The Effectiveness of Peer Education and Instagram Nutrition Education on Changes in Knowledge and Consumption of Risky Foods in Students

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ABSTRACT
Risky foods are foods that include foods high in sugar, salt, and fat that are consumed in excess. The results of Riskesdas showed excessive sugar consumption of as much as 53.1%, excess salt at 26.2%, and excess fat at 26.2%. This study aims to determine the difference in the effectiveness of nutrition education using peer education methods compared to education using Instagram media on knowledge and consumption of risky foods in University X Students in Padang City. Types of research Quasy Experiment, two group pretest-posttest design. The first group was given intervention through peer education A total of 12 samples and the second group were given intervention through media Instagram, A total of 12 samples. The sampling techniques used are purposive sampling. Knowledge and consumption of risky foods were measured through interviews using questionnaires and the SQ-FFQ form. Data analyzed by test Paired sample t-test, Wilcoxon, and Mann Whitney. It was found that there was an influence of nutrition education using peer education On knowledge (p = 0.005), there is an influence peer education against food consumption (p = 0.000). As well as there is influence of media Instagram On knowledge (p = 0.000), there is an influence media Instagram against food consumption (p = 0.000). There is no difference in the effectiveness of peer education with media Instagram against changes in knowledge (p = 0.311) and consumption of risky foods (p = 0.908). Method peer education and media Instagram are effective for changing knowledge and consumption of risky foods in students.

INTRODUCTION
Risky foods include foods high in sugar, salt, and fat that are consumed excessively (> 2 times per week). Indonesian people today love to consume contemporary food and drinks that contain high calories, sugar, salt, and fat. However, it is low in protein, fiber, vitamins, and minerals so intake from snack foods can affect a person's nutritional status (Harvi, S. F., Sugeng M. 2018). As a result of excess of risky foods and drinks in the body will cause non-communicable diseases (NCDs) (Kusumawardhani, 2018).
Permenkes Number 30 of 2013 stipulates a maximum sugar consumption of 50 grams, a maximum sodium of 2000 milligrams (mg) or 5 grams, and a maximum total fat of 67 grams per person per day. Excessive consumption raises the risk of hypertension, stroke, diabetes, and heart attack (Arruda, 2018). The results of Basic Health Research in 2013 show the habit of consuming risky foods, excessive sugar consumption of as much as 53.1%, excessive salt consumption as much as 26.2%, excess fat consumption as much as 40.7% (Zubaidah, 2020). The results of Health Research in West Sumatra show that the proportion of the habit of consuming risky foods, the habit of consuming sweet foods in the city of Padang as much as 48.51%, with vulnerable aged 20-24 years, namely ≥1 times per day as much as 40.42%, 1-6 times per week as much as 47.47%, ≤3 times per month as much as 12.12%, with a weighted N number of 2,910. In the sex group, the habit of consuming sweet foods is men: ≥1 time per day as much as 44.31%, while women ≥42.55% (Riskesdas, 2018).

The habit of consuming sweet drinks in the city of Padang as much as 67.24%, with an age range of 20-24 years, namely ≥1 time 52.49%, 1-6 times per week as much as 35.27%, ≤3 times per month as much as 12.24%, with a weighted N amount of 2,910. In the sex group, the habit of consuming sweet drinks is men: ≥1 time per day as much as 70.28%, while women 51.11% (Riskesdas, 2018).

The habit of consuming Salty Food in the city of Padang as much as 15.91%, with vulnerable aged 20-24 years, namely ≥1 time per day as much as 13.06%, 1-6 times per week as much as 46.88%, ≤3 times per month as much as 40.06%, with a weighted N amount of 2,910. In the sex group, the habit of consuming salty foods is men: ≥1 time per day as much as 10.85%, while women as much as 11.56% (Riskesdas, 2018).

The habit of consuming fatty foods in the city of Padang as much as 43.44%, with vulnerable aged 20-24 years, namely ≥1 times per day 39.85%, 1-6 times per week as much as 50.03%, ≤3 times per month as much as 10.12%, with a weighted N amount of 2,910. In the sex group, the habit of consuming sweet foods is like-men: ≥1 time per day 36.73%, while for women as much as 39.37% (Riskesdas, 2018).

