



## Community Awareness for Screening Non-Communicable Diseases

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### Abstract

Non-Communicable Diseases (NCD), also known as chronic diseases such as hypertension, diabetes, and obesity, are from combined genetic, physiological, environmental, and behavioral factors. The number of NCD screening visits at Ngletih Public Health Center (PHC) Kediri decreased in 2018 was 29% and became 24% in 2019, with a target of 10,718 people. This study aimed to know the factors affecting community awareness for screening NCD. The respondents are people aged 15-59 years who live in the working area of Ngletih PHC and have never been diagnosed with hypertension, diabetes, and obesity. This research used an analytical observational study with a cross-sectional design. The number of samples taken is 1,000 with purposive sampling; then, respondents filled out 27 questionnaires self-administered. The data analysis was implemented univariate, bivariate using chi-square, and multivariate using multiple logistic regression. The chi-square test showed eight variables that increase awareness for screening NCD: age, gender, education level, marital status, family history, source of health information, knowledge, and attitude. The multiple logistic regression tests showed five factors that increase awareness for screening NCD: age, gender, marital status, sources of health information, and knowledge. The dominant factor affecting community awareness for screening NCD is a source of health information ( $p=0.023$ ;  $OR=4.353$ ;  $CI=1.220-15.537$ ).

### Introduction

Non-Communicable Disease (NCD), also known as a chronic disease that tends to last longer, results from a combination of genetic, physiological, environmental, and behavioral factors. The main types of NCD are hypertension, diabetes, and obesity (WHO, 2018). Death rates caused by NCD continue to increase worldwide, with a disproportionate number of distributions and an increasing trend compared to 2013 data (Gowshall & Taylor-Robinson, 2018). NCD dominates mortality rates in Indonesia. It is caused by changes in the environment, technology, and lifestyle, resulting in changing disease patterns in Indonesia. Based on Riskesdas in 2018, the prevalence of hypertension among people aged 18 years and over increased from 25.8% to 34.1%. In addition, the obesity prevalence

at 18 years old and over increased from 14.8% to 21.8%. Prevalence of diabetes mellitus aged 15 years and over initially increased by 6.9% to 10.9% (Jenderal Pencegahan dan Pengendalian Penyakit Direktorat Pencegahan dan Pengendalian Penyakit Tidak Menular, 2019).

There is a trend of increasing coverage of early detection of NCD risk factors from 2016 was 14,85% and became 60,79% in 2020 in Indonesia (Soewondo et al., 2021), but the number of visits to screen NCD at Ngletih PHC in 2019 is the fifth rank out of nine PHC in Kediri. The number of visits screen blood pressure, blood sugar, and nutritional status for screening NCD at Ngletih PHC have declined in the last two years, from 3173 people (29% in 2018) to 2595 people (24% in 2019), with the target 10,718 people aged 15 to 59 years. This figure is still far from the achievement target of

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100%, so there is still a 76% gap (Ngletih Public Health Center Performance Assessment, 2019).

The increasing incidence of NCD and the decreasing number of NCD screening visits require essential interventions so that public awareness of carrying out NCD screening increases, especially for at-risk groups. The need for interventions to increase public awareness can begin after identifying the factors that affect public awareness of health screening. Previous research has shown that several factors can encourage patients regularity visiting health facilities. The study used variable age, gender, education level, marital status, and occupation (Chung et al., 2017). Another study on similar factors used the health knowledge variable (Huang et al., 2016). Other studies use family history (Yen et al., 2017) and attitude as variables (Buang et al., 2019). At the same time, another study uses a health information source variable (Amankwah-Poku, 2019). However, in some of these studies, the factors that affect community awareness for screening hypertension, diabetes, and obesity are examined separately, for a prolonged period, and stand-alone. With the diversity of previous studies, the authors took the initiative to research by combining factors that affect community awareness for screening NCD that will be applied according to the health center program that is screening for hypertension, diabetes, and obesity in people with a range of age 15-59 years. It is packaged quickly to help Ngletih PHC determine the following work program that increases NCD screening visits.

## Method

This research is an analytical observational study with a cross-sectional design. The study was conducted in the working area of the Ngletih PHC Kediri with an estimated time of one week. The sample is people aged 15-59 years. Who fulfilled the inclusion and exclusion criteria, totaling 1000 samples using the purposive sampling technique. The inclusion criteria were all males or females aged 15-59 years who lived in the working area of Ngletih PHC Kediri, were willing to be respondents in this study and had never been diagnosed with hypertension, diabetes mellitus, and obesity. The exclusion criteria were residents

of the working area of Ngletih PHC who lived unsettled, had psychiatric disorders, and were not willing to become respondents.

