Jurnal Bidan Cerdas
e-ISSN: 2654-9352 | p-ISSN: 2715-9965
Volume 8 Issue 1, 2026, page 1-12
DOI: 10.33860/jbc.v8i1.4157
Website: https://ojs.polkespalupress.id/index.php/JBC
Publisher: Poltekkes Kemenkes Palu

Impact of Video vs. Leaflet Education on Parents' Knowledge and Attitudes Towards Stunting Prevention

Siti Fatimah[1], Arantika Meydia[2], Arif Sabta Aji[1], Hamdhoona Abdullah[3], Siti Nurunniyah[1,2]

[1]Alma Ata Graduate School of Public Health, Alma Ata University, Yogyakarta, Indonesia
[2] Department of Midwifery, Faculty of Health Sciences, Alma Ata University , Yogyakarta, Indonesia
[3]University of Bedfordshire, UK

Corresponding author: nurunniyah.siti@almaata.ac.id

ARTICLE INFO

Article History:

Received: 2025-04-14
Accepted: 2025-10-22
Published: 2026-03-30

Keywords:

Health education; Video; Leflet; Father and Mother; Stunting

ABSTRACT

Background: Stunting is a significant health challenge, leading to health issues and impaired cognitive development in children, affecting the nation's future human resources. While various educational interventions have been implemented, no evaluation has compared the effectiveness of different media for parents. This study aimed to evaluate the effectiveness of video and leaflet-based education for mothers and fathers of toddlers at risk of stunting.
Methods: A quasi-experimental pretest-posttest one-group design was used. The sample consisted of 120 parents, divided into an intervention group (video) and a control group (leaflet), selected by simple random sampling. Multiple regression analysis was created to examine the association.
Results: Significant pretest-posttest improvements in knowledge and attitudes were observed in both parents ($p < 0.05$). Logistic regression analysis showed that video-based education positively influenced mothers' knowledge and attitudes, with education type being the only significant factor affecting mothers' knowledge. In fathers, video-based education increased knowledge, but no factors were found to affect attitudes.
Conclusion: Both video and leaflet-based education effectively improved mothers' knowledge and attitudes. Video education enhanced fathers' knowledge but had no effect on their attitudes. These differences may reflect the greater attention and perception of stunting among mothers in the socio-cultural context of Indonesia.

INTRODUCTION

Stunting is one of the health problems in Indonesia that still needs to be resolved to date. According to the Indonesian Toddler Nutrition Status Survey (SSGI), Stunting Prevalence in Indonesia in 2019 was 27.7%. In 2020 was 26.9%, and in 2021 was 24.4% and in 2024, it was 19,8%. In this case, the majority in the last three years has decreased compared to 2018, which had a prevalence of 30.8% for stunting (Indonesian Ministry of Health, 2021, 2023, 2025). To accelerate the reduction in the majority of stunting, The President of the Republic of Indonesia has set an optimistic target of 14% in 2024 (Central Bureau of Statistic, 2020).The prevalence of stunting in Central Java in 2021 was 20.9% and 2024 reach 17,1%. This figure is still relatively high. One of the regencies in Central Java, namely Brebes Regency, had a stunting rate in 2021 of 26.3%; this figure is the 3rd highest in central java after Wonosobo Regency and Tegal Regency (Indonesian Ministry of Health, 2021, 2025).

Stunting causes by many factors such as malnutrition during adolescence and pregnancy, as well as suboptimal breastfeeding practices, can have detrimental effects on infant growth and development. Babies born with low birth weight are at a higher risk of stunted growth and development, which can have long-term consequences for their health and well-being. Adequate nutrition during adolescence, pregnancy, and lacton is crucial for the healthy development of infants (Putri et al., 2023; Sitorus et al., 2024). Other factors that cause stunting are infections in mothers, teenage pregnancies, short birth spacing, infections in toddlers such as diarrhoea, economic conditions, and work and family livelihoods. In addition, low access to health services, including access to sanitation and clean water, is a factor that significantly affects children's growth. Maternal nutritional factors before and during pregnancy are indirect causes that contribute to the growth and development of the fetus The development of stunting in young children can be attributed to several factors, including inadequate nutrition, frequent illness, and exclusive breastfeeding, which can make it harder for children to grow normally. Factors that contribute to this include, LBW, Exclusive breastfeeding, Poor maternal nutrition during pregnancy, Low maternal education and knowledge about child care.

