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ADVERSE EVENTS FOLLOWING IMMUNIZATION (AEFI) COVID-19 VACCINE IN TAPOS HEALTH CENTRE WEST JAVA

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ABSTRACT

Introduction: In dealing with the Covid-19 pandemic, the Indonesian government made a regulation that all citizens who have met the requirements must vaccinate against Covid-19. There are moreover 27.6% of individuals who don't know whether to be immunized or not. Of the 7.6% of people who don't need to be immunized, 59% of them are uncertain of the security of the immunization, 43.17% of individuals are uncertain of the adequacy of the immunization, 24.2% are perplexed of side impacts, and 26% don't accept in antibodies (Sumartiningtyas, 2020).
Purpose: The components that cause Post-Immunization Adverse Events (AEFI) for three days after immunization within the Tapos and Pamulang Health Centers.
Research Strategy: Cohort study, the research was conducted by checking respondents who were given the CoronaVac vaccine of Covid-19 after by Adverse Events Following Immunization (AEFI) at the day and three days after immunization.
Limitation: This inquire about did not see at variables beginning from immunization items, immunization quality, immunization procedural mistakes, and coincidental occasions that seem cause unfavorable occasions after Immunization.
Contribution: The base for making choices almost Covid-19 immunization.

Keywords: *Age; Gender; History of being infected with Covid-19; Vaccine Status; Anxiety Level, AEFI at the day and three days after vaccine.*

INTRODUCTION

At the end of 2019, the world was shocked by the emergence of a new respiratory disease outbreak that was first reported to have originated in Wuhan, China, and extended to countries around the world. The World Health Organization (WHO) has been named Covid-19 and designated as a pandemic (an epidemic of diseases that spread across a very wide area geographically, across continents or globally) on March 12, 2020 (WHO, 2020). Pandemics are set by WHO because they meet three criteria: the emergence of new diseases and people who do not have immunity to the disease, infect humans and cause dangerous diseases, and the disease can spread easily and sustainably between humans. Looking at this situation, one of the most likely ways to prevent the spread of the disease is by vaccination. Vaccines provide not only protection against those vaccinated but also the wider community with the spread of the disease in a population (Sari, 2020).

The development of a safe and effective vaccine to control this pandemic is very important because it is expected to inhibit its spread and prevent a recurrence in the future (Zhou Q, 2020). One of the experimental corona vaccines that is in clinical trials in Indonesia is a vaccine developed by Sinovac Biotehcnology from China. After the clinical trial is conducted, Bio Farma will immediately submit the results to the Food and Drug Administration (BPOM) to be able to immediately issue an emergency use authorization (EUA) related to the emergency use of vaccines (Basyir, 2020).

Project Intergartion Manager of Research and Development Division of PT Bio Farma, based on a survey conducted by the Ministry of Health of Indonesia, WHO, and UNICEF, revealed that 7.60% of people in Indonesia do not want to be vaccinated. The question of the survey is if the government provides the Covid-19 vaccine, will you and your family participate in immunization? 7.60% said they didn't want to. But most of the people, 64.81% said they agreed to be vaccinated. In addition, there are also 27.60% of people who do not know if they are vaccinated or not. Of the 7.60% of people who do not want to be vaccinated, 59.03% are unsure of the safety of the vaccine, 43.17% of the public are unsure of the effectiveness of the vaccine, 24.20% fear side effects, and 26.04% do not believe in vaccines (Sumartiningtyas, 2020).

The results of a preliminary study at Tapos Depok Health Center – West Java are known that the number of people aged > 18 years is 15,154 people with the Covid-19 vaccine immunization process in 1995 people where the dose of 1 amounted to 1,207 people while the dose of 2 amounted to 788 people so that there were a number of 419 people (21%) did not come for the 2nd vaccine visit. The target number of Covid-19 vaccines is 2,426 people.

Based on the above description, there are still people who do not want to be vaccinated and mostly because they are not sure about the safety of vaccines and in research locations there are still many people who do not come back to get the 2nd vaccine, so researchers are interested in conducting research with the title of Factors That Cause Adverse Events Following Immunization (AEFI) Covid-19 Vaccine in Tapos Health Centre -West Java. The purpose of this study was to identify the characteristic relationship of respondents (age, vaccine status) and Anxiety Level with Adverse Events Following Immunization (AEFI) of Covid-19 Vaccine in Tapos Health Center West Java.

LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

Vaccines are biological agents that have an immune response to specific antigens derived from infectious disease pathogens Vaccines is considered one of the greatest victories in the history of medicine. Vaccines are widely used to prevent various diseases. Vaccines are currently being made to create immunity and prevent the transmission of Covid-19 (Sundararaj, 2020).

Types of Vaccine Manufacturing Technology

Inactivated Vaccine

The inactivated vaccine has been used for more than a century to encourage protection against viral pathogens. Inactivated vaccines contain all or a small portion of bacteria or viruses that have been killed. The inactivated vaccine is one of three currently licensed vaccines. Inactivated technology can vary based on viral strains,

but most of the manufacturing process uses formaldehyde, beta-propiolactone or ultraviolet irradiation.

Attenuated Vaccines

Most vaccines have been developed to improve the antibody response of anti-S antidotes, one of which is the attenuated live virus vaccine. Attenuated vaccines are included in currently licensed vaccines, in addition to inactivated vaccines. Directly attenuated vaccines are very effective in providing protection against disease and stopping the spread of epidemics of pathogenic viruses.

Subunit Vaccine

Subunit vaccines include one or more antigens (RBD, S1, and S2) with strong immunogenicity capable of efficiently stimulating the host's immune system. In general, this type of vaccine is safer and easier to produce, but often requires the addition of auxiliary ingredients to elicit a strong protective immune response.

Vector Based Vaccines

Viral vectors are considered a potential technology for gene therapy and vaccines. Gene therapy in genetic diseases aims to replace genes that are permanently lost or damaged and can only be achieved if the immune system tolerates transgenic carriers and products. The goal of a vaccine is to express an antigen that gives rise to temporary strong adaptive immunity to the antigen with the support of an inflammatory response caused by the carrier.

DNA-Based Vaccines

DNA vaccines are a rapidly evolving technology and offer new approaches to prevent some diseases that come from bacteria or viruses. This technology involves the introduction of nucleic acids into the host cell which then directs the synthesis of encoded polypeptides and stimulates the immune response.

RNA-Based Vaccines

Nucleic acid-based vaccines have long been promised as vaccines that can be produced quickly in response to public health emergencies, are safe, and elicit a protective immune response. But so far, there is still no nucleic acid-based vaccine licensed for use by humans. RNA-based vaccine is one of the nukelic acid-based vaccine technologies under development for covid-19 (Sun-Chin-Wu (2020).

Adverse Events Following Immunization (AEFI)

Although all types of vaccines used in national immunization programs are very safe and effective if the way of management and administration is in accordance with operational procedure standard, but no single type of vaccine is free from unwanted medical events, which can occur after immunization, and does not necessarily have a causality relationship with vaccines. Symptoms of AEFI can be mild symptoms that are felt uncomfortable or in the form of abnormalities of laboratory examination results.

AEFI is grouped into 5 categories: Reactions related to vaccine products, Reactions related to vaccine quality defects, Reactions related to immunization procedure errors, immunization-related anxiety reactions, Koinsiden Events. AEFI is called serious if it results in death, is life-threatening, requires hospital treatment or prolonged period of treatment in the hospital, causes permanent or meaningful disability/incapacity, causes congenital abnormalities/ birth defects or, requires intervention measures to prevent hendaya (impairment)/permanent damage (WHO, 2020).

RESEARCH METHODOLOGY

Research Design

The research design used is a type of analytical research with prospective cohort design. The research was conducted in the working area of Tapos Health Center - West Java. The research was conducted in January to December 2021.

Population and Sample

The population of this study is all respondents who were vaccinated against Covid-19 in the working area of Tapos Health Center-West Java that aged 18 years and above in accordance with the government's target of 2,426 people in the Tapos Health Center area. The sample in this study was respondents who came Covid-19 vaccine in the working area of Tapos Health Center-West Java that the aged 18 years and above in accordance with the target of government targets. The number of samples in this study is Tapos Depok Health Center as many as 329.

Data Collection Process

The data collection instrument used is using questionnaires. Independent variables in this study were the age with the category of late adolescents (17-25 years), adults (26 - 45 years), and elderly (>45 years), vaccine status is the second or first vaccine, and the level of anxiety is no anxiety, mild, moderate, and severe anxiety. The dependent variable in this study is the Adverse Events Following Immunization (AEFI) using questionnaires that have been determined by Indonesia National Commitee of AEFI. The implementation of AEFI is carried out on the at the day and three days after vaccine.

