





# Characteristics Participants of Covid-19 Vaccination Dose 3 in the Mojolangu Health Center Working Area

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**Abstract.** COVID-19 booster vaccination is still being encouraged today to provide maximum protection against. One of the first-level health service facilities also must provide booster vaccinations. In order to increase the willingness of the community to participate, it is important to know the characteristics of COVID-19 booster vaccination participants. The purpose of this study is to determine the characteristics of COVID-19 booster vaccination participants in the Puskesmas Mojolangu working area which include, Gender, Religion, Income, Education, Occupation, Type of Vaccine used, Comorbidities owned, Facility to vaccinate, and Companions who assist when getting COVID-19 booster vaccination. This research is a descriptive study with a Cross Sectional research design. The sample selected using purposive sampling technique in this study amounted to 49 respondents. The results of this study found that the COVID-19 booster vaccination participants in this study were female (57.1%), Muslim (89.8%), had a monthly income of more than IDR 3,500,000 (51%), had a high school and advanced education (89.6%), did not have a job (79.6%), used homologous vaccine types for doses 1 and 2, while majority used the Pfizer type (44.9%) and the AstraZeneca type (36.7%) in third vaccination, did not have comorbidities (59.2%), used healthcare facilities such as hospitals, health centers, clinics and independent doctor practices, and accompanied by 1 to 3 or more family (77.6%). Therefore, health promotion efforts can be more focused by considering the characteristics of participants in this study.

**Keywords:** Booster Vaccination, COVID-19, Characteristics

## 1 Introduction

The outbreak status for COVID-19 or (PHIEC) has been officially removed by the World Health Organization (WHO) on May 5, 2023 [1]. Despite this, the implementation of COVID-19 booster vaccination is still being held in Indonesia to provide maximum protection for the Indonesian people in the future. COVID-19 booster vaccination in Indonesia has started to be given to the public as of January 2022 through Circular Letter Number: HK.02.02/II/ 252/2022 Regarding COVID-19 Vaccination Advanced

Dose (Booster). Booster vaccination is initially targeted at vulnerable groups, recognizing a decrease in immunity after the second dose [2]. This is also in line with the results of research from Zhuang, who found that there was a decrease in vaccine effectiveness after 3 (three) months of getting the second dose of vaccination [3]. Another vulnerable group, namely the elderly, is known to have a higher mortality rate than other groups, namely 83% [4]. A person who starts to enter the elderly period will be vulnerable to decreased body function due to a decrease in the ability of cells to regenerate, so not a few have comorbidities. The presence of comorbidities is one of the causes of the appearance of severe symptoms, so vulnerable groups need to be given extra immunity to protect against onset that can cause serious conditions [5]. Another reason that needs to be considered is the low coverage rate of booster vaccination, which is 20.4%, so the efforts to increase booster vaccination still need to be increased again [6].

Examining the dynamic data of Malang City, it is known that it is divided into five sub-districts, of which Lowokwaru Sub-district is one of the sub-districts with the highest number of confirmed cases after Blimbing Sub-district. As of March 13, 2022, Lowokwaru sub-district had 6,422 confirmed cases and 252 deaths. The high number of confirmed cases in Lowokwaru sub-district is directly proportional to the high death rate due to COVID-19, so Lowokwaru sub-district is known to have a higher CFR percentage (3.9%) when compared to Blimbing sub-district which is only 3.8% [7]. Puskesmas Mojolangu as a first-level health facility in Lowokwaru sub-district is also responsible for COVID-19 prevention and control efforts in its working area, namely in Mojolangu, Tunjungsekar, Tasikmadu, and Tunggulwulung urban villages [8].

There are several types of mRNA vaccines recommended by the World Health Organization (WHO) and used in Indonesia, namely Moderna (mRNA-1273), Pfizer (BNT162b2), AstraZeneca (ChAdOx1 nCoV-19/ AAZD1222), Sinopham (BBIBP-CorV Vero Cells), and also Sinovac (CoronaVac) [9,10]. This booster vaccine can be obtained through Puskesmas, Hospitals and Vaccination Service Posts available [2]. However, in order to increase the booster vaccination rate to 100%, it is very important to know the characteristics of the participants to get an overview of the health promotion efforts needed to increase public interest in getting booster vaccinations.

