ORIGINAL RESEARCH

ANALYSIS CORRELATION SOCIODEMOGRAPHICS ON THE LEVEL OF KNOWLEDGE AND ATTITUDE OF SOCIETY OF JAVA IN EFFORTS TO CONTROL THE COVID-19 OUTBREAKS

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ABSTRACT	Keywords
Background: *Corona Virus Disease 2019* (COVID-19) has been declared as a pandemic throughout the world, including in Indonesia, particularly in Java with the number of cases always increasing both confirmed and death cases**. Objective:** This study aims to identify the knowledge and attitudes of the people of Java Island related to socio-demographic characteristics (age, gender, education, and employment status) in efforts to control Covid-19. **Methods:** The design *cross-sectional* with 1,579 participants were selected by *simple random* sampling. Collecting data using a questionnaire assisted by the *google form* and shared to potential participants through social networking apps. The data were analyzed using the *chi-square* and *Pearson's correlation test.* **Results:** There are 1,579 respondents who participated, and predominantly were youths (57%), female (76%), bachelor (47.1%), and the Student (41%). A total of 1,008 respondents (64%) have good knowledge and 1,251 respondents (79%) have a positive attitude. The results of the test *chi-square* on the knowledge variable showed that there was a relationship between age ($p = 0.023$) and education ($p = 0.021$), while gender ($p = 0.359$) and work status ($p = 0.308$) had no relationship. In the attitude variable, the results of the test *chi-square* showed that the p-value between age ($p= 0.927$), gender ($p= 0.072$), education ($p= 0.140$), and work status ($p= 0.119$) had no relationship, but the knowledge and attitude turn out that there is a value of $p = 0.000 <0.05$ with a *confidence interval* of 95%. These results indicate a relationship between knowledge and attitudes towards efforts to control COVID-19. **Conclusion:** The majority of people on the island of Java are well-informed and have a positive attitude in efforts to control COVID-19. Further research needs to be carried out analysis related to government regulatory policies, information from various media with valid sources to reduce information bias so that public knowledge will be better which has an impact on positive attitudes to break the chain of the spread of Covid-19.	*Knowledge, Attitudes, Sociodemography, Covid-19*

INTRODUCTION

Corona Virus Disease has been declared a pandemic in the world, including in Indonesia. Coronavirus is one of the main pathogens that attack the human respiratory system. Before this outbreak, there were first outbreaks of *coronaviruses* (CoVs) including *Severe Acute Respiratory Syndrome* (SARS) -CoV and *Middle East Respiratory Syndrome* (MERS) -CoV which had previously been characterized as agents that pose a health threat to society (Al-Hanawi et al., 2020). At the end of December 2019 there was a patient diagnosed with pneumonia with an unknown etiology, thought to have originated from an animal wholesale market in Wuhan, Hubei province, China (Rothan & Byrareddy, 2020). From 18 December to 29 December 2019, five patients were treated with a diagnosis of *Acute Respiratory Distress Syndrome* (ARDS). From 31 December 2019 to 3 January 2020 cases increased to 44 cases. These cases have not only spread in China but also in several countries such as Thailand, Japan and South Korea (Susilo et al., 2020).

Since its appearance, the disease has shown symptoms similar to other acute respiratory disorders, the cause of which is known to the *Severe Acute Respiratory Syndrome Coronavirus 2* (SARS-CoV-2) which is hereinafter better known as Covid-19 (*Corona Virus Infection Disease* 2019) (Azlan et al., 2020). The course of this disease is still not widely known, but it is suspected that it is not much different from the course of the disease from other known respiratory viruses (Purnamasari and Raharyani, 2020). This virus when it enters the human body directly enters the respiratory tract which causes damage to the lung alveoli as a result of respiratory failure, but not a few people who are infected with Sars-Cov 2 experience mild to moderate symptoms in the respiratory tract that can heal on their own and don't even need special treatment, however, for groups of people with comorbid diseases such as cardiovascular, chronic respiratory diseases, diabetes, and cancer, if exposed, they can experience more serious problems (WHO, 2020) (Purnamasari and Raharyani, 2020). Further, a meta-analysis conducted by (Wang et al., 2020) identifying hypertension, diabetes, COPD, cardiovascular disease, and cerebrovascular disease as significant risk factors for COVID-19 patients. This is also supported by a Systematic review report conducted by (Gold et al., 2020) showing that of the total cases 40.80% had comorbid diseases including hypertension 47.65%, diabetes 24.89%, and respiratory disease had a higher prevalence in fatal cases compared to total cases.

