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# CONTENT

Vol. 8 No. 1 (2024): IMJ - Vol 8 No 1 - Winter 2024 PUBLISHED: 2024-03-26 DOI: https://doi.org/10.22317/imj.v8i1

# REVIEW

 Prevalence, Risk Factors and Management of Polycystic Ovary Syndrome: A Review with Current Evidence
 Sajjan Iqbal Memon, Misbah Shakeel, Hafsa Syed, Kinza Amin, Aya A Khalil, Maryam Sulaiman

# ARTICLES

- Cycle day 2 serum levels of insulin-like growth factor-1 as a prognostic indicator for poor responders to controlled ovarian hyperstimulation
   Rafraf Jaafar Hamad Witwit, Fadia J Alizzi, Lubna Amer Al-Anbari, Huda Ali Hussaini
- <u>Antigenic markers of T. gondii for chronic forms of toxoplasmosis in fertility age</u>
  <u>women</u>

Suha A. AL-Fakhar, Wifaq M. Ali, Saad Hasan Mohammed Ali, Khalil Ismail A Mohammed, Jinan M. Mousa, Zahraa Mushtag, Nada Nuri Yunis

- <u>Study of the most prevalent parasitic diseases especially pinworm among children</u> <u>aged (5-12years) in various areas of Dhi Qar Governorate</u> Mahmood Razzaq Mashar Askar
- Serum Level of Vitamin K as Predicts Mortality in Iraqi COVID-19 Patients Haneen Saeed Muhsen Al-Mosawei, Hanaa Addai Ali Al-Sultani, Fadhil Jawad Al-Tu'ma
- <u>STIGMA and knowledge of COVID 19 vaccines affect the COVID 19 vaccination in</u>
  <u>Indonesia</u>

Husnun Amalia, Nany Hairunisa, Nashita Amira Zaina, Yasmine Mashabi, Laila Musfirah, Isra Sabrina, Emad Yousif

# STIGMA and Knowledge of COVID 19 Vaccines Affect the COVID 19 Vaccination in Indonesia

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(Submitted: 05 January 2024 - Revised version received: 29 January 2024 - Accepted: 12 February 2024 - Published Online: 26 March 2024)

### Abstract

Objective: This study aimed to assess STIGMA's effect and knowledge of the COVID-19 vaccine on COVID-19 vaccination.

**Methods:** The research design is cross-sectional with consecutive non-random sampling. The method used is a questionnaire-based survey given online. The questionnaire included respondent characteristics, history of COVID-19 vaccination, stigma, and factors that influenced the COVID-19 vaccination. The data were exported from the Google form to Microsoft Excel version 16.57 for cleaning and coding, and analysis with SPSS 25.0. Variables were analyzed using the chi-square and Fisher's exact tests (95% confidence level and *P*-value 5%). Correlation using the Spearman test (r is significant if > 0.001) and the odds ratio (OR) of the two variables.

**Results:** The study was attended by 291 respondents aged 15–59 years, 51.9% worked in the health sector, and 48.1% were the general public. Perception regarding knowledge of COVID-19 shows that 79.7% know and 20.3% don't know. 95.5% of respondents knew about the COVID-19 vaccine program, and the remaining 4.9% did not know. Respondents who had received vaccinations were 97.3%, and 2.7% had not been vaccinated. Factors related to the STIGMA of the COVID-19 vaccine were work in the health sector (P = 0.001, r = 0.200), knowledge of COVID-19 (P = 0.001, r = 0.195), and knowledge of the COVID-19 vaccine program (P = 0.000, r = 0.221). Factors related to receiving vaccinations were knowing the COVID-19 vaccine program (P = 0.000, r = 0.574) and the STIGMA of the COVID-19 vaccine (P = 0.000, r = 0.225).

**Conclusion:** Implementing the vaccination program will be successful if the community has good knowledge about vaccines and does not have a STIGMA for vaccines.

