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**THE DESCRIPTION OF COVID-19 BOOSTER VACCINATION ACCEPTANCE
BASED ON HEALTH BELIEF MODEL THEORY IN THE COMMUNITY
AT SIDOMULYO HEALTH CENTER PEKANBARU CITY**

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ABSTRACT

Pekanbaru City occupies the highest number of COVID-19 cases of all 12 regencies/cities in Riau Province, namely 63,119 cases with 1,375 deaths (CFR 2.18%) as of April 18, 2022. The number of COVID-19 cases reported in Tampan District amounted to 650 cases. so it is categorized as a COVID-19 red zone in Pekanbaru City. The Indonesian government has made various efforts to break the chain of transmission of COVID-19, including the COVID-19 Vaccination Program. The data on COVID-19 vaccinations in the work area of the Sidomulyo Health Center Inpatient Pekanbaru City until March 2022, namely dose 1 as much as 8,046, dose 2 as much as 7,091, and dose 3 as much as 195. Factors influencing the COVID-19 Booster Vaccination acceptance based on Health Belief Model Theory include perceived susceptibility, perceived severity, perceived benefits, and perceived barriers. The purpose of this study was to determine the description of the COVID-19 Booster Vaccination acceptance based on the Health Belief Model theory in the community in the working area of the Sidomulyo Health Center in Pekanbaru City in 2022. This study used an analytical observational study design with a cross sectional design. The sampling technique is Quota Sampling with a sample size of 110 respondents. Data analysis was performed univariately. The results of this study are that most of the respondents are willing to receive the COVID-19 Booster Vaccination, namely 91 people (82.7%). In addition, the results also showed that the most respondents had a low perceived susceptibility related to COVID-19 namely 43 people (39.1%), some respondents had a high perceived severity related to COVID-19 namely 55 people (50%), most respondents had a moderate perceived benefits related to COVID-19 Booster Vaccination namely 58 people (50.9%), and most respondents had a low perceived barriers related to COVID-19 Booster Vaccination safety namely 54 people (49.1%). The conclusion of this study is that the majority of respondents are willing to take part in the COVID-19 Vaccination Booster Program implemented by the Indonesian government.

Keywords: acceptance, booster, COVID-19, health belief model, vaccination

INTRODUCTION

The rapid transmission of COVID-19 in Indonesia and around the world has forced people to live side by side with changes related to the COVID-19 pandemic. The increase in cases of COVID-19 has also caused concern for the community. A serious and high-risk public health emergency in a vulnerable population where health care facilities are unable to handle the situation [1]. So far, there have been efforts to prevent the transmission of COVID-19 by implementing the 5M Health Protocol, including wearing masks, maintaining distance, washing hands, avoiding crowds, and reducing mobility [2]. However, the 5M Health Protocol has not been very effective in breaking the chain of transmission of COVID-19, as evidenced by the continuous increase in the incidence of COVID-19 infection in all regions of Indonesia and the world. Therefore, WHO plans and formulates a COVID-19 vaccination program for the

community which aims to build a person's immunity and end up breaking the chain of transmission of COVID-19 [3].

Based on data on April 18, 2022, the total target or vaccination in Indonesia until the final stage was 393,248,891, of which the total vaccination for dose 1 was 198,351,438 doses, dose 2 was 163,036,814 doses, and dose 3 was 31,860,639 doses. At the Riau Province level, the total vaccination dose 1 was 4,730,292 doses, dose 2 was 3,731,742 doses, and dose 3 was 608,021 doses [4]. There is a comparison that data on COVID-19 Vaccination coverage in Riau Province is still lower than the national one, namely at doses 2 and 3. The coverage of COVID-19 Vaccination dose 2 in Riau Province (77.10%) is lower than nationally (78.28%). Meanwhile, the coverage of COVID-19 vaccine dose 3 in Riau Province (12.56%) is lower than the national level (15.30%). Vaccination data for COVID-19 in Pekanbaru City include a total of 874,612 doses of vaccination for dose 1, dose 2 for 726,610 doses, and dose 3 for 140,100 doses [5].