Signs and symptoms that can be seen in general in people with Covid-19 infection are other symptoms of acute respiratory disorders such as coughing, fever, and shortness of breath. The latest symptom apart from that which is Anosmia, its a condition in which a person cannot smell anything. This situation can be temporary or permanent where the cause can be acquired or congenital. Anosmia can be considered as an unknown neurological symptom in COVID-19 patients. More than half of patients with COVID-19 experience anosmia. Eighty-four percent of patients exhibited odor and taste disorders. (Klopfenstein et al., 2020). The average incubation period is 5-6 days with the longest incubation period of 14 days. Severe cases of Covid-19 can cause pneumonia, acute respiratory syndrome, kidney failure, and even death. Clinical signs and symptoms that are reported in the majority of cases that occur are that the patient complains of fever, difficulty breathing (shortness of breath),

and the X-ray results show a large spot infiltrate pneumonia in the lung field. (Wulandari et al., 2020). Transmission can occurs through close contact and droplets. Preventive measures that can be taken are maintaining cleanliness by applying hand washing, using soap or a hand sanitizer, avoiding touching the eyes, nose, and mouth, implementing coughing and sneezing ethics by covering the nose and mouth with the upper inner arm. Wear a mask and keep a distance (at least 1 meter) from other people. (Wulandari et al., 2020).

Indonesia is the fourth most populous, and a developing country in the world, thus it is expected to suffer greatly and over a longer time. (Yanti et al., 2020). The positive case of Covid-19 that occurred in Indonesia was first detected on March 2, 2020, when two Indonesian Citizens (WNI) who were confirmed as Covid-19 started from an event in Jakarta where the sufferer came into contact with a japanese foreigner who lives in Malaysia. After the meeting, the patient complained of fever, cough, and shortness of breath (WHO, 2020). (Yanti et al., 2020). Based on WHO data, the number of cases continues to increase to reach 14,348,858 confirmed cases and 603,691 cases died. Meanwhile, the number of cases in Indonesia, especially on the island of Java until the third week of July 2020, namely Banten 1,682 (1.9%), DKI Jakarta 16,899 (19.2%), DI Yogyakarta 438 (0.5%), West Java 5,548 (6, 3%), Central Java 7,286 (8.3%) and East Java 18,545 (21.0%) of the total national cases. Related efforts to reduce the transmission process and prevent the addition of the number of new cases, on March 31, 2020, the government issued Government Regulation Number 21 of 2020 concerning large-scale social restrictions (PSBB) and socializing the movement *social distancing*. This explains that to reduce or even break the chain of the spread of Covid-

19, one must maintain a safe distance from other humans of at least 2 meters, and not make direct contact with other people and avoid mass gatherings (Putri, 2020).

The regulation allows local governments to restrict the movement of people and goods both enter and exit in a region but for particular reason certain parties are conditioned to enter the area with a permission letter. The regulation also states that there are restrictions on activities such as school holidays (learning is carried out online), the workplace (*Work From Home*), restrictions on religious activities (worship at home), and restrictions on activities in public places or facilities such as cafes, markets, malls and so on. The Covid-19 pandemic has a social and economic impact. Indonesia has attempted to control and break the Covid-19 chain by implementing and making applicable regulations but in this case, it is not only the role of the government and the role of health workers that must be carried out but awareness from the public to heed the calls of the government and health workers and raise awareness. themselves to prevent the spread of Covid-19 (Yanti et al., 2020). The health protocol from WHO and the Indonesian Ministry of Health will not work if the community is not equipped with good knowledge and attitudes. There needs to be intensive socialization and health promotion efforts so that there are cognitive, affective, and psychomotor changes in the community in efforts to control COVID-19 (Muhmmad Saqlain et al., 2019) (Utami, Mose, 2020). Individuals when facing this pandemic situation have various responses, this depends on how the individual perceives and processes existing information. In general, the cognitive process begins when receiving information about Covid-19, the individual will find out what Covid-19 is, the impact it causes, the characteristics of the person

exposed, and so on. All available information, both positive and negative, will be processed in the brain and produce a cognitive response in the form of an assessment of that information. This process produces information that will be used to understand the social world or is called social cognition (Taylor, et al. 2009) (Agung, 2020).