According to research conducted by the unit of the et.al Income, Knowledge, attitudes, cultural values, and parenting style affect the way parents prevent stunting so that stunting prevention programs must focus on improving parental behavior by modifying these factors. educational interventions for parents are one of the interventions that need to be developed (Yunitasari et al., 2021, Rahayu et al., 2024). The study in East Flores also tested several other factors such as parental attitudes, culture, etc. Although there is a link with stunting, the knowledge of the father and the mother's attitude are known to be the most dominant factors (Lolan & Sutriyawan, 2021). It is scientifically proven that parents' knowledge, especially mother's (and in some cases fathers'), regarding child nutrition and development, has a very strong influence on stunting incidence, whic is highlighting its role as a dominant factor over other variables such as formal education, income, or parental height. Addressing these factors can improve children's growth and development outcomes, especially if done early in life (Hadi et al., 2023; Hidayati et al., 2012.; Warsini et al., 2016).

In the context of popular media, two educational approaches that are often used are educational videos and leaflets. A study in Yogyakarta found that education through video significantly increased the knowledge and involvement of fathers in stunting prevention in children compared to before, with results showing a significant increase in both knowledge and the role of fathers directly (Muslihatun, 2023). On the other hand, research conducted in South Kalimantan shows that the use of leaflet media and educational videos are both able to increase parents' understanding of stunting, but there are differences in effectiveness that can be used as material for further study (Baiti, 2023). The author chooses the educational approach because in various books and theories of behavior change, such as Self-Efficacy: The Exercise of Control (Bandura), Social Foundations of Thought and Action (Bandura), and The Handbook of Behavior Change (Hagger et al., 2020), it is explained that education plays an important role in increasing knowledge, forming positive attitudes, and fostering parental self-confidence to implement proper parenting and nutrition. Education not only provides momentary information, but is also able to encourage sustainable behavior change so that it is more effective in preventing health problems, including stunting.

Family support is crucial in preventing stunting, as family members are often the primary caregivers for children. When a child is healthy, the family system is strong, but when a child is ill, the entire family dynamic is disrupted. Family support is therefore a form of interpersonal relationship that involves family members' attitudes, actions, and acceptance, making family members feel like someone cares about them (Wulandari & Kusumastuti, 2020). According to the many uses of digital media today, education using digital media is expected to significantly affect families' knowledge and attitudes, especially those at risk of stunting. It is hoped that this digital-based education will make it easier to provide information about stunting knowledge, and we hope it can change attitudes towards stunting risk in the future (Danuri, 2019)(Danuri, 2019)

Parenting for stunted children is usually charged to the mother, even though in the family, there is also a father who should play a role and be responsible for the growth and development

of the child (Rohmalina et al., 2021). The existing stunting education interventions so far are very rare, and they also target fathers; most interventions on mothers, one of which is the intervention carried out by Sitorus in 2024 (Sitorus et al., 2024). Therefore, this study aimed to identify targets of mothers and fathers intervention and directly compare video media and leaflet media to see what effect it has on knowledge and attitudes in mothers and fathers

METHODS

This research was umbrella research with the title Development of stunting education interventions led by Siti Nurunniyah. The research was conducted from July to September 2022 using a quantitative approach. The research design a pre-test/post-test group design. The research was conducted in 2 health centers with the highest prevalence of stunting in the Brebes district. Then the list of names of mothers with toddlers in the work area of the health center was traced using Excel to take samples. The sample size calculated from the sample size minimal for an experimental study is 30 people for each group. The Mother Video Group consisted of 30 mothers, The Father Video Group consisted of 30 fathers, from the Sirampog Health Center, and The Mother Leaflet Group consisted of 30 mothers, The Father Video Group consisted of 30 fathers, parents from the Bumiayu Health Center, totaling 120 respondents. A pre-test was conducted before an educational video, and a leaflet on stunting prevention and management was presented using a laptop. The Intervention was held for 30 minutes, after that, a post-test was conducted, followed by a questionnaire to assess knowledge and attitudes related to stunting. The knowledge questionnaire contains 22 questions, where if the result is a score of ≥ 75% is in the category of good knowledge, a score of 56-74% was in the category of adequate, and a score of ≤25% is in the low category. The Attitudes Questionnaire contains 35 attitude questions with a Likert scale of 1 to 4, where a score of ≥ 51% in the category of having a good attitude, and a score of <51% was in the low category. The Wilcoxon test was used to analyze the pre-post score within group, and a simple logistic regression test with the alpha level $p<0.05$

The research instruments in the form of videos and leaflets have been prepared based on the input of material from health center midwives, nutritionists, and health cadres, and then the validity test of the content and form of the videos and leaflets is carried out with expert judgement. The video and the leaflet have received IPR recognition from the Directorate General of the Ministry of Law and Human Rights with EC002022112676 certificate number and EC002022112674. A questionnaire on parents' knowledge and attitudes regarding the prevention and handling of stunting has been tested for validity by the Pearson product-moment correlation test. The reliability test with the Cronbach's alpha test with an alpha score of 0,73 >0,6, in Paguyangan District, which has almost the same characteristics of respondents about social economy status and geographic condition as the research site. This research has received ethical approval from the ethics commission of Alma Ata University with ethical clearance letter number KE/AA/VIII/10910/EC/2022.