The results of the study showed that there was a decrease in antibodies 3 months after receiving a complete primary dose of COVID-19 vaccination, so that further or booster doses were needed to increase individual protection, especially in vulnerable groups of people. The National Immunization Expert Advisory Committee or ITAGI, based on a study through letter number ITAGI/SR/2/2022 regarding the Advanced COVID-19 Vaccine Study (booster), recommends giving a booster dose to improve the effectiveness of the vaccine that has decreased. On January 12, 2022 the provision of free COVID-19 Booster Vaccination began [6].

Data on vaccination receipts in the work area of the Sidomulyo Health Center in Pekanbaru City from January 2021 to March 2022 totaling 8,046 people for dose 1, 7,091 for dose 2, and as many as 195 people for dose 3. COVID-19 Booster Vaccination is carried out based on participants who have received the Complete Primary Dose COVID-19 Vaccination and are registered with the type of vaccine given, namely Pfizer and AstraZeneca. Comparison of recipients of the COVID-19 Booster Vaccine (dose 3) in the working area of the Sidomulyo Health Center in Pekanbaru City is still very low compared to recipients of dose 1 (2.1%) and dose 2 (2.38%) [7]. One of the reasons for the low COVID-19 Booster Vaccination is that people are reluctant to receive COVID-19 Booster Vaccination which is felt to have more side effects than Complete Primary Dose Vaccine and there is an opinion in society that the current pandemic is over. The lack of transparent and accurate information about the safety and efficacy of vaccines to gain the trust of people who have doubts about the COVID-19 vaccination [8].

Individual perceptions to choose to do something related to health problems can be studied with the Health Belief Model Theory. Theory of the Health Belief Model is a theory that is used to understand attitudes and health behavior towards disease. The Health Belief Model consists of several dimensions, namely perceived susceptibility, perceived severity, perceived benefits, perceived barriers, self-involvement in a health behavior. Based on this theory, there is a perception of obstacles which are obstacles or obstacles that individuals feel in making decisions to carry out COVID-19 Booster Vaccination [9].

RESEARCH METHODS

This research is an analytic observational research with a cross sectional approach. This research was conducted in the working area of the Sidomulyo Health Center in Pekanbaru City. This research was conducted in June-July 2022. There are two types of variables in this study, namely Health Belief Model variables (perceived susceptibility, perceived severity, perceived benefits, and perceived barriers) which are the independent variable, while the dependent

variable in this study is COVID-19 Booster Vaccination acceptance. The data collection instrument in this study used a questionnaire which was a modification of the questionnaire used in previous research [10]. The instrument for measuring perception variables based on Health Belief Model theory consists of 4 questions with 3 answer choices, namely high, moderate, and low. Meanwhile, the instrument for measuring the COVID-19 Booster Vaccination acceptance consists of 1 question with 2 answer choices, namely not willing to accept COVID-19 Booster Vaccination and willing to accept COVID-19 Booster Vaccination. The data used on the independent variable is an ordinal data scale, while the data used on the dependent variable is a nominal scale.

The population used in this study were all people who had received the Complete Primary Dose of COVID-19 Vaccine (Doses 1 and 2) in the working area of the Sidomulyo Health Center in Pekanbaru City in the period January 2021 to March 2022, totaling 15,137 people. The sample in this study is a portion of the community who have received the Complete Primary Dose of COVID-19 Vaccine (Doses 1 and 2) in the work area of the Sidomulyo Health Center in Pekanbaru City in the period January 2021 to March 2022. By using the Slovin Formula, the sample size obtained is 110 respondents. The sampling technique used in this study was non-probability sampling in the form of Quota Sampling. The inclusion criteria in this study were: 1) Respondents had received the Complete Primary COVID-19 Vaccination (Doses 1 and 2); 2) Respondents belong to the late adolescent to late adult age category (18-45 years); and 3) Respondents can communicate well. Meanwhile, the exclusion criteria in this study were: 1) Respondents had a history of themselves being infected with COVID-19; 2) Respondents have family members who have been infected with COVID-19; and 3) Respondents have received COVID-19 Booster Vaccination. Data analysis in this study used univariate analysis

