

THE EFFECT OF AUDIOVISUAL HEALTH PROMOTION ON MOTHERS' KNOWLEDGE OF ACUTE RESPIRATORY INFECTION PREVENTION AMONG CHILDREN UNDER FIVE AT POSYANDU MELATI

Stephanie Artha Limbong¹, Chrismis Novalinda Ginting², Sri Wahyuni Nasution^{3*}

¹ Postgraduate Program in Public Health, Universitas Prima Indonesia, Medan, Indonesia

^{2,3} Department of Public Health, Universitas Prima Indonesia, Medan, Indonesia

^{2,3} COE for Degenerative Disorders and Integrated Health, Universitas Prima Indonesia, Medan, Indonesia

Email : stephanielimbong@gmail.com

Email : chrismis@unprimdn.ac.id

Email : sriwahyuninasution@unprimdn.ac.id*

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Abstract

Acute respiratory infection (ARI) remains an important health problem among toddlers, while maternal knowledge is an important component of household prevention. This study analyzed the effect of health promotion using audiovisual media on mothers' knowledge of ARI prevention at Posyandu Melati, Payaroba, Binjai. A quasi-experimental non-equivalent control group design with pretest and posttest measurements was used. Thirty-six mothers of toddlers were recruited using total sampling and allocated to an audiovisual intervention group (n=18) or a leaflet control group (n=18). Knowledge was measured using a 20-item questionnaire based on Health Belief Model indicators. Data were analyzed using the Shapiro–Wilk test and paired-samples t-test at $\alpha=0.05$. In the audiovisual group, the proportion of mothers with good knowledge increased from 11.1% before education to 77.8% after education, while the mean score increased from 54.72 to 62.66. In the leaflet group, good knowledge increased from 5.6% to 44.4%, with the mean score increasing from 54.16 to 59.94. Within-group changes were statistically significant in both groups ($p<0.001$). The reported mean increase was descriptively greater in the audiovisual group (7.94) than in the leaflet group (5.77). Both media therefore supported improvement in maternal knowledge, with audiovisual education showing a greater descriptive increase.

Keywords: acute respiratory infection; audiovisual media; health education; knowledge; mothers of toddlers

INTRODUCTION

Acute respiratory infection (ARI) remains an important cause of illness among children under five years of age. The clinical spectrum ranges from upper respiratory symptoms to severe lower respiratory infection, and young children are particularly vulnerable because of developmental and immunological factors (dos Santos et al., 2025; Orosz et al., 2024). Evidence from Indonesia also indicates that household and physiological factors contribute to ARI occurrence in toddlers, including environmental conditions and characteristics related to the child and family (Anggraini et al., 2024; Ridwan et al., 2021).

Prevention of ARI in toddlers is not limited to treatment after symptoms appear. Preventive actions include maintaining adequate ventilation, reducing exposure to tobacco smoke, maintaining hygiene, providing adequate nutrition and breastfeeding, and ensuring appropriate immunization. Recent epidemiological investigations emphasize the importance of addressing environmental and behavioral risk factors as part of an integrated prevention strategy (Anggraini et al., 2024; Nurhayati et al., 2025). Maternal knowledge matters because mothers often recognize symptoms, implement preventive practices, and decide when to seek health care. Studies among Indonesian mothers have demonstrated an association between maternal knowledge and the ability to care for children with ARI (Suryantara & Mahardika, 2024).

Health promotion is one approach for strengthening maternal knowledge and supporting preventive behavior. Health promotion interventions are increasingly recommended to be theory-informed, evidence-based, and adapted to the target population (Koulouvari et al., 2025). The Health Belief Model (HBM) is useful for organizing preventive health messages through perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy, and cues to action. A recent meta-analysis indicates that HBM-based health education can

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influence health beliefs and preventive behavior, supporting its use as a framework for educational interventions (Afniratri *et al.*, 2024). Educational media can determine how easily health messages are understood and retained. Audiovisual media combine visual and auditory information, allowing educators to demonstrate processes, symptoms, and preventive actions. Systematic reviews have reported that video-based health promotion can be effective, although outcomes depend on content, duration, credibility, and audience characteristics (Xiao *et al.*, 2024). Visual-based interventions, including video and pictorial materials, have also been associated with improved comprehension and health literacy compared with conventional approaches (Galmarini *et al.*, 2024; Schubbe *et al.*, 2020; Wang & Voss, 2021).