Keywords: STIGMA, COVID-19 vaccine, knowledge of the COVID-19 vaccine, vaccination

# Introduction

The coronavirus disease (COVID-19) has spread across all countries, causing a Public Health Emergency of International Concern.<sup>1</sup> The COVID-19 epidemic is a large-scale outbreak of an infectious disease that can increase morbidity and mortality over a wide geographic area.<sup>2</sup> The pandemic caused problems in terms of health, economy, social, and politics.<sup>2-4</sup> This virus shows a very high transmission level and causes many deaths.<sup>2</sup> Pandemic outbreaks have affected various aspects of the world community's life and can potentially bring significant challenges to the world health system and influence the global economy. The government is making multiple efforts to stop this pandemic.<sup>5</sup>

The causative virus is a novel type of coronavirus known as SARCoV2.<sup>1,6,7</sup> This virus is highly contagious through particles that come out during the breathing process at a distance of less than 1 meter.<sup>2</sup> So prevention must be carried out so that transmission does not occur with the health program of keeping a distance, wearing masks, washing hands, and others.<sup>1,8,9</sup> Vaccination against COVID-19 is one of the efforts made by the government to prevent the spread of this disease.<sup>2,9</sup> When given a vaccination, a person will have immunity to this virus and, if infected, will not experience severe disease conditions.<sup>2,4,10</sup> So that it will accelerate the overall immunity process in the community.<sup>2</sup> The government requires vaccination to form herd immunity (mass immunity) to prevent transmission of COVID-19 in Indonesia.<sup>11,12</sup> Herd immunity through mass vaccination will be developed more quickly than naturally through natural infection with COVID-19. However, the government's program to tackle and prevent the spread of the COVID-19 pandemic has been disrupted by the emergence of various hoaxes in online media. Often this information is spread by accounts that do not have good knowledge about the COVID-19 vaccine.<sup>11</sup> As a result, in society, there are various pro and con views against the COVID-19 vaccination.<sup>5</sup>

This phenomenon of pro and con views can be caused by the lack of conveyance of sources of knowledge and information regarding COVID-19 vaccination in public spaces that the public can access. So that these circulating hoax issues have created fear and concern among the public regarding the safety and effectiveness of the COVID-19 vaccine for the health of the human body.<sup>5</sup> Doubts and worries about vaccines will result in refusing vaccinations, putting people in these areas at high risk of being infected with COVID-19.<sup>4</sup>

People with a negative stigma towards the COVID-19 vaccine will have a social impact. Negative STIGMA can cause refusal to be vaccinated, causing obstacles to herd immunity formation.<sup>13</sup> Based on this, researchers want to assess STIG-MA's effect and knowledge of the COVID-19 vaccine on COVID-19 vaccination.

Table 1 Characteristic frequency distribution

# Methods

# **Research Population**

The study was attended by 291 respondents and was conducted from September 2022 to July 2023. The research locations were in 4 cities/districts in 4 regions of Indonesia, namely Puskesmas/Hospitals in DKI Jakarta Province, Puskesmas in Aceh Province (Puskesmas Lembah Seulawah), Puskesmas in Province of Bali (Puskesmas Abiansemal I), Puskesmas in North Maluku (working area of Puskesmas Soasio, City of Tidore Kepulauan). The population in this study is people aged 18-64 years in the Province of the Special Region of Aceh, the Special Capital Region of Jakarta, Bali, and North Maluku. The target population in this study is the community and health workers in the Puskesmas work environment. The research sample has inclusion criteria; Mature age (18-60 years), ability to communicate well, and respondents who work as health workers have worked for at least six months as health workers. The exclusion criteria were having certain psychological disorders such as phobias.

### **Study Design**

The research design is cross-sectional with a non-random sampling method. The method used is a questionnaire-based survey. The research instrument used in data collection was using primary data derived from interviewing respondents using a questionnaire. The questionnaire includes characteristics of respondents, Vaccination History COVID 19, Stigma, and factors that influence vaccination COVID-19.

