.73	2.57	2.74	3.16	3.68
D6	Ability to actively engage with healthcare providers	2.67	3.14	3.51	4.02	2.53	3.26	3.62	3.98
D7	Exploring the health system	2.72	3.23	3.50	3.90	2.90	3.35	3.58	3.97
D8	Ability to find good health information	2.76	3.29	3.53	4.00	2.85	3.26	3.60	4.01
D9	Understand health information well enough to know what to do	2.87	3.32	3.50	3.93	2.78	3.37	3.68	4.06
P value	P<0.001	P<0.001							

Group 1 Friedman Test. Post Hoc Wilcoxon: Pre vs Post 1, post2 and post 3 p = 0.008, Post 1 vs post 2 and post 3 p=0.008, post 3 vs post 2 p=0.108
Group 2 Friedman Test. Post hoc Wilcoxon: Pre vs Post 1, post2 and post 3 p = 0.012, Post 1 vs post 2 and post 3 p=0.110, post 3 vs post 2 p=0.008

Domain 9 in group 1 had the highest mean score before the instructional video intervention was shown, suggesting that these students had a solid foundation in health literacy. In addition, domain 1 showed the feeling of being understood and supported by the health care provider with the lowest mean. In group 2, domain 7 explored the health system with the highest mean and domain after being given three times the intervention.

DISCUSSION

This study shows that culture-based educational videos effectively improve public health literacy about stunting. There were differences between the two cultural groups before and after the intervention. Meanwhile, no differences were found in health literacy, and raising awareness about stunting is the simplest, least expensive, and most effective strategy to reduce the prevalence of stunting in Indonesia. Health literacy improvement has been shown to have a significant impact on community health behavior change and increased active participation in improving health status in prior research (19).

One of the efforts to improve health literacy is a cultural approach. Educational videos given to two groups of people with different cultures are adapted to the language and culture of the local community, and it is easily understood. The concept of culture and language play a role in health literacy, with the Institute of Medicine (IOM) recognizing that culture affects skills (20). Another study of 73 design prototypes that could be used in animated health communication videos showed respondents were more receptive to simplified visuals for cross-cultural reception, especially when localized with narratives (21). Respondents are more likely to retain and apply the knowledge presented in an audio-visual format because of the increased engagement this type of media provides (22). From the results of measuring memory capabilities through various media types, the highest level was obtained from video media (23).

Group 1 had the greatest mean before the intervention in domain 9, which measures the ability to understand health information well enough to take appropriate action. Domain 1 showed feeling understood and supported by health care providers with the lowest mean. Domain 6 of the intervention, the ability to actively engage with healthcare professionals, showed the greatest mean improvement after 3 rounds of treatment. In group 2, domain 7 explored the health system with the highest mean. After being given three times the interventions, the highest domain understood health information well enough. This is appropriate to the previous studies where almost all respondents have a low feeling of being understood and supported by health care providers (24). Individuals' culturally-bound beliefs, values, and preferences affect the way a person interprets healthcare messages (20). A community's ability to learn and use health-related skills is influenced by its culture and language. Therefore, the group feels closer and more connected since they can express themselves using the language, jargon, and words unique to their culture (25).

CONCLUSION

This study concludes that culture-based educational videos effectively improve the community's health literacy about stunting. Furthermore, educational videos with different cultures are adapted to the language and culture of the local community.

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