

# The Impact of Mass Media and Food Consumption

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## ABSTRACT

One of the causes of degenerative diseases is the lack of consuming fruits and vegetables. Therefore, new media and conventional media are needed in delivering various information about degenerative diseases. Why is the media so important? Because it is a disseminator of information to the public through counseling as a means of exchanging experiences so that the public is aware of what fruits and vegetables need to be consumed. The purpose of this study is to determine the intensity of using conventional and new media, explaining the frequency of public communication through conventional and new media; explain the frequency of fruit and vegetable consumption by the community, analyze socio-economic, demographic, fruit and vegetable consumption against degenerative diseases. Sampling using two or more gradual groups. The data needed is primary and secondary. Data collection techniques are interview. Data were analyzed through flow models, regression and recall consumption. The results showed that individual counseling through conventional media 55.8%, and through new media 40,0 persen. The conclusion is that counseling through individual media is higher, and through dialogue, and followed by counseling through seminars, then through action through demonstrations and stories through public media.

**Keywords:** Conventional media, new media, degenerative, fruit, vegetables, socioeconomic, demography

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## BACKGROUND

Mass media is an extension of our sense organs, and with mass media we obtain information about objects, people or places that are not directly experienced. It means mass media is a disseminator of information to the public about everything that happens. It includes conventional media and new media. Conventional media and new media both provide information that is very important for individuals and groups in this modern era. Because of the media people also communicate well between individuals, individuals between groups and individuals between groups [17]. Communication between individuals, individuals between groups and individuals between groups, can uncover various problems. The Communication structures led to openness and strong connection to various needs. The intended communication structure is a communication network between individuals, individuals between groups and individuals between groups, in maintaining closeness and connectedness to achieve a need. The System connectivity is the degree of the individual a system relates to one another which can be calculated from the amount of interpersonal information flow exists. The system openness is the degree to which individuals from system exchange information with the system outside. The Communication connectivity index can be calculated on both systems [18]. In relation to the consumption of fruits and vegetables, the thing that should be considered in using conventional media and new media is its role in effective extension and use programs. The conventional media and new media are more profitable because get better feedback reducing the misunderstanding that can develop between extension agents and targets. The interaction provides an opportunity to exchange

experiences and influences on the behavior and norms of audiences. The contents of conventional media are newspapers, magazines, books, journals, leaflets, brochures, banners, theater plays, songs, fairy tales, and other forms of traditional entertainment. The contents of new media are internet, TV, radio, websites, mobile phones, Android, BBM, Youtube and others. Using of both media is to convey new information that is accessible to the public. Various methods are applied lectures, dialogues, speeches, group discussions and others. Therefore, the presence of extension agents is very necessary that their target can consult about the problem that is the importance of consumption of fruits and vegetables. In using individual methods, group methods, people methods and modern methods are creating situations that the audience can understand the messages given by the instructor and follow the messages in consuming fruits and vegetables to prevent disease degenerative [13]

## Formulation of the problem

Based on the identification of these problems, several questions can be formulated as follows

- What is the intensity of using conventional and new media to access variations of information?
- How much is the intensity of public communication through conventional and new media?
- How many people consume fruits and vegetables every day?
- Is the socioeconomic level, and demography can cause people to consume fruits and vegetables?

## Objectives and Research Uses

### Objectives

The objectives of the research are:

1. To determine the intensity using of conventional media and new media to access various information.
2. To Explain the frequency of public communication by conventional media and new media.
3. To Explain the frequency of consumption of fruits and vegetables by the community.
4. Analyzing socio-economic, demographic, consumption of fruits and vegetables on degenerative diseases.

#### **Research Uses**

This research is expected to be useful for:

##### **a. Academic Uses**

Can provide benefits for the development of communication science especially conventional media and new media

##### **b. Uses for the University**

It is expected to be able to provide an overview and recommendations for the leadership of the Foundation and all levels of staff, especially in the Juanda University of Bogor in applying conventional and new media in the communication science program of the Juanda University of Bogor in improving ideas, narratives and action in conducting public education about the benefits of consuming fruit ingredients and vegetables to prevent degenerative diseases.

##### **c. For writers**

In an effort to further explore the problems of the mass media, especially conventional media and new media and apply them in the community so that people do not miss information about the impact of consumption of fruits and vegetables in preventing degenerative diseases ..

## **MATERIAL AND METHOD**

### **The Design Research**

The Design Research was cross sectional. The location was in Bogor City / Regency. The Research was conducted in October-December 2017.

### **Data Types**

The data needed were primary data that obtained from respondents, and secondary data were from the Office of the Regent and Mayor, Information and Communication Service, Health Service, Agriculture Service and Village Office

### **Data Collection Techniques**

- a. Observation, direct observation of the object that studied
- b. Interviews, guided by questionnaires with closed and open questions.
- c. Documentation, from the Office of the Regent / Mayor, Information and Communication Service, Health Office, Agriculture Service, and Village Office

### **Sampling technique**

- a. Because the research was in the province, the first population was 27 cities / regencies. From 27 cities / regencies were taken 2 cities / regencies, they were Bogor City and Bogor Regency as the first sample,
- b. The first sample. The 2 Cities / Regency were the second population. From the second population, the second sample was taken from 46 sub-districts that the 46 sub-districts it was made the third population. From the third population, 2 sub-districts were taken. they are Cisarua sub-district and North Bogor sub-district as the third sample. The third sample was used as the fourth population. The fourth population, two villages were taken, they are the Citapen Village and Cimahpar Village

c. Furthermore, from the fourth population, 120 respondents were taken, they were 60 respondents in Cimahpar Village and 60 respondents in Citapen Village that be studied [15]. Based on the sampling theory if all possible random samples of size  $n$  are taken without recovery from a finite population of size  $N$  that has a middle value and standard deviation then the distribution of sampling for the mean value of the sample will approach the normal distribution with the middle value and standard deviation [24]. The argument will close to the truth if the measurement results shown by independent variables are close to normal. The importance of this argument is mainly to draw conclusions about estimators from samples which according to the central proposition follow or approach normal functions, if the sample is large enough, that is, if  $n$  goes to infinity. This rule in practice already applies if  $n > 30$ , because in this condition the value of Table  $t$  for alpha will approach the normal table value [19]

### **Standardization of Data Collection Methods**

As stated above that in this study two approaches were used to collect data, namely the quantitative approach and the qualitative approach. Thus, it is necessary to explain "method validation".

### **Questionnaire Method Validation**

Validation refers to the validity of the contents rather than the instruments used in capturing data. The validity of the contents of the questionnaire used was considered representative to capture all aspects related to this research. In its application, it turns out that all data collected through the conceptual framework that has been compiled can measure data, using either an ordinal scale, a ratio scale, a nominal scale and an interval scale. Likewise, the validity of the questionnaire has been able to elaborate both narrative and statistical analysis. [20] Said that the data captured through the questionnaire would be incarnated in numbers, tables, statistical analysis and the description and conclusions of the results of the study. Quantitative data analysis is based on the results of the questionnaire. For this reason, the questionnaire is a core instrument in gathering quantitative data and is supported by observation.