# **Statistical Analysis**

After extracting the questionnaire from the Google form, the data were exported to Microsoft Excel version 16.57. Data analysis was performed using SPSS 25.0. Variables were analyzed using the chi-square test and Fisher's exact test (95% confidence level and *P*-value 5%), correlation using the Spearman test (r is significant if > 0.001), and the odds ratio (OR) of the two variables was calculated.

# **Ethical Approval**

Permission to conduct this study was obtained from the Faculty of Medicine, Trisakti University Research Board, with the number 180/KER/FK/X/2022. Research permits were also obtained from the Indonesian Ministry of Home Affairs with Numbers 400.5/7800/Polpum.

# Results

The study was attended by 291 respondents, with the calculation of the sample population from each province calculated using proportions.

Table 1 shows that the majority of respondents are adults (80.8%), women (69.4%), highly educated (68.7%), from a balanced region, namely around 67–78 respondents per region, with married status (52.9%), Muslim (77.0%), work in the health sector (51.9%), have a very good self-perception of knowledge about COVID 19 (79.7%), know the COVID 19 vaccination program (95.5%), have been vaccinated (97.3%) and have no stigma against COVID-19 vaccine (64.3%).

In Table 2, the factors related to STIGMA are presented and these three factors show a significant relationship, namely work in the health sector (P = 0.001, r = 0.200), self-perception

