



## Dental Health Education for Pregnant Women to Prevent Stunting

Sekar Restuning<sup>a,1\*</sup>, Irwan Supriyanto<sup>a</sup>, Devy Octaviana<sup>a</sup>, Bayu Irianti<sup>b</sup>

<sup>a</sup> Department of Dental Health, Poltekkes Kemenkes Bandung, Bandung, West Java, Indonesia

<sup>b</sup> Department of Dental Health, Politeknik Kesehatan Kemenkes Tasikmalaya, Tasikmalaya, West Java, Indonesia

<sup>1</sup> sekar.reztu@gmail.com\*

\* Corresponding Author

ARTICLE INFORMATION	ABSTRACT
<p><i>Article History:</i> Received: August 29, 2024 Revised: November 1, 2024 Published: November 30, 2024</p> <hr/> <p><b>Keywords:</b> Dental and Oral Health Video Pregnant Women Stunting</p>	<p>Poor oral and dental health in pregnant women can affect the fetus, leading to preterm birth and low birth weight. Oral cavity infections can transmit infections to the fetus through the bloodstream. Pregnant women with insufficient knowledge about stunting are at higher risk of contributing to stunting. Dental and oral health promotion is a process of providing information based on the needs of oral and dental health, aiming to achieve good oral and dental health. This study aims to determine the effect of educational videos on the knowledge level of pregnant women in preventing stunting. The research design used in this study is Quasi-Experimental, with a quantitative approach involving pre-tests and post-tests. The analysis results using the Wilcoxon test showed a p-value = 0.000 (<math>p &lt; 0.05</math>), indicating a significant effect on knowledge before and after the intervention using oral and dental health educational videos for pregnant women in preventing stunting. Video media has advantages such as providing closer observation of movements, saving time, and allowing repeated playback, facilitating the knowledge absorption process. Videos are categorized as audiovisual media because they engage both hearing and sight senses.</p>

Copyright© 2024 Dental Therapist Journal.

## INTRODUCTION

Stunting is a condition of short stature in children under the age of five caused by poor nutritional status. Malnutrition becomes evident after the age of two, but it can occur as early as during fetal development in the womb and in the early stages after birth. According to WHO, stunting is a condition in which toddlers have a length or height below the standard for their age, as determined by a measurement of length or height that is more than two standard deviations below the median of child growth standards (Kementerian Kesehatan Republik Indonesia, 2018).

The government has designated pregnant women and children aged 0-2 years, or households within the first 1,000 days of life (1,000 HPK), as priority targets for reducing

stunting rates because this period is critical for a child's growth and development. During pregnancy, the fetus receives nutrition solely from the mother, so the food consumed by pregnant women is absorbed by the fetus for its growth and development. However, many mothers remain unaware of stunting. A study found that 60% of pregnant women have insufficient knowledge about stunting (Irwanti, & Rehkliana, 2020). Malnutrition in children begins with the health status of the mother, which affects the development of the fetus in the womb. The health and nutritional status before, during, and after pregnancy influence the child's growth and the risk of stunting. Growth limitations caused by maternal malnutrition include impaired height growth, which can result from inadequate intake of nutrients such as energy, protein, vitamin A, zinc, and iron. To achieve optimal nutrition, the diet should include both micronutrients and macronutrients.

Pregnant women may experience various oral health issues due to hormonal changes or neglect in maintaining oral hygiene (Pinanty, Suwargiani, & Susilawati, 2020). Gum changes during pregnancy caused by a lack of oral hygiene awareness are common and are known as gingivitis (Pirie, et al., 2007). Changes in the environment around the teeth and inadequate oral hygiene accelerate the process of tooth decay during pregnancy. Saliva pH is more acidic in pregnant women compared to non-pregnant women. Poor toothbrushing habits increase the risk of acid attacks on dental plaque, exacerbated by the presence of acids from vomiting or nausea.