University X in the city of Padang has 55% of students in Health study programs in various fields of science. The results of the survey on University X Students showed that most (73.3%) students have low knowledge about risky foods and 68.95% are accustomed to consuming risky foods, namely foods that are high in sugar, salt, and fat. The habit of Consuming the wrong foods and drinks is caused by a lack of nutritional knowledge. That nutritional knowledge greatly influences the selection and provision in choosing food and beverages. If nutritional knowledge increases, then there will be a tendency to be more vigilant in consuming risky foods and drinks (Masitah & Sulisty, 2021). One way to improve a student's nutrition knowledge is to provide nutrition education (Danilo Gomes de Arruda, 2021).

Peer Education is a learning method carried out by choosing one person as a peer educator in his group, who is trained to change knowledge and behavior in the group. The advantage of this method is that the information conveyed by peer educators will obtain feedback (feedback) directly, the use of appropriate language so that it is easier for the peer group to understand, and reduce misunderstandings in receiving information. Peer education is effective for increasing behavioral change beliefs in groups (Danilo Gomes de Arruda, 2021).

Biological Research (2019) shows the influence of methods of peer education on student activities and learning outcomes. The results showed that the activities and learning outcomes of students in the group received higher group discussion method treatment compared to groups that did not get group discussion treatment or peer tutors (Qomariah, 2019). Research conducted by Utami (2018), states that the method of peer education is Considered more effective than the lecture method, this is because the facilitator in peer education creates a more open atmosphere because it uses a friendly approach, not patronizing or judgmental (Utami, 2018).

Media Instagram is the most widely used social media by students today. Media Instagram is used to publish short-form photos or videos regularly. Online (Ningtyas et al., 2022). The advantage of providing educational materials through social media is high accessibility in time and place, respondents can access repeatedly the information whenever and wherever they are (Rahmatini et al., 2021) According to Rahmatini's research (2021), there is an influence on increasing knowledge before intervention with media Instagram and after the intervention.

Referring to data on the number of students in the field of Health sciences at University X who have low knowledge and risky eating behavior, a study is needed to find out effective nutrition education interventions to increase knowledge and change the pattern of consumption of risky foods in students. This study will see the difference in the effectiveness of nutrition education through the Peer Education method and the education method through Instagram media on the consumption of risky foods among University X students in Padang City.
METHOD

Quasi-Experimental research design with two group pretest – posttest design. The first intervention group is nutrition education peer education method and the second intervention group is nutrition education using Instagram media. The educational content on the Peer education method and Media Instagram used was sourced from a collection of nutrition education flayers from the Indonesian Ministry of Health and Young Epidemiology Youtube account videos. The Instagram media accounts used in this study were @info_gizi_upertis. The study was conducted on University X students from the faculty of health Sciences S1 nutrition study program as many as 24 people were divided into 2 intervention groups. So the sample of each intervention group amounted to 12 people. Sampling using a purposive sampling technique.

Research Procedure

1. Preparatory Stage
   a) For the peer education method, researchers selected students who would be used as research samples, namely as many as 12 students. Students selected as peer educators are trained first. Educators for Peer Education are trained by academics in the field of nutrition. This training was conducted in as many as 3 meetings with a time of 30 minutes for 3 consecutive days. The requirements chosen as educators are willing to attend training, outstanding students, and good communication skills with their peers. Educators from each group, selected based on their level of knowledge, previously also received a pretest in the form of the same questionnaire as respondents. The purpose of the pretest here is to determine the level of knowledge of educators.
   b) Untuk metode media Instagram 12 responden diwajibkan follow akun Instagram @info_gizi_upertis.