| VariableFrequency%AgeYouth (15–18 years)206.9Adult (19–44 years)23680.8Pre-elderly (45–59 years)3612.4GenderMan8930.6Woman20269.4Level of educationMedium (junior high school)9131.3Height (D3–S2)20068.7Origin7826.8Aceh6723.0Bali7325.1North Maluku7325.1North Maluku7325.1Marry15452.9Not yet/Not married/Divorced13747.1Religion6.2Hindu4615.8Buddha20.7Trust10.3Working in the health sectorYes15151.9No14048.1Self-perception of knowing knowledge about COVID 19232Arow the COVID 19 vaccine programYes27895.5No134.5Vaccinated2.7Yes28397.3No82.7Stigma against the COVID 19 vaccineYes10435.7No18744.3   | Table 1. Characteristic frequency distri | bution    |      |
|---|--|-----------|------|
| Youth (15–18 years)      20      6.9        Adult (19–44 years)      236      80.8        Pre-elderly (45–59 years)      36      12.4        Gender   | Variable                                 | Frequency | %    |
| Adult (19–44 years)    236    80.8      Pre-elderly (45–59 years)    36    12.4      Gender   | Age                                      |           |      |
| Pre-elderly (45–59 years)    36    1.2.4      Gender    Man    89    30.6      Woman    202    69.4      Level of education    1    1.3.3      Height (D3–52)    200    68.7      Origin    7    20.2    69.4      Greater Jakarta    78    26.8    67    23.0      Bali    73    25.1    7.0    25.1      North Maluku    73    25.1    7.0      Martry    154    52.9    7.0      Not yet/Not married/Divorced    137    47.1      Religion    24    77.0      Islam    22.4    77.0      Christian/Catholic    18    6.2      Hindu    46    15.8      Buddha    2    0.7      Trust    1    0.3      Vorking in the health sector    28.3    6.7      Yes    151    51.9      No    140    48.1      Self-perception of knowing knowledge about COVID 19    23.2    7.7      Don't know    59    20.3   | Youth (15–18 years)                      | 20        | 6.9  |
| Gender    89    30.6      Man    89    30.6      Woman    202    69.4      Level of education    91    31.3      Height (D3–S2)    200    68.7      Origin    73    26.8      Greater Jakarta    78    26.8      Aceh    67    23.0      Bali    73    25.1      North Maluku    73    25.1      Marry    154    52.9      Not yet/Not married/Divorced    137    47.1      Religion    24    77.0      Islam    224    77.0      Christian/Catholic    18    6.2      Hindu    46    15.8      Buddha    2    0.7      Trust    1    0.3      Working in the health sector    3    45.1      Self-perception of knowing knowledge about COVID 19    232    79.7      Don't know    232    79.7      Don't know    232    79.7      No    13    4.5      Ko    13    4.5  | Adult (19–44 years)                      | 236       | 80.8 |
| Man      89      30.6        Woman      202      69.4        Level of education   | Pre-elderly (45–59 years)                | 36        | 12.4 |
| Woman      202      69.4        Level of education  | Gender                                   |           |      |
| Level of education      91      31.3        Medium (junior high school)      91      31.3        Height (D3–S2)      200      68.7        Origin      78      26.8        Aceh      67      23.0        Bali      73      25.1        North Maluku      73      25.1        Marry      154      52.9        Not yet/Not married/Divorced      137      47.1        Religion      137      47.1        Religion      224      77.0        Christian/Catholic      18      6.2        Hindu      46      15.8        Buddha      2      0.7        Trust      1      0.3        Vorking in the health sector      1      31.3        Very know      232      79.7        Don't know      59      20.3        Know the COVID 19 vaccine program      24      55.5        No      13      4.5        Very know      232      79.7        Don't know      59      20.3        Kaso   | Man                                      | 89        | 30.6 |
| Medium (junior high school)    91    31.3      Height (D3–S2)    200    68.7      Origin    78    26.8      Aceh    67    23.0      Bali    73    25.1      North Maluku    73    25.1      Marry    154    52.9      Not yet/Not married/Divorced    137    47.1      Religion    18    6.2      Hindu    46    15.8      Buddha    2    0.7      Trust    1    0.3      Working in the health sector    18    6.2      Yes    151    51.9      No    140    48.1      Self-perception of knowing knowledge about COVID 19    232    79.7      Don't know    59    20.3      Know the COVID 19 vaccine program    278    95.5      No    13    4.5      Vaccinated    283    97.3      No    13    4.5      Vaccinated    283    97.3      No    13    4.5      Vaccinated    283    97.3  | Woman                                    | 202       | 69.4 |