In general, each individual is very adept at accessing information through social media. Social media has a high potential to spread information about Covid-19 if it is used appropriately and responsibly to provide effective and fast dissemination of information. Social media also does not cost a lot or is free so this is a good opportunity to optimize information to increase people's knowledge. (Chan et al., 2020). Data collection in this pandemic era can take advantage of various kinds of social media. Research from (Abdelhafiz et al., 2020) resulted in an average knowledge score of 16.39 out of 23 obtained mainly through social media as much as 66.9%, and the internet 58.3%. According to (Ali et al., 2020) *Facebook is* an effective social media platform and can be a cost-saving research strategy for collecting large-scale survey data in the middle of an ongoing pandemic such as Covid-19.

Considering that the largest number of Covid-19 cases in Indonesia are in Java, efforts to prevent and control Covid-19 infection in the community are important things to do. To support this program, tracing the knowledge and attitudes of the people, especially the people of Java, is important to determine a strategy for health promotion and education that is still by the conditions of the community. Knowledge regarding the Covid-19 disease is very basic and important so that the number of cases does not increase. A person's knowledge about Covid-19 can be interpreted as the result of knowing about disease, understanding the disease, ways of prevention, treatment, and its complications (Mona, 2020) in ('Atiqoh, NSari & Sholihah, 2020). Knowledge plays an important role in determining complete behavior because knowledge will form perceived beliefs, in reality, provide a basis for decision making and determine behavior towards certain objects (Novita et al., 2018) in ('Atiqoh, NSari & Sholihah, 2020) so that it will affect someone is behaving. The formation of a new behavior begins in the cognitive domain, which means that the subject knows in advance about the stimulus which can be material, information, or external objects, giving rise to new knowledge and will be formed in attitudes and actions. ('Atiqoh, NSari & Sholihah, 2020). Based on this, research related to knowledge and attitudes associated with the sociodemography (age, gender, education, and employment status) of the people of Java Island to control COVID-19 is important to do. Furthermore, this study will analyze the correlation between the sociodemographic aspects of the people of Java on the level of knowledge and attitudes in efforts to control the COVID-19 outbreak and to get an overview regarding knowledge and attitudes so that in the future efforts can be made to prevent and handle the right according to community conditions.

METHOD
Study Design

Quantitative research is used to achieve the objectives of this study. The survey involves a large population so that approach is *cross-sectional* considered the most appropriate for gathering information about Covid-19 in Java. The sample in this study amounted to 1,579 respondents spread across Java and selected using *simple random sampling*. Data collection using a

questionnaire assisted by the program *google form*. Data analysis was performed univariate and bivariate (test *chi-square*). This research was conducted from May 8 to July 10, 2020.

Ethical Approval

Before the study, was obtained *ethical clearance* from the Health Research Ethics Commission of Aisyiyah University Yogyakarta with No.1628 / KEP-UNISA / V / 2020. Participants who agree and are willing to become participants voluntarily will fill out the form available online.

Recruitment Procedure

The sampling procedure was carried out from May 8, 2020, to July 10, 2020, so that 1,579 samples were obtained which were widespread in Java. Data collection using questionnaire *online* compiled using *Google Form*. Questionnaires are distributed online using applications *social media* such as *Whatsapp*, *Facebook,* and *Instagram* to prospective respondents either directly or intermediary for other respondents.

Study Instrument

This research instrument is a questionnaire adopted from the Zhong questionnaire (Zhong et al., 2020) and then modified by using several reference sources and then tested for validity and reliability. The questionnaire consists of 1) Sociodemographic aspects that include data such as age, gender, education, and employment status: 2) Knowledge Aspects consisting of thirteen items with answer choices, namely "True" "False" and "Don't know". The items in the knowledge questionnaire, namely point 1 are in the "True" option on the items with the numbers 1,3,4,5,7,8,10,11 and 13 and point 1 is in the "Wrong" option with the number 2,6, 9, and 12 so that if the respondent has good knowledge, the maximum score that can be obtained is 13 points. 3). The third questionnaire is about the attitude aspect which consists of ten items with answer options, namely "Agree" "Disagree" and "Don't Know". In the items in the attitude questionnaire, point 1 is in the "Agree" option on items numbered 1 to 10, so that if the respondent has a positive attitude the score obtained is 10 points.

