



Effect of Stunting Prevention Education Program Through Instagram on Literacy and Attitude of Pre-Marital Couples



ARTICLE INFO

Article Type

Original Research

Authors

Huriah T.^{1*} MD
Az-Zahra R.² BSc
Yuniarti F.A.³ PhD
Abdul Hamid S.H.B.⁴ PhD

How to cite this article

Huriah T, Az-Zahra R, Yuniarti FA, Abdul Hamid SHB. Effect of Stunting Prevention Education Program Through Instagram on Literacy and Attitude of PreMarital Couples. Health Education and Health Promotion. 2023;11(3):419-424.

¹ Community Nursing Department, School of Nursing, Muhammadiyah University of Yogyakarta, Yogyakarta, Indonesia

² Faculty of Medicine and Health Sciences, Muhammadiyah University of Yogyakarta, Yogyakarta, Indonesia

³ Pediatric Nursing Department, School of Nursing, Muhammadiyah University of Yogyakarta, Yogyakarta, Indonesia

⁴ International Islamic University of Malaysia, Kuala Lumpur, Malaysia

*Correspondence

Address: Community Nursing Department, School of Nursing, Muhammadiyah University of Yogyakarta, Yogyakarta 55183, Indonesia

Phone: +62 (813) 92405406

Fax: -

titih.huriah@umy.ac.id

Article History

Received: June 10, 2023

Accepted: July 24, 2023

ePublished: August 20, 2023

ABSTRACT

Aims Interconnected factors can cause increased stunting cases. One of the risk factors for stunting is adolescents' lack of knowledge and attitudes. Various media, including Instagram, can be the reason behind the issue. This study aimed to determine the effect of providing the pre-marital education program through Instagram to increase the literacy and attitude of pre-marital couples regarding stunting prevention.

Materials & Methods This quasi-experimental research with a pre-test and post-test design with a control group was conducted in pre-marital couples in the Gunung Kidul Regency from December 2021 to January 2022. The instruments were questionnaires (Google Forms) and educational media such as posters and videos via Instagram. Data were analyzed using the Wilcoxon and Mann-Whitney tests.

Findings After receiving the pre-marital education program through Instagram, pre-marital couples were stunted in both the intervention and control groups. There was an increase in attitude in the intervention group after the intervention. The literacy and attitudes about stunting prevention were increased in pre-marital couples of the intervention compared to the control groups after being given pre-marital education through Instagram.

Conclusion The pre-marital education program improves the literacy and attitudes about stunting prevention in pre-marital couples.

Keywords Stunting; Toddler; Education; Social Media; Knowledge

CITATION LINKS

[1] Levels and trends in child malnutrition: Key findings of the 2020 ... [2] Buku Profil Kesehatan ... [3] A 'missing' family of classical ... [4] Stunting, faktor resiko dan ... [5] Predictors of stunting in children aged 6 to 59 months: A case-control ... [6] The prevalence and determinants of stunting among children 6-59 ... [7] A review of child stunting determinants in ... [8] Risk factors of stunting in developing countries: A ... [9] The determinant factors of stunting among children ... [10] Hubungan Tingkat pendidikan, tingkat pengetahuan dan pola asuh ibu dengan wasting dan ... [11] The integrated intervention of early childhood education and stunting ... [12] The effectiveness of women empowerment in preventing stunting in children ... [13] The factors affecting stunting child under five years in ... [14] Peran parenting dalam meningkatkan literasi kesehatan ibu terhadap stunting di ... [15] Pengetahuan ibu, pola makan dan status gizi pada anak stunting usia 1-5 tahun di Kelurahan Bangetayu, ... [16] Gerakan Pencegahan Stunting Melalui Edukasi pada Masyarakat di Desa Muntoi ... [17] Penyuluhan kesehatan melalui media video explainer berbasis sparkol ... [18] Promosi kesehatan dan perilaku ... [19] Pengaruh Pendidikan Kesehatan dengan Media Lembar Balik Tentang Pencegahan ... [20] Pengaruh Pembelajaran Daring terhadap Minat ... [21] Faktor-faktor yang mempengaruhi pengetahuan ibu ... [22] Randomized trial of a training program to ... [23] Penggunaan media audio visual untuk meningkatkan hasil belajar ... [24] Perbedaan pengetahuan dan praktik ... [25] Pendidikan pranikah terhadap kesiapan ... [26] Pre-marriage course regarding ... [27] The effect of instruction on knowledge and ... [28] Effectiveness of marriage education before ... [29] Pengaruh pendidikan kesehatan ... [30] Edukasi gizi berbasis media sosial meningkatkan ... [31] Hubungan antara informasi stunting pada ... [32] Ojo stunting application, health promotion media ... [33] Pengaruh edukasi gizi menggunakan ... [34] Efektivitas media poster sebagai implementasi ... [35] Efektivitas penggunaan poster dan video dalam meningkatkan ... [36] The influence of calendar of health as a prevention of ... [37] Analisis pengetahuan dan sikap ibu terhadap pencegahan stunting pada ... [38] Pengaruh pemberian edukasi gizi terhadap pengetahuan dan sikap ...