The instrument used in this study was a questionnaire. The questionnaire is in the form of closed-ended questions in a dichotomous choice used to obtain data on the independent variables: knowledge and attitudes toward health screening for NCD. Questionnaires were distributed to 30 respondents to test for validity using the "product moment" correlation technique and reliability using the Alfa Cronbach Formula. The questionnaire was completed by the sample data, including age, gender, occupation, recent education, marital status, family history, and sources of health information. The questionnaire used closed questions totaling twenty questions. The first four questions are about awareness, the following eleven questions are about knowledge, and the last five questions are about attitude.

Independent variables assessed by the questionnaire included gender divided into males and females. Age variables, namely 15-29 years, 30-44 years, and 45-59 years. Educational variables, namely elementary, junior high, high school, and undergraduate. Marital status variables, namely married, unmarried, widower, or widow. The family history variable, namely those with a history and no history. Occupation variables are divided into work and not work. Information source variables are divided into newspapers, places of education, the internet, friends, neighbors, family, health facilities, or posters. In addition, another independent variable is the level of knowledge, where knowledge is the result of knowing and understanding hypertension, diabetes, and obesity with limited problems (understanding, etiology, symptoms) (Jongen et al., 2019). This study is divided into good, moderate, and poor knowledge. Then the attitude variable, where attitude is the way respondents think and behave towards illness (Kassahun & Mekonen, 2017) divided into good attitudes and poor attitudes. The dependent variable of this study is the level of awareness. The awareness level is a conscious and awake state. Focuses on health goals by carrying out routine checks (blood pressure, blood sugar, nutritional status). (Direito et al.,

2017). It is divided into good awareness and poor awareness. (Tarkang et al., 2017) (Direito et al., 2017) (J. Lu et al., 2017) (Neelakandan et al., 2018) (Ojo & Review, 2015) (Teo et al., 2016) (Yen et al., 2017)(Qurieshi et al., 2016)(Alsous et al., 2019)(Buang et al., 2019) (Amankwah-Poku, 2019).

In the flow of data collection, respondents filled out questionnaires by researchers from door-to-door to community homes adjusted according to the inclusion and exclusion criteria of the study. Data was analyzed univariately to determine the characteristics of data. Bivariate data analysis used the chi-square test to determine the relationship between variables. Then multivariate data analysis used the multiple logistic regression test to determine the most influential independent variables. Data were analyzed using SPSS for windows version 23. The ethical clearance number is 503/0190/

PENELITIAN419.104/2020, obtained from the Kediri Single Window for Investment.

## Result and Discussion

This research took time in March 2020 with several respondents, 1,000 people aged 15 to 59 years and respondents who had never been diagnosed with diabetes mellitus, hypertension, and obesity in the Ngletih PHC Kediri area. Data were obtained from questionnaires filled out by respondents to determine the factors affecting community awareness to check blood pressure, blood sugar, and nutritional status. A total of 1,000 respondents have obtained characteristics based on age, gender, education level, occupation, marital status, family history, source of health information, knowledge, and attitudes. The respondents' characteristics can be seen in univariate analysis.

**Table 1.** Frequency Distribution of Respondent Variables

Variables	Categories	Total	Percentage
Age	15-29 years	308	30,8%
	30-44 years	403	40,3%
	45-59 years	289	28,9%
Gender	Male	320	32,0%
	Female	680	68,0%
Education	Elementary school	199	19,9%
	Junior high school	280	28,0%
	Senior high school	437	43,7%
	Bachelor	78	7,8%
	Magister	6	0,6%
Occupation	Unemployment	128	12,8%
	Employment	872	87,2%
Marital Status	Married	731	73,1%
	Unmarried	199	19,9%
	Widower	27	2,7%
	Widow	43	4,3%
Family history	Yes	300	30,0%
	No	700	70,0%
Source of Health Information	Newspaper	30	3,0%
	School	39	3,9%
	Internet	270	27,0%
	Friend	43	4,3%
	Neighbor	73	7,3%
	Family	75	7,5%
	Health center	443	44,3%
Knowledge	Poster	27	2,7%
	Good	639	63,9%
	Moderate	309	30,9%
Attitude	Poor	52	5,2%
	Good	932	93,2%
Awareness	Poor	68	6,8%
	Good	814	81,4%
	Poor	186	18,6%