Statistical Analysis

The data were analysed using SPSS (Statistical Package for Sosial Science) version 22.0. the distribution of respondetns' characteristics analysed using the Chi-Square test, while the correlation between knowledge and attitudes among respondents in control the Covids was analysed by using Pearson's Correlation test.

RESULTS

Demographic characteristics

This study evolved 1,579 respondents who completely fulfiled and submitted the questionnaire. The socio-demographic characteristics of the respondents include age, gender, educational level, and occupational status. The study found that around 57% (905) of respondents were 18-25 yo of group of age, 76% (1196) were female, 47,1% (744) were bachelor graduated, and 29% (461) who work as private workers.

Table 1.Frequency Distribution of Individual Sociodemographic Data

Variable	Frequency	Percentage (%)
Age of Group		
Adolescents (18-25 years)	905	57%
Adults (26-45 years)	616	39%
Seniors (46-65 years)	58	4%
Gender		
Male	383	24%
Female	1196	76%
Educational Level		
Junior high school	9	0.6%
Senior high school	340	21.5%
Diploma	258	16.3%
Bachelor	744	47.1%
Master	202	12.8%

Doctorate	21	1.3%
Unattended school	5	0.3 %
Employment Status		
Students	646	41%
Civil Servant	236	15%
Private Employee	461	29%
Entrepreneur	66	4%
Housewife	75	5%
Unemployment	95	6%

Table 2. Sociodemographic correlation analysis (age, gender, education, and occupation) Knowledge in efforts to control Covid-19

Variable	Knowledge				Total		P
	Good		Poor				
	n	%	n	%	n	%	
Age of Group							
Adolescents (18-25 yo)	553	35	352	22	905	57	0.023
Adults (26-45 years)	413	26	203	13	616	39	
Elderly (46-65 years)	42	3	16	1	58	4	
Total	1008	64	571	36	1579	100	
Gender							
Male	237	15	146	9	383	24	0.359
Female	771	49	425	27	1196	76	
Total	1008	64	571	36	1579	100	
Educational Level							
Junior high school	5	0, 32	4	0.25	9	0.57	
Senior high school	202	12.79	138	8.74	340	21, 53	0.021
Diploma	182	11, 53	76	4, 81	258	16.34	
Bachelor	462	29, 26	282	17, 86	744	47, 12	
Master	135	8, 55	67	4, 24	202	12, 79	
Doctorate	18	1.14	3	0.19	21	1, 33	
Unattended school	4	0.25	1	0, 06	5	0, 32	
Total	1008	63.84	571	36.16	1579	100	
Employment Status							
Students	394	25.0	252	16.0	646	40.9	
Civil Servant	161	10.2	75	4.7	236	14.9	0.308
Private Employee	304	19.3	157	9.9	461	29.2	
Entrepreneur	42	2.7	24	1.5	66	4.2	
Housewife	50	3.2	25	1.6	75	4.7	
Unemployment	57	3.6	38	2.4	95	6.0	
Total	1008	64%	571	36%	1579	100	

Table 3. Sociodemographic correlation analysis (age, gender, education, and occupation) Attitudes in efforts to control COVID-19

Variable	Attitude				Total		P
	Positive		Negative				
	n	%	n	%	n	%	
Age of Group							
Adolescents (18-25 years)	715	45	190	12	905	57	0.927
Adults (26-45 years)	489	31	127	8	616	39	
Elderly (46 -65 years)	47	3	11	1	58	4	
Total	1251	79	328	21	1579	100	
Gender							
Male	291	18	93	6	383	24	0.072
Female	960	61	236	15	1196	76	
Total	1251	79	329	21	1579	100	
Education							
Junior high school	9	0.57	0	0	9	0 , 57	
Senior high school	272	17.23	68	4.31	340	21.53	0.140
Diploma	214	13.55	44	2.79	258	16.34	
Bachelor	569	36.04	175	11.08	744	47.12	
Master	167	10.58	35	2.22	202	12.79	
Doctorate	16	1.01	5	0.32	21	1.33	
Unattended school	4	0.25	1	0.06	5	0.32	
Total	1251	79.23	328	20.77	1579	100	
Employment Status							
Students	523	33,12	123	7.79	646	40.91	
Civil Servant	191	12.10	45	2.85	236	14.95	
Private Employee	362	22.93	99	6.27	461	29.20	0.119
Entrepreneur	54	3.42	12	0.76	66	4.18	
Housewife	54	3.42	21	1.33	75	4.75	
Unemployment	67	4.24	28	1.77	95	6.02	
Total	1251	79.23	328	20.77	1579	100	

Table 4. Correlation Analysis Between Knowledge and Attitudes In Effort Control of COVID-19

Variable	Correlation Coefficient	Value p
Knowledge-attitude	0.118 *	0.000

* Correlation significant at 0.01 level(2 tailed).

