# DIFFERENCES IN TEENAGE GIRLS' KNOWLEDGE AND ATTITUDE BEFORE AND AFTER BEING EXPOSED IN PUBLIC SERVICE ANNOUNCEMENT MEDIA OF "IRON SUPPLEMENTATION" (Study at SMP Negeri 10 Surabaya)

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**ABSTRACT**

**Introduction:** Teenage girls are included in groups who are prone to anemia. Various attempts have been made to prevent anemia in teenage girls. Public service announcement of "Iron Supplementation" is one of the health promotion media related to the prevention of anemia. This research aims to determine the difference in the knowledge and attitudes of teenage girls before and after exposure to public service announcement media of "Iron Supplementation". **Methods:** This research is a quantitative study with pseudo-experimental methods. The knowledge and attitude variables are measured by the Paired T-test test and the Mann-Whitney test. The study subject amounted to 30 subjects for each group. **Result:** The results of the analysis show that there were differences in the students' knowledge (p = 0.00) before and after watching videos in both the "selfie" group and the "animation" group. There were differences in students' attitudes before and after watching the video on the "selfie" group (p = 0.00). However, there was no difference in the student's attitudes toward the "animation" group (p= 0.469). **Conclusion:** There was no difference in students' knowledge between selfie groups and animation groups after watching videos. There was a difference in attitudes between the "selfie" group and the "animation" group after watching videos. Public service announcement is needed in delivering health messages for changes in knowledge and attitudes. However, there is still a need for mentoring and direct support from teachers.

**Keywords**: Knowledge, Attitude, Public Service Announcement, Anemia, Teenage Girl

## INTRODUCTION

Anemia becomes a very serious health problem if it continues to be ignored without any early prevention and treatment efforts, especially in vulnerable groups such as pregnant women and teenage girls. Nutritional anemia is still one of the main nutritional problems in Indonesia caused by a deficiency of iron, folic acid, and/or vitamin B12 (Arisman, 2010). Anemia in teenage girls can have a negative impact: decreasing productivity which leads to learning achievement because it reduces the ability to think dexterity and lack of concentration. If anemia in teenage girls is allowed to occur without any prevention and treatment efforts, it can have a negative impact that will carry over to a pregnant woman. Anemia in pregnant women can cause maternal death during childbirth and have an impact on the baby. Anemia can be prevented by consuming food sources of iron and iron supplementation.

According to the World Health Organization (McLean et al., 2009), the incidence of anemia in teenage girls, especially in developing countries reached 53.7%. Based on data from Riskesdas (2013), the prevalence of anemia in teenagers in Indonesia is 35.1%. Teenage girls aged 13-18 years reached 22.7%. In the city of Surabaya, 26.5% of middle and high school teenagers experienced anemia (Afifah, 2011). This percentage shows the prevalence of anemia in middle and high school teenagers in Surabaya. Based on research Setyono (2010) states that anemia in teenage girls reaches 33.3% in Surabaya. WHO (2011) states that the prevalence of anemia in an area that reaches 20% -39.9%

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is included as a moderate public health problem.

Various attempts have been carried out by the Indonesian government through the Iron Nutrition Anemia Prevention and Control Program (PPAGB) targeting Junior High School (SMP) and Senior High School (SMA) children through iron supplementation. The PPAGB program also has coaching activities aimed at increasing the knowledge of teenage girls regarding anemia prevention. Based on data from Nutrition Status Monitoring, the coverage of Fe tablets that have been received by teenage girls (12-18 years) in East Java in 2017 is higher than in 2016. In 2016, teenage girls who received blood-added tablets had a percentage of 13, 7% (Ministry of Health, 2018) whereas in 2017 it has a percentage of 14.74%. However, the results of coverage of Fe tablets or iron supplements for teenage girls in Surabaya reached 38.84% in 2017 (East Java Provincial Health Office, 2017).