RESULTS AND DISCUSSIONS

Table 1. The Description of Respondent Characteristics

Respondent Characteristics	F	%
Age (years)		
18-21	18	16,4%
22-25	29	26,4%
26-29	20	18,2%
30-33	16	14,5%
34-37	12	10,9%
38-41	8	7,3%
42-45	7	6,4%
TOTAL	110	100%
Sex		
Male	58	52,7%
Female	52	47,3%
TOTAL	110	100%
Education Level		
Uneducated	0	0%
Primary school	1	9%
Junior high school	6	5,5%
Senior high school	60	54,5%
Bachelor / master	43	39,1%
TOTAL	110	100%
Profession		
Unemployment	11	10%
Student	2	1,8%
College student	27	24,5%
Employee	46	41,8%
Civil servant	8	7,3%
Housewife	16	14,5%
TOTAL	110	100%

Based on Table 1, the results showed that most respondents were in the 22-25 year age category, namely 29 people (26.4%). The majority of respondents were male, namely 58 people (52.7%). In addition, most respondents had the last level of education from senior high school, namely 60 people (54.5%) and had private sector employees, namely 46 people (41.8%).

Table 2. The Description of COVID-19 Booster Vaccination Acceptance Based on Health Belief Model Theory in the Community at Sidomulyo Health Center Pekanbaru City

Health Belief Model Variables	F	%
Perceived Susceptibility		
Low	43	39,1%
Moderate	41	37,3%
High	26	23,6%
TOTAL	110	100%
Perceived Severity		
Low	20	18,2%
Moderate	35	31,8%
High	55	50,0%
TOTAL	110	100%
Perceived Benefits		
Low	17	15,5%
Moderate	56	50,9%
High	37	33,6%
TOTAL	110	100%
Perceived Barriers		
High	24	21,8%
Moderate	32	29,0%
Low	54	49,1%
TOTAL	110	100%

Based on Table 2, the results showed that most respondents had a low perceived susceptibility related to COVID-19 namely 43 people (39.1%), most respondents had a high perceived severity related to COVID-19 namely 55 people (50%), most respondents had a moderate perceived benefits related to COVID-19 Booster Vaccination namely 58 people (50.9%), and most respondents had a low perceived barriers related to COVID-19 Booster Vaccination namely 54 people (49.1%).

Table 3. The Description of COVID-19 Booster Vaccination Acceptance in the Community at Sidomulyo Health Center Pekanbaru City

COVID-19 Booster Vaccination Acceptance	F	%
Not willing to accept	19	17,3%
Willing to accept	91	82,7%
TOTAL	110	100%

Based on Table 3, the results showed that the majority of respondents were willing to accept the COVID-19 Booster Vaccination, namely 91 people (82.7%). This is in line with previous research result by Lai et al (2021) which stated that the majority of respondents to their study were willing to receive the COVID-19 Booster Vaccination, with 1,145 respondents (84.80%) [10]. The results of this study are because respondents willing to take part in the COVID-19 Booster Vaccination program implemented by the government to minimize the incidence of COVID-19 in the community. The community also argued that the COVID-19 Booster Vaccination carried out by the government can prevent them from being infected with COVID-19 and can prevent the rate of COVID-19 transmission [11].

Based on the univariate analysis that has been carried out, the results show that most respondents are in the 22-25 year age category, namely 29 people (26.4%). This is in line with previous research result by Rizqillah (2021) which stated that the 18-24 year old group had higher acceptance (40.4%) because the adolescent and adult age groups tended to have good

acceptance of COVID-19 Booster Vaccination compared to other age groups [12]. In addition, other results were obtained that the majority of respondents were male, namely as many as 58 people (52.7%). This is in accordance with a previous study result by Qin et al (2022) which states that men have higher acceptance (50.31%) because men read more sources of information and discuss COVID-19 Booster Vaccination than women [13].

