



EFFECTIVENESS OF NUTRITION EDUCATION MEDIA CALENDAR, ANIMATED VIDEO, AND FACEBOOK LIVE IN INCREASING KNOWLEDGE AND ATTITUDES PREVENTION OF ANEMIA IN PREGNANT WOMEN

Salsabila Aprilia *, Al Mukhlas Fikri, Rini Harianti

Program Studi Gizi, Fakultas Ilmu Kesehatan, Universitas Singaperbangsa Karawang
Jl. HS.Ronggo Waluyo, Puseurjaya, Telukjambe Timur, Karawang, Jawa Barat 41361, Indonesia
Email: 2010631220037@student.unsika.ac.id

Abstract

Anemia is a condition of the body when the hemoglobin (Hb) level is lower than the normal level or less than 11 gr/dl. In pregnant women, anemia has a high influence on the quality of human resources and can endanger the safety of the mother and child. Anemia has various causes, including lack of knowledge about anemia, foods containing iron and Fe tablet supplements. This research aims to determine the effectiveness of nutritional education media calendars, animated videos, and live Facebook in increasing knowledge and attitudes towards preventing anemia in pregnant women in the Cilincing District area. The method used in this research is quasi experimental with a pre-posttest with control group design. The data obtained was then analyzed and processed using Shapiro Wilk normality followed by the paired sample t test for the knowledge variable because the data was normally distributed and the Wilcoxon test for the attitude variable because the data was not normally distributed. The number of respondents who took part in this research was 45 respondents from pregnant women in the Cilincing District, North Jakarta. The results of this study showed that there were significant differences in the level of knowledge and attitudes of pregnant women towards preventing anemia in the three media provided with a p-value of 0.00 ($p < 0.05$).

Keywords: Anemia, Educational Media, Pregnant Women

Introduction

Anemia is a condition of the body when the concentration of hemoglobin in the blood is low or a condition of the body when there is a lack of red blood cells (erythrocytes). These erythrocytes contain hemoglobin which has an affinity for oxygen and delivers oxygen throughout the body (26). Anemia experienced by pregnant women is a national problem that reflects the socio-economic welfare of society and has a major influence on the quality of human resources (22). Anemia during pregnancy is said to be "Potential danger to mother and child" (potential harm to mother and child) (21). During pregnancy, anemia has an impact on the growth and development of the fetus and during birth, which includes abortion, intrauterine death, prematurity, low birth weight, intrauterine growth retardation, perinatal depression and perinatal death. On the other hand, if anemia is not treated quickly, it can affect pregnant women, namely the threat of heart failure, premature rupture of membranes, urinary disorders, retained placenta, postpartum hemorrhage caused by uterine atony and even maternal death due to childbirth (8). The consequences of anemia are the second main cause of maternal death, amounting to 12.8% of maternal deaths caused by postpartum hemorrhage (7).

According to the World Health Organization (WHO), 42% of children under 5 years old and 40% of pregnant women are estimated to suffer from anemia. There are approximately 370 million women in developing countries suffering from iron deficiency anemia, 41% of which are pregnant and pregnant

women are included in that 41% (17). Likewise, the incidence of anemia in Indonesia is classified as a problem that often occurs in pregnant women, with a national prevalence of 42% in 2016. In 2018, the proportion of pregnant women who experienced anemia was 48.9%, which means there is an increase in the number of anemia in mothers. pregnant every year (17). There was a significant increase in pregnant women experiencing anemia from 2015 to 2018, from 11.9% to 48.9% (18).

Based on data from the DKI Jakarta Provincial Health Service (2018) from examination results, pregnant women aged 15-24 years experienced anemia at most, around 84.6%. Meanwhile, at ages 25-34 years it is around 33.7%, at ages 35-44 years it is around 33.6% and at ages 45-54 years it is around 24%. The World Health Organization (WHO) recommendation is that the target is to reduce the prevalence of anemia in pregnant women by 50% in those of productive age by 2025. This is related to the SDGs (Sustainable Development Goals) target in 2023 (23).

Pregnant women are very susceptible to suffering from iron deficiency anemia because pregnant women need greater oxygen levels, which triggers increased erythropoietin production. This causes the blood plasma volume to increase and the number of erythrocytes to increase(8). The increase in plasma volume occurs in a greater proportion than the increase in erythrocytes, resulting in a decrease in hemoglobin (HB) concentration due to hemodilution. Even though hemodilution occurs, it generally has no effect on changes in mean corpuscular volume (MCV) or mean corpuscular hemoglobin concentration (MCHC).