Based on the results of Riskesdas (Ministry of Health, 2018), the reasons for teenage girls (10-19 years) in East Java do not drink or spend iron supplements obtained from school that is owing to only drinking during menstruation (3.7%), forgetfulness (19.7%), taste and bad smell (29.1%), side effects (7.7%), and feeling unnecessary (26.8%). According to teenage girls, iron supplements have a bitter taste so they don't want to drink them. Teenage girls also do not feel the need to take iron supplements every week or during menstruation because they feel fine even though they do not consume iron supplements and do not feel sick or have anemia (Sari, 2019).

According to the results of research from (Yuniarti, Rusmilawaty, and Tunggal, 2015), several factors that can cause adherence of teenage girls to consume Fe tablets are the teenage girls' knowledge about the benefits of Fe tablets consumed and anemia. Therefore, knowledge about efforts to prevent anemia and the risk of anemia is very important for teenage girls to have. There is also a factor from oneself, namely awareness of consuming Fe tablets. Based on the results of research by Risva and Rahfiludin (2016) respondents with good attitudes have a high awareness of 2.2 times to consume iron supplements compared to respondents who have bad attitudes knowledge and it can influence adherence to consume iron supplements.

Based on research from Sukmawati in 2011 (Martini, 2015) related a significant relationship between knowledge about anemia and the incidence of anemia in teenage girls who lack knowledge about anemia has a 2.3 times risk of developing anemia. Therefore, messages or information about preventing anemia need to be conveyed to teenage girls. Dissemination of this information is expected to affect the behavior of teenage girls.

Health promotion is always related to efforts or activities to deliver health messages to individuals, groups, or the public. Health promotion media that can facilitate the delivery of health messages is more clearly and received as well. Health promotion media will be better if five senses are used more (Notoatmodjo, 2012b). One of them is audiovisual media (video) that links to the sense of sight and hearing. Public Service Advertising as an audio-visual media can be used to reach all levels of society by conveying messages to raise awareness, attention, and public awareness of several conditions that can threaten the harmony and public life including health problems (Pujiyanto, 2013).

Based on S-O-R theory, advertising as a stimulant can stimulate an individual (organism) to cause the desired response. The response in the form of knowledge, attitudes, and actions related to the prevention of anemia in teenage girls. Based on the Theory of Reasoned Action, individuals have beliefs and attitudes related to the behavior carried out. The behavior of the individual is often determined by the tendency or intention to

carry out the behavior. Therefore, advertising media as health promotion tools are needed to increase knowledge and attitudes. Teenage girls need information about preventing anemia which is inviting them to make an effort to prevent anemia independently by displaying the Public Service Announcement of "Iron Supplementation". This study was conducted to determine differences in knowledge and attitudes of teenage girls related to anemia prevention before and after exposure to advertising media.

## METHODS

This research was quantitative. This study used a quasi-experimental research method (quasi-experimental) with a non-equivalent control group design (Notoatmodjo, 2012a). The use of the Non-Equivalent Control Group design in this study aimed to determine the differences that occur after receiving interventions related to health behaviors and preventing anemia. The research location was at SMP Negeri 10 Surabaya, Tegal Sari District, Surabaya City.

The population of this research was teenage girls who were students of SMPN 10 Surabaya in 2019. According to the Republic of Indonesia's Minister of Health Regulation No. 25 of 2014, teenagers have an age range of 10-18 years. The average junior high school student has age of 12-15 years, including the teenage age group. Therefore, the population in this study were teenage girls aged 12-15 years of SMPN 10 Surabaya students in 2019.

The sample of this research was teenage girls aged 12-15 years who have the status of female students at SMP Negeri 10 Surabaya. The sample size was calculated using the formula of a sample size to test the hypothesis of two different means. The minimum sample size is 60 students. The sample was divided into 2 groups: 30 students in the selfie group and 30 students in the animation group.

The variables studied were the knowledge and attitudes of students before and after watching public service announcements (PSA). The selfie group was the students who watched a 30-second version of the PSA “Tablet Tambah Darah Versi Selfie”. This PSA video was obtained from the Indonesian Ministry of Health and aired on Indonesian television (Ministry of Health, 2016). The animation group was the students who watched a “Healthy, Smart, and Beautiful Without Anemia” video for 31 seconds. Healthy, Smart, and Beautiful videos without anemia used animated displays or moving images. This video was obtained from the Youtube Nutrition International website (Nutrition International, 2018). Both of these advertising media have different views. The PSA “Tablet Tambah Darah Versi Selfie” uses real-life views in preventing anemia. Each group watched ads three times displayed through the LCD so that they could reach the entire classroom. The screening of advertisements was carried out alternately between groups in the class that has been determined.