Introduction

The stunting issue is still common, especially in poor and developing countries. Globally, 149 million children, or 21.9% of children under five, were stunted in 2018, half of which are in Asia. Data from the World Health Organization (WHO) showed that Indonesia is among the third countries with the highest prevalence in the Southeast Asia/Southeast Asia Regional (SEAR) region, with an average prevalence of stunting in children of 36.4 after India at 38.4% and Timor Leste at 50.2% in 2005-2017 [1]. Indonesia Health Office stated that the prevalence of very short and short toddlers in 2018 was 11.5% and 19.3% [2]. This condition increased from the previous year. The prevalence of very short toddlers was 9.8%, and 19.8% of short toddlers. A basic health survey in Indonesia reported that the prevalence of stunting in the Special Region of Yogyakarta was 16.21% [3]. The highest stunting prevalence in toddlers was in Gunung Kidul Regency at 27.20%, and the lowest was in Sleman Regency at 16.69%. The prevalence of stunting in Yogyakarta was 24.22%, Kulon Progo Regency was 20.92%, and Bantul Regency was 19.05%. Interconnected factors can cause a high incidence of stunting in Indonesia.

Inadequate intake of energy and nutrients, as well as infectious diseases, are factors that significantly contribute to the problem of stunting [4]. Other factors that cause stunting are poor nutritional status of the mother during pregnancy, maternal stature which is also short, spacing of children who are too close, lack of knowledge about stunting, food insecurity, premature or low birth weight births, exclusive breastfeeding, management of complementary foods for children, sanitation environment, low socioeconomic status of the family, poor parenting, especially in the behavior and practice of feeding children [5-9].

Ignorance regarding nutrition information can lead to a lack of quality or nutritional quality of family food, especially that toddlers consume. The level of the mother's knowledge about nutrition influences the mother's knowledge and attitude in choosing food ingredients that will affect family nutrition. Mother's knowledge about food and various kinds of processed fish will help her find alternatives and variations of appropriate and liked by toddlers so that food is nutritious [10-12]. A mother with good nutritional knowledge will consume balanced, nourishing food [13, 14]. Margawati *et al.* (2018) found a relationship between maternal parenting styles and stunting. A mother's nutritional knowledge is one factor that significantly influences the incidence of stunting [15]. Efforts to prevent stunting are changing people's behavior through providing health education and community empowerment Hamzah *et al.* and health education to increase public literacy about stunting since knowledge or cognition is a critical domain in shaping one's action [16-18].

Young and mature women ready for childbearing should be prepared for their pregnancy and the child's first 1000 days of life (HPK). Stunting prevention will help mothers to improve their nutritional status during pregnancy. A mother's knowledge affects the mother's health status, the fetus in the womb, and the quality of the baby. So far, efforts to improve nutrition have been carried out when the mother is pregnant, even though nutrition education would be better done when the mother is not pregnant to prepare for pregnancy [19].