2. Intervention Levels
   a) Peer Education Implementation Stage
      1. To determine the level of knowledge and consumption of risky foods in respondents, a pretest was carried out before peer education was given.
      2. Furthermore, peer educators provide education to peer groups (one batch). Group educators have the freedom to pass on information to their members regarding risky foods formally or informally. The implementation of peer education was carried out 3 times within 30 minutes in 1 week. Educational materials are provided through video media (https://drive.google.com/drive/folders/1XQv2epUIJfc1M5k9wzXeIqdeHhbF7TVqs. 3)

3. After peer education was given, a gap of 1 week was given for the knowledge posttest and a 3-week gap for the risky food consumption posttest.
   b) Intervention Phase with Instagram Media
      1. To determine the level of knowledge and consumption of risky foods in respondents, a pretest was carried out before being given education through Instagram media
      2. Providing nutrition education through Instagram social media about risky foods through the “info_gizi_upertis” account. Nutrition education was given 3 times in 1 week. The intervention group was given information on each recent content post on IG. The time of education is not determined so that respondents are free to see information about risky foods anywhere and anytime, through their personal Instagram accounts. After that, given a gap of 1 week, a posttest was carried out for knowledge, and after 3 weeks a postest for risky food consumption.

Data collection through interviews with research instruments in the form of questionnaires to determine differences in student knowledge before and after receiving education using peer education and Instagram media. The Semi-Quantitative Food Frequency Questionnaire (SQ-FFQ) form was used to determine the consumption of risky foods in students before and after nutrition education.

Data analysis using statistical tests paired t-test To see the difference in average knowledge and consumption of risky foods before and after nutrition education is given. Test Wilcoxon with a 95% confidence level used if the data is not normally distributed. To see the difference in average knowledge and consumption of risky foods in the nutritionally educated group using peer education and nutrition education using media Instagram, digunakan uji statistic Mann Whitney.
RESULTS AND DISCUSSION
Research Results
The results of research on the average knowledge of respondents who intervened with nutrition education using peer education and Instagram media can be seen in the following table:

Table 1. Average Knowledge and Consumption of Risk Foods Respondents Intervened Through Nutrition Education with Peer Education and Instagram Media

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean ± SD</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peer Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Knowledge before intervention</td>
<td>67.7767 ± 13.28299</td>
<td>12</td>
</tr>
<tr>
<td>b. Knowledge after intervention</td>
<td>88.3317 ± 8.58693</td>
<td></td>
</tr>
<tr>
<td><strong>Media Instagram</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Knowledge before intervention</td>
<td>63.8892 ± 8.74350</td>
<td>12</td>
</tr>
<tr>
<td>b. Knowledge after intervention</td>
<td>82.7767 ± 13.76943</td>
<td></td>
</tr>
<tr>
<td><strong>Peer Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Consumption of risky foods before intervention</td>
<td>1.1292 ± 0.46726</td>
<td>12</td>
</tr>
<tr>
<td>b. Consumption of risky foods after the intervention</td>
<td>0.1933 ± 0.08261</td>
<td></td>
</tr>
<tr>
<td><strong>Media Instagram</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Consumption of risky foods before intervention</td>
<td>1.1817 ± 0.19178</td>
<td></td>
</tr>
<tr>
<td>b. Consumption of risky foods after the intervention</td>
<td>0.2100 ± 0.11346</td>
<td>12</td>
</tr>
</tbody>
</table>

The table above shows the average knowledge of respondents before being given nutrition education using peer education is 67.7767 with a Standard Deviation of 13.28299, and the average knowledge after nutrition education using peer education is 88.3317 with a standard deviation of 8.58693. The average knowledge of respondents before being given nutrition education using media Instagram is 63.8892 with Standard Deviation of 8.74350 and knowledge after nutrition education using media Instagram increased to 82.7767.

The average consumption of risky foods before education using peer education was 1.1292 with a standard deviation of 0.46726, and the average after nutrition education using peer education consumption of risky foods was 0.1933 with a standard deviation of 0.08261. The average consumption of risky foods before education using Instagram media was 1.1817 with a standard deviation of 0.19178, and the average after nutrition education using Instagram media of risky food consumption was 0.2100 with a standard deviation of 0.11346.