RESULT

According to Table 1, the respondent characteristics of the two groups are similar. This shows that characteristics are not confounding variables in this study, so it did not affect the outcome of the intervention given.

Table 1. Characteristic of Respondent

Characteristics	Mother				Father			
	Leaflet Group		Video Group		Leaflet Group		Video Group	
	n	%	n	%	n	%	n	%
Age								
20-35 years	21	70.0	21	70.0	18	60.0	13	43.0
<20 or >35years	9	30.0	9	30.0	12	40.0	17	57.0

Characteristics	Mother				Father			
	Leaflet Group		Video Group		Leaflet Group		Video Group	
	n	%	n	%	n	%	n	%
Level of Education								
9 years of education	9	30.0	15	50.0	13	43.0	18	60.0
>9 years of education	21	70.0	15	50.0	17	57.0	12	40.0
Parity								
1	6	20.0	5	17.0	6	20.0	5	17.0
≥2	24	80.0	25	83.0	24	80.0	25	83.0

The pretest and posttest scores of knowledge and attitudes from both groups of mothers are presented in Table 2. Both the intervention group (receiving video education) and control group (receiving leaflet education) had a high level of knowledge before the intervention, with 70% or more of respondents in each group possessing adequate knowledge. However, the data also revealed that approximately 13.3% of respondents in both groups had insufficient knowledge before education, and no one had insufficient knowledge after education. Following the intervention education, the intervention group demonstrated a greater increase in knowledge scores compared to the control group. In both groups, both for knowledge and attitude of pretest and posttest, showed a P value of <0.05.

Table 2. Knowledge and attitudes before and after being given stunting education for mothers

Category	Group									
	Leaflet					Video				
	n	%	n	%	*P*	n	%	n	%	*P*
	Pre-test		Post-test			Pre-test		Post-test		
Knowledge										
Good	21	70.0	22	73.3	0.01	21	70.0	24	80.0	0.01
Moderate	5	16.7	8	26.7		5	16.7	6	20.0	
Less	4	13.3	-	-		4	13.3	-	-	
Attitudes										
Good	4	13.3	26	86.7	0.01	4	13.3	28	93.3	0.01
Less	26	86.7	4	13.3		26	86.7	2	6.7	

As shown in Table 2, both the video group and leaflet group had a level of attitudes before the intervention, with 80% or more of respondents in each group possessing insufficient attitudes. However, the data also revealed that 86.7% of respondents in control groups had good attitudes after education, and only 6.6% had insufficient knowledge after having education. The intervention group demonstrated a greater increase in attitudes compared to the control group. In both groups, both for the knowledge and attitude of pretest and posttest, showed a P value of <0.05 for pretest and posttest scores in each group.

Table 3. Frequency distribution of the mother's knowledge and attitudes based on the number of correct answers on the pre-test and post-test

Question Item	Mother's Answer from Leaflet Group				Mother's Answer from Video Group			
	Pre-test		Post-test		Pre-test		Post-test	
	n	%	n	%	n	%	n	%
Stunting definition	25	83.3	26	86.7	25	83.3	25	83.3
Stunting diagnosis	28	93.3	28	93.3	28	93.3	29	96.7
Direct factors causing stunting	24	80	24	80	24	80	25	83.3
Non-direct factors	28	93.3	28	93.3	28	93.3	28	93.3

Question Item	Mother's Answer from Leaflet Group				Mother's Answer from Video Group			
	Pre-test		Post-test		Pre-test		Post-test	
	n	%	n	%	n	%	n	%
causing stunting								
Nutrition factors causing stunting	25	83.3	25	83.3	25	83.3	25	83.3
Genetic factors causing stunting	22	73.3	23	76.7	22	73.3	22	73.3
Malnutrition factors causing stunting	29	96.7	29	96.2	28	93.3	28	93.3
Time at risk of stunting	27	90	27	90	25	83.3	25	83.3
The first 1000 days of life related to stunting	29	96.7	30	100	27	90	28	93.3
Characteristics of stunting	27	90	28	93.3	27	90	28	93.3
Short-term impact of stunting	25	83.3	25	83.3	22	73.3	24	80
Long-term impact of stunting	29	96.7	29	96.7	25	83.3	28	93.3
How to prevent stunting	28	93.3	28	93.3	27	90	28	93.3
Types of complementary foods for breast milk for stunting	13	43.3	16	53.3	15	50	20	66.7
How to monitor a child's growth	28	93.3	30	100	28	93.3	29	96.7
Maintaining hygiene to prevent stunting	15	50	18	60	15	50	24	80
Children targeted by stunting reduction programs	19	63.3	25	83.3	20	66.7	24	80
Government programs in reducing stunting	13	43.3	17	56.7	12	40	18	60
Family mentoring team	13	43.3	15	50	12	40	22	73.3
Prevention of stunting in pregnant women	22	73.3	22	73.3	22	73.3	24	80
Stunting prevention in adolescents	26	86.7	26	86.7	24	80	25	83.3
Prevention of stunting in maternity	28	93.3	28	93.3	26	86.7	28	93.3