Poor oral and dental health in pregnant women can negatively impact the fetus, leading to preterm birth and low birth weight. Oral infections can be transmitted to the fetus through the bloodstream. Cavities contain bacteria that can spread throughout the body via circulation. Improving oral and dental health in pregnant women is a vital step in addressing poor nutritional status and environmental conditions, as these factors are linked to the risk of infections that contribute to stunting (George, 2011; Kusumawati, Rahardjo, & Sari, 2015; Anggraini, & Andreas, 2015; Dewi, 2020).

Dental and oral health promotion is the process of providing information based on oral health needs to achieve good oral health and improve the quality of life (Kurien, et al., 2013; Maryam, 2014). Efforts should focus on providing media that is easy to understand and accessible to the public. Media plays a crucial role in health promotion (Rahayu, 2013).

Audio-visual media, commonly used in health promotion, is particularly effective because it engages both the senses of hearing and sight. Videos are one example of audio-visual media (Siswati, & Salim, 2013; Priana, 2017; Putri, Kuswandi, & Susilaningsih, 2020). A study by Putri, (2020) showed the positive impact of using audio-visual media in increasing pregnant women's knowledge of oral and dental health. Videos are advantageous as they allow closer observation of movements, save time, and can be replayed repeatedly, facilitating better knowledge absorption. As an audio-visual medium, videos engage both hearing and sight, making them highly effective (Putri, 2020). This study aims to analyze the effect of educational videos on the knowledge level of pregnant women in preventing stunting.

## METHOD

The research design used is Quasi-Experimental with a quantitative approach, specifically a pre- and post-test one-group design. The population consists of pregnant women at the Banjarwangunan Village Posyandu, Cirebon Regency, with a purposive sampling method applied to obtain a sample size of 40 respondents. Data collection was conducted from July to August 2024. The inclusion criteria for this study were pregnant women who own and can operate a smartphone. The exclusion criteria were pregnant women who did not fully complete the provided questionnaire.

The research activities began by identifying problems among pregnant women through administering questionnaires to 40 respondents. Following this, priorities and causes of the problems were determined, and alternative solutions were developed in the form of an educational video. The video was distributed to pregnant women, accompanied by direct counseling and dissemination via WhatsApp, providing a platform for the participants to

understand the material on oral and dental health. The collected data were analyzed using the Wilcoxon statistical test.

## RESULTS AND DISCUSSION

**Table 1.** Shapiro-Wilk Normality Test Results

	Mean	Std. Deviation	P-Value
Pre Test	8,55	0,931	0,031
Post Test	14,18	2,811	0,000

Table 1 shows that the normality test of knowledge data before and after using the Shapiro-Wilk test results in non-normally distributed data with a value of  $p < 0.05$ . Because the data is normally distributed, the test used is the Non-Parametric test, namely the Wilcoxon test.

**Table 2.** Wilcoxon Statistical Test Results

Variable	Minimum	Maximum	Mean	P-Value
Pre-Test	5	12	8,55	0,000*
Post-Test	11	15	14,18	

Table 2 shows that the Wilcoxon test analysis yielded a  $p$ -value = 0.000 ( $p < 0.05$ ), indicating a significant effect of using oral and dental health educational videos on the knowledge of pregnant women in preventing stunting. This aligns with Indah's research, which demonstrated that audiovisual media positively impacts increasing pregnant women's knowledge about oral and dental health.

## DISCUSSION

Knowledge serves as the foundation for behavior formation. An individual is considered to have insufficient knowledge if they are unable to recognize, explain, and analyze a condition. Higher levels of knowledge are associated with better attitudes and behaviors toward maintaining oral and dental health, whereas low knowledge correlates with poor attitudes and behaviors (Heryanto, & Martha, 2019).

A mother's nutritional knowledge significantly affects the nutritional status of her children, with 48.2% of children born to mothers with poor knowledge experiencing malnutrition. Mothers with insufficient knowledge about stunting are 3.27 times more likely to increase the risk of stunting compared to mothers with adequate knowledge. Therefore, pregnant women must be educated about stunting prevention during pregnancy (Jago, 2019).