Table 2. Frequency Distribution of Knowledge and Consumption of Risk Foods Respondents Intervened Through Nutrition Education with Peer Education and Instagram Media

<table>
<thead>
<tr>
<th>Variable</th>
<th>f ± %</th>
<th>n</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Peer Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. High Knowledge Before Intervention</td>
<td>3 ± 25.0</td>
<td></td>
</tr>
<tr>
<td>b. Low Knowledge Before Intervention</td>
<td>9 ± 75.0</td>
<td>12</td>
</tr>
<tr>
<td>c. High Knowledge After Intervention</td>
<td>10 ± 83.3</td>
<td></td>
</tr>
<tr>
<td>d. Low Knowledge After Intervention</td>
<td>2 ± 16.7</td>
<td></td>
</tr>
<tr>
<td><strong>Media Instagram</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. High Knowledge Before Intervention</td>
<td>2 ± 16.7</td>
<td></td>
</tr>
<tr>
<td>b. Low Knowledge Before Intervention</td>
<td>10 ± 83.3</td>
<td>12</td>
</tr>
<tr>
<td>c. High Knowledge After Intervention</td>
<td>7 ± 58.3</td>
<td></td>
</tr>
<tr>
<td>d. Low Knowledge After Intervention</td>
<td>5 ± 41.7</td>
<td></td>
</tr>
<tr>
<td><strong>Peer Education</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Consumption of risky foods Well before the intervention</td>
<td>8 ± 66.7</td>
<td></td>
</tr>
<tr>
<td>b. Consumption of more risky foods before intervention</td>
<td>4 ± 33.3</td>
<td>12</td>
</tr>
<tr>
<td>c. Consumption of risky foods Good after intervention</td>
<td>12 ± 100</td>
<td></td>
</tr>
<tr>
<td>d. Consumption of Risky Foods after the intervention</td>
<td>0 ± 0</td>
<td></td>
</tr>
<tr>
<td><strong>Media Instagram</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>a. Consumption of risky foods Well before the intervention</td>
<td>7 ± 58.3</td>
<td></td>
</tr>
<tr>
<td>b. Consumption of more risky foods before intervention</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
The table above shows that the frequency distribution of knowledge levels in the peer education group is that most respondents (75.00%) have low knowledge before nutrition education is given. After being given nutrition education using peer education, more than half of the respondents (83.3%) had high knowledge. Meanwhile, the level of knowledge in the Instagram media group, most respondents (83.3%) had low knowledge before being given nutrition education. After being given nutrition education using Instagram media, more than half of the respondents (58.3%) had high knowledge.

For the frequency distribution of risky food consumption, it is known that in the peer education group, less than half of respondents (33.3%) consumed risky foods more than 2 times per week before being educated. After nutrition education using peer education, all respondents (100%) consumed risky foods less than 2 times per week. While for the Instagram media group, less than half of respondents (41.7%) consumed risky foods more than 2 times per week before being educated. After being given nutrition education using Instagram media, all respondents (100%) consumed risky foods less than 2 times per week.

From the results of statistical tests, a value of $p = 0.005$ ($p < 0.05$) means that there is a significant difference in respondents' knowledge before and after nutrition education using Peer education. The results of the test statistically affect nutrition education using media Instagram against the knowledge of respondents before and after the intervention was given a value of $p = 0.000$ ($p < 0.05$) meaning that there was a significant difference in respondents' knowledge before and after being given nutrition education using Media Instagram.

From the results of statistical tests, a value of $p = 0.000$ ($p < 0.05$) means that there is a significant difference in the consumption of risky foods by respondents before and after being given nutrition education using Peer education. The results of the test statistically the effect of nutrition education using Instagram media on the consumption of risky foods by respondents before and after the intervention were obtained $p = 0.000$ ($p < 0.05$) meaning that there was a significant difference in the consumption of risky foods of respondents before and after being given nutrition education using Instagram Media.
The results of the statistical test showed the difference in the average level of knowledge among respondents between the group given education using peer education with Instagram media obtained a value of $p = 0.311$ ($p > 0.05$) which means there is no significant difference in the level of knowledge of respondents between groups given nutrition education using peer education with Instagram media.