Local evidence also supports the potential value of audiovisual and printed media for maternal education. Health education has been shown to improve mothers' knowledge of ARI (Sari & Ratnawati, 2020; Tunny *et al.*, 2020), while studies comparing video and leaflet education have reported significant changes in parental knowledge (Bawinto *et al.*, 2024). Nevertheless, the effectiveness of audiovisual education specifically among mothers of toddlers attending Posyandu Melati had not been evaluated in the thesis setting. Therefore, this study aimed to analyze the effect of audiovisual health promotion on mothers' knowledge of ARI prevention and to describe the change relative to leaflet-based education.

LITERATURE REVIEW

Health promotion and maternal knowledge

Health promotion aims to strengthen individual and community capacity to prevent disease and adopt healthier practices. Contemporary reviews emphasize that interventions grounded in behavioral theories can provide a structured basis for identifying determinants of behavior and selecting appropriate intervention strategies (Koulouvari *et al.*, 2025). In the context of ARI, maternal knowledge is particularly relevant because prevention and early response frequently occur in the household. Indonesian studies have reported improvements in maternal knowledge following health education and relationships between knowledge and caregiving ability (Novrianda *et al.*, 2015; Sari & Ratnawati, 2020; Suryantara & Mahardika, 2024).

Health Belief Model

The HBM explains preventive behavior through perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-efficacy, and cues to action. In the present thesis, these constructs were used to formulate the 20-item questionnaire and educational content. HBM-based educational interventions have been evaluated in multiple health contexts, and a recent meta-analysis found evidence that HBM-based education can improve selected beliefs and preventive outcomes (Afniratri *et al.*, 2024). The model is therefore appropriate for structuring messages about the risk of ARI, consequences of delayed care, benefits of prevention, practical barriers, confidence in performing preventive actions, and cues from cadres or health workers.

Audiovisual health education

Audiovisual education can present information through synchronized sound, text, illustrations, animation, and moving images. A systematic review and meta-analysis found that video-based health promotion can improve health outcomes, while also emphasizing the importance of message design and audience characteristics (Xiao *et al.*, 2024). Evidence among mothers of young children similarly suggests that video-assisted education can improve knowledge and selected caregiving outcomes (Pujari *et al.*, 2025; Saudi *et al.*, 2020). Indonesian studies also report positive effects of audiovisual education on maternal or parental knowledge (Bawinto *et al.*, 2024; Bella *et al.*, 2023; Kamila *et al.*, 2026).

Leaflet and visual education

Leaflets remain useful in community health promotion because they are portable, can be read repeatedly, and do not require electricity or digital devices. Research on pictorial information suggests that visual elements can improve understanding and recall (Schubbe *et al.*, 2020; Wang & Voss, 2021). Studies specifically addressing ARI have reported improvements after leaflet-based education among mothers (Ariyanti *et al.*, 2025; Oktaviani *et al.*, 2024). Thus, leaflet education represents a relevant comparison medium for evaluating audiovisual promotion in Posyandu settings.

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Research gap

Although evidence supports both audiovisual and printed health education, the magnitude of improvement can vary across populations and contexts. Recent studies have directly compared audiovisual and leaflet approaches for maternal health education, but evidence remains heterogeneous (Bawinto et al., 2024; Hidayat et al., 2025). The present study contributes local evidence from Posyandu Melati by examining pretest–posttest knowledge changes in two groups of mothers of toddlers.

METHOD

Study design and setting

This study used a quasi-experimental design with a non-equivalent control group and pretest–posttest measurements. The research was conducted at Posyandu Melati, Binjai, North Sumatra, during the Posyandu schedule coordinated with the Health Promotion program of Puskesmas H.A.H. Hasan. The design was selected to assess changes in maternal knowledge after health promotion using audiovisual media and to compare the observed change with leaflet-based education.