Pre-marital couples can increase literacy related to stunting through various media, including online media. Fauziatin *et al.* showed increased literacy in prospective brides after being given an education; also proven by statistical tests that there are differences in knowledge and attitudes of the future bride and groom before and after the intervention using the media [19]. Hamimah Hamimah & Azinar showed differences in mothers' knowledge about stunting before and after health education through video media [17]. In Indonesia, the use of social media for health education, particularly targeting teenagers, is still restricted. Based on the background described, the researchers were interested in knowing how much influence the Pre-Marital Education (PME) program had through the online media Instagram to increase literacy and attitudes regarding stunting prevention.

Materials and Methods

This study used a quantitative research method with a quasi-experimental design. The population was pre-marital couples in the rural area of Yogyakarta Province (Gunung Kidul Regency area) who registered at the Office of Religious Affairs (KUA) from December 2021 to January 2022, as well as late adolescents who had entered the age of marriage. This rural area had the highest number of stunting cases in Gunung Kidul Regency. Sampling was done by purposive sampling technique. The sample was calculated based on the sample formula for two independent groups, and the number of samples was 19 pairs of respondents for each group (n=76). The inclusion criteria were registering at KUA, having personal smartphones, using social media, having Instagram accounts, and participating in the intervention until it was completed. Those who did not participate to the end of the program were excluded.

The research instrument was a literacy and attitude questionnaire distributed via Google Forms to make it easier for respondents to fill out and for researchers to collect data from respondents. The instrument adopted the research questionnaire by Yunitasari & Hanifah, which had gone through validity and reliability tests to be directly used as a research instrument to determine the literacy of pre-marital couples regarding stunting prevention [20].

Researchers also used tools such as posters and video media to provide education.

Researchers shared posters and educational videos on Instagram. Health education was provided twice a week for a month (a total of eight health education postings, with one post containing two different health education items), with the content offered at the first and second meetings related to the characteristics of teenagers. The material presented at sessions 3-5 is related to stunting, whereas the material provided at meetings 6-8 is about patterns of healthy living behavior. Follow-up is done once a week via chat on the WhatsApp Group application.

Bivariate analysis used the Wilcoxon test to determine differences in pre-test and post-test in each group. It used the Mann-Whitney test to compare the values of the intervention and control groups. The results were declared significant if the p-value was <0.05.

Findings

The mean age of the intervention (24.21±3.22 years) and control (21.97±1.95 years) groups was significantly different ($p < 0.001$). There were no significant differences in gender, education level, and occupation between the intervention and control groups (Table 1).

Table 1. Frequency distribution of respondent characteristics by gender, education, occupation, and age (n=76)

Parameter	Intervention		Control		p Value
	No.	%	No.	%	
Gender					
Female	19	50	19	50	0.591
Male	19	50	19	50	
Education Background					
Elementary School	1	2.6	1	2.6	0.763
Middle School	2	5.3	1	2.6	
High School	25	65.8	29	76.3	
College	10	26.3	7	18.5	
Occupation					
Labor/Unemployed	12	31.6	23	60.5	0.074
Entrepreneur	8	21,1	5	13,2	
Private employees	12	31,6	8	21,1	
Civil Servant	6	15,8	2	5,3	

Table 2. Comparing the frequency (Wilcoxon test) of literacy and attitudes about stunting prevention in the intervention and control group at KUA Tepus (n=76)

Parameter	Intervention Group			Control Group		
	Before	After	p Value	Before	After	p Value
Literacy						
Less	4(10.5)	1(2.6)	0.001	6(15.8)	3(7.9)	0.011
Average	13(34.2)	3(7.9)		11(28.9)	9(23.7)	
Good	21(55.3)	34(89.5)		21(55.3)	26(68.4)	
Attitude						
Positive	25(65.8)	38(100)	0.001	14(36.8)	19(50)	0.06
Negative	13(34.2)	0(0)		12(63.2)	19(50)	

After receiving the PME program through Instagram, pre-marital couples stunted in both the intervention and control groups. There was an increase in attitude in the intervention group after the intervention (Table 2).

Table 3. Comparing the frequency (Mann-Whitney test) of literacy and attitudes in pre-marital couples after intervention between the groups (n=76)

Parameter	Intervention		Control		p Value
	No.	%	No.	%	
Literacy					0.026
Less	1	2.6	3	7.9	
Average	3	7.9	9	23.7	
Good	34	89.5	26	68.4	
Attitude					0.0001
Positive	38	100	19	50	
Negative	0	0	19	50	

The literacy and attitudes about stunting prevention were increased in pre-marital couples of the intervention compared to the control groups after being given PME through Instagram (Table 3).

