

## RESEARCH ARTICLE

# Comparison of Covid-19 Vaccine Hesitancy in Healthy Adult Populations and Patients with Anxiety Disorders

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**Abstract:** Vaccine hesitancy is one of the world's health issues that endangers global health. This condition is influenced by a variety of factors, one of which is a mental state. Willingness to receive vaccines is critical, especially during the Covid-19 pandemic. The purpose of this study is to describe and compare vaccine hesitancy among healthy adults and patients with anxiety disorders. A total of 73 patients with anxiety disorders and 63 healthy adults participated in this cross-sectional study. Approximately 80% of the subjects agreed to be vaccinated. 90% of the subjects (66.20%) believed in the vaccine's usefulness based on their level of confidence in it. A total of 39 people (28.7%) were skeptical of vaccines. There were 28 subjects who refused vaccination, 26 of whom were anxious. Fear of side effects (29.4%) and fear of injections (13.2%) are the most common reasons for vaccine aversion. According to the government's vaccination target, 80% of the subjects in this study had been vaccinated. However, in order to sustain the success of long-term vaccination programs in populations with specific diseases, a more targeted approach is required.

**Keywords:** anxiety, covid-19, vaccine hesitancy

## INTRODUCTION

In the absence of an effective treatment for coronavirus disease 2019 (COVID-19) infection, COVID-19 vaccination is currently regarded as the most important step in pandemic control. However, the effectiveness of a vaccination program is dependent on a large proportion of the population receiving the vaccination.<sup>1</sup>

Vaccine hesitancy is defined as delaying or refusing vaccination despite the

availability of vaccination services. The World Health Organization (WHO) named vaccine hesitancy as one of the top ten global health threats in 2019, citing the growing anti-vaccination myth spread by individuals and bots who actively spread fake news, particularly on social media. This problem existed prior to the Covid-19 pandemic, but it is now critical because it is a barrier to public acceptance of the Covid-19 vaccine.<sup>2,3,4</sup>

Anxiety disorders are the most common of the many types of mental disorders. Anxiety disorders are defined by excessive worrying, hyperarousal, and fear that is counterproductive and debilitating. People with mental illnesses (ODGJ) are a priority group for COVID-19 vaccination, but empirical data on vaccine absorption and ODGJ sufferers' attitudes toward COVID-19 vaccines are still lacking.<sup>5,6</sup>

According to data from the Ministry of Health of the Republic of Indonesia, as of January 11, 2022, the vaccine coverage rate in Indonesia was 84.79% for dose 1 and 57.60% for dose 2. 85 percent of the target population of vaccination had received at least one dose.<sup>7,8</sup> Individuals have different life experiences and principles, so the factors that influence decision-making can differ across populations, particularly in patients with psychiatric disorders in the pandemic era.<sup>9,10</sup> Failure to identify or ignore the source of a problem can lead to lower vaccination coverage rates, which can impact disease spread, particularly in the midst of the current Covid-19 pandemic. As a result, the purpose of this study is to describe and compare vaccine hesitancy in healthy adults and people with anxiety disorders, as well as to collect more accurate data on the reasons for their hesitancy.

## METHOD

This study uses primary data from a questionnaire. The purpose of this study

was to compare vaccine hesitancy in the group with anxiety disorders and the healthy group, and identify the reasons for this reluctance.

The population used is patients with psychiatric disorders at the mental polyclinic of RSU Madani Medan, and the comparison population is ordinary people who have never been diagnosed with mental disorders. The psychiatric patients included in the study were psychiatric patients who were included in the spectrum of anxiety disorders, and did not have psychotic characteristics and did not experience decreased consciousness.

Sampling is done consecutively. The measuring tool used is a questionnaire, which is distributed in two ways, namely from the online form feature and by manual paper.

## RESULT

This study was completed in June of 2022. This study is a categorical descriptive analytic cross-sectional study that employs a non-probability sampling technique, namely consecutive sampling. This study included two groups of people: 73 people from the general public who were healthy or had never been diagnosed with a mental disorder, and 63 people from the RSU Madani Medan Mental Polyclinic who had been diagnosed with anxiety disorders.