### **Observation Method Validation**

As stated above, validity refers to the validity of the contents rather than the instruments used in capturing data. The validity of the questionnaire content has also been able to explain what you want to see or observe such as demographic conditions, socioeconomic conditions, conditions of food availability, and others. Unlike the very qualitative research (grounded research) in observing people's consumption behavior towards fruits and vegetables.

Therefore, researchers must be part of the community in the sense, mingle, mingle with the community, storytelling and others. In situations like this the questionnaire cannot be used because it will cause the prejudice of the person to be investigated [2]. Based on the opinion above, the participation observation variable is eliminated in this study, because it will find a very large level of difficulty. Even if this is done it requires a long time, meaning that researchers must observe the behavior of food consumption a day, a week, a month or even a year. Thus, according to the authors, the study relies on participatory observation and is supported by a questionnaire. In cases like this [2] consider the questionnaire method to be improper to use because this method has the potential for considerable bias. The

reason is that by using a questionnaire in capturing qualitative data, there is the possibility that researchers are very bound and determined by the prejudices made by researchers through questionnaires, the consequence is that researchers can lead respondents to follow the thought format developed by researchers. Meanwhile, qualitative data as mentioned above, just waiting and observing. This kind of research commonly used by anthropologists, sociologists, and psychologists in observing human behavior.

#### **Research Variables and Indicators**

[20] say that the variables are nothing but a logical grouping of two or more attributes. Variables that will be measured in this study are independent variables (Independent Variable) and dependent variables (Dependent Variable). Free variables used are: Conventional Media and New Media while the dependent variable is the consumption of fruits and vegetables. All variables are described in indicators, then parameters are determined. According to [9], indicators are tools to convey information in a whole way through different ways (numbers, graphs, etc.) of a complex phenomenon that has broad meaning. In simple terms an indicator is something that can help someone understand where they are, where they are going and how far they are from where they are going. A good indicator will provide an early warning for problems to become worse and is also useful in recognizing what needs to be done. By looking at the indicators stated earlier, then the indicators are used as a basis for determining parameters. Parameter is a method or method used to measure indicators based on certain rules, for example using numbers and others.

Steven in [3] said that measurement is a number of objects or events based on certain rules. After a variable is known for its indicators and parameters have been set, then the parameters are numbered. Thus, according to [14] numbers become very important in quantitative analysis. Steven divides the level of measurement into four categories: nominal size, ordinal size, interval size, and ratio size.

#### **Definition of Operations**

1. Work is a productive activity whether commercial or not, carried out by someone aged 15 years and over according to the [4], where most of the time is used to work in earning income for at least one hour a week consecutively and uninterrupted according to the size of [4]. The work is good as civil servants, traders, entrepreneurs, farmers, etc.
2. Income is the total money received by the family from all members who work and get wages through both main and side jobs which are calculated in rupiah per month
3. Education is formal education that is taken for several years by family members
4. Consumption of fruits and vegetables is the consumption pattern of the community consisting of frequency of eating fruits and vegetables, eating habits of fruits and vegetables, meal times, fruits and vegetables, priority in the distribution of fruits and vegetables to all family members, every day, every week, and each month.
5. Money resources are resources that have exchange rates that can be used as transaction instruments for food and non-food through market mechanisms. In addition, money can also be used as a measure of human resources such as knowledge, skills, and behaviors that are realized in the form of salary or wages.
6. Communication is a process of delivering information between members of the community both in economic activities, domestic activities and social activities

7. BPS poverty indicator [5] is a classification of poor families based on income of Rp. 168,111 cap / month for the city of Bogor and Rp. 130,972 / cap / month for Bogor regency

8. The BKKBN poverty indicator [4] is a classification of pre-prosperous families (Pre-KS) and prosperous families I (KS I) based on the fulfillment or non-fulfillment of welfare indicators.

9. Indicators of poverty in food expenditure classifying poor households based on the percentage of food expenditure, which is categorized as poor if it is greater than or equal to 50 percent of food expenditure and not poor if it is less than 50

10. The indicator of poverty of community perception is the classification of poor families based on subjective opinions or interpretations.

11. Poverty is a state of inability of an individual or family to meet their basic needs (World Bank)

12. Welfare is an effort to escape from all pressures, difficulties, hardships, and disturbances to achieve a relatively sufficient condition, where these conditions can be achieved through various resources such as: age, number of family members, physiology, work, income, access to financial institutions, food and non-food expenditure, education, and regional policy.

#### **Processing and data analysis**

##### **Data Processing**

Data processing is done in three ways, namely: (1) editing data through a questionnaire, (2) entering data into sheets (books) manually, (3) entering data into computers. Data editing is done in the field by researchers after the data has been collected from field. Specifically for qualitative data, the editing process is carried out in the field by field officers at night after the data is collected during the day, if things are found that need to be checked again accompanied by the researcher. For quantitative data, edits are discussed together between researchers and field workers at weekly meetings, data editing activities should not be delayed, because data will accumulate. After the questionnaire was declared to have passed the editing process, it was then handed over to the computer officer. The data entry process is carried out through the following steps:

- a. Editing data
- b. Data coding
- c. Entering data into the computer (data entry)
- d. Data cleaning by looking at the frequency distribution of each variable. If there is an error entering data into the computer, recheck is done to the questionnaire
- e. Data entry is done through three facilities: first, data entry via Micro Excel which according to [22] is actually better before being analyzed through the SPSS Version 18. The analysis results are submitted to researchers for discussion after a file copy is made via Universal Serial Bus (USB) then transferred to the author's computer for discussion through the Microsoft Word (MW) program.

##### **Data Analysis**

###### **a. Flow Model Analysis**

The design of the flow model was taken by applying content analysis techniques by data reduction, data display, and conclusions / verification simultaneously [10] The Data reduction is defined as the selection process, focusing on simplification, abstracting, and rough data transformation that from field notes, then which dimensions and indicators are coded, discarded, composited, and summarized in that the final conclusions can be drawn and verified to give the possibility to draw conclusions. The presentation data used in narrative texts

is the core of the analysis in this research which is supported by the presentation in tables and images.