Discussion

The analysis showed that the literacy category of respondents in both the intervention and control groups was 55.3% good before the intervention. Hence, the respondents had good initial literacy related to stunting prevention in toddlers. Oka & Annisa, and Rahmawati *et al.* found that the level of education is significantly associated with a mother's knowledge about stunting [21, 22]. Education helps shape parental understanding of stunting [22]. In the control and intervention groups, most of whom were high school graduates. Parents with high school education find it easier to understand the information they get than those with junior high school education [22].

Rahmawati *et al.* also found that other factors related to parental knowledge about stunting in toddlers are age and information, the variables most related to parental knowledge. The average age of respondents in this study was 24 years old, with a maximum of 32 years. According to the Ministry of Health, the age between 26 and 35 is in early adulthood. Compared to adolescence, early adulthood allows parents to be more concerned with their child's development so that they are more interested in and better able to absorb information about stunting. Fujiyanto *et al.* said that a person's memory or memory is influenced by age, where a person's comprehension and mindset are more mature with age so that the knowledge gained is also getting better [23]. Widyaningrum *et al.* strengthened Fujiyanto's statement that adult mothers better understand feeding toddlers than teenagers [24].

Rahmawati *et al.* stated that information is the variable most significantly related to the mother's knowledge about stunting [22].

Parents who have received information about stunting must have understood, interpreted, and remembered the messages conveyed from the information obtained to form good knowledge. The information factor is the most dominant, so it can change one's understanding even though other

factors that affect learning are not changed. Providing information about stunting can be the leading solution to increase parental knowledge.

The knowledge between the intervention and control groups after being given the PME intervention increased equally due to homogeneous characteristics between the control and intervention groups. Factors such as age, level of education, and information can influence the knowledge of the control group so that even though they are not given treatment, the ability of the control group also increases.

Mann-Whitney Test results showed differences in the knowledge of pre-marital couples in the intervention group and the control group after being given PME. The Pre-Marital Education program is aimed at couples getting married and preparing the bride and groom for life after marriage, including preparing for pregnancy by providing knowledge about healthy reproduction for the bride and groom [25].

This study reinforced previous research, stating that the Pre-Marital Education Program can increase knowledge [26-28]. The pre-marital phase is the proper phase to prepare oneself physically, psychologically, and socially. Pre-marital couples must prepare their physiology and psychology to understand the world of marriage, including all possibilities when building a household. Pre-marital education plays an essential role in increasing the knowledge of the prospective bride and groom regarding pre-marital health because, with a sufficient understanding of pre-marital health, the future bride and groom can lead a safe and healthy married life. Government must provide prospective brides with adequate knowledge about pre-marital health and rights to be better prepared to become a mother and a father [29].

The results showed that after the intervention, all respondents in the intervention group had a positive attitude, while the control group had the same ratio of positive and negative attitudes. The Mann-Whitney U test analysis showed differences in the attitudes of pre-marital couples in the intervention and control groups after receiving pre-marital education.

The pre-marital education program is carried out through social media. Along with technological developments, social media can support the search and communication of health information. Social media as an educational medium is becoming an option because it can facilitate the dissemination of information and access to health information management and reach many targets that are not limited by space and time. Submitting information through social media has also proven to increase one's knowledge. Zaki *et al.* also showed that social media is quite widespread in various circles, not only limited to cities but also quite familiar in rural areas [30]. One useful social media is Instagram.

Instagram is one of the most widely used social media to find health information [31]. One of the health information effectively provided is information about

stunting prevention [32]. Rusdi *et al.* revealed that using Instagram as an educational medium has proven effective in increasing nutrition knowledge, attitudes, and behavior compared to other social media because Instagram has better and more interactive features than other social media. Instagram is also more accessible for users to use and enjoy [33].