RESULT AND DISCUSSION

Table 1 Distribution of Respondents Frequency Based on the characteristics of respondents

No.	Name of Variable	Frequencies	*Percent* (%)
1.	Age		
	Late adolescents (17-25 years)	93	28,3
	Adults (26 – 45 years)	178	54,1
	Elderly (> 45 years)	58	17,6
	Total	329	100
2.	Vaccine status		
	Second	159	48,3
	First	170	51,7
	Total	329	100
3.	Anxiety Level		
	No anxiety	132	40,1
	Mild anxiety	194	59,0
	Moderate anxiety	3	0,9
	Total	329	100
4.	Adverse Events Following Immunization (AEFI) at vaccine day		
	No AEFI	299	91.9
	Mild AEFI	30	8.1
	Total	329	100

5.	Kind of AEFI at vaccine day		
	Swelling at the injection site	5	16,7
	Bleeding at the injection site	1	3,3
	Local redness	4	13,3
	Itching	2	6,7
	Bentol accompanied by itching	1	3,3
	Vomiting	1	3,3
	High fever (> 39^0 C)	2	6,7
	Others (Soreness at the injection site, flu, inhibiting menstuation, dizziness, sore throat, pain, anosmia, back and legs difficult to move)	14	46,7
	Total	30	100
6.	Adverse Events Following Immunization (AEFI) at three days after vaccine		
	No AEFI	307	93,3
	Mild AEFI	22	5,7
	Total	329	100
7.	Kind of AEFI at three days after vaccine		
	Local redness	1	4,5
	Itching	3	13,6
	Vomiting	3	13,6
	High fever (> 39^0 C)	6	27,3
	Others	9	40,9
	Total	22	100

(Age, Vaccine Status), Anxiety Level, and AEFI at the day (type of AEFI) and three days after vaccine (type of AEFI) at Tapos Health Center-West Java (n=329)

Age

Based on the frequency distribution table of respondents by age, more than some respondents, namely 178 people (54.1%) are in adulthood, namely 26-45 years in Tapos Health Center. Based on Lidiana's research (2021) with the title Of Overview of Post-Vaccination Covid-19 Incidents in Alumni Health Personnel of 'Aisyiyah University Surakarta it is known that most respondents aged 20-30 years as many as 75 respondents (78.9%) (Lidiana et al, 2021).

The lack of elderly respondents in this study is also in line with Fatiha's research (2021) with the title Of Community Participation Rate in the Covid-19 Vaccination Program by government agencies in Latukan Karanggeneng District, Lamongan Regency where data on elderly residents of Latukan village who have been vaccinated against Covid-19 reached 114 people both the first dose and the second dose (Fatihan, 2021). The number of vaccinated is classified as small from the total elderly in Desa Latukan namely 114 out of a total of 740 elderly aged over 60 years. In the interview results of one of the informants stated that most of the elderly who did not follow the vaccination were caused by the absence of socialization from the Covid-19 task force about vaccinations to be carried out and only provided vaccination date information only. Moreover, the elderly have concerns about side effects after being injected. In some elderly people have unstable health so health workers do not recommend the elderly to be vaccinated and only advise to stick to health protocols to prevent contracting Covid-19

(Martini, Kusumawaty, & Yunike, 2021).
The results of this study are also in line with the stages of Covid-19 vaccination in Indonesia which targets certain age groups and professions when research is conducted. Covid-19 vaccination in Indonesia has started since January 13th, 2021. This vaccination program will be carried out gradually in 2 waves that will last until March 2022. Wave I runs until April 2021 by targeting 1.3 million health workers, 17.4 million public officers, and 21.5 million elderly to get the vaccine. Wave II targets 63.9 million vulnerable people, then 77.4 million other people (Ministry of Health of Indonesia, 2021). The target of Covid-19 vaccination phase 1 is health workers, health assistants, support personnel and students who are undergoing medical profession education working in Health Care Facilities. Next is the target of Covid-19 vaccination phase II is public service officers, namely the Indonesian National Army/State Police of the Republic of Indonesia, law enforcement, and other public service officers who include officers at airports / ports / stations / terminals. Then, workers in banking, state power companies, and drinking water regional companies, as well as other officers directly involved provide services to the community. In addition, in stage 2, recipients of the Covid-19 vaccine also belong to the elderly group or aged 60 years or older. Phase 3 The target of COVID-19 vaccination is vulnerable communities from geospatial, social, and economic aspects. While the target of phase 4 vaccination is the community and other economic actors with a cluster approach in accordance with the availability of vaccines (Dewi, 2021).
From the results of this study, researchers argue that adolescents and adults have a lot of potential to be able to come independently to health care facilities compared to the elderly who are dependent by people around them, so in this group more come to be vaccinated. In addition, community concerns for the elderly are still high, causing them to be reluctant to bring elderly family members to come to health facilities to get vaccinated.