There are various causes of anemia in pregnant women, including because pregnant women do not know about anemia, foods containing iron and Fe tablet supplements. Pregnant women assume that consuming vegetables or fruit alone is enough to meet their needs during pregnancy. This is of course caused by the mother's lack of knowledge and attitude towards the dangers of anemia and consumption of food sources of iron during pregnancy is still relatively low. One effort that can be made to increase knowledge and attitudes is through providing education (4). Nutrition education is an activity in an effort to convey nutritional messages to the community, groups or individuals with the hope that the community will gain better knowledge about nutrition so that it can influence people's attitudes and behavior. Education about preventing anemia is one way that can increase knowledge and change attitudes to be positive so that pregnant women can take various steps to prevent anemia (22).

This education is provided using several media in the form of visual and audiovisual media (19). The use of communication media in communication delivery tools is able to stimulate thoughts, feelings, attention and interest from the public. Therefore, researchers want to know about the effectiveness of nutritional education media calendars, animated videos, and live Facebook in increasing knowledge and attitudes towards preventing anemia in pregnant women in the Cilincing District area.

Method

This research is a quasi-experimental research with a pre-post test with control group design. This research was conducted offline on calendar media and online on three-dimensional media and innovative media. The inclusion criteria are pregnant women who are in the Cilincing District, North Jakarta, DKI Jakarta and are willing to take part in the research from the beginning to the post-test stage, while the exclusion criteria are those who are not willing to take part in the research. This research was conducted from 2 May 2023 to 9 May 2023. The sample in this study was 45 pregnant women who were divided into three groups of 15 pregnant women each to be given further intervention. In group 1, pregnant women were given intervention through calendar media, in group 2, pregnant women were given intervention through animated video media and in group 3, pregnant women were given intervention via Facebook Live.

The initial stage of this research is the observation stage (pretest) before the intervention is carried out, then the intervention is carried out using the educational media provided and re-observation (post test) with the aim of seeing the results or effects of the intervention that has been given. The questionnaire given was in the form of 10 questions for the characteristics of the respondent which described the respondent's age, highest level of education and nutritional status. The nutritional status of respondents was assessed based on calculating the nutritional status of pregnant women from the results of Upper Arm Circumference (LILA) or from the results of Body Mass Index (BMI) according to the data filled in by respondents on Googleform. The LILA measurement is quite representative, when the LILA measurement of pregnant women is related to BMI, the higher the LILA of pregnant women, the higher the BMI of pregnant women. BMI is calculated using the formula:

$$\text{BMI} = \frac{\text{Weight (kg)}}{\text{Height (m)} \times \text{Height (m)}}$$

From the results of the BMI measurements, it is then categorized according to WHO with a BMI <18.5 is underweight, ≥18.5 to <24.9 is normal, ≥25.0 to <27.0 is overweight and ≥27.0 is obese. Meanwhile, for LILA, if LILA is <23.5 cm then it can be said that the pregnant woman is at risk of CED and it is estimated that the baby born will be categorized as Low Birth Weight (LBW). The influence of educational media was measured using a questionnaire with 10 multiple choice questions to determine the level of knowledge of pregnant women regarding anemia prevention and 10 multiple choice questions to determine the level of attitudes of pregnant women regarding anemia prevention.

Statistical analysis was carried out using the IBM SPSS Ver 25 and Microsoft Excel applications. Bivariate analysis was used to test the hypothesis by first undergoing a data normality test using the Shapiro Wilk test. If the data is normally distributed, the test that will be carried out is the paired sample t test with a significance of 95% and if it is not normally distributed, the test that will be carried out is the Wilcoxon test. The paired sample t test and Wilcoxon test were used to see differences in knowledge and attitude scores of pregnant women before and after nutrition education.

Results and Discussion

Primary data regarding respondents was obtained by filling out a questionnaire via Googleform in the respondent characteristics section. The number of respondents collected was 45 pregnant women. Respondent characteristic data collected includes age, highest level of education, occupation, weight, height and LILA (for calculating nutritional status) as well as the respondent's address which shows that the respondent is from the Cilincing District Area or lives in the Cilincing District Area. The characteristics of the respondents are presented in the following table.

