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KNOWLEDGE AND THE LEVEL OF ANXIETY TOWARDS THE WILLINGNESS OF THE ELDERLY TO RECEIVE THE COVID-19

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Abstract

Background: The willingness of the elderly to receive the Covid-19 vaccine is currently a problem because some elderly people refuse to vaccinate. This happened because of the spread of hoax news in various media regarding the side effects of vaccines and there was some information regarding people who died after being vaccinated and there were some people who did not believe in the existence of the Covid-19 virus, of course this was influenced by a lack of knowledge and the level of finance.

Purpose: This study aims to determine the relationship between knowledge and anxiety levels on the willingness of elderly people to receive the Covid-19 vaccine in the Lepo-Lepo Health Care Center in Kendari City.

Methods: This type of research is quantitative with a cross sectional approach. The research sampling technique used a cluster random sampling technique, totaling 92 respondents. The data analysis method uses the chi square test and gamma test .

Results: The results of the knowledge statistical test show that x2 count = 67.663 > x2 table = 3.8415 and the anxiety level test results are p = 0.000. The results of this study show that there is a relationship between knowledge and anxiety levels regarding the health of elderly people receiving the Covid-19 vaccine.

Conclusion: It is hoped that Puskesmas health workers can increase the knowledge of the elderly regarding the Covid-19 vaccine and can overcome the problem of anxiety levels felt by the elderly

Background

Coronavirus Disease, or more commonly known as Covid-19, is currently a global health issue that has garnered worldwide attention. On March 11, 2020, the World Health Organization (WHO) declared Covid-19 as a pandemic. A pandemic is an outbreak that spreads simultaneously across wide geographic regions. Covid-19 is a group of viruses that can cause respiratory infections ranging from the common cold and cough to Severe Acute Respiratory Syndrome (SARS) and Middle East Respiratory Syndrome (MERS) (Hutami et al., 2023) Globally, as of June 20, 2022, 222 countries have confirmed positive Covid-19 cases, with a total of 528,720,932 people affected and 6,287,246 deaths. The United States has the highest number of confirmed Covid-19 cases in the world, with 86,255,299 cases, followed by India with 43,319,396 cases. In Indonesia, as of June 20, 2022, there have been 6,069,255 confirmed Covid-19 cases with 156,695 deaths (BPPSDM Kesehatan, 2021).

After nearly three years of the pandemic, the government has implemented various measures to prevent the spread of the Covid-19 virus. These measures include maintaining social distance, simultaneous isolation protocols, work from home arrangements for office employees, alternating school attendance for students, promoting the importance of mask

usage, online learning for students, and, most recently, Covid-19 vaccination. The goal of vaccination is to reduce the transmission of Covid-19, decrease the illness and death rates associated with the virus, and achieve herd immunity (Kemenkes RI, 2021). Based on global vaccination data, as of now, 11,930,915,529 (61%) people have been vaccinated worldwide. Mainland China has the highest vaccination coverage, with 1,257,199,000 people (89.7%) vaccinated. Indonesia ranks fifth in the world in terms of Covid-19 vaccination coverage, with 417,522,347 people (62.9%) vaccinated. The government aims to vaccinate 208,265,720 people in Indonesia (Kemenkes RI, 2022).

Indonesia has prioritized senior citizens aged 60 and above as the second group to receive Covid-19 vaccination after frontline medical teams. This prioritization is due to the higher risk that the elderly face when it comes to the impact of Covid-19, including severe infections and death. Elderly individuals are considered vulnerable due to their weakened immune systems as they age. According to data, approximately 10.7% of confirmed positive Covid-19 cases come from the elderly, and 48.3% of Covid-19-related deaths are among the elderly. Currently, the willingness of the elderly to receive the Covid-19 vaccine is a concern, as some refuse vaccination due to a lack of knowledge about the vaccine (Kemenkes RI, 2021). Efforts to break the chain of Covid-19 transmission and administer Covid-19 vaccinations require comprehensive knowledge from all sectors, including the public. Knowledge is a crucial factor that can influence people's attitudes and behaviors, and greater knowledge about the vaccine is more likely to result in higher vaccination rates(Priyanto, 2018).