The nutritional status of pregnant women, even before conception, determines fetal growth, making ANC (Antenatal Care) an essential part of stunting prevention. The relationship between oral health and nutrition is bidirectional: oral health is crucial for adequate nutrient intake, while proper nutrition is vital for maintaining oral health. Adequate nutrition helps prevent malnutrition in pregnant women. During pregnancy, if maternal food intake is limited, the fetus will still absorb the mother's nutrient reserves. Malnutrition is marked by a thin, weak, tired, pale body, damaged teeth, hair loss, loss of appetite, and irregular heartbeats. Nutritional deficiencies during pregnancy can affect both mother and fetus, resulting in conditions such as maternal energy deficiency, premature birth, congenital disabilities, low birth weight (LBW), and stunting (Pratiwi, & Hamidiyanti, 2020).

Research indicates that a mother's high level of knowledge about oral and dental health behaviors correlates with children's better oral hygiene practices. Conversely, parents' lack of knowledge about oral health is associated with poor oral health behaviors in children, negatively impacting their dental health (Setyaningsih, & Prakoso, 2016).

Videos are an effective medium for delivering messages, classified as audiovisual media. The advantages of video-based learning include presenting learning objects concretely or delivering realistic educational messages, which enhance learning experiences. Videos also have their unique appeal, motivating learners to engage, supporting psychomotor learning goals, reducing learning fatigue, especially when combined with lectures and discussions, and increasing memory retention of the studied objects. Additionally, videos are portable and easily distributed (Khairat, 2018). The benefits of video for oral health promotion lie in its ability to

allow close observation of moving objects, save time, and facilitate repeated viewing, thus enhancing the knowledge absorption process. As an audiovisual medium, videos engage both hearing and vision, making them an effective educational tool (Purwati, 2015).

## CONCLUSION

From the results of the research that has been done, it can be concluded that there are significant changes in knowledge before and after education using oral health videos on pregnant women in preventing stunting. One alternative to providing dental health education is to use videos because using videos is more likely to easily remember and understand lessons because it does not use one type of sense.