Source: Primary Data, 2020

Based on table 1, the most number in the age variable is 30-44 years, 403 people (40.3%). In the gender variable, there are more female respondents than men, which are 680 people (68.0%). The education level variable is dominated by senior high school, 437 people (43.7%). There are 872 respondents in employment (87.2%) more than unemployed respondents in the occupation variable. The marital status variable is dominated by the married, namely, 731 people (73.1%). In the

family history variable, respondents who did not have a family illness were 700 people (70.0%). Respondents who obtain the source of health information variable indicate that the majority get information from health centers, 443 people (44.3%). The highest number of knowledge variables is respondents with good knowledge, 639 people (63.9%). The attitude variable with a good attitude is 932 people (93.2%), while the highest awareness variable is good awareness is 814 people (81.4%).

**Table 2.** Bivariate Test Results Factors affecting Awareness of Blood Pressure, Blood Sugar, and Nutrition Status Screening

Variables	Categories	Awareness		Total	P-value ( $p < 0,25$ )
		Good	Poor		
Age	45-59	263	26	289	0,000
		91,0%	9,0%	100%	
	30-44	331	72	403	
	15-29	82,1%	17,9%	100%	
		220	88	308	
Gender	Female	71,4%	28,6%	100%	0,001
		573	107	680	
	84,3%	15,7%	100%		
	Male	241	79	320	
		75,3%	24,7%	100%	
Education Level	Elementary school	153	46	199	0,001
		76,9%	23,1%	100%	
	Junior high school	213	67	280	
		76,1%	23,9%	100%	
	Senior high school	371	66	437	
		84,9%	15,1%	100%	
Occupation	Unemployment	72	6	78	0,354
		92,3%	7,7%	100%	
	5	1	6		
	Magister	83,3%	16,7%	100%	
		108	20	128	
	Employment	84,4%	15,6%	100%	
		706	166	872	
		81,0%	19,0%	100%	
Marital Status	Married	619	112	731	0,000
		84,7%	15,3%	100%	
	Unmarried	147	52	199	
		73,9%	26,1%	100%	
Widower	18	9	27		
	66,7%	33,3%	100%		
Family History	Widow	30	13	43	0,014
		86,0%	14,0%	100%	
	Yes	258	42	300	
	No	556	144	700	
		79,4%	20,6%	100%	

Source of Health Information	Newspaper	20	10	30	0,000	-
		66,7%	33,3%	100%		-
		21	18	39		-
	School	53,8%	46,2%	100%	-	
		198	72	270	-	
		73,3%	26,7%	100%	-	
	Internet	33	10	43	-	
		76,7%	23,3%	100%	-	
		59	14	73	-	
Neighbor	80,8%	19,2%	100%	-		
	60	15	75	-		
	80,0%	20,0%	100%	-		
Family	402	41	443	-		
	90,7%	9,3%	100%	-		
	21	6	27	-		
Health center	77,8%	22,2%	100%	-		
	571	68	639	0,000	-	
	89,4%	10,6%	100%		-	
216	93	309	-			
Knowledge	Moderate	69,9%	30,1%	100%	-	
		27	25	52	-	
		51,9%	48,1%	100%	-	
Bad	Good	774	158	932	0,000	-
		83,0%	17,0%	100%		-
		40	28	68		-
Attitude	Bad	58,8%	41,2%	100%	-	

Source: Primary Data, 2020

The results of the correlation data analysis using the Chi-Square test aimed to determine the relationship between respondent's characteristics with awareness in checking blood pressure, blood sugar, and nutritional status at Ngletih PHC Kediri. In table 2 the results of the bivariate chi-square test between independent variables and dependent variable found that age ( $\rho = 0,000$ ), gender ( $\rho = 0,001$ ), education level ( $\rho = 0,001$ ), marital status ( $\rho = 0,000$ ), family history ( $\rho = 0,014$ ), source of health information ( $\rho = 0,000$ ), knowledge ( $\rho = 0,000$ ), and attitude ( $\rho = 0,000$ ) have a significant relationship to awareness to check blood pressure, blood

sugar and nutritional status. The occupation variable ( $\rho = 0,354$ ) does not significantly correlate with the awareness to check blood pressure, blood sugar, and nutritional status. Multivariate analysis in this study is a logistic regression test used to measure how many influencing variables have significant value on the awareness to check blood pressure, blood sugar, and nutritional status in the previous bivariate analysis. The logistic regression test results showed that the most influential variable was the knowledge variable, with the highest Wald value, amounting to 51.861.