Lack of knowledge about the vaccine has led to reluctance among the elderly to get vaccinated. Furthermore, the circulation of hoax news about vaccine side effects in various media outlets, skepticism about the existence of the Covid-19 virus, and doubts about the vaccine's halal status, with some believing that vaccines are produced by foreign countries, have contributed to this reluctance(Febriyanti et al., 2021). Reports of deaths attributed to the Covid-19 vaccine and the emergence of health issues in some individuals after vaccination have also led to fear and anxiety among the elderly, making them hesitant to get vaccinated. Anxiety often arises when individuals face unpleasant situations (Suryaatmaja & Wulandari, 2020). Anxiety typically occurs due to unanswered questions, creating a sensitive and stressful condition that can affect an individual's decision-making process, presenting a significant challenge to the success of vaccination programs(Kemenkes RI, 2021).

Based on data from the Southeast Sulawesi Provincial Health Office, as of June 7, 2022, the total vaccination coverage for the elderly in the Lepo-lepo Health Center area includes 97,168 (61.77%) for the first dose, 66,206 (42.09%) for the second dose, and 7,265 (4.62%) for the third dose, with a target population of 157,296 (Southeast Sulawesi Provincial Health Office, 2022). In the city of Kendari, the first, second, and third doses of vaccination for the elderly, with a target population of 17,040 individuals, are administered as follows: first dose, 55.29% (9,471 individuals); second dose, 44.5% (7,636 individuals); and third dose, 11.33% (2,066 individuals) (BPS-Sultra, 2018). Data from Covid-19 vaccinations conducted at the Lepo-lepo Health Center in 2021 and 2022 show that for the elderly population, the first dose coverage is 21% (202 individuals), the second dose coverage is 16% (152 individuals), and the third dose coverage is 5.7% (54 individuals). The target population in the Lepo-Lepo Health Center's jurisdiction in 2021 was 1,146, indicating that approximately 944 elderly individuals in the Lepo-Lepo Health Center's service area have not yet been vaccinated(Puskesmas Lepo-lepo Kota Kendari, 2022).

A preliminary study conducted by researchers on the knowledge and anxiety levels of elderly individuals regarding the vaccine in the Lepo-lepo Health Center, involving 10 elderly individuals who had already been vaccinated, found that these individuals were motivated to get vaccinated because they believed that the vaccine would boost their immunity against the Covid-19 virus and prevent severe illness. When it came to anxiety about the vaccine, they

reported no worries or fear when receiving the vaccine. However, during interviews with 10 elderly individuals who had not been vaccinated, the researchers found that these individuals believed that wearing masks was sufficient to prevent Covid-19. They also expressed doubts about the halal status of the vaccine, a lack of trust in the vaccine, and concerns about the vaccine's effects on their bodies. Additionally, they mentioned hearing information from their communities about people getting sicker after vaccination, which contributed to their reluctance to receive the Covid-19 vaccine (Kemenkes RI, 2021). Based on the above discussion, the researcher is interested in studying the relationship between knowledge and anxiety levels and the willingness of elderly individuals to receive the Covid-19 vaccine in the Lepo-Lepo Health Center in Kendari.

Method

This research used quantitative study. The research design is cross-sectional with an observational approach (Sugiyono, 2016). This study was conducted with the aim of examining the relationship between knowledge and anxiety levels regarding the readiness of the elderly to receive the Covid-19 vaccine in Lepo-Lepo Health care centre. This study was conducted from August 8th to August 23rd, 2022. The population includes all subjects of the study. When someone wants to research all the elements within the research area (Nursalam, 2018). The population in this study is all the elderly individuals in the Puskesmas Lepo-lepo working area in 2022, totaling 1,146 people. Meanwhile, the sample in this study consists of 92 individuals, using the cluster random sampling technique.

Results

Univariate Analysis

a. **Characteristics of Respondents**

The characteristics of respondents include age, gender, occupation, and education. Each characteristic of respondents in this research is presented in tabular form as follows:

No.	Age	f	%
1	60-65	62	67,4%
2	66-70	23	25,0%
3	71-74	7	7,6%
Total		**92**	**100%**

The research results indicate that out of 92 respondents, the majority of respondents fall into the age group of 60-65, totaling 62 respondents (67.4%), while the lowest number of respondents is in the age group of 71-74 (7.6%).