Vaccine Status

Based on the frequency distribution table of respondents according to vaccine status more than 170 respondents (51.7%) is the first vaccine status in Tapos Health Center-West Java.
The dosage and method of vaccination should be in accordance with the recommended for each type of Covid-19 vaccine. According to technical instructions, the Sinovac vaccine is given twice. In the first dose of vaccine stage serves to recognize the vaccine and the content in it to the immune system and to trigger the initial immune response. While in the second dose stage (booster), the content of the vaccine will be useful to strengthen the immune response that has been formed before. Infectious disease expert from UCLA Health, United States, WHO said that the second injection of the vaccine can also enlarge the body's immune system to study the virus and look for ways to ward off subsequent infections and trigger a faster and more effective antibody response in the future. In the vaccination process, antibodies will be optimally formed after a period of 14-28 days from the second injection is done. In that time period, a person who has been vaccinated needs to maintain immunity and strict health protocols. That's because the immune system needs time to know how to effectively fight the virus (Yuniar, 2021).
The coverage of the first and second dose vaccinations based on November 1, 2021 (Pkl 12.00 WIB) from the number of vaccination targets as much as 208,265,720 the total number of first dose vaccinations

amounted to 120,052,587 doses or 57.64%, while the total second dose vaccination reached 74,088,927 or 35.57% (Hayati, 2021).

From the results of observations that researchers made at the time of data retrieval, the number of targets that came in at the second dose was always lower when compared to the second dose target. Research conducted by Fatiha (2021) under the title Of Community Participation Rate in the Covid-19 Vaccination Program by the Government Agency in Latukan Karanggeneng District, Lamongan Village showed the results that community participation in the second dose decreased from 800 people the first dose to 774 people the second dose or decreased by 3.3% (Fatiha, 2021).

Based on data from the results of this study, researchers argue that when opened the 2nd phase of the vaccine which has targeted public officers began to come to health care facilities, in this case puskesmas to get the Covid-19 vaccine. The waiting lag between dose 1 and the second dose is 28 days, so with this one-month waiting lag at the time the study was conducted found the public mostly get the first dose. In addition, for people who experience AEFI, they have keenganan to get a second dose injection.

Anxiety Level

Based on the survey frequency distribution table based on anxiety, more than half of respondents, 194 people (59%) did not experience anxiety and almost none, namely 3 people (0.9%) experienced moderate anxiety at Tapos Health Center-West Java.

According to the Dorland Medical Dictionary, the word anxiety or anxiety is an unpleasant emotional state, in the form of psychophysiological responses that arise in anticipation of unreal or imaginary danger, apparently caused by intrapsychial conflict that is not directly realized (Dorland, 2020).

The results of research conducted by Putri (2021) with the title Of Public Anxiety about Covid-19 Vaccination found that almost some respondents, namely 192 people (48.1%) experienced feelings of fear / worry (the impact and side effects of vaccines).

Vaccine indecision is on the rise, varies in different countries, and is associated with conspiracy worldviews (Gallup, 2019; Hornsey, Harris, & Fielding, 2018). Vaccine indecision may be bad for individuals (greater risk of disease) and potentially wider transmission for communities. Over time, there was a lot of information about Covid 19. The information circulating is mixed starting from information that is hoax with official and accurate information. This condition triggers anxiety from various circles even become reactive and negative. This situation further triggers the emergence of mental health problems (Zulva, 2020). The emergence of news that exposes Covid 19 as a high cause of death finally makes the community experience increased anxiety. Anxiety about death when felt excessively triggers the emergence of emotional conditions including neuroticma, depression, and psychosomatic disorders (Zulva, 2020).