Predominantly respondents in adolescents the age of group who have good

knowledge which counted for 35% (553 respondents), and followed by adults by 26% (413 respondents) and elderly by 3% (42 respondents). The total respondents in good knowledge category reaching up to 64% (1008 respondents), while 36 % (571 respondents) who have poor knowledge on Covid-19 control and prevention-related issues.. Statistically data analysis shows that *p-value* = 0.023, its mean that, there is a relationship between age and knowledge in efforts to control Covid-19 (see Table 2). In attitude variable, there are 45% (715) of respondents have a positive attitude, while 12% (190) of them have a negative attitude on covid-19 control and prevention in adolescents of age of group. Further, the total respondents who have positive attitude were 79% (1251), and 21% (328) were have negative attitude. The results of the analysis show *p-value* = 0.927. Its mean that there is no relationship between age and attitude in efforts to control Covid-19.

In terms of gender, female was the majority respondents in this study which reckon for around 49% (771 respondents) and male around 15% (237 respondents) have good knowledge, moreover, the total respondents in good knowledge category was 64% (1008 respondents), while in poor knowledge category was the rest. The results of the analysis show that *p*-value was 0.359. The result shows that there is no relationship between gender and knowledge in efforts to control Covid-19. There are 61% (960) of respondents who have the positive attitude were female, in contrast 18% (291 respondents) in male. Both gender mixed and reached 79% who have positive attitude, 21% who have negative attitude in control of Covid-19. The analysis results show that the *p*-value =0.072. The interpretations means that there is no relationship between gender and attitudes in controlling Covid-19.

Respondents with good knowledge, in educational level category the study found that respondents with bachelor qualification was predominantly and calculated for 29.26% (462 respondents) while unattended school category just for around 0.25% or four respondents. The total respondents in good knowledge was 63,84% while the poor knowledge as the rest. The results of the analysis show that *p*-value =0.021. The analysis shows the relationship between educational level and knowledge in efforts to control Covid-19. In attitude variable, respondents who have a bachelor qualification has a positive attitude which reaching up to 36.04% (569 respondents) while the total of respondents who have a positive attitude was 79.23% (1,251 respondents), and those who have a negative attitude was 20.77% (328). The results of the analysis show that *p-value*= 0.140, it means that there is no relationship between education and attitudes in efforts to control Covid-19.

In employment status, students and private employees have good knowledge which reached for 25% (394), and 19.3% (304), respectively. The total respondents who have good knowledge was 64% (1008 respondents) while the poor knowledge at rest. The results of the analysis show that *p-value* =0.308, which interpretation that there is no relationship between employment status and knowledge in efforts to control Covid-19. While the total of respondents who have postive attitude based on employment status was 79.23% (1,251 respondents) and those who had a negative attitude were 20, 77% (328 respondents). The students was the largest group who have positive attitude, it was 33.12% (523 respondents) and 7,79% (123 respondents) for negative attitude. The results of the analysis show *p*= 0.119> 0.05, which means that there is no relationship between

employment status and attitudes in efforts to control Covid-19. In Table 4, the results of the analysis show p = 0.000 <0.05 with a value with a *confidence interval* of 95%, so it can be assumed that there is a relationship between the knowledge and attitudes of the Javanese people in efforts to control Covid-19.