No.	Gender	f	%
1	Male	50	54,3%
2	female	42	45,7%
Total		**92**	**100%**

The majority of respondents are male, consisting of 50 respondents (54.3%), while female respondents total 42 respondents (45.7%).

No.	Education	f	%
1	Bachelor	5	5,4%
2	High School	39	42,4%
3	Junior High School	22	23,9%
4	Elementery	20	21,7%

5	Not attending	6	6,5%
Total		**92**	**100%**

Respondents with a high school education amount to 39 respondents (42.4%), while those with a bachelor's degree are the smallest group, totaling 5 respondents (5.4%).

No.	The willingness of the elderly to accept the vaccine.	**f**	**%**
1	willing	30	67,4%
2	unwilling	62	32,6%
Total		**92**	**100%**

From the presentation of the willingness of the elderly to accept the vaccine, it is known that 62 respondents (67.4%) are willing, while the smallest group consists of 30 respondents (32.6%) who are willing.

No	**Knowladge**	**f**	**%**
1	good	33	35.9%
2	Enough	59	64.1%
Total		**92**	**100%**

From 92 respondents, respondents with low knowledge amounted to 59 respondents (64.1%), while respondents with insufficient knowledge were 30 respondents (35.9%).

b. Level of Anxiety

No	Level of anxiety	**f**	**%**
1	Low	27	39,3
2	Moderate	63	68,5
3	High	2	2,2
Total		**92**	**100**

This table shows that out of 92 respondents, the most common anxiety level is a moderate level of anxiety, with 62 respondents (67.4%), and the least common anxiety level is high anxiety, with 30 respondents (32.6%).

Bivariate Analysis

a. Knowladge

Knowladge	**The willingness of the elderly to receive the Covid-19 vaccine**				**Total**		φ	**α**
	Willing		**Unwilling**					
	f	**%**	**f**	**%**	**f**	**%**		
Good	29	10,8	4	22,2	33	100		
Low	1	19,2	58	39,8	59	100		
Total	**30**	**30**	**62**	**62**	**92**	**100**	0,882	0,05

Tabel 12 shows that out of 92 respondents, 33 respondents have good knowledge, among them 29 respondents (10.8%) are willing to receive the vaccine and 4 respondents (22.2%) are unwilling to receive the vaccine. Furthermore, there are 59 respondents with insufficient knowledge, and 1 respondent (1.9%) is willing to receive the vaccine, while 58 respondents (39.8%) are unwilling to receive the vaccine.

The statistical test results yielded a chi-square value (χ^2) of 67.663, while the critical chi-square value (χ^2) at the 0.05 significance level is 3.8415. This indicates that the obtained χ^2 value is greater than the critical χ^2 value, leading to the rejection of the null hypothesis (H0) and acceptance of the alternative hypothesis (Ha). This means that there is a relationship between knowledge and the willingness of the elderly to receive the Covid-19 vaccine in the Lepo-Lepo Health Care Centre.

Furthermore, a phi coefficient (φ) was calculated to determine the strength of the relationship between the two variables, resulting in a phi value of 0.882. This indicates a very strong relationship between knowledge and the willingness of the elderly to receive the Covid-19 vaccine.

b. Level Of Anxiety

Level Of Anxiety	**The willingness of the elderly to receive the Covid-19 vaccine**				**Total**		*p*	*r*	*α*
	Willing		**Unwilling**						
	f	**%**	**f**	**%**	**f**	**%**			
Low	18	8,8	9	18,2	27	100	0,000	0,808	0,05
Moderrate	12	20,5	51	42,5	63	100			
High	0	0	2	1,3	2	100			
Total	**31**	**31**	**62**	**62**	**92**	**100**			

There are 27 respondents with low levels of anxiety. Among them, 18 respondents (8.8%) are willing to receive the vaccine, and 9 respondents (18.2%) are unwilling to receive the vaccine. Furthermore, there are 63 respondents with moderate levels of anxiety, consisting of 12 respondents (20.5%) willing to receive the vaccine and 51 respondents (42.5%) unwilling to receive the vaccine. There are 2 respondents with high levels of anxiety, among which 0 respondents (0%) are willing to receive the vaccine, and 2 respondents (1.3%) are unwilling to receive the vaccine.

