

RESEARCH STUDY

English Version

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The Influence of Social Media on Frozen Food Consumption During the COVID-19 Pandemic

Pengaruh Media Sosial terhadap Konsumsi Frozen Food di Masa Pandemi COVID-19

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ARTICLE INFO

Received: 12-08-2022

Accepted: 28-02-2023

Published online: 05-09-2023

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DOI:

10.20473/amnt.v7i3.2023.377-383

Available online at:<https://e-journal.unair.ac.id/AMNT>**Keywords:**

Frozen Food, Social Media, COVID-19 Pandemic

ABSTRACT

Background: The Covid-19 pandemic has significantly impacted people's lives in Indonesia. The Enforcement of Community Activity Restrictions (PPKM) causes community activities to be online-based (network). This condition impacts the use of social media as a medium of communication and information for each individual. Exposure to social media will also affect changing people's behavior, including consumer behavior. In order to meet consumption needs during a pandemic, frozen food is a more practical and hygienic choice.

Objectives: This study aimed to look at the effect of social media on the consumption of frozen food during the Covid-19 Pandemic.

Methods: The research design was cross-sectional. The population consisted of students, lecturers, and staff at UIN Walisongo. The total sample was 212 people using a purposive sampling technique. Retrieval data on social media use using a questionnaire and consumption of frozen food using the Food Frequency Questionnaire (FFQ).

Results: The results of the Spearman correlation test showed a relationship between social media use and frozen food consumption ($p=0.030$ and $r=-0.149$). There is no relationship between mass media use and frozen food consumption ($p=0.654$ and $r=-0.031$).

Conclusion: There is a significant effect of social media on the consumption of frozen food, and there is no effect of using mass media on the consumption of frozen food.

INTRODUCTION

The COVID-19 pandemic formed a new order in the system of people's lives. Imposing restrictions on community activities (PPKM) has a very influential impact on the community. This policy causes limited mobility, so all activities are carried out online (network) or based¹. This phenomenon then impacts the increasing number of internet users in Indonesia, and the internet is no stranger to Indonesian people. In 2018, as much as 64.7% of the total population in Indonesia used the Internet network for daily life². During the COVID-19 pandemic, the Internet is essential in daily activities³. Data from Social Research in 2020 showed that internet users increased significantly by 17% to 175.4 million compared to 2019⁴.

The increasing number of internet users has caused people's habits to shift to cyberspace, supported by social media. Social media is a means to socialize with people whom PPKM limits. This condition makes Indonesia the third highest social media user country in the world⁵. The number of social media users in Indonesia

in 2020 will reach 160 million, equivalent to 58.8 percent of Indonesia's total population of 272.1 million¹. Social media that people in Indonesia widely use include Facebook and Instagram⁶. A survey by the Association of Indonesian Internet Service Providers (APJII) found that Facebook users accounted for 65.8% and Instagram accounted for 42.3% of all internet users⁷.

Apart from social media, mass media is another source of information. Mass media is divided into two types, namely print media and electronic media. Examples of print media include newspapers and magazines. The number of users of print media today has decreased a lot, which has been replaced by something more sophisticated in obtaining information, namely electronic media. However, the mass media is still needed as a means of communication⁸. The frequency of using mass media, which is rarely used, especially mass media in printed form, is difficult to obtain due to the imposition of restrictions on community activities (PPKM). Various information obtained from social media and mass media during the pandemic caused changes in

people's behavior and habits, including consumer behavior. Mustakim's study stated that there had been changes in food consumption behavior during the pandemic, including an increase in the amount, variety, and frequency of food consumption. In the same study, it was also stated that there was an increase in the consumption of main foods, snacks, vegetables, fruit, water, and herbal drinks⁹. As Rahmasari stated in his research, the pandemic has caused changes in people's behavior in choosing food. This finding is due to stress, prolonged quarantine duration, lack of direct contact, fear of infection, and financial loss¹⁰. There are mobility and social restrictions in the community, and consumer behavior changes where people prefer to cook food at home so that frozen food is considered more practical and can last long as an alternative to meeting food needs during the COVID-19 pandemic¹¹. Frozen food is an instant processed food product that can last long and is easy to prepare¹². The technology used in frozen food is in the form of lowering the temperature to reach the freezing point so that the decay process can be slowed down, and food products can last a long time¹³. Indonesians widely consume several types of frozen food, including nuggets, meatballs, sausages, and other processed frozen products¹⁴.