Table 1. Characteristics of Respondents

Variable	N	(%)
Age		
21-25	15	33.3
26-30	15	33.3
31-35	10	22.2
36-40	2	4.4
Last Education		
Elementary School	1	2,2
Junior High School	5	11.1
Senior High School	26	57.7
Associate Degree	1	2,2

Bachelor Degree	12	4.4
Work	39	86.6
Housewife	4	8.8
Private Sector Employee	2	4.4
Teacher		
Nutritional status		
Underweight	2	4.4
Normal	32	71.1
Excess weight	8	17.7
Obesity	3	6.6

Based on table 1 regarding the characteristics of respondents, it is known that the majority of respondents had an age range between 21-25 years and 26-30 years with 15 respondents each with a percentage of 33.3% who were of non-risk age. Meanwhile, the minimum age range for respondents was 36-40 years, with 2 respondents with a percentage of 4.4%. According to research conducted Wahtini et al., (2020) states that the age range that is not at risk during pregnancy is 20-35 years and the age range that is at risk is less than 20 years because this age is the growth period so nutritional intake is needed for growth and development (25). Pregnant women aged less than 20 years and more than 35 years have risks to the health of the pregnant woman and her fetus, these risks can include bleeding or risk of anemia (13). For education, the highest results were obtained, namely 26 respondents with Final Middle School (SMA) education and the lowest results were 1 respondent with Elementary School (SD) and Associate degree. Education has an influence on readiness and knowledge, especially in preparing nutritious food during pregnancy and childbirth. Educational factors have an influence on respondents when searching for, receiving and studying information specifically in the health sector (5). However, according to Daulay et al. (2018) education has no relationship with the incidence of anemia in Indonesia (6).

Apart from that, most pregnant women work as housewives, numbering 39 respondents with a percentage of 86.6% and the least as teachers. 2 respondents with a percentage of 4.4%. Housewives are categorized as mothers who do not work, but if the mother has more than 1 child, she is likely to have a greater workload. Light workload has a chance of anemia compared to work in the medium category (12). For nutritional status, 32 respondents had normal nutritional status results with a percentage of 71.1% and the smallest result was 2 respondents with a percentage of 4.4% who had underweight nutritional status. This nutritional status is related to anemia. If pregnant women are malnourished, there is a possibility of micronutrient deficiencies and anemia (24).

Respondents filled out the pretest and posttest knowledge section questionnaires with the three media provided, namely calendar media, animated videos, and Facebook live. The variable observed was respondents' knowledge of anemia prevention material. Knowledge (Knowlegde) is the result of an individual experiencing sensing of an object so that a person is formed from not knowing to knowing (1). The three media were tested using a paired sample t test with the aim of finding out the difference in knowledge scores of pregnant women before and after nutrition education. The results of the influence test of the three media are presented in Table 2.

Table 2. Effect of Nutrition Education Media on Increasing Knowledge of Anemia Prevention

Media	n	Minimum	Maximum	Mean	Standard Deviation	p-value
Calendar						
Pretest	15	30	90	64.67	14.57	0.00
Posttest	15	50	100	78.67	14.07	
Animation						
Videos						
Pretest	15	20	80	63.33	16.33	0.00
Posttest	15	50	90	74.64	13.02	
Live Facebook						
Pretest	15	60	90	64.67	15.52	0.00
Posttest	15	30	100	85.33	11.25	

*Paired Sample T Test

Based on the test results in Table 2 using the paired sample t test, it shows that the results of providing intervention using calendar education media have a p-value of 0.000 ($p < 0.05$) which means there is a significant difference between the level of knowledge of pregnant women before and after being given education. nutrition regarding anemia prevention. The average result of the pretest using calendar media was 64.67, while the average result of the posttest was 78.67, this shows an increase in the average results of the pretest and posttest by 14 points. The minimum score on the pretest is 30 and on the posttest it is 50, the maximum score on the pretest is 90 and the posttest is 100.

The components in the calendar media provided contain information about the day, date and month like a normal calendar, but with added material regarding the prevention of anemia. Apart from that, the calendar has motivational sentences about pregnancy and at the bottom there are notes that pregnant women can fill in whether they are related to pregnancy or not. The difference in knowledge before and after the intervention and the increase in respondents' knowledge regarding preventing anemia using calendar media was caused by respondents being interested in the media that was created because according to several respondents' statements the media provided was quite unique with a design that was made to match the identical colors that women like. coupled with the motivational sentences provided per calendar page, it increases respondents' interest in viewing the calendar media, this makes the material contained in the calendar media also visible and can make it easier for pregnant women to understand the material regarding anemia prevention provided.