Data collection techniques in this study utilized primary data, secondary data, and literature studies. Primary data were obtained through pre-test and post-test questionnaires containing several questions. Questions on knowledge variables related to how to prevent anemia, the recommended consumption of blood-added tablets, types of foods containing iron, and symptoms of anemia in general. Questions on attitude variables related to individual beliefs and evaluation of his beliefs about anemia prevention behavior. Categorizing knowledge and attitudes based on the scores obtained are good (76-100%), sufficient (56-75%), and less (<56%). While secondary data were obtained through health profile books, WHO data, and risk-related cases of anemia prevalence. Literature studies included books, journals, and articles related to issues discussed in the research.

Data analysis techniques used were univariate analysis and bivariate analysis. Univariate analysis was performed to determine the characteristics of respondents. While the bivariate analysis was used to determine the effect of public service announcement of "Iron Supplementation" with a different appearance on knowledge and attitudes. This analysis uses 2 types of tests: Paired T-test and Mann-Whitney test.

Bivariate analysis in paired groups (pre-test and post-test) was performed using the Paired T-test. Paired T-test is used to determine whether there are differences in knowledge and attitudes before and after watching PSA. Bivariate analysis was also carried out in the unpaired group (selfie group and animation group) using the Mann-Whitney test. The Mann-Whitney test was used to see whether there are differences in knowledge and attitudes between the selfie group and the animation group after watching PSA. The data used in this article had passed the ethics test at the Faculty of Dentistry, Airlangga University with the number: 459 / HRECC.FODM / VII / 2019.

## RESULTS

SMP Negeri 10 Surabaya is located in Tegal Sari District, Dr. Soetomo, Surabaya City. It is one of the state schools with local government ownership status. SMP Negeri 10 Surabaya is included in the working area of the Public Health of Dr. Soetomo.

**Table 1.** Age of Respondents

| Age (Year) | Selfie Group | | Animation Group | |
|---|---|---|---|---|
| | N | (%) | N | (%) |
| 12 | 0 | 0 | 16 | 53,3 |
| 13 | 16 | 53,3 | 14 | 46,7 |
| 14 | 14 | 46,7 | 0 | 0 |
| **Total** | 30 | 100 | 30 | 100 |

This research produces data based on predetermined research variables. Based on the data obtained, the results of this study began with the characteristics of respondents and then continued with the results of the pre-test and post-test according to the research objectives.

Based on Table 1 shows that the age of the respondents ranged from 12-14 years. In the selfie group, the age of respondents was 13 years (53.3%) and 14 years (46.7%) whereas in the animation group, the age of respondents was 12 years (53.3%) and 13 years (46.7%). Most respondents were 13 years old.

**Table 2.** Information Sources of Preventing Anemia

| Information Sources | Selfie Group | | Animation Group | |
|---|---|---|---|---|
| | n | (%) | n | (%) |
| Family members | 2 | 6,7 | 7 | 23,3 |
| Teachers | 11 | 36,7 | 18 | 60 |
| Friends | 0 | 0 | 1 | 3,3 |
| Television | 6 | 20 | 3 | 10 |
| Online Media | 11 | 36,7 | 1 | 3,3 |
| **Total** | 30 | 100 | 30 | 100 |

Based on Table 2 above shows that the greatest source of information was from the teacher both the selfie group (36.7%) and the animation group (60%). While in the selfie group, the greatest sources of information were not only from teachers but also from online media (36.7%).