Lack of exposure to the right information, the amount of misinformation (hoax) about vaccines makes the public have doubts and anxiety about this Covid-19 vaccination. Therefore, in addition to the active participation of the community to do reliable literacy, good social environmental support is also needed so that people become confident and ultimately do not have excessive anxiety for the Covid-19 vaccine.

Adverse Events Following Immunization (AEFI)

Distribution of the frequency of respondents based on Adverse Events Following Immunization (AEFI) in Tapos Health Center, namely with the type of Sinovac, judging from the AEFI vaccine day obtained the result that most respondents were 299 people (91.9%) did not experience AEFI and the remaining small percentage of respondents were 30 people (8.1%) experiencing mild AEFI. AEFI monitoring researchers also conducted on the third day after the vaccine obtained the result that almost none of the respondents (5.7%)

experienced mild AEFI while most of the 307 respondents (93.3%) did not experience AEFI.

One of the things that need to be considered in this vaccination program is Adverse Events Following Immunization (AEFI). The World Health Organization (WHO) has defined AEFI as any unwanted medical event after immunization and that does not necessarily have a causal relationship with vaccine use. Side effects can be unpleasant or unwanted signs, laboratory findings, abnormal symptoms or diseases. As can be seen from the AEFI definition, any reported adverse events do not automatically state that the vaccine has caused the event. The five subcategories of the specific definition of the cause of AEFI according to WHO are vaccine product-related reaction, vaccine quality defect-related reaction, immunization error-related reaction, immunization anxiety-related reaction, and coincidental event. In 2019, WHO revised one of the subcategories of AEFI, namely, immunization anxiety related reaction to Immunization Stress-Related Response (ISRR) because the term "anxiety" does not adequately describe all the elements that cause certain AEFI, and it could be that anxiety may not manifest during the event (McMutry CM, 2020).

Based on the results of the study, it is important to educate the vaccine recipient community that there may be uncomfortable symptoms that vary but most of the first day post immunization. Based on data on the decrease in the number of AEEFI cases in the observation period there was a decrease in cases on the third day, so it is also necessary to know by the public that over time, the complaints felt post immunization will gradually disappear.

Table 2 The Relationship between age and AEFI at the day
In Tapos Health Centre-West Java

No	Age	AEFI at the day						*p-value*
		No AEFI		Mild AEFI		Total		
		n	%	n	%	n	%	
1	Late Adolescents	88	26,7	5	1,5	93	28,3	
2	Addult	158	48,0	20	6,1	178	54,1	0.28
3	Elderly	53	16,1	5	1,5	58	17,6	
	Total	299	90,9	30	9,1	329	100	

Table 3 The Relationship between age and AEFI after three days vaccine
In Tapos Health Centre-West Java

No	Age	AEFI after three days Vaccine						*p-value*
		No AEFI		Mild AEFI		Total		
		n	%	n	%	n	%	
1	Late Adolescents	87	26,4	6	1,8	93	28,3	
2	Addult	168	51,1	10	3	178	54,1	0.08
3	Elderly	52	15,8	6	1,8	58	17,6	
	Total	307	93,3	22	6,7	329	100	

The study conducted at Tapos Health Center, the results of bivariate analysis between the age and AEFI day of the vaccine that uses chi square test with a

confidence level of 95% obtained p-value of 0.28 > (0.05), the relationship of age with AEFI three days after vaccine obtained p-value 0.08 > (0.05), so it concluded there is no significant relationship between age with AEFI at the day and three days after vaccine.

Vaccination triggers immunity by causing the recipient's immune system to react to antigens contained in the vaccine. A quality vaccine is one that causes a minimally mild reaction, but still triggers the best immune response (Adhi, 2021). Each individual has a different reaction to the vaccine. This is because everyone's immune system is different. Differences in the immune system can be influenced by genetic factors, gender, diet, surrounding environment, to previous conditions that have trained the immune system to respond to certain circumstances. Age is also a factor that affects the immune system. The older you get, the immune cells will decrease their activity. Like other cells, immune cells are generally at the peak of their activity when entering adulthood. As you get older, immune cells including the ability to produce protein to fight viral infections (interferon) will decrease (CNN Indonesia, 2020).