The results of statistical tests on the average difference in consumption of risky foods in respondents between groups provided with education using peer education with Instagram media obtained a value of $p = 0.908$ ($p > 0.05$) which means there is no significant difference in consumption of risky foods in respondents between groups given nutrition education using peer education with Instagram media.

### Research Discussion

The results of this study also showed the lowest level of knowledge before being given nutrition education using peer education was about the recommendation of maximum sugar and fat consumption per day with a correct answer score of no 0% respondents, about additional dyes that were prohibited by answering correctly less than half of the respondents 13.3% and due to excessive sugar consumption by answering correctly less than half of the respondents 33.3% (Referring to table 4.9). After being given nutrition education through peer education, there was an increase in knowledge about the source of fructose with a correct answer score of half of the respondents 53.3%, about the types of food additives that are not allowed with a correct answer score of less than half of the respondents 40% and about the types of dyes that are prohibited with a correct answer score of less than half of the respondents 40%. Furthermore, the results that have been given were obtained 12 respondents 100% answered correctly.

Similarly, this study uses a nutrition education method, namely peer education, where peer education has a positive influence on peers because the delivery of material from educators does not judge or patronize each other so that the information received is easier to understand. So it can be concluded that nutrition education through peer education can increase knowledge in students.

### Average Nutrition Knowledge in Students Before and After Nutrition Education Through Media Instagram

Based on the results of this study, it was found that the average knowledge of respondents before being given nutrition education using media Instagram was 63.8892 and after nutrition education was given using media Instagram is 82.7767. The results of this study are the same as the research conducted by (Rinarto et al., 2022) with the title The Influence of Education With Social Media Instagram and YouTube Towards Increasing Knowledge of Balanced Nutrition. This research has similarities in using electronic communication media, namely through Instagram social media.

According to Notoatmodjo (2012) In the discussion (know is defined as a material that is learned before knowledge, and after it is done there is a reinstatement (recall) There is significance in the overall material studied or stimuli received. Nutrition education is an educative approach to improving knowledge and attitudes towards nutrition, connected with the second discussion theory, namely (comprehension), which is an ability to correctly explain a known object until it is interpreted on the correct material (Vinet & Zhedanov, 2021).

The results of this study also showed that the lowest level of knowledge before being given education using Instagram media was about the recommendation of maximum sugar and fat consumption per day with a correct answer score of less than half of the respondents 6.67%, about additional dyes that were prohibited with a correct answer score of less than half of the respondents 13.3% (referring to table 4.9). Furthermore, referring to Table 4.10, there was an increase in knowledge after being educated using Instagram media about...
fructose sources with a correct answer score of 53.3% of respondents, about food additives that are not allowed with a score of more than half of respondents 60% and about the types of dyes that are prohibited with a correct answer score of less than half of respondents 47%. Next the results that have been given obtained as many as 12 people 100% answered correctly. So it can be concluded that nutrition education through Instagram media can increase knowledge in students.

**Average Consumption of Risky Foods in Students Before and After Nutrition Education Through Peer Education**

Based on the results of this study, it shows the average consumption of risky foods before nutrition education is given through the method of peer education is 1.1292 and the average consumption of risky foods after nutrition education through peer education is 0.1933. The results of this study are the same as previous studies Romadona et al. (2022) The picture of junk food consumption is quite high, which is as much as 5-10 times per week It was found that there was a statistically meaningful relationship between food consumption junk food Consumed > 2 times per week is categorized as not good or more.

The results of interviews using SQ-FFQ on respondents before being given nutrition education using peer education Researchers get information that respondents are more frequent (2 > times per week). Consume sweet foods such as (chocolates, chocolate layer wafers, milkshakes, iced tea, and nutrients) salty foods (such as Basreng, snack cake, salted nuts, and seblak) and fatty foods (egg rolls, martabak, geek chicken, meatballs and ice cream).

Consumption of risky foods before nutrition education is categorized more or > 2 times per week regarding the consumption of sweet foods as much as 41.1%, regarding the consumption of salty foods as much as 41.1%, and regarding fatty foods as much as 41.1%. However, after respondents were given nutrition education using peer education There was a good change in consuming risky foods, meaning < 2 times per week in consuming risky foods.