An Instagram account can provide various health information about stunting. This information can be presented in attractive posters and videos by adding captions as descriptions. Information shared with frequent intensity and in multiple ways can make the account a helpful health information media account for followers. It will support fulfilling one's knowledge about balanced nutritional patterns and good health behavior to form a good attitude toward stunting prevention. Stunting information provided through this Instagram account is credible, supports one's beliefs, and ultimately influences attitudes toward stunting prevention [31].

These posters and videos can be used as educational media so that the public can access health promotion materials more efficiently [34]. Poster media has advantages and attractiveness, namely attracting attention by highlighting the power of messages, attractive images, and colors. Video media is one of the latest media that shows advances in science and technology, including visual and audio media. Using video to convey information can make it more exciting and motivating. Data is transferred more efficiently because images can move and communicate quickly, accelerating understanding more comprehensively. Using posters and video media can encourage changes in knowledge, attitudes, and behavior [35].

The researchers concluded that health education provided through posters and videos using online media proved effective in increasing knowledge and changing attitudes for the better in efforts to prevent stunting. Prasetyanti *et al.* found an influence between health education on the attitude of pre-marital couples regarding stunting prevention efforts. This study revealed that all respondents were positive (100%) toward stunting prevention efforts after education because they gained new knowledge [36]. A positive attitude cannot be separated from the knowledge and information obtained [37]. Researchers understand that there is a change in attitude for the better because they are given education through posters and videos containing explicit material about stunting prevention so that pre-marital couples can receive messages or information. In addition, researchers also facilitate questions and answers about stunting so that researchers can answer any information they need and increase their knowledge. Increasing one's knowledge can affect growth in positive attitudes [38]. Researchers also understand that an increase in positive attitudes can be caused by information when

providing education through online media, which carries a suggestive message that stunting prevention is essential and must be carried out by pre-marital couples before entering pregnancy. Pre-wedding couples will do their best to prepare their child's First 1000 Days of Life (HPK) with good information and attitude. The study's weakness is that not all respondents used their personal Instagram accounts to view the Instagram link. Several couples used one Instagram account for two people when participating in study activities. The limitations of this study are the different characteristics of the control and intervention groups, where the intervention group is pre-married couples who have registered with the Office of Religious Affairs, and the control group is teenagers who are ready to marry but have not yet registered with the Office of Religious Affairs. Pre-marital couples need to improve literacy by seeking information from various media that are trusted and mutually supportive of reducing stunting in children.

Conclusion

The pre-marital education program improves the literacy and attitudes about stunting prevention in pre-marital couples.

Acknowledgment: We thank the Office of Religious Affairs in Gunung Kidul Regency, Yogyakarta, for the research facilities. We also thank the Research and Innovation Centre at Universitas Muhammadiyah Yogyakarta for financing research activities.

Ethical Permissions: This study was approved by the Faculty and Health Sciences Universitas Muhammadiyah Yogyakarta health research ethics committee under the number 300/EC-KEPK FKIK UMY/XI/2021.

Conflicts of Interests: Nothing to be reported

Author Contribution: Huriyah T (First Author), Methodologist/Discussion Writer (25%); Az-Zahra R (Second Author), Introduction Writer/Main Researcher (25%); Yuniarti FA (Third Author), Assistant Researcher/Statistical Analyst (25%); Abdul Hamid SHB (Fourth Author), Assistant Researcher/Statistical Analyst (25%)

Funding/Support: Universitas Muhammadiyah Yogyakarta partially funds this research in the scheme of the Sabbatical Leave Program.

References

- 1- UNICEF, WHO, World Bank. Levels and trends in child malnutrition: Key findings of the 2020 Edition of the Joint Child Malnutrition Estimates [Internet]. Geneva: WHO. 2020 March [cited 2023, 4 April]. Available from: <https://www.who.int/publications/i/item/9789240003576>.
- 2- Kesehatan D. Buku Profil Kesehatan DIY Th 2019. 2019;56.
- 3- Vinet L, Zhedanov A. A 'missing' family of classical orthogonal polynomials. *J Phys A Math Theor*. 2018;44(8):1-200.
- 4- Sutarto S, Mayasari D, Indriyani R. Stunting, faktor resiko dan pencegahannya. *J Agromedicine*. 2018;5(1):540-5.