DISCUSSION

In this discussion, the researcher will first review the results of the respondents' answers regarding the knowledge and attitudes questionnaire. In the knowledge questionnaire, 13 questions have been answered by each respondent so that the score obtained by 1,579 respondents is done on average so that it is found that the average score of knowledge is the *mean* 9.82 which is the basis for determining which category the respondent has. good and bad knowledge. Respondents with a score of <9.82 stated that knowledge was not good and respondents with a score> 9.82 stated that they had good knowledge. In the attitude questionnaire, there are 10 questions and the scores from each respondent are averaged so that the value is *mean* 8.98 so that a category can be determined if the value <8.98 the respondent is declared to have a negative attitude and> 8.98 is stated to have a positive attitude. The results obtained on the knowledge variable were 1,008 respondents with good knowledge and 571 respondents with poor knowledge. The results of this knowledge are then correlated with sociodemographic data, namely age, gender, education, and employment status.

Attitude*(Attitude)*is an evaluation or feeling reaction. A person's attitude towards an object is a feeling of support or partiality or a feeling of not supporting or not taking sides with the object (Berkowitz in (Sya'baniah et al., 2019). Attitudes are feelings, beliefs, and tendencies of relatively

sedentary behavior. Social attitudes are generated by social interaction Through social interaction, individuals show certain attitudes towards the psychological objects they encounter (Sya'baniah et al., 2019). Various factors can influence attitudes such as personal experiences, culture, information, educational institutions or religious institutions, as well as emotional factors in There is a change in attitude when data can be understood, accepted, and approved (Anwar, 1988 in (Fuadi Fathurrohman, Sudaryanto Agus, 2016).

According to Sarwono 2000 (Mahampang, 2016) attitudes can be defined as a person's readiness to act in a particular way towards This attitude can be positive and negative. In a positive attitude, a tendency action is approaching, liking, expecting certain objects while a negative attitude is hating or disliking certain objects. So it can be concluded that attitude is a reaction to conditioned social stimuli and is a feeling, belief, and relatively settled behavior tendency. Two factors can influence the formation of an attitude, first, people can easily receive information (knowledge), secondly thinking about a problem can increase the tendency to form attitudes (Albarracín et al., 2001 in (Fuadi Fathurrohman, Sudaryanto Agus, 2016). According to Azwar 2013 (Mahampang, 2016) factors that influence attitudes include personal experience, the influence of other people who are considered important, the influence of culture, mass media, educational institutions, religion, and the influence of emotional factors. The results show that sociodemography does not affect attitudes. negative and positive attitudes of individuals and it is proven by the results of research from the sociodemographic data studied, namely age, gender, education, and work, the results showed that there was no relationship between sociodemography and

one's attitude towards efforts to control Covid-19. In the variable age $p= 0.927 > 0.05$, gender $p= 0.072 > 0.05$ education $p= 0.140 > 0, 05$ and job $p= 0.119 > 0.05$.

Knowledge is a human self-awareness that is obtained directly from life. An individual knowledge comes from the learning process, attitudes, and behavior through training and teaching that can be obtained from the individual and community education levels and the media is also influential in being able to provide information to the public (Kast and Rosenzweig, 2003) in (Fuadi Fathurrohman, Sudaryanto Agus, 2016). Another definition of knowledge is a prerequisite for building confidence in prevention, forming positive attitudes, and promoting positive behavior and individual cognition and attitudes towards disease affect the effectiveness of coping strategies and behaviors to some extent. (Erdian, 2009).

Age and knowledge variables show a relationship between age and knowledge. The age range of 12-25 years, according to the Ministry of Health, is the early-late adolescence which is the productive age, this age can access the latest information about Covid-19 from anywhere. A person's age can affect a person's perceptive power and mindset, the older the person will be, the more his comprehension and mindset will develop so that his knowledge will be better (Suwaryo & Yuwono, 2017). Until now, the dissemination of information about Covid-19 has been very effective, information can be accessed on platforms *social media*, television, radio, and other media. So that if people can access and absorb information correctly, knowledge will increase which will also lead to a positive attitude. This is evidenced by the results of the analysis of knowledge and attitudes, namely $p = 0.000 < 0.05$, which means that there is a relationship between knowledge and attitude.