**Table 1. Shows the demographic data of research subjects based on healthy and anxious groups.**

Demographic Data	Anxiety		Healthy		Total	
	n	%	n	%	n	%
Sex						
Female	36	53,7	31	46,3	67	49,3

	Male	27	39,1	42	60,8	69	50,7
Religion	Islam	43	37,7	71	62,3	114	83,8
	Catholic	2	100	0	0	2	1,5
	Christian	17	89,5	2	10,5	19	14
	Buddha	1	100	0	0	1	0,7
	Hindu	0	0	0	0	0	0
	Others	0	0	0	0	0	0
Married	Yes	54	52,9	48	47,1	102	75
	Not	9	26,5	25	73,5	34	25
Average Age (years)		49		34,2		41	

Based on the demographic data presented above, it was discovered that the number of women (36 people) in the anxiety group outnumbered the number of men (27 people). Islam was the most common religion in both research groups, accounting for 83.3%. As many as 75% of research subjects were married, and the percentage of married subjects was higher in the anxiety disorder group.

**Tabel 2. Covid disease history in the subject and its surroundings**

Covid History		Anxiety		Healthy		Total	
		n	%	n	%	n	%
Covid positive	yes	9	25	27	75	36	26,5
	no	54	54	46	46	100	73
Covid positive in family	yes	11	20	44	80	55	40
	no	52	64,2	29	35,8	81	59,6
Death in family by Covid	yes	6	42,8	8	57,1	14	10,3
	no	57	46,7	65	53,3	122	89,7
Others death by Covid	yes	5	12,2	36	87,8	41	30,1
	no	58	61	37	38,9	95	69,9

According to the data on the history of Covid-19 disease obtained, as many as 26.5% of the subjects had been exposed to Covid-19, with 75% of the subjects with Covid-19 being adults without mental disorders. Only 14.2% of the subjects in the

anxiety disorder group had ever been exposed to Covid-19. Around 40.4% of the subjects said that Covid-19 had affected their family or close friends, and 10.3% said that Covid-19 had killed someone in their family. Family history of Covid-19 exposure and death was more common in the healthy adult group who did not experience mental disorders.

Among the 136 research subjects, 109 (80.1%) received the Covid-19 vaccine in various brands. This study did not include the brands or types of vaccines. Approximately half of those who received the vaccine, 57 people (52.29%), had received three or more doses of the Covid-19 vaccine.

**Table 3. Displays the subject's vaccination history.**

Vaccine History		Anxiety		Healthy	
		n	%	n	%
Vaccine status	Yes	36	33	73	66,9
	Never	27	100	0	0
Dose	1	4	36,4	7	63,6
	2	16	39	25	60,9
	3 or more	16	28	41	71,9
Reason	Mandatory	11	26,8	30	73,2
	Voluntary	25	36,8	43	63,2
Vaccine source	Work	9	20	36	80
	Government	13	61,9	8	38,1
	Public group	4	100	0	0
	Subdistrict	10	40	15	60
	Others	0	0	14	100

Only 11 people (10.09%) of vaccine recipients had received only one dose. The majority of the reasons for vaccination were self-indulgence (63.38% of the total subjects), with 37.61% receiving the vaccine out of obligation. The vaccine was

distributed to 45 people (41.28%), 25 people (22.9%) from the sub-district/neighborhood, and 21 people (19.26%) from government-sponsored events.

Almost 80% of the subjects were willing to be vaccinated, with 55 (40.4%) being very willing and 53 (39%) being willing to be vaccinated. There were 28 subjects who refused vaccination, 26 of whom were anxious.

According to the reason for reluctance to vaccinate, 40 subjects (29.4%) were afraid of side effects, and 18 people (13.2%) were afraid of injections. At this point, no one is concerned about the cost. 90% of the subjects (66.20%) believed in the vaccine's usefulness based on their level of confidence in it. A total of 39 people (28.7%) were skeptical of vaccines.