- 5- Bukusuba J, Kaaya AN, Atukwase A. Predictors of stunting in children aged 6 to 59 months: A case-control study in southwest Uganda. *Food Nutr Bull*. 2017;38(4):542-53.
- 6- Masereka EM, Kiconco A, Katsomyo E, Munguiko C. The prevalence and determinants of stunting among children 6-59 months of age in one of the sub-counties in the Rwenzori sub-region, western Uganda. *Open J Nurs*. 2020;10(03):239-51.
- 7- Beal Y, Tumilowicz A, Sutrisna A, Izwardy D, Neufeld LM. A review of child stunting determinants in Indonesia. *Matern Child Nutr*. 2018;14(4):1-10.
- 8- Huriyah T, Nurjannah N. Risk factors of stunting in developing countries: A scoping review. *Open Access Maced J Med Sci*. 2020;8(F):155-60.
- 9- Huriyah T, Handayani P, Sudyasih T, Susyanto BE. The determinant factors of stunting among children in urban slums area, Yogyakarta, Indonesia. *Open Access Maced J Med Sci*. 2021;9(T4):1-5.
- 10- Muniroh L, Ni'mah C. Hubungan Tingkat pendidikan, tingkat pengetahuan dan pola asuh ibu dengan wasting dan stunting pada balita keluarga miskin. *Media Gizi Indonesia*. 2015;10(1):84-90.
- 11- Huriyah T, Lestari AA, Rahmawati A, Prasetyo YB. The integrated intervention of early childhood education and stunting prevention program in increasing pre-school age children's food intake. *Bali Med J*. 2021;10(3):1329-32.
- 12- Margatot DI, Huriyah T. The effectiveness of women empowerment in preventing stunting in children aged 6-59 months. *Bali Med J*. 2021;10(3):1230-4.
- 13- Silas L, Rantetampang AL, Tingginehe R, Mallongi A. The factors affecting stunting child under five years in sub-province Mimika. *Int J Sci Healthcare Res*. 2018;13(87):13.
- 14- Fitroh SF, Oktavianingsih E. Peran parenting dalam meningkatkan literasi kesehatan ibu terhadap stunting di bangkalan Madura. *J Pendidikan Anak Usia Dini*. 2020;4(2):610.
- 15- Margawati A, Astuti AM. Pengetahuan ibu, pola makan dan status gizi pada anak stunting usia 1-5 tahun di Kelurahan Bangetayu, Kecamatan Genuk, Semarang. *J Gizi Indonesia*. 2018;6(2):82-9.
- 16- Hamzah ST, R, Hamzah B. Gerakan Pencegahan Stunting Melalui Edukasi pada Masyarakat di Desa Muntoi Kabupaten Bolaang Mongondow termasuk di Kabupaten Bolaang Mongondow masih cukup tinggi adalah pola asuh orangtua program promosi kesehatan dan pemberdayaan masyarakat yang semuanya. *J Pengabdian Kepada Masyarakat Indonesia*. 2020;1(4):229-35.
- 17- Hamimah and M. Azinar. Penyuluhan kesehatan melalui media video explainer berbasis sparkol videoscope. *Higeia J Public Health Res Dev*. 2020;4(4):535-42.
- 18- Notoatmodjo S. Promosi kesehatan dan perilaku kesehatan. Jakarta: Rineka Cipta; 2012.
- 19- Fauziatin N, Kartini A, Nugraheni SA. Pengaruh Pendidikan Kesehatan dengan Media Lembar Balik Tentang Pencegahan Stunting Pada Calon Pengantin. *J Kesehatan Masyarakat*. 2019;18(2):224-33.
- 20- Yunitasari R, Hanifah U. Pengaruh Pembelajaran Daring terhadap Minat Belajar Siswa pada Masa COVID-19. *Edukatif: J Ilmu Pendidikan*. 2020;2(3):232-43.
- 21- Oka IA, Annisa N. Faktor-faktor yang mempengaruhi pengetahuan ibu menyusui tentang stunting pada baduta. *J Fenomena Kesehatan*. 2019;2(2):317-34.
- 22- Rahmawati A, Nurmayati T, Sari LP. Faktor yang berhubungan dengan pengetahuan orang tua tentang stunting pada balita. *J Ners Midwifery*. 2019;6(3):389-95.