Nutrition education Peer education is very helpful because in this method respondents are more open to each other with their peers. So respondents are motivated to change their behavior and know the consumption of risky foods and drinks with recommendations from Permenkes number 30 of 2013 (Permenkes, 2003).

**Average Consumption of Risky Foods in Students Before and After Nutrition Education Through Instagram Media**

Based on the results of the study, the average consumption of risky foods before nutrition education through the Instagram media method was 1.1817 and the average consumption of risky foods after being given nutrition education through Instagram media was 0.2100.

The results of this study are the same as research (Fadhilah, 2019) that there is a relationship between the consumption of risky foods with the incidence of degenerative diseases. It can be concluded that consuming risky foods excessively can cause degenerative diseases such as diabetes mellitus, hypertension, and obesity.

The results of interviews using SQ-FFQ on respondents before being given nutrition education using Instagram media researchers get information that respondents more often consume sweet foods (such as iced tea, chocolate, and milkshakes), salty foods (such as basreng, instant noodles and frozen food), fatty foods (such as egg rolls and martabak) and soft drinks (such as Fanta, sprite, and coca cola).

According to the analysis the consumption of risky foods before nutrition education using Instagram media is categorized as more or > 2 times per week about sweet foods less than half of the respondents 25.0%, regarding salty foods most respondents 91.7%, fatty foods less than half of the respondents 41.1%, soft drinks less than half of the respondents 41.1%. Meanwhile, after nutrition education is given, there is a good change in consuming risky foods, meaning < 2 times per week in consuming risky foods. However a small number of respondents still like to consume soft drinks 8.3%. This is due to the lack of absorption of some respondents to understand more deeply about the education that has been provided through Instagram media and do not want to change their behavior. However, after respondents were given education through the results of interviews, information was obtained that the consumption of these types of food tended to decrease.

It can be concluded that with education through Instagram media, respondents are motivated to meet nutritional intake by the recommendations because Instagram media has its advantages where educational information can be conveyed through posting pictures, videos, and music so that when education takes place respondents do not feel bored.

**The Influence of Nutrition Education through Peer Education on Increasing Knowledge in Indonesian Pioneer University Students**

In this study, it was found that there was a significant influence of knowledge before and after nutrition education was given using Peer education. This shows that providing nutrition education using peer education can increase respondents’ knowledge about risky foods.
This research is the same as Utami's research (2018) which states that the peer education method is considered more effective than the lecture method, this is because facilitators in peer education create a more open atmosphere.

Based on Febiana's research, Meijon Fadul (2019) explained that Peer education is a learning method consisting of individuals or groups that present information to peers. One of the most important functions of the peer group is the source of information and comparisons about the abilities of peers.

The results of this study show that there is a difference in the average knowledge before and after education through peer education. It is known that the value before nutrition education is more than half of the respondents 67.7767 and there is an increase in knowledge after nutrition education of most respondents 88.3317. This is because the peer education method uses language that is easier to understand so that it can communicate both ways or there is feedback between respondents. So it can be concluded that peer education can affect the level of knowledge, this is because there are several factors such as the absorption of each respondent.

The Effect of Nutrition Education Through Peer Education on the Consumption of Risky Foods in Indonesian Pioneer University Students

In this study it is known that there is a significant effect on the consumption of risky foods before and after nutrition education is given using peer education. This shows that providing nutrition education using the method of peer education can change respondents' behavior toward consumption of risky foods.

The results of this study are the same as research in counseling snacks to knowledge with a p value = 0.000. In contrast this researcher uses education through methods of peer education.

Masitah &; Sulistya (2021) explained that the habit of consuming the wrong food and drinks is caused by a lack of knowledge. So nutritional knowledge affects the selection of food and beverages. What Sarianti et al (2019) With the title The Effect of Jajajnan Food Counseling with the Snake and Ladder Game Method, it was found in this study that the snake and ladder game method has an effect if knowledge increases, there is a tendency to be careful in consuming risky foods and drinks.