The percentage of correct answers from each item of knowledge questions to mothers both before and after the educational intervention can be seen in Table 3, which shows that in both groups, both video groups and leaflet groups, both experienced an increase in percentage in almost every question item.

Table 4. Knowledge and attitudes before and after being given stunting education for fathers

Category	Group									
	Leaflet Group					Video Group				
	n	%	n	%	*P*	n	%	n	%	*P*
	Pretest		Posttest			Pretest		Posttest		
Knowledge										
Good	9	30.0	20	66.7	0.01	8	27.0	21	70.0	0.01
Moderate	18	60.0	8	26.7		21	70.0	8	27.0	
Less	3	10.0	2	6.6		1	3.0	1	3.0	
Attitudes										
Good	13	43.4	19	63.3	0.02	9	30.0	26	86.7	0.01
Less	17	56.6	11	36.7		21	70.0	4	13.3	

Pre-test and post-test scores of knowledge and attitudes from both groups on fathers are presented in Table 3. Both the intervention group (receiving video education) and the control group (receiving leaflet education) had a high level of knowledge before the intervention, with 66% or more of respondents in each group possessing adequate knowledge. However, the data also revealed that approximately 10% of respondents in both groups had insufficient knowledge before education, and 6,6% had insufficient knowledge after education. Following the intervention education, the intervention group demonstrated a greater increase in knowledge scores compared to the control group. In both groups, both for knowledge and attitude of pretest and posttest scores, showed a p-value of <0.05 from the Wilcoxon signed-rank test.

Table 5. Frequency distribution of the father's knowledge and attitudes based on the number of correct answers on the pre-test and post-test

Question Item	Leaflet Group				Video Group			
	Pretest		Posttest		Pretest		Posttest	
	n	%	n	%	n	%	n	%
Stunting definition	25	83.3	26	86.7	25	83.3	26	86.7
Stunting diagnosis	27	90	27	90	27	90	28	93.3
Direct factors causing stunting	20	66.7	20	66.7	20	66.7	21	70
Non direct factors causing stunting	28	93.3	28	93.3	28	93.3	28	93.3
Nutrition factors causing stunting	25	83.3	25	83.3	25	83.6	25	83.3
Genetic factors causing stunting	22	73.3	22	73.3	22	73.3	22	73.3
Malnutrition factors causing stunting	29	96.7	29	96.7	29	96.7	29	96.7
Time at risk of stunting	27	90	27	90	26	86.7	26	86.7
The first 1000 days of life related to stunting	27	90	27	90	26	86.7	27	90
Characteristics of stunting	27	90	27	90	27	90	27	90
Short-term impact of stunting	23	76.7	24	80	22	73.3	23	76.7
Long-term impact of stunting	29	96.7	30	100	26	86.7	26	86.7
How to prevent stunting	28	93.3	29	96.7	28	93.3	28	93.3
Types of complementary foods for breast milk for stunting	14	46.7	20	66.7	15	50	17	56.7
How to monitor a child's growth	30	100	30	100	30	100	30	100
Maintaining hygiene to prevent stunting	17	56.7	24	80	8	26.7	23	76.7
Children targeted by stunting reduction programs	18	60	21	70	20	66.7	23	76.7

Question Item	Leaflet Group				Video Group			
	Pretest		Posttest		Pretest		Posttest	
	n	%	n	%	n	%	n	%
Government programs in reducing stunting	14	46.7	16	53.3	14	46.7	20	66.7
Family mentoring team	9	30	15	50	10	33.3	17	56.7
Prevention of stunting in pregnant women	18	60	18	60	19	63.3	22	73.3
Stunting prevention in adolescents	24	80	25	83.3	22	73.3	25	83.3
Prevention of stunting in maternity	28	93.3	28	97.3	28	93.3	28	93.3

The percentage of correct answers from each item of knowledge questions to father's both before and after the educational intervention can be seen in table 5 which shows that in both groups, both video groups and leaflet groups, both experienced an increase in percentage in almost every question item.