Based on the gamma test results with p-value of 0.000 was obtained, indicating a significant relationship between the level of anxiety and the willingness of the elderly to receive the Covid-19 vaccine. The correlation coefficient is 0.801, demonstrating a very strong relationship.

Discussion

Based on result table, it can be observed that there are 33 respondents who have good knowledge, among whom 29 respondents are willing to receive the vaccine. The reason respondents are willing to receive the vaccine is because they believe that the vaccine can boost

immunity against Covid-19 and minimize the severity if they contract the virus. After receiving the first dose of the vaccine, they did not experience any side effects as rumored in their community, which made them confident that the vaccine is safe for their bodies. Knowledge can be obtained from experience, making it a way to attain truth. Everyone has personal experiences that can be used as an effort to gain knowledge. This is done by weighing and reviewing experiences that have been used to solve problems faced in the past(Jaji, 2020).

Then there are respondents who have good knowledge but are unwilling to receive the vaccine, consisting of 4 respondents. This happens because when the elderly receive the first vaccine, they experience itching, which is why they are unwilling to receive the second dose. Another reason for their unwillingness is that some of the elderly are not feeling well, they don't have time for the vaccine, and the vaccine location is too far.

In Table 12, it can be seen that there are 59 respondents with insufficient knowledge, among whom 1 respondent is willing to receive the vaccine. During the research, the cause was found to be a directive from their residential location stating that they must receive the vaccine, or else they would face sanctions like not receiving social assistance from the government. Previous research has found that the reason for the elderly to get vaccinated is not necessarily because they understand the importance of the vaccine, but out of fear of administrative sanctions imposed by the government, such as not receiving social assistance, not being allowed to use public facilities, and possible fines(Lisnawati et al., 2023).

Furthermore, there are 58 respondents unwilling to receive the vaccine because they believe that Covid-19 does not exist anymore, and they claim it has ended, so vaccination is unnecessary. According to the researcher, the lack of knowledge among these respondents regarding the Covid-19 vaccine is due to the absence of information dissemination about the Covid-19 vaccine in the research location. These respondents have not been exposed to accurate information from trusted sources such as healthcare workers in the Lepo-Lepo Community Health Center area, regarding the benefits and side effects of the vaccine.

Knowledge is something that occurs within humans and is acquired through search or someone's understanding of an object through their senses, such as sight, smell, hearing, and so on, which leads to forming a perception of the object (Juwariyah, 2018). Knowledge about the Covid-19 vaccine can be obtained from various sources like television, the internet, received directly through the senses of sight and hearing to capture conveyed information. The results of the acquired information will form knowledge(Arief, 2022).

Knowledge is one of the factors that influences an individual's willingness to get vaccinated. This is because the higher the knowledge one possesses, the broader their insight into the actions needed to implement government programs, as well as understanding the benefits of carrying out the vaccination program itself to reduce the spread of Covid-19 (Nurhardianti et al., 2022).

Improving knowledge about the vaccine through education, providing information on safety, effectiveness, and legality of the vaccine, as well as correcting false information (hoaxes) about the Covid-19 vaccine, is a necessary step for the public to accept and undergo vaccination (Isnaini et al., 2021).

The statistical test results yielded a chi-square value of 67.663 and a chi-square table value of 3.8415. It can be said that the chi-square value is greater than the chi-square table

value. This indicates that H0 is rejected and Ha is accepted, meaning there is a relationship between knowledge and the willingness of the elderly to receive the Covid-19 vaccine in the Lepo-Lepo Community Health Center area of Kendari city. Then, a phi test was conducted to determine the strength of the relationship between the two variables, resulting in a phi (φ) value of 0.882, indicating a very strong relationship.

Knowledge is an important factor that must be enhanced and considered by the community, especially in preventing the spread of the Covid-19 virus through vaccination. The knowledge of the public is very useful in suppressing the spread of the Covid-19 virus because good knowledge and judgment about something will influence a person in making decisions to do and face something(Arinah et al., 2023).

The results of this study align with research conducted by Ernawati, et al. (2022) which found a relationship between knowledge and vaccination in the elderly with a statistical test result of 0.000 ($p < 0.05$). Research conducted by Febriyanti (2021) on the relationship between knowledge level and willingness for Covid-19 vaccination in the Dukuh Menanggal Sub-District of Surabaya City also found that there is an influence of knowledge on the willingness to receive vaccination in the Dukuh Menanggal Sub-District of Surabaya City. The significance result was 0.000 ($p < 0.05$).