**Table 4. Vaccination reluctance, causes, and subject's level of confidence in vaccines**

Vaccine hesitancy		Anxiety		Healthy	
		n	%	n	%
Hesitance	Absolutely refusing	3	100	0	0
	Maybe refusing	23	92	2	8
	Maybe accepting	31	58,5	22	41
	Very accepting	6	10,9	49	89,1
Cause of hesitancy	Cost	0	0	0	0
	Fear of side effect	0	0	40	100
	Vaccine is useless	4	100	0	0
	Personal decision	1	20	4	80
	Conspiracy	0	0	0	0
	Wearing mask and washing	1	20	4	80

	hand is enough				
	There is no corona	3	100	0	0
	Fear of needle / injection	12	66,7	6	33,3
	Other disease	8	61,5	5	38,5
	others	1	100	0	0
Trust in vaccine	Not sure	3	75	1	25
	Less sure	22	56,4	17	43,6
	sure	38	42,2	52	57,8
	Very sure	0	0,00	3	100

## DISCUSSION

In general, data from Indonesia show that Covid-19 vaccination coverage has reached 62% of the population, which is in line with the WHO recommendation of 60% of the total population. More than 80% of the subjects in this study had received the vaccination. However, a closer examination of the variables revealed that approximately 37% of those vaccinated did so against their will. In developed countries such as Saudi Arabia, only 48% of 2137 adults surveyed wanted to be vaccinated.<sup>3</sup>

According to the data on vaccine aversion in this study, vaccination refusal occurred in 28 subjects. Many factors, including the individual's risk perception, can have a significant impact on a person's decision to get vaccinated. In this study, 40 people (29.4%) were unwilling to be vaccinated because they were afraid of the side effects, and 18 people (13.2%) were afraid of injections. The same picture emerges from an Al-Hanawi study conducted in 2021, in which 136 (49.63%) subjects expressed similar concerns. The

study also included one subject who does not believe in the virus and 31 people (11.31%) who believe the vaccine itself is a hoax. Three subjects (2.2%) in this study did not believe in Corona.<sup>3</sup> This demonstrates that the problem persists in society. Furthermore, anxiety has an effect on body health, as stated in several studies, one of which was published in 2021 by Elviani regarding increased cholesterol in anxiety sufferers, which can increase the risk of heart disease, stroke, and other diseases. It's possible that this is why people with anxiety in this study are hesitant to get vaccinated.

In this study, 26 of the 28 people who were reluctant to be vaccinated were anxious. Existing research has found that people with mental illnesses are more susceptible to vaccine hesitancy and vaccine efficacy. Patients with severe mental disorders are vulnerable to infection, illness, and death from a variety of diseases, including COVID-19.<sup>11,12,13</sup> This demonstrates that a person's mental health can influence their willingness to receive a vaccine. In a 2021 study on the responses of psychiatric patients in China conducted by Xin Ren, 55.9% of his research subjects were aware of the Covid-19 vaccine and 78.7% agreed to be vaccinated even before the vaccine was released.<sup>10</sup> On the other hand, according to Roslina's 2022 article, there are still many people in Indonesia who have not been vaccinated because the information they are given about COVID-19 is incorrect. This demonstrates the importance of vaccination education in

increasing people's willingness to receive vaccines.

In a 2021 psychiatric study, Eyllon discovered a high reluctance to vaccination in the group of psychiatric patients using drugs (29.6%), compared to 16.5% for anxiety. However, because the authors only included the anxiety group, no comparisons with other psychiatric disorders were made.<sup>14</sup> The anxiety group, on the other hand, showed more aversion. This statement exemplifies the need for distinct approaches to specific psychiatric groups.

Anxiety about vaccines is common, not only among people who suffer from anxiety disorders, but also among the general public at various levels, including health workers. Although this vaccination causes anxiety, it can also improve public mental health as a form of COVID-19 protection.<sup>1,14,15</sup>

This study focuses on describing two groups of people who are afraid of vaccines: those who have anxiety disorders and those who are not. Tracing the barriers to vaccination coverage, such as the reasons for refusal, can provide useful data for the government or implementers, such as local health facilities, to develop strategies, particularly for vulnerable groups such as people suffering from anxiety disorders. However, this study has limitations, including a small sample size and a single hospital location, limiting its ability to adequately describe the target population. More research with larger samples and coverage that is more representative of the target population is required.

## CONCLUSION

This study concludes that vaccination apprehension persists, particularly among those with anxiety disorders. It is strongly advised to take a more targeted vaccination approach for specific disease groups in order for the vaccine to be well received in the community.

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