**Table 3.** Consumption of Iron Supplements on Respondents

| Consumption | Selfie Group | | Animation Group | |
|---|---|---|---|---|
| | n | (%) | n | (%) |
| Yes | 24 | 80 | 21 | 70 |
| No | 6 | 20 | 9 | 30 |
| **Consumption Frequency** | | | | |
| Routinely once a week | 11 | 36,7 | 14 | 46,7 |
| Uncertainty | 13 | 43,3 | 7 | 23,3 |
| Others | 6 | 20 | 9 | 30 |
| **Total** | 30 | 100 | 30 | 100 |

Based on Table 3 above shows that respondents who had taken blood builder tablets were 24 students (80%) in the selfie group. On the other hand, 21 respondents (70%) in the animation group had taken iron supplements. However, some respondents had not consumed iron supplements for 6 students in the selfie group and 9 students in the animation group. In the selfie group, 11 students took iron supplements regularly or as recommended. Whereas in the animation group, respondents who consumed iron supplements were 14 students.

**Table 4.** Knowledge of Respondents before Watching Advertising Media

| Category | Selfie Group | | Animation Group | |
|---|---|---|---|---|
| | N | (%) | N | (%) |
| Good | 6 | 20 | 8 | 26,7 |
| Enough | 13 | 43,3 | 13 | 43,3 |
| Less | 11 | 36,7 | 9 | 30 |
| **Total** | 30 | 100 | 30 | 100 |

Based on Table 4 above shows that respondents in the selfie group who were well knowledged were 6 students (20%). In the animation group, 8 knowledgeable respondents (26.7%) had good knowledge. However, both in the selfie group and the animation group, some respondents lacked knowledge about anemia prevention.

**Table 5.** Knowledge of Respondents after Watching PSA

| Category | Selfie Group | | Animation Group | |
|---|---|---|---|---|
| | n | (%) | N | (%) |
| Good | 20 | 66,7 | 23 | 76,7 |
| Enough | 10 | 33,3 | 6 | 20 |
| Less | 0 | 0 | 1 | 3,3 |
| **Total** | 30 | 100 | 30 | 100 |

Based on Table 5 above shows that respondents who are well-knowledged were 20 students (66.7%) and 10 students (33.3%) had sufficient knowledge in the selfie group after watching PSA. Whereas in the animation group, respondents with good knowledge were 23 students (76.7%) and 6 students (20%) had sufficient knowledge.

**Table 6.** Respondents' Attitudes before Watching PSA "Iron Supplementation"

| Category | Selfie Group | | Animation Group | |
|---|---|---|---|---|
| | n | (%) | n | (%) |
| Good | 11 | 36,7 | 20 | 66,7 |
| Enough | 19 | 63,3 | 10 | 33,3 |
| Less | 0 | 0 | 0 | 0 |
| **Total** | 30 | 100 | 30 | 100 |

Based on Table 6 above shows that respondents who had a good attitude as many as 11 students (36.7%) and 19 students (63.3%) had sufficient attitude regarding the prevention of anemia in the selfie group. Whereas in the animation group, respondents who had good attitudes were 20 students (26.7%) and 10 students (33.3) had sufficient attitudes regarding anemia prevention. There were no respondents who had fewer attitudes (0%) regarding anemia prevention in either the selfie group or the animation group before watching PSA.

**Table 7.** Respondents' Attitudes after Watching PSA "Blood Builder Tablets"

| Category | Selfie Group | | Animation Group | |
|---|---|---|---|---|
| | n | (%) | n | (%) |
| Good | 12 | 40 | 23 | 76,7 |
| Enough | 18 | 60 | 7 | 23,3 |
| Less | 0 | 0 | 0 | 0 |
| **Total** | 30 | 100 | 30 | 100 |

Based on Table 7 above shows that respondents who had a good attitude as many as 12 students (40%) and 18 students (60%) had enough attitudes in the selfie group. In the animation group, respondents who had good attitudes were 23 students

(76.7%) and 7 students (23.3) had sufficient attitudes. There were no respondents who had a category attitude with less category (0%) regarding anemia prevention both in the selfie group and the animation group after watching advertising media.