A multivariate logistic regression analysis was conducted to examine what factors most influence the improvement of knowledge and attitudes of fathers and mothers among the factors of age, education level and number of children (parity)The test results can be seen in Tables 6 and 7.

Table 6 : Determinant knowledge about stunting prevention and management

Variables	Mother						Father					
	Knowledge		CI	OR	Ƥ	SE	Knowledge		CI	OR	Ƥ	SE
	Increase	Not Increase					Increase	Not Increase				
Media Intervention												
Video	27 (66)	3 (16)	1.64-29.1	6.9	0.01*	0.73	27 (60)	3 (20)	1.4-24	6	0.01*	0.5
Leaflet	14 (34)	16 (84)	1	1			18 (40)	12 (80)	1	1		
Level of education												
Basic Education	19 (44)	5 (26)	0.05-2.46	0.4	0.31	0.95	23 (51)	7 (53)	0.2-2	0.6	0.7	0.6
Intermediate Education	24 (56)	14(74)	1	1			22 (49)	8 (47)	1	1		
Age												
20-35 years	25 (58)	14 (74)	0.11-2.55	0.5	0.43	0.79	22 (49)	8 (47)	0.6-7	2	0.2	0.8
<20 or >35 years	18 (42)	5 (26)	1	1			23 (51)	7 (53)	1	1		
Parity												
1	12 (28)	3 (16)	0,84-1.12	0.9	0.73	0.07	13 (28)	3 (20)	0.1-2	0.6	0.5	0.5
>1	31 (72)	16(84)	1	1			32 (72)	12(80)	1	1		

Table 7. Determinant of Attitudes about stunting prevention and management

Variables	Mother						Father					
	Attitudes		CI	OR	Ƥ	SE	Attitudes		CI	OR	Ƥ	SE
	Increase	Not Increase					Increase	Not Increase				
Media Intervention												
Video	26 (47)	4 (50)	0.1-2.	0.2	0,92	1.06	27 (51)	3 (43)	0.2-60	1.3	0.68	0.8

Variables	Mother Attitudes						Father Attitudes					
	Increase	Not Increase	CI	OR	P	SE	Increase	Not Increase	CI	OR	P	SE
Leaflet	28 (53)	4 (50)	1	1			26 (49)	4 (57)	1	1		
Level of Education												
Basic Education	23 (42)	1 (12)	0.1-6.5	0.3	0,10	1.40	26 (49)	4 (57)	0,2-6,0	1.3	0.6	0.8
Intermediate Education	31 (58)	7 (88)	1	1			27 (51)	3(43)	1	1		
Mother Age												
>20-35	31 (58)	8 (100)	N/A	N/A	0,13	N/A	28 (53)	4 (57)	0.2-5.0	1,1	0.8	0.8
<20 or >35	23(42)	0(0)	1	1			25 (47)	3(43)	1	1		
Parity												
1	13 (24)	2 (24)	0.9-1.4	0.3	0,73	0.1	15 (28)	1(14.3)	0.1-3.8	0,4	0.4	1.1
>1	41 (76)	6 (76)	1	1			38 (72)	6 (85.7)				
Knowledge Level												
Increase	38	5	1.0-2.2	1.4	0.04*	0.2	38 (71,8)	15 (100)	N/A	N/A	0.1	N/A
Not Increase	16	3	1	1			7(13,2)	0(0)	1	1		

Mother who receives health education with video were almost 7 times (OR =6.9; 95% CI =1.64-29.1) more likely to have an increased knowledge about stunting prevention and management as seen in Table 4. Mothers who have increased knowledge were almost 2 times (OR=1.4: 95% CI = 1.01-2.22) more likely to have an increased attitude to prevent and manage stunting. Fathers who received health education with video were almost 6 times (OR =6; 95% CI =1.64-24) more likely to have increased knowledge about stunting prevention and management. Mothers who have increased knowledge were almost 2 times (OR=1.4: 95% CI = 1.01-2.22) more likely to have an increased attitude to prevent and manage stunting, but no difference between fathers who have an increased knowledge and not increased knowledge as seen in Table 6.

DISCUSSION

This study examines educational media related to the prevention and treatment of stunting. The role of educational interventions in efforts to prevent and treat stunting is very important. Through education, public knowledge and attitudes regarding stunting can be significantly improved. The results of a systematic review show that educational interventions are one of the key factors in reducing the prevalence of stunting. This is because education equips individuals with the understanding and skills that support the implementation of healthy behaviors and practices to prevent and overcome stunting (Wahyuningsih et al., 2022). In providing education, the use of media is important as it can influence individuals' understanding. In this study, the researchers used leaflets and videos to educate the respondents. The results

showed that the knowledge and attitudes of mothers and fathers had improved thanks to the education provided through brochures and videos. A number of other studies have also shown that the use of educational media is more effective in increasing individuals' knowledge. This effectiveness arises because media can foster interest in learning, which is a person's strong inclination or urge towards something. With interest, individuals are motivated to try, explore, and learn more so that they can gain a deeper understanding (Marni et al., 2022; Sommer, 2011; Sukmawati et al., 2021).