## 2 Methods

This descriptive study used a Cross Sectional research design. The implementation of this study started from April to November 2022 with the target of COVID-19 booster vaccination participants who received booster vaccinations at the Puskesmas Mojolangu. The research was conducted in the Puskesmas Mojolangu working area, which includes Mojolangu, Tunjungsekar, Tasikmadu, and Tunggulwulung villages. This study aimed to describe the characteristics of COVID-19 Booster vaccination participants in the Puskesmas Mojolangu working area. The variables explored or examined in this study include, among others, gender, religion, income, education, occupation, type of vaccine used, comorbidities owned, place of vaccination, and companions who accompanied when getting COVID-19 booster vaccination. The sampling technique used in this study is purposive sampling technique with inclusion criteria, including

COVID-19 vaccination participants who have received COVID-19 booster vaccination, live in the Puskesmas Mojolangu working area, namely in Mojolangu Village, Tunjungsekar, Tasikmadu, Tunggulwulung, and are willing to become respondents and are willing to be interviewed. Exclusion criteria for this study are those who are not willing to be interviewed and those who are represented. The number of samples in this study was 49 people. Data collection used instruments with questionnaires and checklist sheets developed by the researcher through validity and reliability tests with a Cronbach Alpha value of 0.9. The data that has been collected is then analysed descriptively and presented in a frequency distribution tabulation in order to explain the description of the characteristics of the respondents.

### 3 Results

Based on Table 1, it can be seen that the majority of respondents were female (57.1%), Muslim (89.8%), had a monthly income of more than IDR 3,500,000 (51%), had a high school and college (89.6%), and were unemployed (79.6%). The type of vaccine used for doses 1 and 2 has the same amount in each type (homologues). This is because there are some rules for using the same type of vaccine in stages 1 and 2, while in the third stage or first booster, most respondents used the Pfizer type (44.9%) and the AstraZeneca type (36.7%). Then, examining the availability of comorbid diseases, it is known that most respondents do not have comorbidities (59.2%). The vaccination service facilities most widely used by respondents are healthcare facilities such as hospitals, health centre’s, clinics, and independent doctor practices. The last aspect that was also explored in this study was the companion who assisted the respondents when they received the COVID-19 booster vaccination, where the majority of respondents had 1 to 3 or more companions (77.6%).

**Table 1.** Characteristic of Respondents

Characteristics	Amount	Percentage (%)
Gender		
Man	21	42.9
Woman	28	57.1
Religion		
Islam	44	89.8
Catholic	3	6.1
Christian	2	4.1
Monthly Income (IDR)		
<1,500,000	13	26.5
1,500,000-2,499,000	7	14.3
2,500,000-3,499,000	4	8.2
>3,500,000	25	51
Level of Education		
Elementary school or low	4	8.2
Junior high school	6	12.2

Characteristics	Amount	Percentage (%)
Senior high school	16	32.7
College	23	46.9
Occupation		
Work	10	20.4
Not work	39	79.6
Vaccine type for 1 <sup>st</sup> dose		
Sinovac	28	57.1
AstraZeneca	19	38.8
Sinopharm	2	4.1
Vaccine type for 2 <sup>nd</sup> dose		
Sinovac	28	57.1
AstraZeneca	19	38.8
Sinopharm	2	4.1
Vaccine type for 3 <sup>rd</sup> dose		
Sinovac	1	2.1
AstraZeneca	18	36.7
Sinopharm	2	4.1
Pfizer	22	44.9
Moderna	6	12.2
Comorbid		
Have	20	40.8
Not	29	59.2
Vaccination facility		
Healthcare facilities	44	89.8
Workplace	3	6.1
Sweeping	2	4.1
Vaccination caregivers		
Spouse	9	18.4
Son/daughter	6	12.2
Spouse and child	21	42.9
More than 3 people	2	4.1
Lonely	11	22.4

## 4 Discussion

### 4.1 Gender

Based on the results in Table 1, it is known that the majority of COVID-19 booster vaccination participants in the Puskesmas Mojolangu working area are women (57.1%), so it can be concluded that the majority of COVID-19 booster vaccination participants are women. These results are associated with action, which is influenced by better awareness in the women's group. This is in line with Xiaojinng Li in his research which explains that women are more willing to take preventive steps than men [11]. In

addition, other studies also suggest that the level of knowledge and behaviour in terms of COVID-19 prevention in women tends to be better than in men [12].

## 4.2 Religion

The majority of booster vaccination participants in this study were Muslims, with a percentage close to 100%, namely 89.8%. The factor that influences the high percentage is because Indonesia is one of the countries with a majority Muslim population, and another aspect that may be related is the "HALAL" MUI (Indonesian Ulama Council) fatwa that socializes the halalness of vaccination. This socialization triggers the public to want to carry out COVID-19 vaccination [13].