The better the knowledge, the more positive a person's attitude will be so that the public can contribute to efforts to control Covid-19 by complying with established health protocols, for example wearing a mask, doing *physical distancing*, washing hands using a *hand sanitizer* when hands are clean and washing hands with soap and water. when hands feel dirty, ethics coughs sneeze, avoid crowds or gatherings, and so on. This is by research from Pengesti 2012 in (Suwaryo & Yuwono, 2017) that the productive age is the age that plays the most role and has dense activities and has good cognitive abilities so that at this age it influences the level of knowledge. This is also in line with Indiantoro 2009 in (Suwaryo & Yuwono, 2017) that age begins to be calculated at the time of birth until the next few years. The more old a person is, the more mature the person is from the way of working and thinking. This also affects the cognitive which affects the comprehension and mindset, so it can be concluded that the older you get, the more your comprehension and mindset will develop so that the knowledge will be better. At a productive age, the age range of 20-25 years, individuals will usually play an active role in social and social life. This is in line with the theory expressed by Notoatmojo in (Monintja, 2015), which is that the higher a person's age, the more knowledge they have. As for age and attitude, the results of the study show that there is no relationship between age and attitudes of the people of the island of Java.

Based on the research results, it was found that gender had no relationship with the knowledge of the people on the island of Java about Covid-19 with a value of $p= 0.359 > 0.005$. Gender differences can form different perceptions between women and

men so that they affect their attitudes and knowledge. It is often a matter of debate about whether men and women are different in making decisions and cognitive (Suwaryo & Yuwono, 2017). No literature explains that men or women have different levels of knowledge or cognition. Women are indeed more diligent, diligent, and conscientious when given a task or doing something, but this does not explain and shows that with such an attitude women have a better level of knowledge or cognition. (Suwaryo & Yuwono, 2017). This is also in line with the theory issued by Notoatmojo in (Monintja, 2015) that gender does not affect someone's knowledge, while at the educational level the results of the research show that the level of education has a relationship with the level of knowledge with a value of $p = 0.021 < 0.05$. People who have taken higher levels of education have broader experiences and insights that have an impact on one's cognitive (Suwaryo & Yuwono, 2017).

Education is one of the community organizing efforts to improve health. The level of education that is less supportive can lead to low environmental awareness, the better the level of formal education so that it will mature understanding of knowledge related to environmental health and awareness of maintaining a healthy lifestyle (Juntra et al., 2020). The higher the level of education, the easier it will be to receive information so that the more experience they have (Carter, 2011), in this case, especially the Covid-19 control efforts which aim to break the chain of spreading the Sars CoV-2 virus. Education is an important factor in everyday life and the level of education will affect a person's perception of cognition and also affect the level of reasoning so that it can be said that someone highly educated will also have high and good reasoning too.

This study shows that there is no significant relationship between education and public knowledge in Java about the prevention of Covid-19. This is because the knowledge obtained by people with low education regarding the transmission of Covid-19 is not only from formal education but from their own experiences and the community (Wulandari et al., 2020). This research is in line with research conducted by Sholihin (Muzni 2019) which shows that there is a significant relationship between recent education and the level of knowledge, this is evidenced by the test *chi-square* which shows a significant value of $p = 0.001$. In the work variable, it was found that there was no relationship between work and knowledge with value $p= 0.308 > 0.05$. Whatever the job, if the respondent gets a lot of information about Covid-19 from anywhere. This is in line with research from Wulandari 2019 which states that there is no relationship between work and public knowledge in South Kalimantan about the prevention of Covid-19 because the number of respondents who work and do not work with low knowledge of Covid-19 prevention is almost the same. According to Rahayu 2010 in (Monintja, 2015), one of the factors that can affect knowledge is job status. The work environment can make a person gain experience and knowledge, either directly or indirectly. According to Notoadmodjo (Monintja, 2015), someone who has good knowledge if not supported by a positive attitude that is shown will influence someone to behave. The domains of behavior are knowledge, attitudes, and actions (Rahman et al., 2017). So that in this study respondents who have a positive attitude towards COVID-19 control efforts can also be formed because they imitate other people, for example imitating friends or family, even if there is also a desire or a sense of concern if infected even though their knowledge is not good.

CONCLUSIONS

Based on the above research, the people on the island of Java as many as 1,579 respondents had good knowledge and had a positive attitude. Good knowledge if not supported by a positive attitude that is shown will influence someone to behave. The domains of behavior are knowledge, attitudes, and actions (Rahman et al., 2017). Information dissemination has been very incessant everywhere through various media. Respondents who have low knowledge and negative attitudes can be due to a lack of accurate information which can lead to confusion and difficulty ensuring correct information. Further research needs to be carried out analysis related to government regulatory policies, information from various media with valid sources to reduce information bias so that public knowledge will be better which has an impact on positive attitudes to break the chain of the spread of Covid-19.

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