The results of this study were obtained because respondents had been given nutrition education through the method of peer education and the delivery of interesting material in the presence of peers. So that respondents are easier to understand and apply risky food behaviors in daily life. This can be seen from the results of the interview after being given nutrition education using the SQ-FFQ form. All respondents (100%) reduced their consumption of risky foods such as sweet foods, salty foods, fatty foods, burned foods, preservatives, flavoring foods, soft drinks, energy drinks, and instant noodles.

The Influence of Nutrition Education Through Instagram Media on Increasing Knowledge in Indonesian Pioneer University Students

The results of this study found that there was a significant influence of knowledge before and after nutrition education was given using media Instagram. This is shown by providing nutrition education using media Instagram can increase respondents' knowledge about sico food.

This research is the same as Rahmatini’s research (2021) stating that there is an influence on increasing knowledge before intervention with media Instagram and after the intervention due to media Instagram being easier to access anywhere and anytime. And the information continues to be updated so that the enthusiasts are also much favored by young people.

Based on research, Ningtyas et al (2022) revealed Media Instagram is one of the most widely used social media by students today. Media Instagram is a social media created from technological advances that can publish photos, videos, and reels.

In this study, there was a difference in the average knowledge before and after being given nutrition education with Instagram media because respondents saw short videos related to the material presented. According to Romadona (2022), revealing a person's level of knowledge of anything is influenced by the information he receives. The term knowledge is defined as cognitive processes, thought processes, connecting, and the ability to judge and consider. Information becomes essential for knowledge. Therefore, knowledge will affect behavior change.

The Effect of Nutrition Education Through Instagram Media on Consumption of Risky Foods in Indonesian Pioneer University Students

In this study, it is known that there is a significant influence on the consumption of risky foods before and after nutrition education using Instagram media. This shows that providing nutrition education using Instagram media can change respondents' behavior toward consumption of risky foods.

This research is the same as the research that has been done by Siti Rara Oyi Pinasti (2021) with the title Social Media Influence Instagram in Advertising Fast Food and Its Impact on Health in Adolescents.
Notoaatmodjo (2014) revealed that behavior based on knowledge will usually be better than behavior that is not based on knowledge. For someone who has high knowledge, the nutrition consumed is better than for someone who has low knowledge. Nutritional intake is the result of food consumption which is one of the behaviors based on knowledge (Setiawan, 2019).

The results of this study were obtained because respondents had been given nutrition education through the Instagram media method by delivering material through interesting video posts that talked about risky food materials. So that respondents are easier to understand and apply risky food behaviors in daily life. The advantage of Instagram media respondents is easier to find photos, videos, and news on Instagram one method that can create good ethics as well as influence users (Ningtyas et al., 2022).

This can be seen from the results of the interview after being given nutrition education using the SQ-FFQ form. Most respondents (100%) have reduced foods such as sweet foods, salty foods, fatty foods, burned foods, preservative foods, flavoring foods, energy drinks, and instant noodles. However, a small percentage of respondents (8.3%) still like to consume soft drinks excessively (such as Sprite, fanta, and Coca-Cola).

The Difference in the Effectiveness of Nutrition Education Through the Peer Education Method compared to Instagram Media on increasing knowledge of Risky Eating in Indonesian Pioneer University Students

In this study, it was found that there was no significant difference in the knowledge of respondents who were given nutrition education using peer education with media Instagram. This shows that providing nutrition education uses peer education and media Instagram both can increase respondents' knowledge. The results of this study are the same as the research Khumayra & Sulisno, (2020) stated that there was no significant difference in knowledge between male and female students at the Darussalam Islamic Boarding School, Puerjo Regency.

According to Roger, to form a positive knowledge, it must be based on knowledge, this is related to factors that affect knowledge, namely information. Information will influence a person's knowledge. If individuals are not given the right information, they will be perceived or form a bad attitude so that they form a bad behavior (Wawan, A, 2018).