**b. Regression Analysis**

Regression analysis is useful for predicting how far the influence of one or several independent variables on dependent variables. The influence between variables can be seen from how much the correlation coefficient between variables, which can distinguish into (1) Direct correlation (positive correlation) that is change in one variable followed by another variable regularly with the same direction of movement, (2) Inverse correlation (negative correlation) that is a change in one variable followed by another variable regularly with the opposite direction of movement, (3) Zero correlation that is the direction of relations between the two irregular variables [16] Based on the above, Multiple Regression with Variable Dummy can be used in this research with the formula:

$$Y = \alpha + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6 \dots\dots\dots(1)$$

**c. Analysis of Consumption Recall**

Analysis Data on consumption of fruits and vegetables was obtained through the 24-hour consumption method for the public consumption of fruits and vegetables in a da

The Advantages of the 24-hour Recall method:

1. It is easy to implement and does not overload the respondents
2. The cost is relatively cheap, because it does not require special equipment and a large place for interviews.
3. Fast, so it can cover many respondents.
4. Can be used for illiterate respondents.
5. Can provide a real picture that is truly consumed by individuals so that nutrient intake can be calculated a day.

The Weaknesses of the 24-Hour Recall method:

1. Unable to describe daily food intake, if only one day is recalled.
2. The accuracy is very dependent on the memory of respondents. Therefore, respondents must have good memory, so the method is not suitable for children under 7 years old, parents over 70 years old and people who have lost their memories or forgetful people.
3. The flat slope syndrome, which is the tendency for thin respondents to report more consumption (overestimate) and for obese respondents tend to report less (underestimate).
4. Requires personnel or officers who are trained and skilled in using URT assistive devices and the accuracy of the tools used according to people's habits
5. Respondents must be motivated and explain the purpose of the research.
6. To get an overview of daily food consumption recall, do not be done at harvest, market day, weekend day, during religious ceremonies, salvation, etc. [8]

**d. Sensitivity and Specificity Analysis**

To test whether the data obtained from respondents have reliability and validity, two test indicators were used. They were testing sensitivity and specificity that saying the validity or accuracy of the data can be observed by sensitivity and specificity. Sensitivity is a measure by seeing and recognizing cases of degenerative diseases according to the symptoms experienced by the sufferer, whereas Specificity of specificity is a measure with a view and recognizing cases that are not degenerative diseases [12]

**RESULTS AND DISCUSSION**

**RESULTS**

**Definition of Conventional Media and New Media**

Mass media is a disseminator of information to the public about everything that happens (Rachmat, 2005). One of the conventional media is newspapers. Newspapers are the oldest mass media compared to other types of mass media. The existence of newspapers began since founding a printing press by Johannes Gutenberg in 1609 in Germany [1]. In addition, communication media since humans are born are individual media, group media, and public media. Individual media is individual approach of a nutrition counselor who must know the factors or motivation that exist in people's lives through dialogues, discussions, seminars, workshops and scientific meetings planned by an individual towards society. Media Group is a planned method of conversation between three or more people to discuss a particular topic. People media is a role play method that is characterizing a situation in human life for material analysis of a group to better understand the problems being discussed and useful for changing attitudes through plays, songs, and fables [13].

New media is a disseminator of information to the public about various local, regional, national and international events through electronic media. The Indonesian Internet Service Providers Association (APJII) revealed that the number of internet users in 2013 reached 71.19 million, an increase of 13 percent compared to 2012 which reached around 63 million users. It was driven by the increased use of mobile devices in the form of smartphones and Wi-Fi networks. More attention is given to the emergence of the internet as news media through Android, HP, Computer and Laptop communication devices [7]. Besides New Media, TV and Radio are also known as electronic media that can be seen and heard by the public about everything.

**Frequency of Public Communication by Mass Media.**

The results showed 25.8% used newspapers, 22.5% used books, and 8% used banners. They can be seen in the table

Table 1. Using of Mass Media by Society

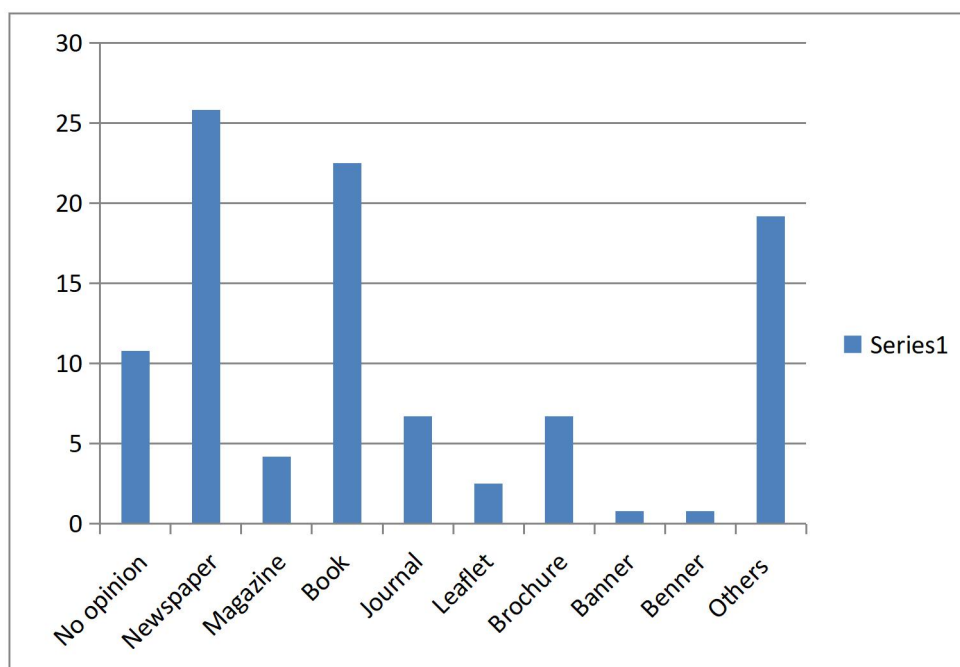
No	Types of Mass Media	Media Users	
		n	%
1	No opinion	13	10.8
2	Newspaper	31	25.8
3	Magazine	5	4.2
4	Book	27	22.5
5	Journal	8	6.7
6	Leaflet	3	2.5
7	Brochure	8	6.7
8	Banner	1	0.8
9	Benner	1	0.8

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10	Others	23	19.2
Total		120	100,0

In addition to the data shown in table 1 above, it is also shown data in graphical form so that the high and low development of data on Using of Media by Society can be seen. The data in graphical form as shown in Figure 3 below. Figure 3 shows that 25.5 percent of people use mass media Newspaper uses mass media, and 22.5

percent use Book. Meanwhile, as much as 2.5 percent use leaflets, and 6.7 percent use journals and brochures. The use of benner mass media is the lowest, that is 0.8 In general, the most widely used media by the public is Newspaper. In full can be seen in Figure 3 below



Gambar 3. Using of Mass Media by Society

### Community Communication Frequency by Individual Media

The results of the research showed 55.8% used discussion, \ 26.7% used dialogue, and 8% use seminars. They can be seen in the following table