The calendar adheres to the principles of usefulness and exposure. Utility has the aim of the useful value of the time information contained in it, so that people don't want to just throw it away. For exposure, this is because calendars are generally placed in places with easy access so that anyone can see the calendar, including the families of pregnant women who are able to support pregnant women during pregnancy with this knowledge. If you receive frequent exposure, the potential for it to be read repeatedly is very large (9). According to research conducted by Bernadetha (2020), health promotion media in the form of calendar media is more effective as a communication and education medium compared to leaflet media (3).

For animated video media, it has a p-value of 0.000 ($p < 0.05$), this shows that there is a significant difference between the level of knowledge of pregnant women before and after being given nutrition education in animated video media on the topic of anemia prevention. From the average results of the pretest and posttest, there was an increase in the average score of 11 points from the average pretest result of 63.33 to 74.64 in the average posttest result. Meanwhile, the minimum pretest score was 20 and the posttest was 50, the maximum pretest score was 80 and the posttest was 90. There was an increase in knowledge of anemia prevention in pregnant women as well as differences in the level of knowledge of pregnant women before and after being given animated video nutrition education media

due to mothers Pregnancy is relevant to the current situation when mothers are bored with their daily routine, most of what they do is watch videos on various digital platforms. This is also due to the presentation of the material through media which is packaged attractively with animation and music which supports the presentation of the material so that pregnant women do not get bored of watching the video. Video media is an educational medium that is well received by respondents because animated video media displays more interesting and less formal displays compared to print media which only contains writing.(27). This is supported by research conducted by Munayarokh et al., (2022) which explains that there was an increase in respondents' knowledge with video educational media for 44 pregnant women respondents (16).

On Facebook live media, a p-value of 0.000 ($p < 0.0$) was obtained, which means there was a significant difference between the level of knowledge of pregnant women before and after being given the intervention with Facebook live media. The average pretest result was 64.67 and the posttest was 85.33, which shows that there was an increase in the average score of 20.66 points. The minimum score on the pretest was 60 while on the posttest it was 30, the maximum score on the pretest was 90 and the posttest was 100. The live Facebook that was carried out had an impact on increasing respondents' knowledge regarding anemia prevention because the pregnant women enjoyed listening to the explanation given and also the mothers. Pregnant women who watch can interact directly through the comments column where the researcher immediately responds to their answers. The need for knowledge has easy access with the flexibility of social media related to the use of benefits that make it easy so that there is no distance and time to communicate with everyone (20). This is related to research conducted by Mauludiyah et al., (2022) which states that interactive media is able to effectively help problems that occur in pregnant women (14).

Attitude is a form of assessment ability that reflects an attitude of accepting, rejecting and ignoring (2). In the attitude questionnaire section, respondents also filled out a pretest first, followed by providing interventions using three media, namely calendar media, animated videos and live Facebook with the variable being assessed, namely the respondent's attitude towards preventing anemia. The three media were tested using the Wilcoxon test with the aim of determining whether there were differences in knowledge scores of pregnant women before and after nutrition education. The results of the influence test of the three media are presented in Table 3.

Table 3. Effect of Nutrition Education Media on Increasing Attitudes to Prevent Anemia

Media	n	Minimum	Maximum	Mean	Standard Deviation	p-value
Calendar						
Pretest	15	50	80	67.33	9.61	0.001
Posttest	15	60	90	79.33	10.32	
Animation Videos						
Pretest	15	30	90	68.00	15.21	0.002
Posttest	15	50	100	81.33	11.87	
Live Facebook						
Pretest	15	50	90	72.67	11.62	0.001
Posttest	15	80	100	90.67	7.98	

*Wilcoxon test

Based on the test results in Table 3 using the Wilcoxon test, it shows that the results of providing intervention using calendar media have a p-value of 0.001 ($p < 0.05$). These results mean that there is a significant difference between the level of attitude before and after being given nutrition education towards preventing anemia. . The average pretest score using calendar media was 67.33 and the average posttest score was 79.33, which indicates a change in attitude of 12 points. The minimum score for the

pretest is 50 and the maximum is 80, while for the posttest the minimum score is 60 and the maximum is 90.

The animated video media has a p-value of 0.002 ($p < 0.05$), which means there is a significant difference in attitudes before and after providing animated video educational media with anemia prevention material. The average pretest score is 68.00 and the average posttest score is 81.33, which shows an increase of 13.33 points. Meanwhile, the minimum score on the pretest is 30 and posttest is 50, the maximum score obtained is 90 for the pretest and 100 for the posttest.