According to Arjanggi & Suprihatin (2019) the peer education learning method which is carried out by empowering students who have more abilities than the student group itself to become tutors for their friends. Students who become tutors are tasked with delivering learning materials to their friends based on common rules agreed upon by the group to create a cooperative rather than competitive learning atmosphere.

Sari & Simple, (2020) revealed that the development of information communication technology today increasingly provides convenience for the community, one of which is information communication technology that is increasingly used today is media social Instagram. Instagram is a relatively new form of communication where users can easily share information in the form of photos or videos called "update". How easy to use the application Instagram. As a medium of educational information is a new phenomenon that exists in the use of social media, even social media continue to grow and is very common among young people today, especially students.

In this study, the peer educator is a level I student who is female, from the results of this study researchers can see that when the learning process takes place between each group member following the instructions of the peer educator, where there is a seriousness of each group member, and each group member gives questions to the peer educator regarding risky foods. Here there is activeness between the group and peer educators because in this discussion there is no awkwardness to express opinions to get positive feedback.

Meanwhile, the results of research using Instagram media respondents only see educational posts through @info_gizi_upertis researcher accounts, the advantages of using Instagram media respondents can see nutrition education anywhere and anytime, so there is no limited time to get information about risky foods.

The results of this study can conclude that there is no difference in the effectiveness of increasing knowledge about risky foods between peer education methods compared to Instagram media in Indonesian Pioneer University Students. Because these two methods are equally influential in increasing student knowledge before education and after education.

Differences in the Effectiveness of Nutrition Education Through Peer Education Method Compared to Instagram Media on Consumption of Risky Foods in Indonesian Pioneer University Students

In this study, it was found that there was no significant difference in the consumption of risky foods among respondents who were given nutrition education using peer education with media Instagram. The results of this study are the same as the research Masri & Syahputri, (2022) stated that there was no significant difference in the intake of sugar, salt, and fat respondents between groups who were given education using TikTok social media with slide media.
Factors that influence health behavior are: predisposing factors, enabling factors, and reinforcing factors. Knowledge or cognition is a very important domain for the formation of a person's behavior. Behavior based on knowledge will usually be better than behavior that is not based on knowledge. For someone who is based on high knowledge, the nutrition that will be consumed is better than for someone who has low knowledge. This is also due to the increasing age, the more comprehension and mindset will develop so that the knowledge gained will also improve and increase (Hayomi, 2019).

The results of this study can be concluded to show that with nutrition education using peer education and Instagram media there is no difference in the average consumption of risky foods in respondents. However, there was a decrease in the intake of risky food consumption of respondents after being given nutrition education. A decrease in food intake is at higher risk in respondents who are given nutrition education using Peer education.

CONCLUSION
The average knowledge of respondents before being given nutrition education using peer education is 67.77. After nutrition education using peer education is 88.33. The average consumption of risky foods before nutrition education is given using peer education is 1.1292. After nutrition education using peer education The average consumption of risky foods was 0.1933. The average knowledge of respondents before being given nutrition education using media Instagram is 63.88. After nutrition education using media Instagram The average knowledge obtained was 82.77. The average consumption of risky foods before nutrition education was given media Instagram is 1.1817. After nutrition education using media Instagram The average food consumption is 0.2100. There is a significant influence of knowledge before and after nutrition education is given using Peer Education There is a significant influence on the consumption of risky foods respondents before and after being given nutrition education using Peer Education There is a significant influence of knowledge before and after nutrition education using Media Instagram towards increasing knowledge in Indonesian Pioneer University students. There was a significant effect on the consumption of risky foods by respondents before and after being given nutrition education using Media Instagram against the consumption of risky foods in students of Universitas Perintis Indonesia. There was no significant average difference in the increase in respondents' knowledge between groups given nutrition education using peer education with nutrition education using media Instagram, meaning that the education provided is good using peer education And media Instagram There was no difference in knowledge among respondents. There was no significant average difference in respondents' consumption of risky foods between groups given nutrition education using peer education with nutrition education using media Instagram, meaning that the education provided is good using peer education And media Instagram There was no difference in food consumption in respondents.

REFERENCES