**Table 3.** Results of Multivariate Analysis with Multiple Logistic Regression Test

Variables	B	Wald	Sig.	OR	95% C.I.for EXP(B)	
					Lower	Upper
AGE		20,256	,000			
15-29 years	-1,505	19,220	,000	,222	,113	,435
30-44 years	-,502	3,483	,062	,605	,357	1,026
GENDER						
Female	-,574	7,348	,007	,563	,372	,853
EDUCATION LEVEL		25,497	,000			
Elementary school	-,256	,037	,847	,774	,057	10,422
Junior high school	-,708	,286	,593	,493	,037	6,599
Senior high school	-1,366	1,059	,303	,255	,019	3,440
Bachelor	-2,287	2,655	,103	,102	,006	1,590
MARITAL STATUS		21,193	,000			
Married	-1,356	10,609	,000	,258	,114	,583
Unmarried	-2,227	18,001	,100	,108	,039	,302
Widower	-,553	,774	,379	,575	,168	1,971
SOURCE OF HEALTH INFORMATION		44,377	,000			
Newspaper	,139	,041	,839	1,149	,302	4,364
School	1,471	5,134	,023	4,353	1,220	15,537
Internet	,581	1,133	,287	1,787	,613	5,206
Friend	,213	,102	,749	1,237	,335	4,565
Neighbor	-,649	1,052	,305	,523	,151	1,805
Family	-,057	,009	,926	,944	,283	3,152
Health center	-1,067	3,654	,056	,344	,115	1,027
KNOWLEDGE		51,861	,000			
Good	-1,746	25,876	,000	,174	,089	,342
Bad	-,477	1,940	,164	,621	,317	1,214
Constant	3,109	4,304	,038	22,396		

Based on table 3, there are five variables that have a significance value  $p < 0.05$ , such as age 15-29 years ( $p=0.000$ ;  $OR=0.222$ ;  $CI=0.113-0.435$ ), female gender ( $p=0.007$ ;  $OR=0.563$ ;  $CI=0.372-0.853$ ), marital status "marriage" ( $p=0.001$ ;  $OR=0.258$ ;  $CI=0.114-0.583$ ), sources of information at place of education ( $p=0.023$ ;  $OR=4.353$ ;  $CI=1.220-15.537$ ), and good knowledge ( $p=0.000$ ;  $OR=0.174$ ;  $CI=0.089-0.342$ ) so that the hypothesis of the influence of these variables on people's awareness to screen blood pressure, blood sugar, and nutritional status are accepted. Based on the formula of the logistic regression equation, is

$$y = \text{constant} + \alpha_1x_1 + \alpha_2x_2 + \dots + \alpha_ix_i$$

$$y = 3,109 - 1,505(1) (\text{age 15-29 years}) - 0,574(1) (\text{female gender}) - 1,356(1) (\text{marital status "married"}) + 1,471(2) (\text{source of health information from school}) - 1,746(1) (\text{good knowledge})$$

$$y = 0,87$$

whereas:

a: coefficient value of the variable

x: independent variable value

Probability is counted by the formula:

$$p = \frac{1}{1 + \exp[-(y)]}$$

whereas:

p = probability of awareness to screening blood pressure, blood sugar, and nutritional status

$$y = \text{constant} + \alpha_1x_1 + \alpha_2x_2 + \dots + \alpha_ix_i = 0,87$$

The formula is used to estimate the chance of awareness of screening blood pressure, blood sugar, and nutritional status based on age, gender, marital status, sources of health information, and respondents' knowledge. With the following example, if we want to know the estimated chance



of someone's awareness of screening blood pressure, blood sugar, and nutritional status when they are 29 years old, female, married, the source of health information from school, and good knowledge, then the calculation is:

$$p = \frac{1}{1 + \exp[-(0,87)]}$$

$$p = 0,705$$

So, if the respondent has all the variables above, the probability of screening blood pressure, blood sugar, and nutritional status is 70.5%. The results of data analysis on the age variable and the p-value were significant, which means there is a meaningful relationship between the variables of age with an awareness of the respondents to screen for NCDs such as hypertension, diabetes, and obesity. The research was conducted on three groups of age ranges and obtained results that respondents aged between 15-29 years old had more awareness than the age range of 30-44 years old and 45-59 years old. Due to age 15-29 years old, they had a reflection on the family or the people around the environment that have been diagnosed with hypertension, diabetes, and obesity that are not experiencing the same thing. It has been proven by the previous study that there is a relationship between knowledge, age, and awareness of health screens. Lack of knowledge about the nutritional status of older people results in a lack of awareness to balance the food they want and need (Ahn et al., 2018).