Based on the results of the study, the number of respondents who had a high level of knowledge in the posttest was higher among respondents who received education through videos than those who received education through leaflets. This occurred because educational media, through videos, maximized the use of the five senses to capture information (Kyaw et al., 2019). According to research conducted by Paramita et al. in Bangli, Indonesia, videos can stimulate two senses simultaneously, namely sight and hearing, so that mothers are more focused on the material presented. Delivery through words alone is far less effective or has the lowest intensity. The use of videos is useful in conveying information about balanced nutrition for toddlers to mothers, so that the information can be conveyed more clearly and accurately (Paramita et al., 2021). The emotional response generated after watching educational videos can increase a sense of responsibility and desire to take action, which positively influences attitudes toward stunting prevention. Videos can inspire viewers to adopt similar behaviors and attitudes. Seeing others take action and witnessing positive results can create a sense of optimism and confidence in the effectiveness of stunting prevention, which in turn fosters positive attitudes (Arywiantari et al., 2015; Fitriami & Galaresa, 2022; Hati & Pratiwi, 2019).

Although the use of videos is considered to provide better understanding, based on the results of this study, leaflets have also been proven to increase respondents' knowledge and attitudes. Leaflets, as a simple print medium, have the advantage of being easy to carry, reread, and understood independently by readers. Leaflets also have the advantage of being easy to use, especially in environments with limited resources, such as the absence of electronic devices or electricity (Karim, 2020). Several studies show that leaflets can significantly improve mothers' knowledge of nutrition and stunting prevention. Research by Djaafar et al. (2024) found that there was an increase in the knowledge and attitudes of mothers of toddlers after being given leaflets(Djaafar & Novarianti, 2024). Similar results were also shown by Lestari and Sefrina (2024), who reported that mothers' attitudes and awareness of stunting were greatly improved by the use of leaflets (Lestari & Sefrina, 2024).

The results of the study also show that education has a greater impact on mothers than fathers. Based on gender, women tend to be more concerned or open to nutrition education and preventive services than men (Deng et al., 2024). This difference may also be due to the dominant role of mothers in daily childcare, including feeding, monitoring growth and development, and maintaining children's health. Fathers generally play a more dominant role in instilling a sense of responsibility and fulfilling recreational needs, while mothers play a more dominant role in caregiving and providing affection (Nisa’ et al., 2022). Fathers tend to have a lower attitude towards childcare than mothers due to a lack of confidence and a lack of positive feedback in childcare (Sary & Turnip, 2015). Furthermore, the research by Syahputra Bukit et al. (2021) emphasized that fathers' involvement does influence stunting prevention behaviors, but more through their role in supporting mothers than through direct understanding from education (Syahputra Bukit et al., 2021). These findings confirm that mothers are a more responsive target group for education, due to their intense involvement in daily parenting practices, while fathers play a greater role as supporters in decision-making and child empowerment.

Even so, of the respondents who received education, there were respondents who did not experience an increase in knowledge or attitude, this could be because the education provided was not in accordance with the type of learning of the respondent, because according to Tzenios' research in 2020 showed that different health learning was needed for different types of learning (Tzenios, 2020), so it is necessary to develop education with different media in the next research. This study did not control for respondents' education levels and ages, which may have led to bias in respondents' understanding. This study was conducted in Central Java, Indonesia, where the

dominant parenting culture is carried out by mothers. Therefore, this study may not be generalizable to regions with different parenting cultures.

CONCLUSSION

This study found that video media and leaflets can increase knowledge and attitudes in parents after education compared to before receiving education, but the increase in value is more in the group that receives video education. In addition, this study also found that among the factors that cause stunting such as age, education level, parity and educational media, the factor that most affects the level of knowledge and attitude of the mother is the video educational media, while in the father the factor that affects the knowledge of the father is the video educational media and none of the factors of age, education level and parity (number of children) affect the attitude of the father, Where it is possible that there are other factors that affect the father's attitude, which need to be studied more deeply in the future.

Author's Contribution: SF: Methodology, preparation of tools and materials, provide interventions, collecting data, data curation, formal analysis, writing original draft. **SN:** Conceptualization, planning,metodology, supervision, analyzes research results, write-review and editing; **AMP:** formal analysis, writing original draft , writing-review**. ASA:** formal analysis, writing-review, validation. **HA:** formal analysis, writing-review,validation.