- 23- Fujiyanto AA, Jayadinata AK, Kurnia D. Penggunaan media audio visual untuk meningkatkan hasil belajar siswa pada materi hubungan antarmakhluk hidup. *J Pena Ilmiah*. 2016;1(1):841-50.
- 24- Widyaningrum R, Nurdiati DS, Gamayanti IL. Perbedaan pengetahuan dan praktik pemberian makan serta perkembangan anak 6-24 bulan pada ibu usia remaja dan dewasa. *J Gizi Klinik Indonesia*. 2016;13(1):27-33.
- 25- Rokhanawati D, Edi Nawangsih UH. Pendidikan pranikah terhadap kesiapan menghadapi kehamilan pertama pada calon pengantin putri. *J Kebidanan dan Keperawatan Aisyiyah*. 2017;13(1):81-7.
- 26- Nugraheni A, Purnami CT, Mawarni A, Kartini A. Pre-marriage course regarding health reproductive: knowledge and attitude of bride and groom candidate in preparing health status before pregnant in Grobogan Regency. *Indian J Public Health Res Dev*. 2020;11(3):1150-4.
- 27- Moodi M, Miri MR, Sharifirad GR. The effect of instruction on knowledge and attitude of couples attending pre-marriage counseling classes. *J Educ Health Promot*. 2013;2:52.
- 28- Keshavarz A, Amrgha HA. Effectiveness of marriage education before marriage change irrational beliefs girls. *Proced Soc Behav Sci*. 2013;84:520-4.
- 29- Susanti D, Rustam Y, Doni AW. Pengaruh pendidikan kesehatan pranikah terhadap pengetahuan. *J Sehat Mandiri*. 2018;13(2):18-25.
- 30- Zaki I, Sari HP. Edukasi gizi berbasis media sosial meningkatkan pengetahuan dan asupan energi-protein remaja putri dengan kurang energi kronik (KEK). *Gizi Indonesia*. 2019;42(2):111-22.
- 31- Sri Astuti W, Arifin HS, Fuady I. Hubungan antara informasi stunting pada akun Instagram @1000_Hari dengan sikap followers terhadap pencegahan stunting. *J Pendidikan Sosial dan Budaya*. 2020;1(2):157-64.
- 32- Prasiska DI, Widodo AP, Suryanto Y. Ojo stunting application, health promotion media prevention stunting Era 4.0. *IAKMI Public Health J Indonesia*. 2020;1(2):91-100.
- 33- Rusdi FY, Helmizar H, Rahmy HA. Pengaruh edukasi gizi menggunakan instagram terhadap perubahan perilaku gizi seimbang untuk pencegahan anemia pada remaja putri di SMAN 2 Padang. *J Nutr Coll*. 2021;10(1):31-8.
- 34- Fitri I, Wiji RN. Efektivitas media poster sebagai implementasi keluarga sadar gizi (Kadarzi) efectivity poster media as kadarzi implementation. *Med Gizi Indonesia*. 2019;1(2):242-52.
- 35- Indah J, Junaidi J. Efektivitas penggunaan poster dan video dalam meningkatkan pengetahuan dan sikap tentang buah dan sayur pada siswa Dayah Terpadu Inshafuddin. *J SAGO Gizi dan Kesehatan*. 2021;2(2):129.
- 36- Prasetyanti DK, Fitriasnani ME. The influence of calendar of health as a prevention of stunting in pre-marriage couples. *STRADA J Ilmiah Kesehatan*. 2020;9(2):1300-8.
- 37- Ariestia M. Analisis pengetahuan dan sikap ibu terhadap pencegahan stunting pada anak di masa pandemi Covid -19 Di kelurahan korong gadang. *J Ilmiah Cerebral Medika*. 2020;2(2):151-6.
- 38- Patata NP, Haniarti H, Usman U. Pengaruh pemberian edukasi gizi terhadap pengetahuan dan sikap calon pengantin dalam pencegahan stunting di kua kabupaten tana toraja. *J Sains dan Kesehatan*. 2021;3(3):548-63.