Population and sample

The population consisted of mothers who had toddlers and were registered at Posyandu Melati. Total sampling was used because the accessible population was relatively small. Thirty-six respondents participated, consisting of 18 mothers in the audiovisual intervention group and 18 mothers in the leaflet control group. The thesis also calculated a minimum sample using the Federer formula: $(t-1)(n-1) \geq 15$, yielding a minimum of 16 respondents per group; the final sample exceeded this minimum.

Eligibility and intervention

Eligible participants were biological mothers or primary caregivers of toddlers registered at or visiting Posyandu Melati, willing to participate in all procedures, and able to communicate in Indonesian. Mothers who were not registered, declined participation, had recently received similar ARI education, or had communication or sensory limitations that interfered with understanding the intervention were excluded. The audiovisual intervention consisted of a health education video covering ARI definition, causes, signs and symptoms, transmission, and prevention. The comparison group received leaflet-based education with the same general health content.

Instrument and measurement

Knowledge was measured using a 20-item questionnaire developed from HBM indicators. The instrument covered perceived susceptibility (items 1–3), perceived severity (4–6), perceived barriers (7–10), perceived benefits (11–14), self-efficacy (15–17), and cues to action (18–20). Responses used a four-point Likert scale: 1=strongly disagree, 2=disagree, 3=agree, and 4=strongly agree. Knowledge was categorized as good at 76–100%, adequate at 56–75%, and poor at $\leq 55\%$, according to the thesis operationalization.

Validity, reliability, and analysis

The questionnaire was pilot-tested among 18 mothers with similar characteristics outside the main sample. All 20 items had item-total correlations above the reported *r*-table value of 0.497, and Cronbach's alpha was 0.959, indicating high internal consistency. Normality was assessed using Shapiro–Wilk because each group contained fewer than 50 participants. All pretest and posttest distributions were reported as normal. Paired-samples *t*-tests were then used to evaluate pretest–posttest changes at $\alpha=0.05$. The thesis also planned independent-samples *t*-testing for between-group comparisons when assumptions were met.

Ethical considerations

Participation was voluntary and informed consent was obtained before data collection. The thesis included an informed-consent form and ethical-clearance documentation as research appendices.

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RESULTS AND DISCUSSION

Participant characteristics

The study included 36 mothers, with 18 respondents in each group. In the audiovisual group, 38.9% had senior-high-school education, 38.9% worked in the private sector, and 38.9% had two children. In the leaflet group, 33.3% had senior-high-school education, 33.3% worked in the private sector, and 33.3% had two children. Most children in both groups were aged 1–4 years. Previous ARI was reported by 50.0% of children in the audiovisual group and 55.6% in the leaflet group, while household ventilation was reported in 66.7% and 61.1%, respectively. The thesis reported p-values above 0.05 for the listed baseline characteristics, suggesting no statistically meaningful difference in these characteristics between groups.

Table 1. Selected characteristics of mothers and toddlers by study group

Characteristic	Audiovisual (n=18)	Leaflet (n=18)
Senior-high-school education	7 (38.9%)	6 (33.3%)
Private-sector occupation	7 (38.9%)	6 (33.3%)
Two children	7 (38.9%)	6 (33.3%)
Toddler aged 4 years	5 (27.8%)	6 (33.3%)
Previous ARI	9 (50.0%)	10 (55.6%)
Household ventilation	12 (66.7%)	11 (61.1%)

Change in knowledge after audiovisual education

In the audiovisual group, the proportion of mothers with good knowledge increased from 2 respondents (11.1%) before education to 14 respondents (77.8%) after education. The reported mean knowledge score increased from 54.72 to 62.66, representing a mean increase of 7.94 points. The paired-samples analysis reported a statistically significant pretest–posttest difference ($t=-8.570$, $p<0.001$). These findings indicate that audiovisual education was associated with a substantial improvement in maternal knowledge of ARI prevention. The result is consistent with previous Indonesian studies. Tunny et al. (2020) reported that health education improved mothers' knowledge regarding ARI prevention, while Saudi et al. (2020) found positive effects of mobile-phone-based audiovisual education on maternal knowledge and attitude in toddler pneumonia care. Bawinto et al. (2024) also reported significant changes in parental knowledge after video and leaflet education about ARI. More broadly, systematic reviews indicate that video-based promotion can improve health knowledge and comprehension, particularly when the content is appropriately designed (Xiao et al., 2024; Galmarini et al., 2024).