Based on Table 13, it was found that out of 27 respondents with low anxiety levels, 18 respondents were willing to receive the vaccine. The reason for this is the support from close individuals, assuring them that the vaccine has no adverse effects on health and is safe for the body. There were 9 respondents with low anxiety levels who were unwilling to receive the vaccine, citing concerns about potential side effects and doubts about whether the vaccine would actually enhance their immunity. Needle phobia can affect anyone, including the elderly. This explains why elderly individuals with a fear of needles might find it difficult to accept the vaccine. When this fear arises, it can lead to tension and anxiety, which may result in unstable blood pressure (Martini et al., 2021).

Based on Table 13, there were 63 respondents with moderate anxiety levels, among whom 12 respondents were willing to receive t he vaccine. This was due to pressure from their place of residence, which mandated vaccination. On the other hand, 51 respondents were unwilling to receive the Covid-19 vaccine due to fear and concerns about potential side effects. Additionally, some respondents reported that their families prohibited them from getting vaccinated due to widespread information suggesting that the vaccine may have negative health effects.

According to Anggriani et.al (2022), this anxiety is caused by misinformation, which induces fear in the public and ultimately leads to negative responses and potential psychosomatic effects. Anxiety related to vaccination can also be attributed to possible post-vaccination side effects(Anggriani et al., 2022). Some respondents questioned the halal status of the vaccine components, while others were concerned about the quality of the injected vaccine. Some respondents also expressed doubts about the effects of receiving the Covid-19 vaccine. Reports of pain at the injection site, muscle pain, headaches, and even deaths attributed to the Covid-19 vaccine further triggered anxiety and fear among the respondents(Putri et al., 2021)

Based on Table 13, there were 2 respondents with high anxiety levels. In this study, these respondents were unwilling to receive the vaccine due to a history of comorbidities, as well as concerns that the vaccine might adversely affect their health. Respondents had also heard information that elderly individuals died after being vaccinated due to their underlying health conditions. This influenced the willingness of elderly individuals to accept the vaccine.

Anxiety felt by the public regarding Covid-19 vaccination is believed to be related to vaccine safety, effectiveness, and legitimacy (Anggriani et al., 2022). Another factor that can influence the level of public anxiety towards vaccination is the information circulated on television and social media about post-vaccination incidents, including hoaxes about elderly deaths after vaccination, some experiencing itching after vaccination, and information suggesting that the vaccine can trigger health disorders after administration(Nasution & Ginting, 2023)

The level of anxiety includes fear, concern, and restlessness leading to behavioral changes such as withdrawing from the environment, difficulty concentrating, decreased ability to retain information, and physical complaints like feeling cold, sweaty palms, and so on. Common anxiety symptoms in the elderly include changes in behavior, restlessness, reduced ability to concentrate, diminished ability to retain information, and physical complaints such as feeling cold, sweaty palms, and so on(Hutami et al., 2023).

Respondents have anxiety about Covid-19 vaccination. Some respondents questioned the halal status of the vaccine components, others were concerned about the quality of the injected vaccine, and some respondents questioned the impact of receiving the Covid-19 vaccine. Reports of pain at the injection site, muscle pain, headaches, and even deaths attributed to the Covid-19 vaccine further triggered anxiety and fear among the respondents (Sanjaya et al., 2022). Additionally, there is anxiety about potential side effects that respondents might experience after vaccination (Hutami et al., 2023).

The statistical test results, using the gamma test, yielded a p-value of 0.000. This indicates that H0 is rejected and Ha is accepted, meaning there is a relationship between the level of anxiety and the willingness of the elderly to receive the Covid-19 vaccine in the work area of the Lepo-Lepo Community Health Center in Kendari City. Furthermore, a correlation test was conducted to determine the strength of the relationship between the two variables, resulting in an r-value of 0.808. This indicates a very strong relationship.

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Conclusion

Based on the results of existing research, it can be concluded that there is a strong relationship between knowledge and anxiety regarding the willingness of the elderly to receive the Covid-19 vaccine at the Lepo-Lepo Community Health Center.

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