The live Facebook nutrition education media obtained a p-value of 0.001 ($p < 0.05$), which means there was a significant difference in attitudes before and after providing live Facebook education media with anemia prevention material. The average pretest score was 72.67 and the posttest result was 90.67, which shows an increase in score of 18 points. Meanwhile, the minimum pretest result is 50 and the posttest result is 80 and the maximum pretest result is 90 and posttest is 100.

Attitude is a person's closed response or reaction to an object or stimulus which clearly creates connotations between reactions to stimuli in everyday life and emotional reactions influencing social stimuli. Positive attitudes can be seen through acceptance, responsiveness, organization, self-value and characteristics (28). Based on the results of research conducted on the three media, they have a positive attitude in preventing anemia. This positive attitude arises from the knowledge that arises regarding the prevention of anemia, resulting in a positive attitude. An attitude that is based on knowledge can last longer than an attitude that is not based on knowledge. This is supported by research (10) which stated that there was an increase in attitudes after intervention with knowledge in the form of three-dimensional motion video or animated video educational media. Other research conducted by Sulistyowati et al., (2019) stated that there was an influence on attitudes based on providing two-dimensional educational posters about anemia (15). These three media provide changes in attitudes towards consumption patterns of Fe tablets, consumption of fruit and vegetables, reducing instant food and consuming nutritious food.

Based on the results obtained using the paired sample t test and the Wilcoxon test, it shows that each media has differences before and after the intervention in both knowledge and attitude variables. A very visible difference occurs in the innovative Facebook live media, followed by two-dimensional calendar media, then three-dimensional animated video media. Innovation media is able to make listeners interested so that motivation arises to understand and comprehend the material provided (11).

Conclusion

Nutrition education using calendar media, animated videos, and Facebook live has a significant influence on the improvement and attitude of pregnant women in preventing anemia. When compared between each media, Facebook live media experienced the highest changes before and after the intervention. Then, it continued with calendar media and animated video media. From these three media, pregnant women are interested in seeing and even understanding the media provided because of the uniqueness of the media so that pregnant women tend to like these media. After this connection emerged, respondents' knowledge increased and their attitudes changed from negative to positive or from good to better. Therefore, the use of calendar media, animated videos or live Facebook can be effective alternative media for nutrition education in increasing the knowledge and attitudes of pregnant women towards preventing anemia.