**Table 8.** Data Normality Test

| Variable | Method | | | |
|---|---|---|---|---|
| | Selfie Group | | Animation Group | |
| | ***P*** | **Notes** | ***P*** | **Notes** |
| **Knowledge** | | | | |
| Before | 0,164 | Normal | 0,229 | Normal |
| After | 0,009 | Not Normal | 0,020 | Not Normal |
| **Attitude** | | | | |
| Before | 0,867 | Normal | 0,303 | Normal |
| After | 0,003 | Not Normal | 0,339 | Normal |

**Table 9.** Differences in Knowledge of Respondents Before and After Watching PSA "Iron Supplementation"

| Variable | Selfie Group | | Animation Group | |
|---|---|---|---|---|
| | $\bar{x}$ | ***p*-value** | $\bar{x}$ | ***p*-value** |
| **Knowledge** | | | | |
| Before | 5,67 | 0,00 | 6,46 | 0,00 |
| After | 8,8 | | 9,19 | |

Based on Table 9 above shows that there are statistical test results that if the value of p <α = 0.05 then there are differences in the knowledge of respondents before and after watching PSA. The p-value of the respondent's knowledge variable about preventing anemia was 0.00 in the selfie group. Therefore there was a difference in knowledge between before and after watching advertisements in the selfie group. Likewise in the animation group, respondents knew about the prevention of anemia with a p-value of 0.00. Thus, there was a difference in knowledge before and after watching advertisements in the animation group.

**Table 10.** Differences in the Attitudes of Respondents before and Sesudan Watch PSA "Iron Supplementation"

| Variable | Selfie Group | | Animation Group | |
|---|---|---|---|---|
| | $\bar{x}$ | ***p*-value** | $\bar{x}$ | ***p*-value** |
| **Attitude** | | | | |
| Before | 30,53 | 0,042 | 34,17 | 0,469 |
| After | 31,5 | | 34,63 | |

Based on Table 10 above shows that there are statistical test results that if the value of p <α = 0.05 then there are differences in attitude before and after watching PSA. The p-value of the respondent's attitude towards anemia prevention was 0.042 in the selfie group. It means that there was a difference in attitude before and after watching the ad. While in the animation group, the respondent's attitude toward anemia prevention had a p-value of 0.469. So, there was no difference between before and after watching the ad.

**Table 11.** Differences of Changes in Knowledge and Attitudes of Respondents towards Prevention of Anemia

| Variable | $\bar{x}$ | ***p*-value** |
|---|---|---|
| **Knowledge Changes** | | |
| Selfie Group | 8,8 | 0,130 |
| Animation Group | 9,19 | |
| **Attitude Changes** | | |
| Selfie Group | 31,5 | 0,002 |
| Animation Group | 34,63 | |

Based on Table 11 above shows that there were statistical test results in which if the value of p <α = 0.05 then there were

differences in changes in knowledge and attitude before and after watching PSA media. Changes in knowledge of respondents after watching PSA media have a value of p = 0.130. So there is no difference in knowledge between the selfie group and the animation group after watching the ad. Changes in the attitude of respondents after watching PSA media have a value of p = 0.002. Thus, there are differences in attitude between the selfie group and the animation group after watching the ad.

## DISCUSSION

### Characteristics of Respondents

Respondents are teenage girls aged 12-14 years who are students of SMP Negeri 10 Surabaya. Most respondents were 13 years old in the selfie group and the animation group. Age 12-14 years included in the category of early teens. In adolescence, individuals need to avoid mistakes that can unwittingly harm themselves. So teenagers need good and correct guidance (Sarwono, 2010). Teenage girls are more prone to anemia due to blood loss during menstruation. Based on research by Briawan, Arumsari, and Pusporini (2011), the majority of students (50.3%) suffer from anemia between the ages of 13-15 years. This study indicates the tendency for students aged 13-15 to experience a higher risk of anemia than other age groups.

Information about preventing anemia can be obtained through family, teachers, friends, television, and online media. The teacher has an important role in giving knowledge to students that can influence the behavior of teenage girls. Based on research from Nuradhiani, Briawan, and Dwiriani (2017), teenage girls who get good teacher support significantly increase adherence 4.7 times more likely to consume iron supplements than those who lack support from teachers. Based on the results of the questionnaire showed that the majority of respondents obtained information from teachers. However, most respondents have sufficient knowledge of the category. Some respondents also lack knowledge about anemia prevention. Sources of information can also be obtained through online media. Nowadays technology is developing rapidly which shows that it should be very easy for teenage girls to get information about preventing anemia.