The use of social media and mass media during a pandemic to obtain information regarding food choices and the imposition of restrictions on community activities (PPKM) has caused people to prefer cooking at home so that frozen food is considered more practical and durable as an alternative to meeting needs during a pandemic. Therefore, researchers were then interested in seeing how social media influences the consumption of frozen food during the COVID-19 pandemic so that later, this research can inform decision-making.

METHODS

This study used an analytical survey method with a cross-sectional approach. A sampling technique with purposive sampling was used. The population in this study were all students, lecturers, staff, and employees of UIN Walisongo Semarang. The sample used was 212 people with inclusion criteria, namely the population who consumed frozen food and had good physical and mental health. The data collection tool used in this study is a questionnaire.

This research was conducted to know changes in people's consumption behavior before and during the pandemic, which were influenced by mass media. This research was carried out during the COVID-19 pandemic and looked at the differences between conditions before and after the COVID-19 pandemic. The data in this study were primary data obtained through filling out questionnaires, while the secondary data used is data from students, lecturers, and UIN Walisongo employees. The statistical data test used to determine the relationship was the Spearman correlation test. This research has passed the code of ethics with the Ethical Clearance number 452/KEPK/EC/2022 from Semarang State University.

RESULTS AND DISCUSSION

This research involved 212 respondents of students, lecturers, staff, and employees in the UIN Walisongo Semarang working area. The results of the study obtained data on the characteristics of the respondents' age (years), gender, occupation, last education level, and income level. Respondent characteristic data are presented in the following table:

Table 1. Frequency distribution of the characteristics of research respondents on the influence of social media on the consumption of frozen food during the COVID-19 pandemic

Variable	n	%
Age (years)		
19-24	167	78.7
25-29	12	5.7
30-34	22	10.4
35-39	7	3.4
40-44	1	0.4
45-49	3	1.4
Gender		
Male	25	11.8
Female	187	88.2
Occupation		
Student	176	83
Lecturer	32	15.1
Private	2	0.9
Staff	2	1.0
Last Education Level		
High school/equivalent	69	32.5
Bachelor degree	111	52.4
Master degree	32	15.1
Income Level		
< IDR 500,000	141	66.5
IDR 500,000 to IDR 1,000,000	24	11.3
IDR 1,000,000 to IDR 2,000,000	14	6.6
IDR 2,000,000 to IDR 3,000,000	14	6.6

> IDR 3,000,000	19	9
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The data on the characteristics of the respondents presented in Table 1 shows that of the 212 respondents, the age range was 17-45 years, with the majority aged 19-24 years (78.7%). The number of respondents consisted of students (83%), lecturers (15.1%), private sector (0.9%), and staff (1%). Most respondents were female (88.2%) and male (11.8%). The last education of the respondents was high school or equivalent (32.5%), bachelor's degree (52.4%), and master's degree (15.1%). The income level of the respondents with the highest average was below IDR 500,000 (66.5%).

On the use of social media and mass media, data on changes in body weight, physical activity during

the pandemic, use of social media (Whatsapp, Line, Telegram, Instagram, Email, Youtube, Facebook, Twitter), duration of use of social media, use of mass media (newspapers), television, radio, magazines) are obtained, length of use of mass media in a day, knowledge, intensity, differences in consumption of frozen food during the pandemic, purchased frozen food products, the purpose of the purchase, purchasing intensity, and frozen food processing methods. The research results on the use of social media and mass media and frozen food consumption habits during a pandemic are presented in Table 2.

Table 2. Frequency distribution of research variables on the effect of social media on frozen food consumption during the COVID-19 pandemic

Variable	n	%
Weight change before and during the COVID-19 Pandemic		
Increase	108	50.9
Still	54	25.5
Decrease	50	23.6
Doing physical activity during a pandemic		
Yes	148	69.8
No	64	30.2
Pregnancy status		
Yes	1	0.5
No	211	99.5
Use of social media (Whatsapp)		
Very often (>12 hours/day)	184	86.8
Often (4 hours)	28	13.2
Rarely (once a week)	0	0
Very rarely (once a month)	0	0
Never	0	0
Use of social media (Line)		
Very often (>12 hours/day)	3	1.4
Often (4 hours)	22	10.4
Rarely (once a week)	75	35.4
Very rarely (once a month)	34	16
Never	78	36.8
Use of social media (Telegram)		
Very often (>12 hours/day)	2	0.9
Often (4 hours)	50	23.6
Rarely (once a week)	84	39.6
Very rarely (once a month)	37	17.5
Never	39	18.4
Use of social media (Instagram)		
Very often (>12 hours/day)	65	30.7
Often (4 hours)	110	51.9
Rarely (once a week)	26	12.3
Very rarely (once a month)	7	3.3
Never	4	1.9
Use of social media (Email)		
Very often (>12 hours/day)	7	3.3
Often (4 hours)	77	36.3
Rarely (once a week)	107	50.5
Very rarely (once a month)	18	8.5
Never	3	1.4
Use of social media (YouTube)		
Very often (>12 hours/day)	32	15.1
Often (4 hours)	137	64.6