The results of data analysis on gender variables found that the p-value was significant, which means there was a significant relationship between gender and community awareness of screening blood pressure, blood sugar, and nutritional status. The percentage of respondents who were more aware was women than men. It was due to the number of female respondents, more than male respondents. Female is more concerned about issues related to health. Later this concern will build attitudes and awareness about health issues compared to men. It is in line with a previous study that found a statistically significant relationship between knowledge, attitude, and awareness of gender (Afkari, R. et al., 2016).

The results of data analysis on educational variables found that the p-value is significant.

There is a relationship between the respondents' education level and awareness of screening for NCD. The number of respondents have the most awareness of their high school education level. Most of the respondents in this study had a high school education level. At which the high school education level is a high level of education. At this level, think about health and curious that will later raise awareness about health. To be the most effective, the health education factor, trust, mutual respect, and communication become very important (Zhang et al., 2017).

The results of data analysis on the occupation variable found that the p-value was not significant. There was no relationship between occupation and community awareness for screening NCD. The percentage of unoccupied respondents but more aware than occupied ones can be because people prioritize their occupation over a health check if they are still in good health. In addition, it is also possible if a medical examination carried out around their home to take place during the same time during working hours. Another research supported the results that state no relationship between occupation with knowledge about diabetes mellitus (Qurieshi et al., 2016).

Between the marital status variable and the awareness, the p-value was significant. It means a relationship between an individual's marital status to screen NCD. Married respondents have the highest awareness level, and respondents with a widower marital status have the worst level of awareness. It revealed that respondents who already have a partner tend to be aware of routine health screens because they have someone who invites or motivates them to do a health screen compared to those still single or widowed. Married couples get positive family support that influences health screening (Rajati et al., 2019).

The variables of family history with the awareness show a significant association between family history of disease with respondents' awareness of NCD screening. People with a history of the disease in families that include hypertension, diabetes, and obesity predispose to find out whether it was revealed to them. People are screening for NCD as early as possible with an increased sense of curiosity.

It is in line with previous research that people with a family history of hypertension, diabetes mellitus, and obesity are more aware of their condition, so they screen for blood pressure, blood sugar, and nutritional status (Zhang et al., 2017).

The source of information variable with awareness had a significant relationship. The source of information can provide knowledge about an illness to understand it better and be more introspective about their health. Knowledge of hypertension is essential in the level of awareness to do blood pressure screening (Pirasath et al., 2017). To obtain this knowledge, respondents can find sources of information from anywhere, such as doctors from health service providers (health facilities), family or friends, social media, mass media, print, and video material. Educational strategies to help improve the current health situation include audiovisual communication. So video is a way of incorporating educational processes into everyday life, enabling new languages as alternative approaches to conventional education (Daun & Gambardella, 2018).

On the variable resources with awareness obtained, respondents who received information sources on diabetes mellitus from health facilities had the best awareness level, followed by information sources through neighbors and family. In the previous study, when respondents were asked about sources of information from which they gained knowledge about diabetes, participants responded that health workers (health facilities) were the largest source of information (Fallatah, 2018). Cultural adaptation, such as gathering information and the involvement of local communities in raising awareness, may play an essential role because it eliminates the negative relationship between the proportion of ethnic minorities and the effect of education on increasing knowledge (Li et al., 2019).

The knowledge variable has a significant value between respondents' knowledge and awareness to carry out NCD screens. This data analysis shows that most respondents with good knowledge are respondents with good knowledge. The results between knowledge and awareness variables obtained by respondents with good knowledge are directly proportional

to good awareness. These results concluded that knowledge is essential in community awareness to carry out blood pressure, blood sugar, and nutritional status screens. Increasing knowledge about hypertension, diabetes, and obesity increasingly makes people preventive before the disease attacks. Previous studies have shown a significant result in knowledge of hypertension related to blood pressure testing (Pirasath et al., 2017). An increase in knowledge about nutrition effectively raises awareness to carry out health screens, food intake, and a decrease in the number of illnesses due to obesity (Hamulka et al., 2018).