Table 4 The Relationship between Vaccine Status and AEFI at the day
In Tapos Health Centre-West Java

No	Vaccine Status	AEFI at the day						*p-value*
		No AEFI		Mild AEFI		Total		
		n	%	n	%	n	%	
1	Second	143	43,5	16	4,9	159	48,3	0.56
2	First	156	47,4	14	4,3	170	51,7	
	Total	299	90,9	30	9,1	329	100	

Table 5 The Relationship between Vaccine Status and AEFI three days after vaccine
In Tapos Health Centre-West Java

No	Vaccine Status	AEFI three days after vaccine						*p-value*
		No AEFI		Mild AEFI		Total		
		n	%	n	%	n	%	
1	Second	150	45,6	9	2,7	159	48,3	0.47
2	First	157	47,7	13	4,0	170	51,7	
	Total	307	93,3	22	6,7	329	100	

Research conducted at Tapos Health Center, the results of bivariate analysis between vaccine status and AEFI vaccine at the day, namely using chi square test with a confidence level of 95% obtained p-value 0.56 > (0.05), the relationship of vaccine status with AEFI three days after vaccine obtained p-value 0.47 > (0.05) so that it was concluded there was no significant relationship between vaccine status (one or two dose vaccine) with AEFI at the vaccine day and three days after vaccine.

The body has many ways of protecting itself against pathogens (organisms that cause disease). The skin, mucosa, and cilia (fine hair that remove particles from the lungs) become physical barriers to prevent pathogens from entering the body. When a pathogen infects the body, our body's defenses, called the immune system, are triggered and the pathogen is attacked and

destroyed or overcome. Pathogens are bacteria, viruses, parasites, or fungi that can cause disease in the body. Each pathogen consists of several parts that are usually only present in these types of pathogens and the diseases they cause. The part of the pathogen that causes the formation of antibodies is called antigens. Antibodies produced to respond to antigens from pathogens are an important part of the immune system. Antibodies can be viewed as warriors in your body's defense system Every antibody, or warrior, in our body is trained to recognize one particular antigen. We have thousands of different antibodies in our bodies. When the human body is exposed to an antigen for the first time, the immune system takes time to respond and produce antibodies specific to that antigen. In this time span, the person is prone to falling ill (WHO, 2021).

Once a specific antibody for that antigen is produced, these antibodies work together with other parts of the immune system to destroy the pathogen and stop the disease. Antibodies to a pathogen usually do not provide protection against other pathogens unless the two pathogens are very similar to each other, such as cousins. Once the body produces antibodies in providing a primary response to an antigen, it also creates antibody-producing reminder cells, which will stay alive even after the pathogen is defeated by antibodies.

If the body is exposed to the same pathogen more than once, the antibody response becomes much faster and more effective than the first exposure because these reminder cells are ready to pump out antibodies against the antigen (WHO, 2021).

This means that if a person is exposed to a dangerous pathogen in the future, the person's immune system will be able to respond immediately, thus providing protection against disease. When it enters our body, a new pathogen or disease carries a new antigen. Our bodies need to make specific antibodies for each new antigen that can attach to the antigen and defeat the pathogen. Vaccines are small attenuated and harmless fragments of an organism, including parts of its antigen. These fragments exist in sufficient quantities so that our bodies can learn to build antibodies specific to those organisms. Then, if the body encounters the antigen of the actual organism later in life, the body knows car beats it. Some vaccines require several doses given at weekly or monthly distances. Sometimes this time is needed to allow for the lingering production of antibodies and the development of reminder cells. Thus, the body is trained to fight the organism that causes the disease, while remembering the pathogen to fight it immediately if and when exposed again in the future (WHO, 2021).

Table 6 The Relationship between Anxiety Level and AEFI at the day In Tapos Health Centre-West Java

No	Anxiety Level	AEFI at the day						*p-value*
		No AEFI		Mild AEFI		Total		
		n	%	n	%	n	%	
1	No anxiety	121	36,8	11	3,3	132	40,1	0.33
2	Mild anxiety	176	53,5	18	5,5	194	59,0	
3	Moderate anxiety	2	0,6	1	0,3	3	0,9	
	Total	299	90,9	30	9,1	329	100	

Table 7 The Relationship between Anxiety Level and AEFI three days after vaccine In Tapos Health Centre-West Java