Variable	n	%
Rarely (once a week)	39	18.4
Very rarely (once a month)	3	1.4
Never	1	0.5
Use of social media (Facebook)		
Very often (>12 hours/day)	5	2.4
Often (4 hours)	46	21.7
Rarely (once a week)	76	35.8
Very rarely (once a month)	34	16
Never	51	24.1
Use of social media (Twitter)		
Very often (>12 hours/day)	21	9.9
Often (4 hours)	46	21.7
Rarely (once a week)	64	30.2
Very rarely (once a month)	33	15.6
Never	48	22.6
Length of time using social media in a day		
Often (>8 Hours)	151	71.2
Sometimes (6 hours)	48	22.7
Rarely (4-2 hours)	13	6.1
Use of mass media (newspapers)		
Very often (>12 hours/day)	1	0.5
Often (4 hours)	4	1.9
Rarely (once a week)	55	25.9
Very rarely (once a month)	152	71.7
Use of mass media (Television)		
Very often (>12 hours/day)	25	11.8
Often (4 hours)	99	46.7
Rarely (once a week)	51	24.1
Very rarely (once a month)	37	17.5
Use of mass media (Radio)		
Very often (>12 hours/day)	1	0.5
Often (4 hours)	17	8
Rarely (once a week)	45	21.2
Very rarely (once a month)	149	70.3
Use of mass media (Magazines)		
Very often (>12 hours/day)	0	0
Often (4 hours)	4	1.9
Rarely (once a week)	51	24.1
Very rarely (once a month)	157	74.1
Length of using mass media in a day		
Often (>8 Hours)	32	15.1
Sometimes (6 hours)	36	17
Rarely (4-2 hours)	117	55.1
Never	27	12.7
Knowledge of frozen food		
Yes	207	97.6
No	5	2.4
Frozen food consumption intensity		
Always (every day)	3	2.6
Often (2-5 times per week)	25	22.4
Rarely (2-4 times a month)	47	41.9
Very rarely (once a month)	34	30.1
Never consumed at all	3	3.0
Differences in frozen food consumption during the pandemic		
Yes	84	75.2
No	28	24.8
Purchased frozen food products		
Snack	33	29.3
Side dish	30	26.8
Both of them	49	43.9
The purpose of buying frozen food		
own consumption	199	93.9

Variable	n	%
Sell again	13	6.1
Small gifts	0	0
The intensity of buying frozen food		
Rarely, not necessarily	12	5.7
Once a month	114	53.8
1-2 times a week	67	31.6
3-4 times a week	16	7.5
5-7 times a week	3	1.4
Frozen food processing		
Fry	225	62.2
Sauté	42	11.6
Oven	11	3
Roast	51	14.1
Steam	32	8.8
Burn	1	0.3

Based on the research results in Table 2 regarding the use of social media and mass media, namely changes in body weight, physical activity during the pandemic, use of social media and mass media, and consumption of frozen food during the COVID-19 pandemic. Respondents' body weight showed changes during the pandemic, in which 50.9% of respondents experienced an increase in body weight compared to before the COVID-19 pandemic. The research results regarding the respondents' physical activity showed that as many as 69.8% of the respondents continued to carry out physical activities during the pandemic.

The social media used by respondents are Instagram, Twitter, Facebook, WhatsApp, Telegram, Line, Email, and YouTube. Some of these social media sites show that overall, the intensity of their use is quite frequent, more than 8 hours a day, and is used by 71.2% of the total respondents. The most used type of social media is Whatsapp, which 212 respondents access every day, with the category of widespread use, while the social media that is rarely used is email.

Respondents' use of mass media during the Covid-19 pandemic was only 55.1% of the total respondents. The results show that most respondents rarely use it in a day, only 2-4 hours. The mass media used

are newspapers, television, radio, and magazines. The type of mass media that is most widely used is television, which is often used a day, namely 4 hours a day, and the mass media that is rarely used is a magazine, which is only used once a month.

Respondents' food consumption during the pandemic has changed compared to before the pandemic. These changes are included in the intensity of buying and consuming frozen food. Data shows that at least respondents buy frozen food once a month and consume it 2-4 times a month. The processing method that is most widely used in consuming frozen food is frying it, while the method that is rarely used is burning it. Respondents processed frozen food by frying as much as 62.2% and burning as much as 0.3%. Wildah's research states that frozen food processing is usually fried, steamed, boiled, and ready to serve¹².