Table 2. Individual media use by the community

No	Types of Mass Media	Media Users	
		n	%
1	No opinion	16	13.3
2	Dialog	32	26.7
3	Discussion	67	55.8
4	Seminar	1	.8
5	Workshop	2	1.7
6	Scientific Meeting	2	1.7
Total		120	100,0

In addition to the data shown in table 2 above, it is also shown data in graphical form so that the high and low development of data about Individual media use by the community can be seen. The data in graphical form as shown in Figure 4 below. Figure 4 shows that 55.8 percent individually used the Discussion forum, 26.7

percent individually used the dialogue forum. Meanwhile, as many as 1.7 percent individually use the Workshop and Scientific Meeting forums. In general, Discussion and Dialogue forums are more widely used by individuals compared to other forums. In full can be seen in Figure 4 below



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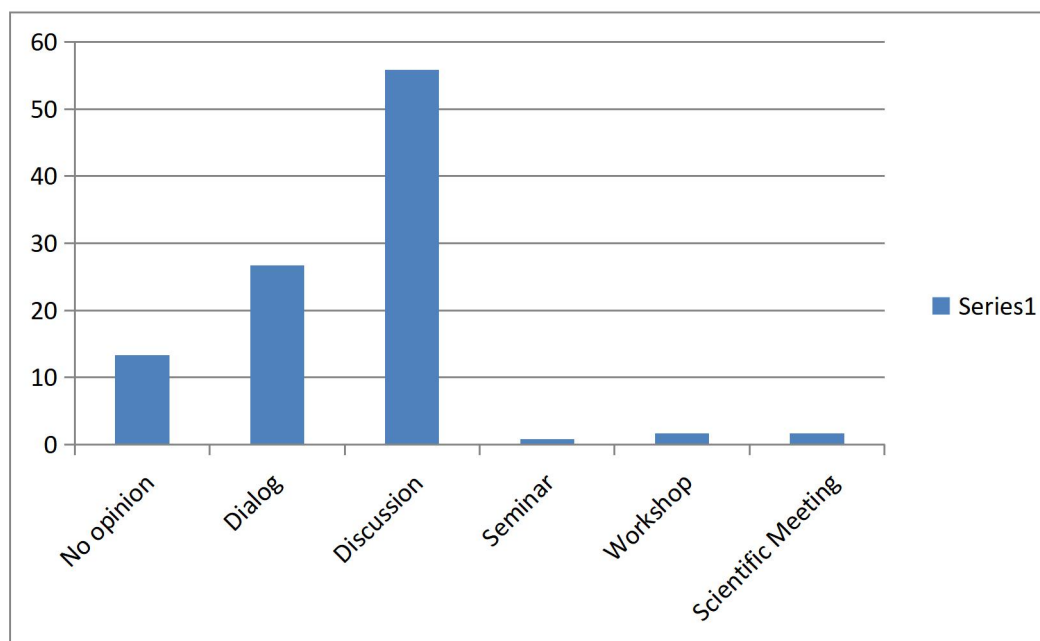


Figure 4. Individual media use by the community

### Community Communication Frequency by Media Groups

The results of the research showed 30.8% used lectures, 41.7% used group discussions, and 3.3% used demonstrations. They can be seen in the table.

Table 3. Community Media Usage of Groups

No	Types of Mass Media	Media Users	
		n	%
1	No opinion	20	16.7
2	Lecture	37	30.8
3	Demonstration	4	3.3
4	Group discussion	50	41.7
5	Others	9	7.5
Total		120	100,0

In addition to the data shown in table 3 above, it is also shown data in graphical form so that the high and low development of data about Community Media Usage of Groups can be seen. The data in graphical form as shown

in Figure 5 below. Figure 5 shows that 30.8 percent more used Lecture and 41.7 percent used Group discussion. Meanwhile, as much as 3.3 percent through Demonstration. In full can be seen in Figure 5 below

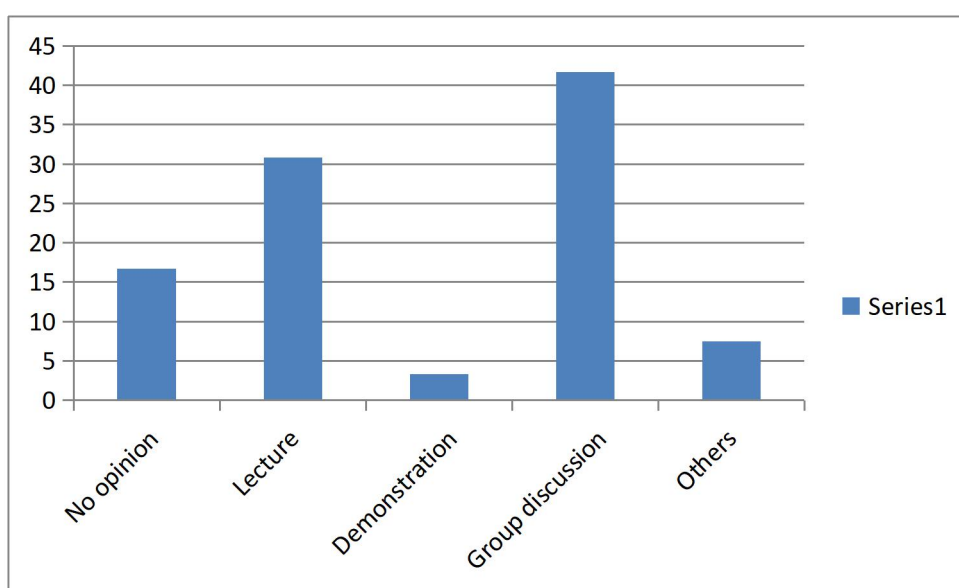


Figure 5. Community Media Usage of Groups

### Frequency of Communicating Communities by People Media

The results showed 13.3% used singing, 7.5% used plays, and 2.5% used fairy tales. They can be seen in the following table

## The Impact of Mass Media and Food Consumption

Table 4. Community Media Usage

No	Types of Mass Media	Media Users	
		n	%
1	No opinion	74	61.7
2	Plays	7	5.8
3	Theater	9	7.5
4	Song	16	13.3
5	Fairy tale	3	2.5
6	Others	11	9.2
Total		120	100,0

In addition to the data shown in table 4 above, it is also shown data in graphical form so that the high and low development of data about Community Media Usage is known. The data in graphical form as shown in Figure 6 below. Figure 6 shows that 13.3 percent through Song,

7.5 percent through Theater and 5.8 percent through Plays Meanwhile, as much as 2.5 percent through Fairy tale. In general, the song is more widely used by the community when compared to other forums. Complete can be seen in Figure 6 below