Most respondents have consumed blood builder tablets both in the selfie group and in the animation group. Although many have taken blood builder tablets, there are still teenagers who consume iron supplements irregularly. Based on research from Nurbaiti (2019), there is a significant relationship between information media and anemia prevention in SMAN 4 Jambi. Some respondents still consume iron supplements irregularly showing that a health promotion media is needed that can change this behavior.

### The Difference in Knowledge of Teenage girls in SMP Negeri 10 Surabaya Before and After Being Exposed to Public Service Announcement Media of "Iron Supplementation"

Differences in teenage girls' knowledge of anemia prevention before and after watching advertising media show an influence. The influence that occurs due to the presence of stimulants in the form of advertising media (audio-visual) causes increased knowledge in teenage girls. The existence of advertising media is expected to influence the attitudes of teenage girls to have better attitudes. Based on the results of research from Mularsih (2017) shows that teenage girls who are well-informed about anemia tend to have supportive behavior in preventing anemia during menstruation. Conversely, teenage girls who have less knowledge about anemia, tend to have behavior that does not support the prevention of anemia during menstruation.

The results showed that there were changes in student knowledge before and after watching PSA media. This change in knowledge occurs in both the selfie group and the animation group. This study shows

that the majority of respondents have good knowledge of categories after watching advertising media both in the selfie group and the animation group. The average value of knowledge in the selfie group is smaller than the animation group both before and after watching advertising media. However, both of them still experience an increase in knowledge after watching advertising media.

The addition of knowledge is the response obtained after receiving information. Information can be obtained from advertising media that are shared both on television and online media. The results of this study are in line with Meidiana, Simbolon, and Wahyudi (2018) that an increase in teenage knowledge about obesity after being given a video. Knowledge is needed in preventing anemia. Based on research from Nurbaiti (2019), there is a significant relationship between knowledge and prevention of anemia in SMAN 4 Kota Jambi. Therefore, increasing the knowledge of teenage girls about preventing anemia is very important in changing teenage behavior.

Statistical test results on the average value of knowledge about anemia prevention showed a significant difference between before and after watching advertising media both in the selfie group and the animation group. The existence of these differences can be seen from the p-value in the knowledge variable. The existence of this difference indicates that there is an influence of "Iron Supplementation" advertisements on increasing student knowledge regarding anemia prevention.

The results of this study also showed that there was no difference in the knowledge of teenage girls about preventing anemia between the selfie group and the animation group after watching PSA media. The difference in appearance between the two advertising media used in this study did not cause a different response. Both advertising media influence knowledge because of an increase in knowledge both in the selfie group and the animation group.

Based on S-O-R theory, the results of research that have been done state that advertising messages delivered via video can cause responses from teenage girls in the form of increased knowledge. The results obtained are in line with research conducted by Meidiana, Simbolon, and Wahyudi (2018) that there are significant differences between teenage knowledge before and after being given a video. That is, there is an influence of education through audiovisual media on increasing knowledge of overweight and obese teenagers. In addition, the results of this study are also in line with research conducted by Aeni and Yuhandini (2018) which states that there is an effect of increasing the knowledge of teenage girls about BSE after watching a video. A similar study was carried out by Tindaon (2018) who showed that there is an influence of video media on teenage knowledge about pornography exposure.

Receiving information by the public can be facilitated by channeling it through the human senses. Knowledge can be received by someone through the senses. About 75% to 87% of human knowledge is channeled through the eyes. While the other 13% to 25% channeled through other senses. Therefore, the delivery and reception of health information to someone is easier to do through visual tools (Notoatmodjo, 2012b).

Based on the results of this study indicate an increase in respondents' knowledge about anemia prevention after watching advertising media. Advertising media can have an effect shown through student responses, namely increased knowledge after watching advertisements. There is a recall of the average value of student knowledge about anemia prevention after watching advertising media. The results of this study indicate that video advertisements can be used to increase student knowledge related to anemia prevention.