The attitude variable of this study obtained a significant relationship with the level of awareness for NCD screening. Research data shows that respondents with a good attitude toward the disease have a higher awareness level to screen blood pressure, blood sugar, and nutritional status. Previous studies showed a correlation between knowledge, attitudes, and behaviors related to routine health screens (Buang et al., 2019). Another research also states that a positive attitude includes being motivated to keep informed, do screening, or change lifestyles.

Multivariate analysis was performed by multiple logistic regression. The significant variable was age, especially in the group with an age range of 15-29 years, gender, especially women, sources of information, especially from places of education, marital status, and good knowledge. The knowledge variable with a good category is the most influential in this study. Increasing knowledge will increase community awareness of NCD screens. It is in line with other research, which states that knowledge significantly influences community awareness to screen blood pressure, blood sugar, and nutritional status (Gillani et al., 2018). In increasing community knowledge to conduct NCD screening with health promotion methods such as visuals (leaflets and flipcharts) which in research can improve quality of life scores and adherence to treatment (De-Souza et al., 2016; Sekhar et al., 2017); counseling as stated in the study (Murphy et al., 2016), education community-based health (workshops, health exhibitions, health groups for employees; Ozoemena et al., 2019; Dyal & Dolovich, 2016;



Eng et al., 2016; Misra et al., 2016) (Machado et al., 2016) (Proper & van-Oostrom, 2019) (Pearce et al., 2019) (C. H. Lu et al., 2015) audiovisuals such as TVs, computers, tablets, and smartphones with bluetooth that can display videos are very likely to increase patient knowledge about health (Berkhout et al., 2018; Li et al., 2019; Wahyuni et al., 2019; Abu-Abed et al., 2014; Cheung et al., 2017; Ramagiri et al., 2020; Chau et al., 2018; Gupta et al., 2020; Kang & Lee, 2019), Game-Based learning (Belogianni et al., 2019), social media in the form of blogs, facebook, twitter, web and youtube (Nour et al., 2017; Arunasalam & Balasubramanian, 2016; Daun & Gambardella, 2018; Klassen et al., 2018; Williams et al., 2014), etc.

Information sources mainly influence community awareness to screen blood pressure, blood sugar, and nutritional status. The source of information in education has a Wald value of 0.041. Interactive education workshops are an effective strategy in community-based health. Promoting educational programs for hypertensive patients can increase patient knowledge about hypertension and reduce risk factors to prevent hypertension-related complications (C. H. Lu et al., 2015). Although influential, the information source has a negative B (matrix parameter) value which means that every increase in the diversity of information sources will reduce community awareness of NCD screening.

Gender, especially women, is also a variable that influences community awareness in examining blood pressure, blood sugar, and nutritional status. It means that females are more aware of checking blood pressure, blood sugar, and nutritional status. It can also occur because, in this study, some female respondents answered more questions correctly than male respondents. Women are more aware of blood pressure tests because women are more associated with healthcare facilities than men, and psychological differences where women are more worried than men (Everett, 2015).

The age variable, especially in the 15-29 age group, has the most significant influence on community awareness of screening blood pressure, blood sugar, and nutritional status. Age has a wald value of 19,220, meaning that an increase in age does not significantly increase

community awareness to screen blood pressure, blood sugar, and nutritional status. These results are not in line with a previous study that older people are more influenced to participate in routine health screening (Amuta-Jimenez et al., 2018).

Marital status affects community awareness to screen blood pressure, blood sugar, and nutritional status. Every increase in marital status will raise community awareness of NCD screening. Participants who were not married or divorced tended to be less aware than married people. The most likely explanation for this is that married individuals are more likely to receive counseling from health professionals regarding their health problems than unmarried people (Mohammed et al., 2021). The limitation of this research is that there is no questionnaire about previous research, so the researcher must collect some data from previous research and then test the validity and reliability so that the questionnaire can be used.

## Conclusion

The study on community awareness of screening blood pressure, blood sugar, and nutritional status for screening NCD at Ngletih PHC Kediri results in five significant factors. The factors are age (15-29 years), female gender, marital status, sources of information at places of education, and good knowledge. It is hoped that the management development of the NCD program at Ngletih PHC Kediri provides routine counseling, invites community leaders to increase the participation of cadres, and expands the coverage of Pobindu-PTM to develop community awareness of NCD screening. Future studies are expected to find effective intervention methods to increase community awareness of NCD screening, such as visual methods (leaflets and flipcharts), focus group discussions, counseling, social media, community-based health education, audiovisuals, and game-based learning.

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