## REFERENCES

- Anggraini, R., & Andreas, P. (2015). Kesehatan gigi mulut dan pemanfaatan pelayanan kesehatan gigi mulut pada ibu hamil (Studi pendahuluan di wilayah puskesmas serpong, tangerang selatan). *Majalah Kedokteran Gigi Indonesia*, 1(2), 193-200.
- Dewi, D.K. (2020). *Panduan Ibu Hamil dalam Menjaga Kesehatan Gigi dan Mulut untuk Mencegah Stunting*. Medan: CV. Anugerah Pangeran Jaya.
- George, A., Shamim, S., Johnson, M., Ajwani, S., Bhole, S., Blinkhorn, A., ... & Andrews, K. (2011). Periodontal treatment during pregnancy and birth outcomes: a meta-analysis of randomised trials. *International Journal of Evidence-Based Healthcare*, 9(2), 122-147. <https://doi.org/10.1111/j.1744-1609.2011.00210.x>
- Heryanto, H., & Martha, E. (2019). Kajian faktor penyebab dan intervensi gizi spesifik untuk pencegahan stunting di Kabupaten Lampung Utara. *Jukema (Jurnal Kesehatan Masyarakat Aceh)*, 5(2), 413-425. <https://doi.org/10.37598/jukema.v5i2.737>
- Irwanti, A. F., & Rehkliana, E. L. (2020). Description Of The Knowledge Of Pregnant Women About Stunting In Cibentar Village, Jatiwangi District, Majalengka Regency. *Jurnal Kesehatan Mahardika*, 7(2), 32-36.
- Jago, F. (2019). Pengetahuan ibu, pola makan balita, dan pendapatan keluarga dengan status gizi pada balita di wilayah kerja Puskesmas Danga Kecamatan Aesesa Kabupaten Nagekeo. *Lontar: Journal of Community Health*, 1(1), 16-22. <https://doi.org/10.35508/ljch.v1i1.2153>
- Kementerian Kesehatan Republik Indonesia. (2018). *Buletin Stunting*. Kementerian Kesehatan Republik Indonesia.
- Khairat, F. (2018). Hubungan Antara Persepsi Siswa Tentang Kompetensi Profesional Guru dengan Hasil Belajar Siswa. Sarjana thesis, Universitas Negeri Jakarta. Retrieved from: <http://repository.unj.ac.id/310/>
- Kusumawati, E., Rahardjo, S., & Sari, H. P. (2015). Model of Stunting Risk Factor Control among Children under Three Years. *Jurnal Kesehatan Masyarakat Nasional*, 9(3), 249–256.
- Kurien, S., Kattimani, V. S., Sriram, R. R., Sriram, S. K., VK, P. R., Bhupathi, A., ... & Patil, N. N. (2013). Management of pregnant patient in dentistry. *Journal of international oral health: JIOH*, 5(1), 88-97.
- Maryam S.(2014). *Promosi Kesehatan*. Jakarta: EGC.
- Pinanty, A., Suwargiani, A. A., & Susilawati, S. (2020). Pengalaman karies dan status periodontal pada ibu hamil. *Padjadjaran Journal of Dental Researchers and Students*, 4(1), 15-20.
- Pirie, M., Cooke, I., Linden, G., & Irwin, C. (2007). Dental manifestations of pregnancy. *The Obstetrician & Gynaecologist*, 9(1), 21-26.
- Pratiwi, I. G., & Hamidiyanti, Y. F. (2020). Gizi dalam Kehamilan: Studi Literatur. *Jurnal Gizi Prima (Prime Nutrition Journal)*, 5(1), 20-24. <https://doi.org/10.32807/jgp.v5i1.171>
- Priana, R. Y. S. (2017, May). Pemanfaatan vlog sebagai media pembelajaran terintegrasi teknologi informasi. *Prosiding Seminar Nasional Pendidikan FKIP*, 1(2).

- Purwati, P. (2015). Efektifitas Pendekatan Creative Problem Solving Terhadap Kemampuan Pemecahan Masalah Matematika Pada Siswa Sma. *Jurnal Ilmiah Edukasi Matematika*, 1(1). Retrieved from: <http://portal.widyamandala.ac.id/jurnal/index.php/jiem/article>
- Putri, A., Kuswandi, D., & Susilaningih, S. (2020). Pengembangan Video Edukasi Kartun Animasi Materi Siklus Air untuk Memfasilitasi Siswa Sekolah Dasar. *JKTP: Jurnal Kajian Teknologi Pendidikan*, 3(4), 377– 387. <https://doi.org/10.17977/um038v3i42020p377>
- Putri, I. A. (2020). Efektivitas Media Audiovisual Terhadap Peningkatan Pengetahuan Ibu Hamil Tentang Kesehatan Gigi dan Mulut di Puskesmas Kelurahan Rorotan. *Skripsi. Poltekkes Kemenkes Jakarta III*.
- Rahayu, R. D. (2013). Pengaruh penggunaan video kartun mencampur warna terhadap kemampuan kognitif pada anak kelompok B di TK Terpadu al-hidayah II Desa Bakung Kecamatan Udanawu Kabupaten Blitar. *Journal of Chemical Information and Modeling*, 53(9), 1689-1699.
- Siswati, & Salim, M. A. (2013). *Animasi 2D XI 2*. Jakarta: Direktorat Jenderal Pendidikan Dasar dan Menengah.
- Setyaningsih, R., & Prakoso, I. (2016). Hubungan Tingkat Pendidikan, Tingkat Sosial Ekonomi Dan Tingkat Pengetahuan Orangtua Tentang Perawatan Gigi Dengan Kejadian Karies Gigi Pada Anak Usia Balita Di Desa Mancasan Baki Sukoharjo. *KOSALA: Jurnal Ilmu Kesehatan*, 4(1), 13-24.