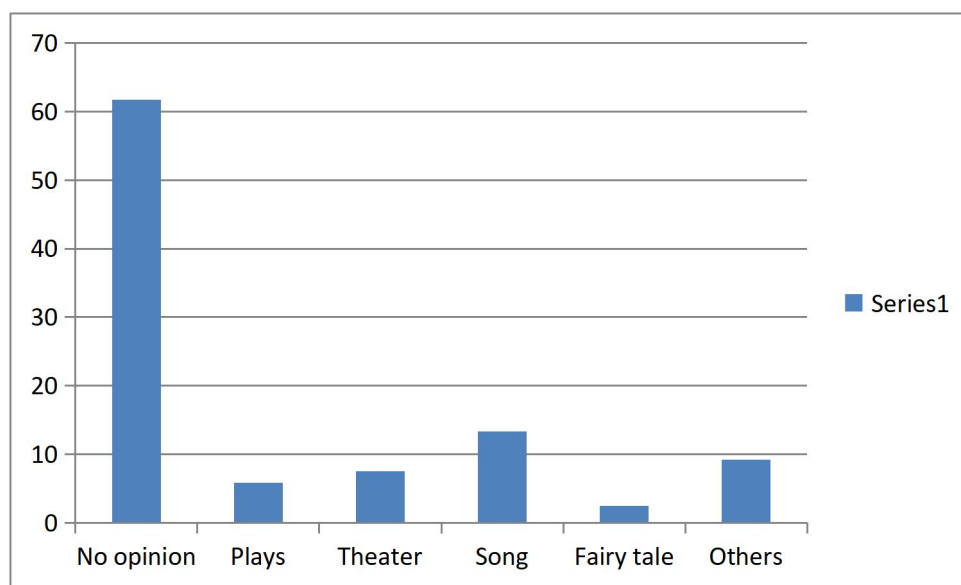


Figure 6. Community Media Usage

### Frequency of Community Communication by New Media

The results showed 40.0% used Android, 37.5% used TV, and 8% used BBM and Youtube. They can be seen in the following table

Table 5. New Media Usage by Society

No	Types of Mass Media	Media Users	
		n	%
1	No opinion	9	7.5
2	TV	45	37.5
3	Radio	2	1.7
4	Website	3	2.5
5	Android	48	40.0
6	Cellphone	7	5.8
7	Internet	4	3.3
8	BBM	1	0.8
9	Youtube	1	0.8
Total		120	100,0

In addition to the data shown in table 5 above, it is also shown data in graphical form so that the high and low development of data on New Media Usage by Society can be seen. The data in graphical form as shown in Figure 7 below. Figure 7 shows that 40.0 percent used Android,

37.5 percent used TV. Meanwhile, as much as 0.8 percent use Youtube and BBM, 3.3 percent use internet and 1.7 percent use radio. In general, more people use Android and TV ... More can be seen in Figure 7 below

## The Impact of Mass Media and Food Consumption

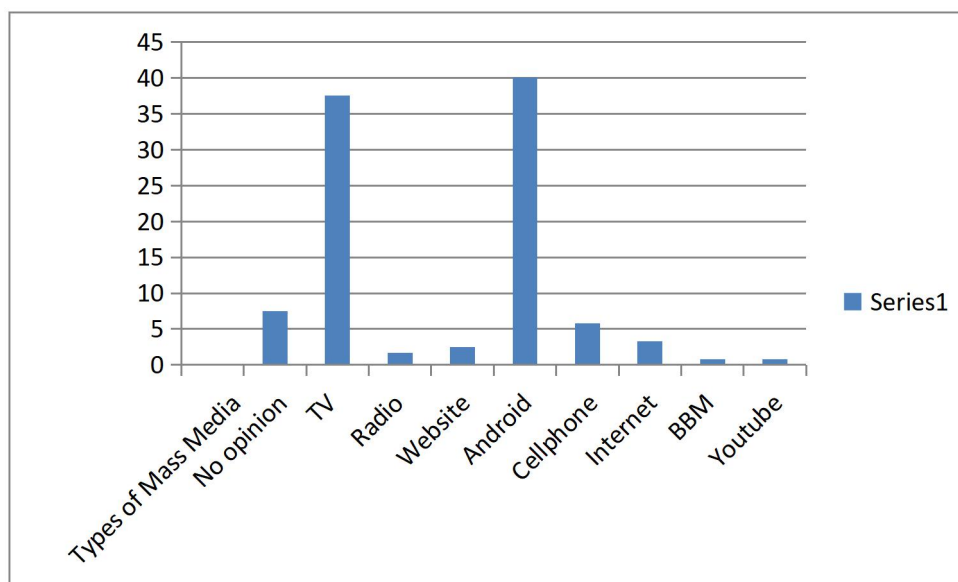


Figure 7. New Media Usage by Society

Indonesia is faced with a double burden. They are the problem of infection that has not been resolved and the new problems like degenerative diseases, so the role of mass media is important to convey messages to the public to prevent preventive problems of infection and degenerative diseases. This effort can be done by the Communication, Information and Education (IEC)

program to prevent and combat degenerative diseases that have become a health problem for Indonesian people [23]

### Daily Fruit Consumption by the Community

The results showed 15.8% consumed sweet oranges, 10.8% consumed apples, and 10.0% consumed avocado. They can be seen in the table

Table 6. Fruit consumption by the community

No	Types of Fruits	Daily consumption	
		n	%
1	Not consume	27	22.5
2	Lawyer	12	10.0
3	Apple	13	10.8
4	Strawberry	1	.8
5	Acid Cook in Trees	2	1.7
6	Butter Fruit (Bisbul)	1	.8
7	Hamlet	1	.8
8	Erbis	2	1.7
9	Water apple	1	.8
10	Guava	1	.8
11	Sweet orange	4	3.3
12	Sweet Orange (Orange Juice)	19	15.8
13	Lime	4	3.3
14	Kedondong Cook	11	9.2
15	Kemang	1	.8
16	Mangga Harum Manis	1	.8
17	Mangosteen	1	.8
18	Papaya	1	.8
19	Ambon banana	6	5.0
20	Plantain	6	5.0
21	Salak	1	.8
22	Watermelon	2	1.7
Total		120	100,0

### Consumption of Vegetables Every Day by the Community

The results showed 16.7% consumed spinach, 6.7% consumed onions, and 8% consumed andewi, garlic, long

bean leaves, basil leaves, sweet potato leaves, papaya leaves, taro leaves, Chinese banana leaves, cucumber, water pumpkin, melinjo, mustard greens and salada. Complete can be seen in the following table