References

- [1] Afra, G. N., Sitoayu, L., & Melani, V. Pengaruh Permainan Kartu Gizi terhadap Perubahan Pengetahuan dan Sikap Gizi pada Siswa Sekolah Dasar. 2021;13(1).
- [2] Anggraini, L., & Perdana, R. Hubungan Sikap dan Percaya Diri Siswa pada Mata Pelajaran IPA Di Sekolah Menengah Pertama. 2019.
- [3] Bernadetha. Pengaruh Media Kalender dan Media *Leaflet* terhadap Peningkatan Pengetahuan, Sikap, dan Perilaku Kehadiran Ibu Balita ke Posyandu di Kota Semarang. Universitas Negeri Semarang. 2020.
- [4] Cania, L.M. Efektivitas Edukasi Gizi Menggunakan Media Video dan *Leaflet* terhadap Pengetahuan, Sikap, dan Perilaku tentang Konsumsi Makanan Sumber Zat Besi pada Ibu Hamil di Wilayah Kerja Puskesmas Andalas. 2021.
- [5] Danuartha, R., Martina, N., Rakhmawati, N. Pengaruh Edukasi Menggunakan Media Instagram terhadap Kesiapan Persalinan Ibu Hamil Trimester Iii. 2022.
- [6] Daulay M, Martina SJ, Lestari S, Syarifah S, Keumalasari D, Fujiati II. Prevalensi anemia pada ibu hamil dan faktor risiko terkait di Sumatera Utara, Indonesia. IOP Conf Ser Earth Environ Sci. 2018.
- [7] Dara Avindharin, P., & Mulyawati Utari, D. Literature Review: Faktor-Faktor Yang Memengaruhi Status Anemia Ibu Hamil. 2022.
- [8] Devi, D., Lumentut, A. M., & Suparman, E. Gambaran Pengetahuan dan Sikap Ibu Hamil dalam Pencegahan Anemia pada Kehamilan di Indonesia. 2021; 9 (1) : 204-211.
- [9] Duhita, F, Sari, C, Kartikasari, D. Pengembangan Kalender sebagai Media Edukasi Kesehatan Ibu Hamil dengan Pendekatan Keluarga. 2022.
- [10] Dwiana, S., & Pramintarto Eko, G. Penyuluhan Anemia Gizi dengan Media Motion Video terhadap Pengetahuan dan Sikap Remaja Putri. 2019.
- [11] Haryadi, R., Nuraini, H., & Kansaa, A. Pengaruh Media Pembelajaran E-Learning Terhadap Hasil Belajar Siswa. AtTAlim : Jurnal Pendidikan. 2021; 7 (1) : 2548–4419.
- [12] Isnaini, Y. S., Yuliaprida, R., Pihahay, P. J., Kesehatan, D. P., Sorong, K., & Kesehatan, M. P. Hubungan Usia, Paritas dan Pekerjaan Terhadap Kejadian Anemia Pada Ibu Hamil. 2021.
- [13] Kurniasari, R., Cahya, F., Widiastuti, Y., Adi, P., Zainudin, A. Kekurangan Energi Kronik (KEK) pada Ibu Hamil Di Kota Semarang. 2018.
- [14] Mauludiyah, E. R., Handriyantini, E., & Nurfitri, R. Perancangan Motion Graphic Pola Makan Ibu Hamil Sebagai Bahan Sosialisasi Stunting Desa Jambearjo. 2022.
- [15] Meidina Sulistyowati, A., Zen Rahfiludin, M., Kartini, A. Pengaruh Penyuluhan dan Media Poster Tentang Anemia terhadap Tingkat Pengetahuan dan Sikap pada Santriwati 2019; 7 (4).
- [16] Munayarokh, Herawati, T, Idhayanti, R.I., Nikmawati, N. Pengaruh Pendidikan Kesehatan dengan Media Video Terhadap Peningkatan Pengetahuan Ibu Hamil tentang Tablet FE. 2022.
- [17] Priyanto, LD. Hubungan Usia, Latar Belakang Pendidikan, dan Aktivitas Fisik pada Siswa dengan Anemia. 2018.
- [18] Riset Kesehatan Dasar (riskesdas). Badan Penelitian dan Pengembangan. Kesehatan. 2018.
- [19] Rochmawati L, Kuswanti I, Prabawati S. Efektivitas Media Promosi Kesehatan Video dengan *Leaflet* terhadap Pengetahuan Ibu Hamil Tentang Pencegahan Penularan Hiv Dari Ibu Ke Anak. J Kebidanan Indonesia. 2021.
- [20] Sari, D. N., & Basit, A. Media Sosial Instagram sebagai Media Informasi Edukasi Parenting. PERSEPSI: Communication Journal. 2020; 3 (31) : 23–36.
- [21] Sakina Virda, I., Laily Hilmi. Pengetahuan Pemberian Suplemen Vitamin dan Pemantauan Minum Obat pada Ibu Hamil untuk Pencegahan Anemia di Indonesia: Literature Review. Jurnal Farmasetis. 2022; 11 (3).

- [22] Sukmawati, Lilis Mamuroh dan Furkon Nurhakim. Pengaruh Edukasi Pencegahan dan Sikap Ibu Hamil. 2019.
- [23] Sunuwar, D. R. et al. Prevalensi dan Faktor-faktor yang Berhubungan dengan Anemia pada Wanita Usia Reproduksi di Tujuh Negara Asia Selatan dan Tenggara: Bukti dari Survei Representatif Nasional. 2020.
- [24] Utama, R. P. Status Gizi dengan Kejadian Anemia pada Ibu Hamil. *Jurnal Ilmiah Kesehatan Sandi Husada*. 2021; 10 (2) : 689–694.
- [25] Wahtini, S., Wahyuntari, E. Gambaran Anemia pada Ibu Hamil di Wilayah Kerja Puskesmas Kalasan. In *Midwifery Journal Kebidanan*. 2020; 5 (1).
- [26] Widyawati, A. Anggraini, R.A. Pengembangan Video Animasi sebagai Pencegahan Anemia pada Ibu Hamil. 2023.
- [27] Yasira Rusdi, F., & Auliya Rahmy, H. Pengaruh Edukasi Gizi Menggunakan Instagram terhadap Perubahan Perilaku Gizi Seimbang untuk Pencegahan Anemia pada Remaja Putri di Sman 2 Padang. 2021.
- [28] Yusriani, Alwi, K.M., Agustini, T. Komunikasi Petugas Kesehatan Mempengaruhi Perilaku Ibu Hamil dalam Mencegah Hipertensi. 2021.