**Differences in the Attitudes of Teenage girls in SMP Negeri 10 Surabaya Before and After Being Exposed to Public Service Announcement Media of "Iron Supplementation"**

The difference in attitudes of teenage girls towards the prevention of anemia before and after watching advertising shows an influence. The influence that occurs due to the presence of stimulants in the form of advertising media (audio-visual) causes a change in attitude in teenage girls. In general, respondents have had an adequate attitude towards preventing anemia.

The results showed that there were changes in students' attitudes regarding anemia prevention after watching the video advertisement. This attitude change only occurs in the selfie group because of differences in the average value before and after watching the video. While the results of the study in the animation group did not experience a change in attitude related to anemia prevention after watching the advertisement video. The absence of this difference in attitude occurs because the difference in average value between before and after watching the ad is too small in the animation group.

Based on the Theory of Reasoned Action, attitude is a holistic evaluation of a person towards an action to be taken (Notoatmodjo, 2010). Attitude also acts as a closed response that arises in a person after receiving a stimulant in him. Based on research from Tindaon (2018), an increase in the average value of attitude after the video is given. This study is also in line with research from Santi, Sabrian, and Karim (2014) which shows that there is a change in the mean attitude after being given health education with audiovisual media. Video as a stimulant can cause a response in the form of an increase in attitude.

The results of this study indicate that there are differences in the average value of attitudes before and after watching videos in the selfie group. This difference shows that there is an influence of advertisement of iron supplementation on attitudes towards teenage girls regarding anemia prevention. Whereas in the animation group, there was no difference in the average value of attitude before and after watching advertising media in the animation group. The absence of this difference indicates that the advertisement media with animated displays has not been able to influence teenage attitudes towards anemia prevention.

The results of this study reveal that there are differences in attitudes towards teenage girls about anemia prevention between the selfie group and the animation group. This difference can occur because of differences in the average value of the attitude variable between the selfie group and the large animation group before watching advertising media. From the beginning, respondents in the animation group had a good attitude before watching advertising media with an average value greater than the selfie group. However, the difference in average attitudes between before and after watching advertising media only occurs in the selfie group. While in the animation group, differences in the average value of attitude between before and after watching advertising media did not occur.

Based on the differences between the two groups, the respondents showed that the selfie group and the animation group had different attitudes. Differences in appearance between the two advertising media used in this study turned out to cause different responses. In the selfie group, there are differences in the average value of the attitudes of teenage girls before and after watching advertising media. While in the animation group, there was no difference in the average value of the attitudes of teenage girls before and after watching advertising media. Therefore, according to researchers the theme of advertising should be used to change the attitudes of teenage girls by giving a picture of real life.

Based on the S-O-R theory, it can be explained that the existence of a stimulus

can cause a response from an individual. One of them is a closed response, attitude. The results of this study are in line with research conducted by Meidiana, Simbolon, and Wahyudi (2018) which shows that there is an influence of education through audiovisual media on improving attitudes of overweight and obese teenagers in IQRA ITS Junior High School in Bengkulu City in 2018. Other studies by Tindaon (2018) concluded that there was a significant change in teenage attitude after being given a video. The results of this study indicate differences in the attitudes of respondents towards the prevention of anemia before and after watching advertising media in the selfie group. This difference shows that advertising media influences teenage girls related to anemia prevention, especially in the selfie group.

## CONCLUSION

The conclusion obtained from the results of this study is the respondent's knowledge related to anemia prevention has changed after watching the public service announcement of "Iron Supplementation" in teenage girls at SMP Negeri 10 Surabaya both the selfie group and the animation group. While the attitudes of teenage girls namely attitudes toward anemia prevention change after watching the public service announcement of "Iron Supplementation" to teenage girls in SMP Negeri 10 Surabaya, especially the selfie group. Media advertising in the form of audio visuals is one of the tools of health promotion media that has a great opportunity for the occurrence of behavioral changes in preventing anemia in the target or community. Video advertisements are recommended to show real-life backgrounds such as PSA "Tablet Tambah Darah Versi Selfie". However, increasing knowledge and attitudes of teenage girls towards anemia prevention still requires direct support from teachers.

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