Table 2. Pretest–posttest knowledge scores reported in the thesis

Group	n	Pretest Mean	Posttest Mean	Mean Increase	p-value
Audiovisual	18	54.72	62.66	7.94	<0.001
Leaflet	18	54.16	59.94	5.77	<0.001

Change in knowledge after leaflet education

In the leaflet group, good knowledge increased from 1 respondent (5.6%) before education to 8 respondents (44.4%) after education. The reported mean score increased from 54.16 to 59.94, with a mean increase of 5.77 points in the main results table. The paired-samples analysis also showed a statistically significant change ($t=-7.023$, $p<0.001$). Thus, leaflet-based health education was also associated with improved maternal knowledge. This finding is supported by studies of leaflet-based health education. Oktaviani et al. (2024) reported significant improvement in mothers' knowledge following leaflet-based ARI counseling. Ariyanti et al. (2025) similarly found significant improvements in mothers' knowledge, attitudes, and actions following leaflet health promotion for ARI. The usefulness of printed visual materials is also consistent with evidence that pictures and pictographs can improve understanding and recall (Schubbe et al., 2020; Wang & Voss, 2021).

Comparison of the observed increases

The observed mean increase was 7.94 points in the audiovisual group and 5.77 points in the leaflet group. The thesis therefore describes the audiovisual group as showing a greater improvement. However, the reported statistical table

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primarily presents paired pretest–posttest tests within each group; a clearly reported independent statistical test directly comparing the two change scores was not presented in the thesis results. Accordingly, the difference between 7.94 and 5.77 should be interpreted as a descriptive difference rather than as definitive evidence that audiovisual education was statistically superior. The descriptive pattern is nevertheless compatible with literature suggesting that audiovisual formats can engage multiple sensory channels and demonstrate processes more dynamically than static materials. A systematic review found that video-based health promotion is a useful alternative or supplement to traditional methods, although effectiveness varies according to message and audience characteristics (Xiao et al., 2024). A 2025 comparative study among mothers of toddlers also reported greater knowledge improvement with audiovisual media than leaflets for diphtheria education (Hidayat et al., 2025).

Implications for Posyandu health promotion

The findings support the use of both audiovisual and leaflet materials in Posyandu health promotion. Audiovisual media may be used during group education to attract attention and demonstrate preventive behaviors, while leaflets can provide take-home information for later review. This combined strategy is consistent with evidence that visual communication can strengthen comprehension and recall (Galmarini et al., 2024; Schubbe et al., 2020). The approach is also consistent with recent Indonesian evidence emphasizing accessible maternal education through community health services (Herbayanti et al., 2025; Permatasari et al., 2026).

Limitations

The sample was small and drawn from a single Posyandu, which limits generalizability. The intervention and posttest were conducted over a short period, so longer-term retention of knowledge and actual preventive behavior were not established. The questionnaire was based on HBM constructs, but the study did not test the full causal pathway between HBM constructs and behavior. Finally, the thesis contains some differences in the reported pretest values between narrative tables and the SPSS descriptive output; this article follows the values presented in the main thesis results tables and abstract.

CONCLUSION

Health promotion using audiovisual media and leaflets was associated with significant improvement in mothers' knowledge of ARI prevention at Posyandu Melati. In the audiovisual group, good knowledge increased from 11.1% to 77.8%, with the reported mean score increasing from 54.72 to 62.66 and a significant paired pretest–posttest result ($p < 0.001$). In the leaflet group, good knowledge increased from 5.6% to 44.4%, with the mean score increasing from 54.16 to 59.94 and a significant paired pretest–posttest result ($p < 0.001$). The audiovisual group showed a descriptively greater mean increase (7.94 versus 5.77 points), but the thesis does not provide a clearly reported between-group test of change scores. Both media can therefore be incorporated into Posyandu health promotion, with audiovisual materials used for interactive delivery and leaflets retained as take-home reinforcement. Future studies should use larger samples, standardized repeated exposure, longer follow-up, and direct between-group analyses.