Acknowledgement: We would like to thank Alma Ata University for giving us the opportunity to conduct this research and to the Sirampog Health Center and the Bumi Ayu Health Center as the research site, as well as to all parties who have helped in the implementation of this research.

Conflict Of Interest: The authors declare that the research was conducted without any commercial or financial relationships that could be construed as a potential conflict of interest.

REFERENCES

Arywiantari, D., Agung, A. A. G., & Tastra, I. D. K. (2015). *Pengembangan multimedia interaktif model 4D pada pembelajaran IPA di SMP Negeri 3 Singaraja jurusan teknologi pendidikan universitas pendidikan ganesha*. *3*(c), 1–12.

Badan Pusat Statistik. (2022). *profil-kesehatan-ibu-dan-anak-2022*.

Danuri, M. (2019). Development and transformation of digital technology. *Infokam*, *XV*(II), 116–123.

Deng, W. J., Yi, Z., & Lee, J. C. K. (2024). The Demographic Variation in Nutrition Knowledge and Relationship with Eating Attitudes among Chinese University Students. *International Journal of Environmental Research and Public Health*, *21*(2). https://doi.org/10.3390/ijerph21020159

Djaafar, T., & Novarianti, A. (2024). Peningkatan Pengetahuan dan Sikap Ibu Balita Dengan Media Leaflet Tentang Stunting Increasing Knowledge and Attitudes of Mothers of Toddlers with Leaflet Media About Stunting. *JURNAL PROMOTIF PREVENTIF*, *7*(2), 205–210. https://doi.org/https://doi.org/10.47650/jpp.v7i2.1210

Fitriami, E., & Galaresa, A. V. (2022). Edukasi Pencegahan Stunting Berbasis Aplikasi Android Dalam Meningkatkan Pengetahuan Dan Sikap Ibu STIKes Pekanbaru Medical Center * Email : elfizafitriamy26@gmail.com Android Application-Based Stunting Prevention Education in Increasing Mother ' s Knowle. *Jurnal Ilmiah STIKES*, *5*(2), 78–85.

Hadi, H., Nurunniyah, S., Gittelsohn, J., Alfiana, R. D., Fatimatasari, Lewis, E. C., & Nurdiati, D. (2023). Preconception Maternal Mentoring for Improved Fetal Growth among Indonesian Women: Results from a Cluster Randomized Controlled Trial. *Nutrients*, *15*(21). https://doi.org/10.3390/nu15214579

Hati, F. S., & Pratiwi, A. M. (2019). The Effect of Education Giving on The Parent's Behavior About Growth Stimulation in Children with Stunting. *NurseLine Journal*, *4*(1), 12. https://doi.org/10.19184/nlj.v4i1.8628

Hidayati, L., Hadi, H., & Kumara, A. (2010). Kekurangan Energi Dan Zat Gizi Merupakan Faktor Risiko Kejadian Stunted Pada Anak Usia 1-3 Tahun Yang. *Jurnal Kesehatan*, *3*(1), 89–104. https://publikasiilmiah.ums.ac.id/bitstream/11617/2315/1/10.%20LISTYANI%20H.pdf

Indonesian Ministry of Health. (2021). *Buku Saku Hasil SSGI 2021*.

Indonesian Ministry of Health. (2023). Hasil Survei Status Gizi Indonesia (SSGI) 2022. *Kemenkes*, 1–7.

Indonesian Ministry of Health. (2025). *Survei Status Gizi Indonesia 2024 Dalam Angka*.

Karim, H. A. (2020). Health literacy among rural communities: Issues of accessibility to information and media literacy. *Jurnal Komunikasi: Malaysian Journal of Communication*, *36*(1), 248–262. https://doi.org/10.17576/JKMJC-2020-3601-14

Kyaw, B. M., Posadzki, P., Paddock, S., Car, J., Campbell, J., & Tudor Car, L. (2019). Effectiveness of digital education on common unication skills among medical students: Systematic review and meta-analysis by the digital health education collaboration. *Journal of Medical Internet Research*, *21*(8). https://doi.org/10.2196/12967

Lestari, R. A., & Sefrina, L. R. (2024). *Efektivitas Penggunaan Media Leaflet Dengan Tingkat Pengetahuan Dan Sikap Ibu Mengenai Stunting*. https://doi.org/https://doi.org/10.31004/prepotif.v9i2.46054

Marni, M., Soares, D., Wahyudi, T., Irfan, M., & Nurul, S. (2022). Analysis Stunting Prevention and Intervention: A Literatur Review. *Proceedings of the International Conference on Nursing and Health Sciences*, *3*(1), 27–36. https://doi.org/10.37287/picnhs.v3i1.1110

Nisa', H., Mutiara Puspitarini, L., & Lu'lu' Zahrohti, M. (2022). Perbedaan Peran Ibu dan Ayah dalam Pengasuhan Anak pada Keluarga Jawa. In *Jurnal Multidisiplin West Science* (Vol. 01, Issue 02). Desember.