| Height (D3–S2)    200    68.7      Origin    78    26.8      Aceh    67    23.0      Bali    73    25.1      North Maluku    73    25.1      Marry    154    52.9      Not pet/Not married/Divorced    137    47.1      Religion    137    47.1      Religion    18    6.2      Hindu    46    15.8      Buddha    2    0.7      Trust    1    0.3      Working in the health sector    1    3.3      Yes    151    51.9      No    140    48.1      Self-perception of knowing knowledge about COVID 19    232    79.7      Don't know    59    20.3      Know the COVID 19 vaccine program    245.5    3.0      Vaccinated    278    95.5      No    13    4.5      Vaccinated    283    97.3      No    8    2.7      Stigma against the COVID 19 vaccine    283    97.3      No    8    2.7   | Level of education                       |           |      |
| Origin    78    26.8      Aceh    67    23.0      Bali    73    25.1      North Maluku    73    25.1      Marry    73    25.1      Marry    154    52.9      Not yet/Not married/Divorced    137    47.1      Religion    137    47.1      Religion    18    6.2      Hindu    46    15.8      Buddha    2    0.7      Trust    1    0.3      Working in the health sector    1    0.3      Yes    151    51.9      No    140    48.1      Self-perception of knowing knowledge about COVID 19    20.3      Know    59    20.3      Know    59    20.3      Know    59    20.3      Know    232    79.7      Don't know    59    20.3      Know    13    4.5      Vaccinated    3    4.5      Yes    283    97.3      No    8    2.7 <tr< td=""><td>Medium (junior high school)</td><td>91</td><td>31.3</td></tr<>  | Medium (junior high school)              | 91        | 31.3 |
| Greater Jakarta      78      26.8        Aceh      67      23.0        Bali      73      25.1        North Maluku      73      25.1        Marry      154      52.9        Not yet/Not married/Divorced      137      47.1        Religion      137      47.1        Religion      18      6.2        Hindu      46      15.8        Buddha      2      0.7        Trust      1      0.3        Working in the health sector      2      0.7        Yes      151      51.9        No      140      48.1        Self-perception of knowing knowledge about COVID 19      2      79.7        Don't know      232      79.7        Don't know      232      79.7        No      13      4.5        Vaccinated      1      5        Yes      278      95.5        No      13      4.5        Vaccinated      2      7.3        Yes      283      97.3   | Height (D3–S2)                           | 200       | 68.7 |
| Aceh      67      23.0        Bali      73      25.1        North Maluku      73      25.1        Marrial status      73      25.9        Marry      154      52.9        Not yet/Not married/Divorced      137      47.1        Religion      137      47.1        Religion      14      6.2        Islam      224      77.0        Christian/Catholic      18      6.2        Hindu      46      15.8        Buddha      2      0.7        Trust      1      0.3        Working in the health sector      1      3.1        Very know      232      79.7        Don't know      59      20.3        Know      13      4.5        Very know      232      79.7        Don't know      59      20.3        Know      13      4.5        Vaccinated      1      4.5        Vaccinated      1      4.5        Yes      283      97.3  | Origin                                   |           |      |
| Bali    73    25.1      North Maluku    73    25.1      Marital status    154    52.9      Marry    154    52.9      Not yet/Not married/Divorced    137    47.1      Religion    137    47.1      Religion    18    6.2      Islam    224    77.0      Christian/Catholic    18    6.2      Hindu    46    15.8      Buddha    2    0.7      Trust    1    0.3      Working in the health sector    1    0.3      Yes    151    51.9      No    140    48.1      Self-perception of knowing knowledge about COVID 19    20.3      Very know    232    79.7      Don't know    59    20.3      Know    13    4.5      No    283    97.3      No    8    2.7 </td <td>Greater Jakarta</td> <td>78</td> <td>26.8</td>   | Greater Jakarta                          | 78        | 26.8 |
| North Maluku      73      25.1        Marital status  | Aceh                                     | 67        | 23.0 |
| Marital status    International of the problem of the | Bali                                     | 73        | 25.1 |
| Marry      154      52.9        Not yet/Not married/Divorced      137      47.1        Religion      137      47.0        Keligion      18      6.2        Islam      224      77.0        Christian/Catholic      18      6.2        Hindu      46      15.8        Buddha      2      0.7        Trust      1      0.3        Working in the health sector      7      0.3        Verking in the health sector      140      48.1        Self-perception of knowing knowledge about COVID 19      232      79.7        Don't know      59      20.3        Know the COVID 19 vaccine program      13      4.5        Vaccinated      13      4.5        Yes      278      95.5        No      13      4.5        Vaccinated      13      4.5        Yes      283      97.3        No      8      2.7        Stigma against the COVID 19 vaccine      104      35.7  | North Maluku                             | 73        | 25.1 |