REFERENCES

- Afniratri, A., Tamtomo, D. G., & Murti, B. (2024). Meta-Analysis: Effectiveness of Health Education Based on Health Belief Model in Type 2 Diabetes Mellitus Patients. *Journal of Health Promotion and Behavior*, 9(2), 2024.09.02.04. <https://doi.org/10.26911/thejhp.2024.09.02.04>
- Anggraini, N., Pasaribu, B. S. S., & Nur, R. (2024). Dominant risk factors for the incidence of acute respiratory infection in toddlers. *Jurnal Berkala Epidemiologi*, 12(2), 173–181. <https://doi.org/10.20473/jbe.v12i22024.173>
- Ariyanti, R., Idrus, M., & Ulva, S. M. (2025). The Effect of Health Promotion Through Leaflet Media on Mothers' Behavior Regarding ARI (Acute Respiratory Infection) in Children. *Miracle Journal of Public Health*, 8(2), 183–193. <https://doi.org/10.36566/mjph.v8i2.476>
- Bawinto, J. A., Sepang, M. Y. L., & Langelo, W. (2024). Dampak edukasi video dan leaflet terhadap pengetahuan orang tua tentang ISPA. *Lasalle Health Journal*, 3(2), 108–114. <https://doi.org/10.52159/lhj.v3i2.115>
- Bella, B. D. R., Nofiah, N., Wahdi, A., & Yunita. (2023). Pengaruh health education dengan metode audiovisual terhadap pengetahuan dan sikap ibu dalam upaya mencegah stunting pada anak prasekolah. *Well Being*, 8(1), 24–28. <https://doi.org/10.51898/wb.v8i1.185>