Respondents often use social media during the COVID-19 pandemic, including WhatsApp, Line, Telegram, Instagram, Email, YouTube, Facebook, and Twitter. The social media used mainly by respondents is Whatsapp, with a frequency of more than 8 hours daily. Meanwhile, the social media that is rarely used is email. The following are the results of testing the relationship between social media use and frozen food consumption:

Table 3. The relationship between the use of social media and the consumption of frozen food at UIN Walisongo Semarang

Variable	p-value	r
The Intensity of Use of Social Media Frozen Food Consumption Intensity	0.030*	-0.149

Spearman correlation test; *) Significant if p-value <0.05

The test shows a correlation or relationship with a value of $p=0.030$. The correlation strength is -0.149. The strength of this value is weak, and the negative on r indicates that the relationship between the intensity of social media use and frozen food consumption is not unidirectional, in which the higher the media use, the lower the consumption of frozen food. This might happen because social media displays more health information, coupled with information about fresh food being healthier when compared to frozen food or frozen food, as in a study conducted by Kanyanya et al. (2015), which

states that social media platforms are often used to deliver health, education, research, intervention, and even treatment programs and services¹⁵.

Based on research results, the mass media used by respondents during the COVID-19 pandemic included newspapers, television, radio, and magazines. Mass media is often used on television for 4 hours a day. In comparison, the mass media that is rarely used is a magazine with a frequency of use once a month. The following is the relationship between the use of mass media and the consumption of frozen food.

Table 4. The relationship between the use of mass media and the consumption of frozen food at UIN Walisongo Semarang

Variable	p-value	r
Mass Media Usage Intensity	0.654	-0.031
Frozen Food Consumption Intensity		

Spearman correlation test; *) Significant if p-value <0.05

Table 4 shows a value of $p=0.654$, so there is no correlation. The value of $r=-0.031$ shows that the relationship between the two variables is weak and has a negative value so that the directions of the two variables are not in the same direction, so that the higher the intensity of mass media use, the lower the intensity of frozen food consumption.

Based on statistical tests on the two variables, it is known that there is a significant relationship in which the two are correlated. These results align with research conducted by Fristanti & Ruhana (2021), which states that social media has a significant relationship with increasing food consumption during a pandemic. Food affects a person's psychology, so he gets hungry easily¹⁶. This finding then impacts changes in one's food consumption, so the higher intensity of social media use is associated with increased food consumption during the COVID-19 pandemic¹⁷. The study results show that the most frequently accessed social media by respondents during a pandemic is Whatsapp, with the frequent use category.

According to a study by Chianardi & Permatasari (2020), the increase in the number of frozen food purchases during the pandemic was influenced by several factors, one of which was the packaging or display of frozen food products. It is known that packaging is the first thing that attracts consumers' attention to buying products, so frozen food promotion has a close relationship with the purchase of frozen food during the COVID-19 pandemic¹⁸.

Statistical data using the Spearman correlation test shows that the intensity of mass media use does not significantly affect frozen food consumption. This finding is not by research that states that television use is positively related to increased food consumption¹¹. Amalia et al. (2021) stated that media promotion of frozen food products through television impacted interest in buying frozen food during a pandemic. Some determining factors in buying frozen food include product information and hygiene, which can be explained when one of the promotions is through television mass media¹¹. This finding is different from using newspapers and magazines as mass media, where the number of readers of newspapers and magazines has decreased significantly. They prefer to seek information through digital media¹⁹. The results of this study indicate that respondents more often used electronic mass media during the pandemic than print mass media.

CONCLUSIONS

The results showed that during the Covid 19 pandemic, there was a change in food consumption, one of which was the intensity of consuming and buying frozen food. Based on the results of research with 212 respondents in the UIN Walisongo area, it was found that

there was a significant influence between the intensity of social media use and frozen food consumption. Changes in frozen food consumption during a pandemic are closely related to the use of social media. This study shows that the higher the intensity of social media with changes in food consumption behavior. The most frequently used social media during the Pandemic is WhatsApp, and the least used is email.

ACKNOWLEDGEMENTS

We want to thank all those who have helped in the research and writing of this article. To students, lecturers, and employees of UIN Walisongo Semarang who have agreed to become research respondents. Researchers and writers who have carried out data collection, data processing, and writing until the final manuscript is approved.

Conflict of Interests and Funding Disclosures

All authors have no conflict of interest in this article. The author's funds fully funded this research.

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