Table 7. Consumption of Vegetables by the Community



## The Impact of Mass Media and Food Consumption

No	Types of Vegetables	Daily consumption	
		n	%
1	Not consume	6	5.0
2	Endive	1	.8
3	Spinach	20	16.7
4	Red Spinach	2	1.7
5	Baligo	2	1.7
6	Onion	8	6.7
7	Red onion	4	3.3
8	Garlic	1	.8
9	Bengkoang	2	1.7
10	Wasteful Laja	4	3.3
11	Bean	5	4.2
13	Big Green Chili	7	5.8
16	Big Fresh Red Chili	6	5.0
17	Cayenne pepper	7	5.8
18	Leek	6	5.0
19	Long Bean Leaves	1	.8
20	Basil leave	1	.8
21	Sweet Potato Leaves	1	.8
22	Papaya leaf	1	.8
23	Chinese Pete Leaf	1	.8
24	Taro leaves	1	.8
25	Gambas	6	5.0
26	Kale	2	1.7
27	Kapri	2	1.7
28	String bean	4	3.3
29	Long beans	1	.8
30	Katuk	5	4.2
31	Cucumber	1	.8
32	Pumpkin Water	1	.8
33	Melinjo	1	.8
34	Leek	2	1.7
35	Mustard	1	.8
36	Salada	1	.8
37	Toge	4	3.3
38	Carrot	2	1.7
Total		120	100,0

Eating vegetables and fruit can prevent degenerative diseases. According to doctors and observers of the lifestyle of Grace JudioKahl, the content of phytonutrients in vegetables and fruit has tremendous benefits for the body, one of which prevents degenerative diseases or diseases that accompany the aging process. Phytonutrients can help reduce the risk of degenerative diseases such as coronary heart disease and hypertension. The world health organization recommends consuming 400 grams of vegetables and fruit a day. Meanwhile, Indonesians only consume 57.1 grams of vegetables and 33.5 grams of fruit per day. There are also content of phytonutrients lycopene, ellagic acid, quercetin, and

hesperidin which are beneficial in reducing the risk of prostate disease, reducing blood pressure, reducing tumor growth, and cholesterol levels and supporting tissue growth in cases of arthritis [21]

### Effect of Socio-Economic Factors, Demographics, Consumption of Fruit and Vegetables on Disease

To find out the correlation are between socioeconomic factors, demographics and consumption of fruits and vegetables used quantitative analysis by multiple regression with Dummy Variables. they can be seen in the analysis

#### Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.363 <sup>a</sup>	.132	.086	1.587

a. Predictors: (Constant), vegetables, education, fruit, number of jobs, employment, income

#### ANOVA<sup>b</sup>

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	43.316	6	7.219	2.866	.012 <sup>a</sup>

## The Impact of Mass Media and Food Consumption

Residual	284.676	113	2.519		
Total	327.992	119			

a. Predictors: (Constant), vegetables, education, fruit, number of jobs, employment, income

b. Dependent Variable: disease

**Coefficients<sup>a</sup>**

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.309	1.267		2.613	.010
	education	-.415	.117	-.334	-3.535	.001
	work	-.126	.159	-.072	-.793	.430
	income	.000	.002	-.034	-.368	.714
	number of families	-.008	.096	-.007	-.081	.936
	fruit	.031	.364	.007	.084	.933
	vegetable	.232	.733	.028	.316	.753

a. Dependent Variable: disease

### Interpretation

#### Model Summary Table

a. In the table it can be seen the value of the correlation coefficient (R) of 0.363 showed a very strong relationship. Determination coefficient (R<sup>2</sup>) of 0.086 means that variations in the size of degenerative diseases 13.2% were caused by education, employment, income, number of members, consumption of fruits and vegetables there were 86.8% causes of unknown variations

b. Adjusted R Square is a correlation of R<sup>2</sup>, so the picture is closer to the quality of assessment of adjusted R<sup>2</sup> population models as formulated

$$\text{Adjusted } R^2 = 1 - (1 - R^2) \left[ \frac{n-1}{n-1} \right]$$

Where:

n = number of samples

k = number of parameters

$$\text{Adjusted } R^2 = 1 - (1 - 0.132) \left[ \frac{120-1}{120-7} \right] = 0.086$$

#### The Anova Table

From the ANOVA table it can be seen  $F_{\text{count}}$  2.866.  $F_{\text{table}}$  0.05 (6; 113) is 2.18. Because  $F_{\text{count}}$  is greater than  $F_{\text{table}}$  or see its probability (Sig) which is smaller than the significance level (0.12 < 0.05), it can be concluded that the equation model

$Y = \alpha + b_1X_1 + b_2X_2 + b_3X_3 + b_4X_4 + b_5X_5 + b_6X_6$   
submitted can be accepted.....(2)

#### The table Coefficients t test is performed to test the regression significance of each independent variable.

Hypothesis:

-H<sub>0</sub>: The independent variable has no effect not significantly on the dependent variable

-H<sub>a</sub>: Independent variable has a significant effect on the dependent variable

Decision-making:

-If  $-t_{\text{table}} < t_{\text{count}} < t_{\text{table}}$  then H<sub>0</sub> is accepted

-If  $t_{\text{count}} < -t_{\text{table}}$  or  $t_{\text{count}} > t_{\text{table}}$  then H<sub>0</sub> is rejected

Decision:

$-t_{\text{table}}$

t<sub>0.05</sub> with free degree (n-k)

Where:

n = sample number 120

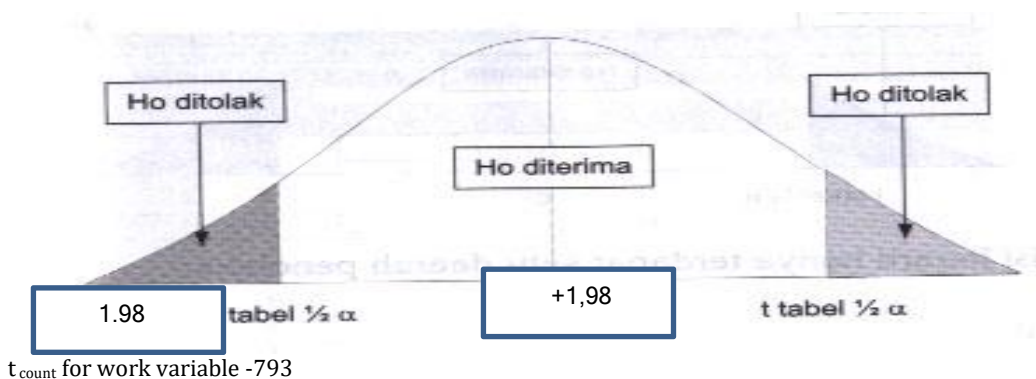
k = number of independent and dependent variables = 7

Because the test is done on two sides then t<sub>table</sub> with  $\alpha$  0.025