No	Anxiety Level	AEFI three days after vaccine						*p-value*
		Tidak ada		AEFI Ringan		Total		
		n	%	n	%	n	%	
1	No anxiety	127	38,6	5	1,5	132	40,1	0.07
2	Mild anxiety	178	54,1	16	4,9	194	59,0	
3	Moderate anxiety	2	0,6	1	0,3	3	0,9	
	Total	307	93,3	22	6,7	329	100	

Research conducted at Tapos Health Center, the results of bivariate analysis between anxiety and AEFI vaccine day, namely using chi square test with a confidence level of 95% obtained p-value 0.33 > (0.05), the relationship of anxiety with AEFI day three post vaccine obtained p-value 0.07 > (0.05) so that it was concluded there was no significant relationship between anxiety with AEFI vaccine day and the third day after vaccine
Although all vaccines used in national immunization programs are safe and effective if used correctly, in practice, no vaccine is completely risk-free and sometimes side effects can occur after immunization. Five subcategories of the specific definition of the cause of AEFI have been defined by WHO, namely reactions related to vaccine products, defect-related reactions on vaccine quality, error-related reactions in immunization, anxiety-related reactions in immunization, and coincidental events. In this study, the reactions caused by anxiety fall into the category of Immunization anxiety-related reaction or AEFI that arises due to anxiety against immunization. The individual reacts in anticipation resulting from any injection. This reaction is not related to vaccines, but is afraid of injection (Oktari, 2021).
The term "immunization" Reaction" is used to describe a variety of symptoms and signs that may arise in immunizations associated with "anxiety", rather than vaccine products, defects in vaccine quality, or immunization program errors. These reactions are described as AEFI arising from anxiety about immunization and include vasovagal-mediated reactions, hyperventilation-mediated reactions, and stress-related psychiatric reactions or disorders. However, the term "anxiety" is not adequately able to describe all of these emerging AEFI, while anxiety may not manifest during the event. Therefore, a new term that better describes the specific cause of AEFI is proposed, namely "Immunization Stress-Related Response (ISRR)" (Hafizzanovian, 2021).

CONCLUSION

Charactercitic Of Respondent By Age And Vaccine Status

Characteristic respondents by age, more than some respondents, namely 178 people (54.1%) are in adulthood, namely 26-45 years, by vaccine status more than 170 respondents (51.7%) is the first vaccine status.

Characterictic of Respondent by Anxiety Level and Adverse Events Following Immunization (AEFI)

The frequency respondent by anxiety, more than half of respondents, 194 people (59%) did not experience anxiety and almost none, namely 3 people (0.9%) experienced moderate anxiety. Distribution of the frequency of respondents based on Adverse

Events Following Immunization (AEFI) namely with the type of Sinovac vaccine, judging from the AEFI vaccine day obtained the result that most respondents were 299 people (91.9%) did not experience AEFI and the remaining small percentage of respondents were 30 people (8.1%) experiencing mild AEFI. AEFI monitoring researchers also conducted on the third day after the vaccine obtained the result that almost none of the respondents (5.7%) experienced mild AEFI while most of the 307 respondents (93.3%) did not experience AEFI.

The Relatinonship between Age, Vaccine Status, Anxiety Level with Adverse Events Following Immunization (AEFI) at the day and three days after vaccine

The results of bivariate analysis between the age and AEFI at the day obtained p-value of 0.28 > (0.05), the relationship of age with AEFI day three post vaccine obtained p-value 0.08 > (0.05), so it concluded there is no significant relationship between age with AEFI at the day vaccine and three days after vaccine.

The results of bivariate analysis between vaccine status and AEFI at the day obtained p-value 0.56 > (0.05), the relationship of vaccine status with AEFI three days after vaccine obtained p-value 0.47 > (0.05) so that it was concluded there was no significant relationship between vaccine status (one or two dose vaccine) with AEFI at the day and three days after vaccine.

The results of bivariate analysis between anxiety level and AEFI at the day obtained p-value 0.33 > (0.05), the relationship of anxiety level with AEFI three days after vaccine obtained p-value 0.07 > (0.05) so that it was concluded there was no significant relationship between anxiety level with AEFI vaccine day and the three days after vaccine.

Limitation and study forward

This inquire about did not see at variables beginning from immunization items, immunization quality, immunization procedural mistakes, and coincidental occasions that seem cause unfavorable occasions after Immunization. **Contribution:** The base for making choices almost Covid-19 immunization.

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