Paramita, L. D. A., Devi, N. L. P. S., & Nurhesti, P. O. Y. (2021). Hubungan Pengetahuan Dan Sikap Ibu Mengenai Stunting Dengan Kejadian Stunting Di Desa Tiga, Susut, Bangli. *Coping: Community of Publishing in Nursing*, *9*(3), 323. https://doi.org/10.24843/coping.2021.v09.i03.p11

Putri, A. N., Dewi, Y. L. R., & Priyatama, A. N. (2023). Factors Associated with Stunting in Adolescentsin Pariaman, Padang, West Sumatera, Indonesia. *Journal of Maternal and Child Health*, *8*(4), 421–428. https://doi.org/10.26911/thejmch.2023.08.04.04

Rahayu, M., Meidya Pratiwi, A., Subarto, C. B., Ayuningrum, L. D., Lestari, P., & Nurhayati, E. (2024). Pengetahuan Ibu tentang Stimulasi Berhubungan dengan Perkembangan Balita Usia 3-5 Tahun. In *Arantika Meidya Pratiwi, dkk) Jurnal Dunia Kesmas* (Vol. 13, Issue 2). Online. http://ejurnalmalahayati.ac.id/index.php/duniakesmas/index

Rohmalina, R., Suryono, Y., & Fauziah, P. Y. (2021). The Role of the Father in the Early First Year of Early Childhood's Life. *Digital Press Social Sciences and Humanities*, *7*, 00015. https://doi.org/10.29037/digitalpress.47405

Sary, M. P., & Turnip, S. S. (2015). Attitude Difference between Fathers and Mothers toward Fathers Involvement in Child Rearing Activities among Couples with 0-12 Months Old Babies. Community based Study in a Primary Health Care Setting. *Procedia - Social and Behavioral Sciences*, *190*, 92–96. https://doi.org/10.1016/j.sbspro.2015.04.921

Sitorus, S. B. M., Sasmita, H., & Lailatul K., M. F. (2024). Health Education Influences Mother's Knowledge in Preventing Stunting in Infants. *Jurnal Bidan Cerdas*, *6*(1), 19–26. https://doi.org/10.33860/jbc.v6i1.3266

Sommer, L. (2011). The Theory Of Planned Behaviour And The Impact Of Past Behaviour. *International Business & Economics Research Journal (IBER)*, *10*(1), 91–110. https://doi.org/10.19030/iber.v10i1.930

Sukmawati, S., Hermayanti, Y., Fadlyana, E., & Mediani, H. S. (2021). Stunting prevention with education and nutrition in pregnant women: A review of literature. *Open Access Macedonian Journal of Medical Sciences*, *9*(T6), 12–19. https://doi.org/10.3889/oamjms.2021.7314

Syahputra Bukit, D., Keloko, A. B., & Ashar, T. (2021). *Father's Support and Mother's Behavior in Stunting Prevention Efforts*. https://doi.org/10.29080/jhsp.v5i1.521

Wahyuningsih, W., Bukhari, A., Juliaty, A., Erika, K. A., Pamungkas, R. A., Siokal, B., Saharuddin, S., & Amir, S. (2022). Stunting Prevention and Control Program to Reduce the Prevalence of Stunting: Systematic Review Study. *Open Access Macedonian Journal of Medical Sciences*, *10*(F), 190–200. https://doi.org/10.3889/oamjms.2022.8562

Warsini, K. T., Hadi, H., & Nurdiati, D. S. (2016). Riwayat KEK dan anemia pada ibu hamil tidak berhubungan dengan kejadian stunting pada anak usia 6-23 bulan di Kecamatan Sedayu, Bantul, Yogyakarta. *Jurnal Gizi Dan Dietetik Indonesia (Indonesian Journal of Nutrition and Dietetics)*. https://doi.org/10.21927/ijnd.2016.4(1).29-40

Wulandari, H. W., & Kusumastuti, I. (2020). Pengaruh Peran Bidan, Peran Kader, Dukungan Keluarga dan Motivasi Ibu terhadap Perilaku Ibu dalam Pencegahan Stunting pada Balitanya. *Jurnal Ilmiah Kesehatan*, *19*(02), 73–80. https://doi.org/10.33221/jikes.v19i02.548