$t(0,025; 113) = 1,980$

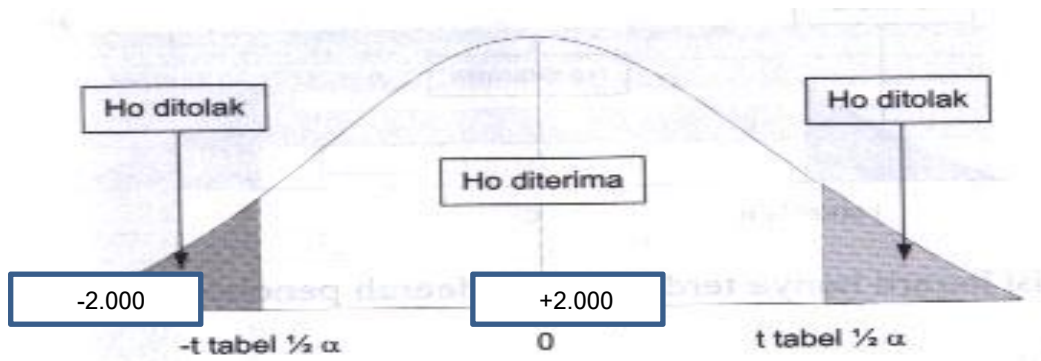
$t_{\text{count}}$  for respondent's education variable -3,535

Therefore,  $t_{\text{count}} < -t_{\text{table}}$  then H<sub>0</sub> is rejected, meaning that the respondent's educational influence is significant for degenerative diseases



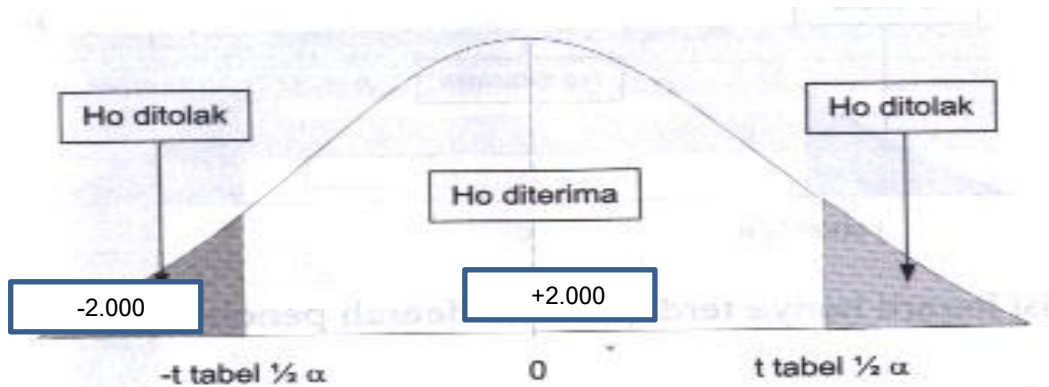
## The Impact of Mass Media and Food Consumption

Because  $t_{\text{count}} < t_{\text{table}}$  then  $H_0$  is rejected, meaning that the influence of respondent's work is significant on degenerative diseases



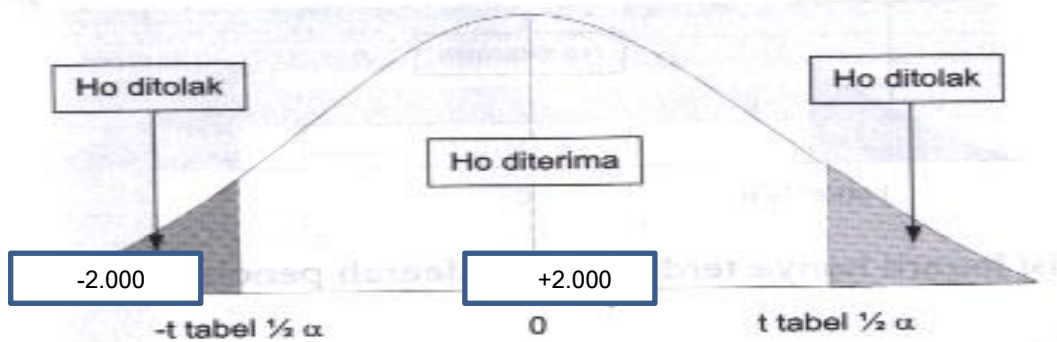
$t$  count for income variable -368

Therefore,  $t_{\text{count}} < t_{\text{table}}$  then  $H_0$  is rejected, meaning the influence of respondents' income is significant for degenerative diseases



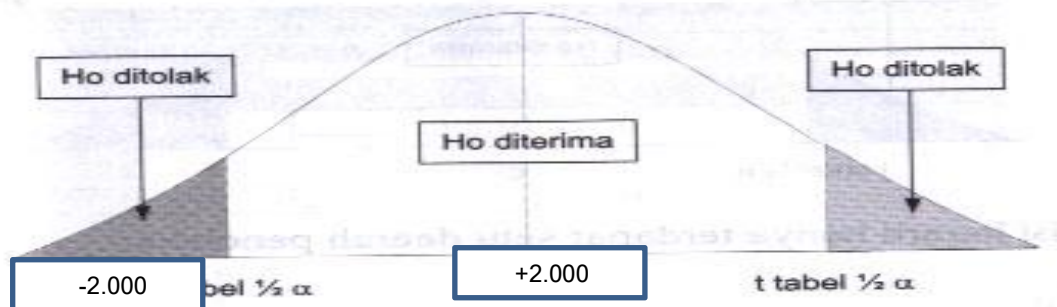
$t_{\text{count}}$  for the variable number of families -081

Because  $t_{\text{count}} < t_{\text{table}}$  then  $H_0$  is rejected, meaning the influence of a significant number of families on degenerative diseases



$t_{\text{count}}$  for variable consumption of fruit 084

Therefore,  $t_{\text{count}} < t_{\text{table}}$  then  $H_0$  is rejected, meaning that the effect of fruit consumption is significant on degenerative diseases

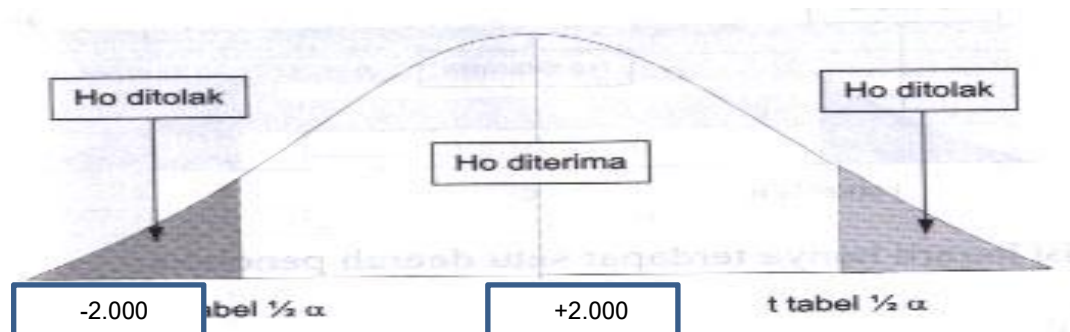


$t_{\text{count}}$  for variable consumption of vegetables 316

## The Impact of Mass Media and Food Consumption

Therefore,  $t_{count} < t_{table}$  then  $H_0$  is rejected, meaning the effect of significant vegetable consumption on degenerative diseases

With the backward method, the variables that are not significant will be eliminated (excluded), but the influence of all variables is significant so that no variable is excluded from the equation.