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- dos Santos, M. M., Salles, T. S., de Campos, G. M., Brcko, I. C., Lima, A. R. J., Sampaio, S. C., Elias, M. C., Giovanetti, M., & Slavov, S. N. (2025). Acute respiratory infections (ARIs): Current etiological perspectives and advances in viral metagenomics—A review. *Viruses*, 17, 1554. <https://doi.org/10.3390/v17121554>
- Galmarini, E., Marciano, L., Schulz, & P., J. (2024). The effectiveness of visual-based interventions on health literacy in health care: A systematic review and meta-analysis. *BMC Health Services Research*, 24, 718. <https://doi.org/10.1186/s12913-024-11138-1>
- Herbayanti, L., Basit, M., & Latifah, L. (2025). Health literacy and mothers' knowledge of acute respiratory infections in toddlers: A correlational study. *Jurnal Keperawatan Suaka Insan*, 10(2), 204–210. <https://doi.org/10.51143/jksi.v10i2.895>
- Hidayat, E. M., Salsabilah, Z., Miadi, & Mu'afi ro, A. (2025). Effectiveness of audiovisual media vs leaflets in improving mothers' knowledge of diphtheria in toddlers in Mojo Health Center, Surabaya. *International Journal of Advanced Health Science and Technology*, 5(3), 133–139. <https://doi.org/10.35882/ijahst.v5i3.459>
- Kamila, C., Sholehah, B., & Tauriana, S. (2026). Pendidikan kesehatan audio visual sebagai upaya meningkatkan pengetahuan ibu tentang pertolongan pertama choking pada anak toddler. *Jurnal Keperawatan Dan Kesehatan*, 17(1), 423–432. <https://doi.org/10.54630/jk2.v17i1.650>
- Koulouvari, A.-D., Margariti, A., Sakellari, E., Barbouni, A., & Lagiou, A. (2025). Applications of behavioral change theories and models in health promotion interventions: A rapid review. *Behavioral Sciences*, 15(5), 580. <https://doi.org/10.3390/bs15050580>
- Novrianda, D., Lucida, H., & Soumariris, I. (2015). Comparison of effectivity of health education towards mother's knowledge and ability in caring children with acute respiratory infection in Health Center Padang Pasir and Pauh. *Jurnal Sains Farmasi & Klinis*, 1(2), 159–169. <https://doi.org/10.29208/jsfk.2015.1.2.29>
- Nurhayati, I., Yuniarti, T., Hidayat, U., Pramudyono, R. K., Wardhani, A. K., & Shohib, I. A. (2025). Penyelidikan epidemiologi kejadian ISPA pada balita di Puskesmas Tanjungsang Subang Jawa Barat. *Avicenna: Journal of Health Research*, 8(1). <https://doi.org/10.36419/avicenna.v8i1.1364>
- Oktaviani, Asri, A., & Akbar, M. I. (2024). Pengaruh penyuluhan ISPA berbasis media leaflet terhadap pengetahuan ibu balita. *Jurnal Healthy Mandala Waluya*, 3(2), 197–206. <https://doi.org/10.54883/jhwm.v3i2.332>
- Orosz, N., Gömöri, G., Battamir, U., & Nagy, A. C. (2024). Hospital-based cross-sectional study on the clinical characteristics of children with severe acute respiratory infections in Hungary. *BMC Infectious Diseases*, 24. <https://doi.org/10.1186/s12879-024-10186-6>
- Permatasari, P., Agustina, Imrani, & D., C. (2026). The effect of online health education card (KMS) on increasing the knowledge of mothers of children under two years old (Baduta): An integrated primary health care approach. *Acta Medica Philippina*, 60(12), 65–70. <https://doi.org/10.47895/amp.v60i12.4582>
- Pujari, S., Rashid, M., Thunga, G., Shetty, R. S., Mundkur, S. C., Devi, E. S., Bhaskaran, U., & Nair, S. (2025). Effect of video-assisted educational intervention on improving knowledge, attitude and practice among mothers of children below five years on malnutrition: A systematic review. *Public Health*, 242, 28–36. <https://doi.org/10.1016/j.puhe.2025.02.031>
- Ridwan, S. F., Rohima, W., Sudarsono, W., Septina, S. A., & Putri, S. R. (2021). Faktor risiko fisiologis penyebab kejadian infeksi saluran pernafasan akut (ISPA) pada balita: Literatur review. *JUMANTIK: Jurnal Ilmiah Penelitian Kesehatan*, 6(1), 85. <https://doi.org/10.30829/jumantik.v6i1.9258>
- Sari, D. P., & Ratnawati, D. (2020). Pendidikan kesehatan meningkatkan tingkat pengetahuan dan sikap ibu dalam merawat balita dengan ISPA. *Jurnal Ilmiah Ilmu Keperawatan Indonesia*, 10(2). <https://doi.org/10.33221/jiiki.v10i02.578>
- Saudi, L., Nurhaeni, N., & Hayati, H. (2020). The effectiveness of health education using mobile phone-based audiovisual on knowledge and attitude among mother in treating toddler with pneumonia. *International Journal of Nursing and Health Services*, 3(2), 305–315. <https://doi.org/10.35654/ijnhs.v3i2.305>
- Schubbe, D., Scalia, P., Yen, W., R., Saunders, H., C., Cohen, S., Elwyn, G., Muijsenbergh, van den, M., Durand, & M.-A. (2020). Using pictures to convey health information: A systematic review and meta-analysis of the effects on patient and consumer health behaviors and outcomes. *Patient Education and Counseling*, 103(10), 1935–1960. <https://doi.org/10.1016/j.pec.2020.04.010>
- Suryantara, A. A. B., & Mahardika, M. R. (2024). Tingkat pengetahuan ibu tentang infeksi saluran pernapasan akut (ISPA) berhubungan dengan kemampuan merawat balita dengan ISPA. *PrimA: Jurnal Ilmiah Ilmu Kesehatan*, 10(1). <https://doi.org/10.47506/sbfd0e70>

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- Tunny, I. S., Soamole, I., Wibowo, S. A., Purnamasari, I., & Rumaolat, W. (2020). Effect of health education on mothers' knowledge in the prevention of acute respiratory infection in toddlers in Waimital Village, Maluku. *Jurnal Ners*, 15(2), 188–192. <https://doi.org/10.20473/jn.v15i2.18968>
- Wang, T., & Voss, J. G. (2021). Effectiveness of pictographs in improving patient education outcomes: A systematic review. *Health Education Research*, 36(1), 9–40. <https://doi.org/10.1093/her/cyaa046>
- Xiao, X., Wong, M., R., Yang, & W. (2024). Effectiveness of video-based health promotion: A systematic review and meta-analysis. *Patient Education and Counseling*, 119, 108095. <https://doi.org/10.1016/j.pec.2023.108095>