## 4.3 Monthly Income

Based on Table 1, most of participants had a monthly income of more than 3,500,000 rupiah (51%). According to the category, monthly income can be categorized into 4 levels, namely "Very High" for those with an income of more than 3,500,000 rupiah, "High" for those with an income of 2,500,000-3,500,000 rupiah, "Medium" for those with an income of 1,500,000-2,500,000 rupiah, and "Less" for those with an income of less than 1,500,000 rupiah [14]. Someone with a "High" income will be more likely to pay attention to their health level [14,15].

## 4.4 Level of Education

The education levels examined in this study include "Elementary school or lower", "Junior High School", "Senior High School", and "College". Participants were categorized as having "High" education if they completed high school or college, while they were categorized as "Low" if they only completed elementary school or junior high school [16]. Based on Table 1, the majority of participants had a "High" level of education (89.6%). A higher level of education will affect the increase in someone's knowledge which may affect behaviour [17].

## 4.5 Occupation

In the occupational aspect, it is known that the majority of participants do not have jobs (housewives, pensioners, or not working) as much as 79.6%. Employment is one aspect that can affect people's health status. These results align with the research conducted by Viswanath, who found that someone who does not have a job is more willing to get a COVID-19 booster vaccination. This can happen because participants who do not work have more free time to visit health facilities than those who work [18,19].

#### **4.6 Type of Vaccine**

Vaccines are categorized into four types based on their basic ingredients, namely protein-based vaccines that resemble the COVID-19 virus, genetically modified viruses, attenuated or inactivated COVID-19 viruses, and vaccines that use RNA and DNA [20]. There are 6 types of vaccines used in Indonesia, including Sinovac (Inactivated virus), Sinopharm (Inactivated virus), AstraZeneca (Non-replicating Viral Vector), Novavax (Protein subunit), Moderna (RNA based) and Pfizer (RNA based) [21]. Table 1 shows that in doses 1 and 2 number of participants and types of vaccines used are the same. This is because there is an appeal to provide homologous vaccinations to maintain vaccine effectiveness level [22]. As for booster vaccinations, most participants used AstraZeneca (36.7%) and Pfizer (44.9%), both of which are RNA-based vaccines. RNA-based vaccines for the third dose are known to have an effectiveness rate of 82%-90% in preventing severe conditions when infected with COVID-19 [23].

#### **4.7 Comorbid**

Comorbidities are related to aging because during this period, cells in the body begin to lose their ability to regenerate, causing a decline in body functions [5]. Therefore, a person with comorbidities is still allowed to get a booster by fulfilling several conditions that will be submitted by the doctor [24]. More participants did not have comorbidities than those who did (59.2 vs 40.8). The same result was found by Attwell, who stated that someone with comorbidities will hesitate to get a COVID-19 vaccination due to the fear that vaccination can cause their condition to become worse [25].

#### **4.8 Vaccination Facility**

Referring to the results of this study, it is known that most participants received booster vaccinations at healthcare facilities (89.8%), this can occur because healthcare facilities in Malang City can be considered sufficient and accessible, where reaching healthcare facilities is very easy. The COVID-19 vaccination program which is free of charge can also be a driving factor for participants to get vaccinated at healthcare facilities [26].

#### **4.9 Vaccination Caregivers**

Companions are one of the factors that can support participation in getting COVID-19 booster vascularization. Family accompaniment in this study refers to the support of the family. The majority of participants in this study were accompanied by children and / or spouses (77.2%), and remaining participants had no companion. These results align with research conducted by Olitia, which explained that someone who gets family support is 4.36 times more willing to participate in COVID-19 booster vaccination [27].

## 5 Conclusion

This study found that the booster vaccination participants in the Puskesmas Mojolagu working area were dominated with female (57.1%), Muslim (89.8%), had a monthly income of more than IDR 3,500,000 (51%), had a high school and advanced education (89.6%), did not have a job (79.6%), used homologous vaccine types for doses 1 and 2, while in the third stage or first booster the majority used the Pfizer type (44.9%) and the AstraZeneca type (36.7%), did not have comorbidities (59.2%), used healthcare facilities such as hospitals, health centre's, clinics and independent doctor practices, accompanied by 1 to 3 or more assistants (77.6%). Based on these results, a health promotion effort is needed that can be adjusted to the characteristics of booster vaccination participants, and these results can be used as a reference for monitoring and evaluation activities for the related health office as the one responsible for the immunization program. In addition, more in-depth research about family support was necessary.

## Author's Contribution

PDW: Concept this research, collect data, and analysis. HEW: Concept this research, guide implementation, direct research, and review the questioner. LRA: Concept this research, guide analysis and interpretation, and review article. RWG: Monitoring and providing recommendations on the research implementation and article draft.

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