#### 4. Equations

$$Y = 3,309 + 415 X1 + 126 X2 + .000 X3 + 008 X4 + .031 X5 + .232 X6 \dots\dots\dots(3)$$

Where:

- Y = Degenerative Disease
- X1 = Education
- X2 = Work
- X3 = Income
- X4 = Number of Families
- X5 = Fruit Consumption
- X6 = Vegetable Consumption

#### Degenerative Disease, Symptoms, Causes, Diagnosis and Treatment

Degenerative disease is a health condition causes tissue or organs to deteriorate over time. There are a number of different types of degenerative diseases associated with aging or worsen during the aging process. The cause has not yet been identified, but thanks to the advancement of imaging, genetic, biochemical, and biological cells, scientists have been able to identify the similarities of many similarities in degenerative diseases. Some types of degenerative diseases are cancer, diabetes, atherosclerosis, muscular dystrophy, parkinson's disease, and osteoporosis disease (www.hharga.net/faq/6648.degenerative disease). Cancer is a disease that occurs because of the buildup of free radicals in the body.

Diabetes disease is the body's inability to control insulin and glucose levels in the body. Atherosclerosis is a condition caused by the accumulation of cholesterol and plaque in the arteries and blood vessels. Muscle Dystrophy Disease is a genetic disease that is characterized by a disorder that is able to weaken the skeletal muscles progressively. Parkinson disease is a disease that causes movement disorders. Osteoporosis is a degenerative disease that occurs because the bones in our body begin to be brittle [6]

The results showed 20.0% suffered from degenerative diseases, but 80.0% did not suffer from generalized disease or Missing System. In detail they can be seen in the table

Table 8. Number of people with Degenerative Disease

No	Type of disease	Sufferers	
		n	%
1	Cancer	2	1.7
2	Diabetes	3	2.5
3	Atherosclerosis	4	3.3
4	Muscle Dystrophy	8	6.7
5	Parkinson's disease	3	2.5
6	Osteoporosis	4	3.3
Total		24	20.0
MissingSystem		96	80,0
Total		120	100,0

#### DISCUSSION

##### a. Comparison of Previous Research and Current Research

Previous research was conducted [21] limited to consuming vegetables and fruits to prevent degenerative diseases. The results showed that the content of phytonutrients in vegetables and fruit has tremendous benefits for the body, one of which prevents degenerative diseases or diseases that accompany the aging process. Phytonutrients can help reduce the risk of degenerative

diseases such as coronary heart disease and hypertension. He said Indonesians only consumed 57.1 grams of vegetables and 33.5 grams of fruit per day. There are also content of phytonutrients namely lycopene, ellagic acid, quercetin, and hesperidin which are useful in reducing the risk of prostate disease, reducing blood pressure, reducing tumor growth, and cholesterol levels and supporting tissue growth in cases of arthritis (lifestyle.bisnis.com). Meanwhile, the researchers examined were the effectiveness of the implementation of

conventional media and new media and their impact on the consumption of fruits and vegetables to prevent degenerative diseases. This was a major concern because the people in Bogor City / Regency in particular and West Java in general are faced with infectious problems that are not resolved and new problems such as degenerative diseases, the role of conventional media and new media is important to convey messages to community to preventively prevent problems of infection and degenerative diseases by the intake of fruits and vegetables. This effort can be done by a nutrition education program to prevent and combat degenerative diseases that have become a public health problem in the Bogor City / Regency in West Java Province.

### b. Generalization of Research Results

The research cannot be generalized because the sample is limited to the City of Bogor and Bogor Regency of West Java Province, which it cannot be representative for Indonesia because Indonesia is a large and large country both viewed from the administrative region, the demographic aspects, and thousands of islands.

### c. Explanation of Alternatives

The process of degenerative body functions is a natural process of the human body that must be considered by everyone according to the word of God in Al-Qur'an Surah Al-Haji verse 5. Surah Yaasin verse 68. In the process, someone will be exposed to various chronic diseases such as cardiovascular disease, obesity, and diabetes mellitus. However, with a good lifestyle and food regulation, the risk of these diseases can be prevented. One of the risks in the disease is hypocheterolemia and dyslipidemia. These two conditions can be caused by excessive intake of foods containing fat and cholesterol, and the imbalance of carbohydrate, fat and fiber intake is also a risk of obesity and diabetes mellitus. All studies in medicine are evidence that the role of food regulation is very important, as in Al-Qur'an surah Al-Baqarah verses 168-172, and Surah Al-Isra verses 26-27 and surah Al\_A'raf verse 31 [11]

### d. Strong and Weak Aspects of the Research

A strong aspect of the research is the design of variables, dimensions, indicators and measurement tools, and through the research design, population determination and samples that meet the requirements, data types, data collection techniques, and techniques data analysis. and the weak aspect of the research is not to use a medical expert as a member of the study who directly observes and clinically checks a person who is suspected of suffering from a degenerative disease, besides, has limited research, including time, cost, multiplying variables and dimensions in this research .

### e. Practical Implications of Research Results

The practical implication of the results of the research is after a degenerative patient who is unable to go to an existing health facility is known. It can be helped to do free treatment through a government policy called a health card so that it can cure their illness.

### f. Advanced Research

Because of the limitations of time, energy and costs, it is necessary to have further research by increasing the variables and dimensions of research, so they can be generalized.

### g. Research Recommendations

To find out the sensitivity and specificity of degenerative diseases in Bogor City / Regency of West Java Province, the recommendations given to the regional government are to recruit a specialist doctor in each Public Health

Center to diagnose appropriately, degenerative diseases, then treat them exactly if the individual is positive for degenerative diseases .

### CONCLUSION

The results showed individual media 55.8% held discussions, 26.7% conducted dialogues, and 8.0% conducted seminars. This research also showed group media 30.8% used lectures, 41.7% used group discussions, and 3.3% used demonstrations. The results of the research showed the public media 13.3% used singing, 7.5% used the theater, and 2.5% used fairy tales. Furthermore, research showed new media 40.0% used android, 37.5% used TV, and 8.0% used BBM and youtube. The impact of the used of individual media, groups, people media and modern media can influence people's behavior to consume fruits and vegetables. The results showed 15.8% consumed sweet oranges, 10.8% consumed apples, and 10.0% consumed avocado. On the other hand the results of the study also showed 16.7% consumed spinach, 6.7% consumed onions, and 8.0% consumed andewi, garlic, long bean leaves, basil leaves, sweet potato leaves, papaya leaves, taro leaves, Chinese banana leaves, cucumber, water pumpkin, melinjo, mustard greens and salada.

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