Another results showed that the majority of respondents have the last education level in senior high school, namely 60 people (54.5%). This is in line with the previous research result by Lai et al (2021) which states that the education level of the majority of respondents is at the senior high school level with a result (72.8%) [10]. This relates to educated people having a positive perception of COVID-19 Booster Vaccination. This may be related to the experience factor that is owned by the individual itself so that it influences perception and then affects the level of acceptance of a person for COVID-19 Booster Vaccination. Other results include that most respondents work as private employees, namely as many as 46 people (41.8%). This is because people who work tend to have positive perceptions because it relates to the social environment, friends and one's level of education [14].

CONCLUSION

The conclusion of this study is that the majority of respondents are voluntarily willing to take part in the COVID-19 Vaccination Booster Program implemented by the Indonesian government. Moreover, most respondents had a low perceived susceptibility related to COVID-19 namely 43 people, most respondents had a high perceived severity related to COVID-19 namely, most respondents had a moderate perceived benefits related to COVID-19 Booster Vaccination, and most respondents had a low perceived barriers related to COVID-19 Booster Vaccination.

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REFERENCES

- [1] Dashraath et al, "Special Report and pregnancy," *Am J Obs. Gynecol*, vol. 222, no. 6, pp. 521–531, 2020.
- [2] Kementerian Kesehatan Republik Indonesia, "5 M Di Masa Pandemi COVID-19 Di Indonesia," 2021. .
- [3] M. Danchin, R. Biezen, J.-A. Manski-Nankervis, J. Kaufman, and J. Leask, "Preparing the public for COVID-19 vaccines," *Aust. J. Gen. Pract.*, vol. 49, no. 10, pp. 625–629, 2020.
- [4] Kementerian Kesehatan Republik Indonesia, "Vaksinasi COVID-19 Nasional," 2022. .
- [5] Kementerian Kesehatan Republik Indonesia, "Data Vaksinasi COVID-19," Satuan Tugas Penanganan COVID-19, 2022. .
- [6] Kementerian Kesehatan Republik Indonesia, "Vaksinasi COVID-19 Dosis Lanjutan (Booster)," Kementerian Kesehatan RI, no. Januari, p. 7, 2022.
- [7] Kementerian Kesehatan Republik Indonesia, "Jumlah Data Vaksinasi COVID-19 di Puskesmas Sidomulyo Pekanbaru," 2022.
- [8] Kementerian Kesehatan Republik Indonesia, "Kasus Konfirmasi COVID-19 Menurun Signifikan, Pemerintah Terus Mengimbau Disiplin Prokes dan Vaksinasi," 2022. .

- [9] L. P. Wong, H. Alias, P. F. Wong, H. Y. Lee, and S. AbuBakar, "The use of the health belief model to assess predictors of intent to receive the COVID-19 vaccine and willingness to pay," *Hum. Vaccines Immunother.*, vol. 16, no. 9, pp. 2204–2214, 2020.
- [10] X. Lai et al., "Public perceptions and acceptance of covid-19 booster vaccination in china: A cross-sectional study," *Vaccines*, vol. 9, no. 12, pp. 1–17, 2021.
- [11] Z. L. Argista, "Persepsi Masyarakat Terhadap Vaksin Covid-19 Di Sumatera Selatan," vol. 13, no. 3, 2021.
- [12] L. Y. Rizqillah, "Analisis Faktor Health Belief Model Pada Penerimaan Vaksinasi Covid-19," *J. Med. Utama*, vol. 3, no. 1, pp. 1734–1738, 2021.
- [13] C. Qin, R. Wang, L. Tao, M. Liu, and J. Liu, "Association Between Risk Perception and Acceptance for a Booster Dose of COVID-19 Vaccine to Children Among Child Caregivers in China," *Front. Public Heal.*, vol. 10, no. March, pp. 1–10, 2022.
- [14] Y. Lasmita, "Analisis Penerimaan Program Vaksinasi Analisis Penerimaan Program Vaksinasi Covid-19 Pada Masyarakat Di Wilayah," vol. 2 (07), 2021.