| Not yet/Not married/Divorced      137      47.1        Religion      137      47.1        Religion      1      77.0        Islam      224      77.0        Christian/Catholic      18      6.2        Hindu      46      15.8        Buddha      2      0.7        Trust      1      0.3        Working in the health sector      7        Yes      151      51.9        No      140      48.1        Self-perception of knowing knowledge about COVID 19      232      79.7        Don't know      59      20.3        Know the COVID 19 vaccine program      7      95.5        No      13      4.5        Vaccinated      7      95.5        No      13      4.5        Vaccinated      7      95.5        No      8      2.7        Stigma against the COVID 19 vaccine      8      2.7        Stigma against the COVID 19 vaccine      104      35.7   | Marital status                           |           |      |
| Religion      Islam    224    77.0      Christian/Catholic    18    6.2      Hindu    46    15.8      Buddha    2    0.7      Trust    1    0.3      Working in the health sector    7    1      Yes    151    51.9      No    140    48.1      Self-perception of knowing knowledge about COVID 19    232    79.7      Don't know    59    20.3      Know the COVID 19 vaccine program    2    13      Yes    278    95.5      No    13    4.5      Vaccinated    2    27.3      Yes    283    97.3      No    8    2.7      Stigma against the COVID 19 vaccine    35.7   | Marry                                    | 154       | 52.9 |
| Islam    224    77.0      Christian/Catholic    18    6.2      Hindu    46    15.8      Buddha    2    0.7      Trust    1    0.3      Working in the health sector    1    0.3      Yes    151    51.9      No    140    48.1      Self-perception of knowing knowledge about COVID 19    232    79.7      Don't know    59    20.3      Know the COVID 19 vaccine program    278    95.5      No    13    4.5      Vaccinated    283    97.3      No    8    2.7      Stigma against the COVID 19 vaccine    8    2.7      Stigma against the COVID 19 vaccine    104    35.7   | Not yet/Not married/Divorced             | 137       | 47.1 |
| Christian/Catholic    18    6.2      Hindu    46    15.8      Buddha    2    0.7      Trust    1    0.3      Working in the health sector    1    0.3      Working in the health sector    151    51.9      No    140    48.1      Self-perception of knowing knowledge<br>about COVID 19    79.7    20.3      Know the COVID 19 vaccine program    2    79.7      No    59    20.3      Know the COVID 19 vaccine program    3.4.5      Vaccinated    13    4.5      Vaccinated    8    2.7      Yes    283    97.3      No    8    2.7      Stigma against the COVID 19 vaccine    104    35.7  | Religion                                 |           |      |
| Hindu    46    15.8      Buddha    2    0.7      Trust    1    0.3      Working in the health sector    1    0.3      Working in the health sector    1    0.3      Yes    151    51.9      No    140    48.1      Self-perception of knowing knowledge<br>about COVID 19    232    79.7      Don't know    59    20.3      Know the COVID 19 vaccine program    213    4.5      Vaccinated    13    4.5      Vaccinated    283    97.3      No    8    2.7      Stigma against the COVID 19 vaccine    104    35.7   | Islam                                    | 224       | 77.0 |
| Buddha    2    0.7      Trust    1    0.3      Working in the health sector    1    0.3      Yes    151    51.9      No    140    48.1      Self-perception of knowing knowledge<br>about COVID 19    140    48.1      Very know    232    79.7      Don't know    59    20.3      Know the COVID 19 vaccine program    13    4.5      Very know    13    4.5      No    13    4.5      Vaccinated    13    4.5      Vaccinated    8    2.7      Yes    283    97.3      No    8    2.7      Stigma against the COVID 19 vaccine    104    35.7   | Christian/Catholic                       | 18        | 6.2  |
| Trust    1    0.3      Working in the health sector    151    51.9      Yes    151    51.9      No    140    48.1      Self-perception of knowing knowledge<br>about COVID 19    232    79.7      Don't know    59    20.3      Know the COVID 19 vaccine program    278    95.5      No    13    4.5      Vaccinated    283    97.3      No    8    2.7      Stigma against the COVID 19 vaccine    203    35.7  | Hindu                                    | 46        | 15.8 |
| Working in the health sectorYes15151.9No14048.1Self-perception of knowing knowledge<br>about COVID 1923279.7Very know23279.7Don't know5920.3Know the COVID 19 vaccine program7895.5No134.5Vaccinated134.5Yes28397.3No82.7Stigma against the COVID 19 vaccine10435.7   | Buddha                                   | 2         | 0.7  |
| Yes    151    51.9      No    140    48.1      Self-perception of knowing knowledge<br>about COVID 19    232    79.7      Very know    232    79.7      Don't know    59    20.3      Know the COVID 19 vaccine program    278    95.5      No    13    4.5      Vaccinated    283    97.3      No    8    2.7      Stigma against the COVID 19 vaccine    104    35.7  | Trust                                    | 1         | 0.3  |
| No14048.1Self-perception of knowing knowledge<br>about COVID 1923279.7Very know23279.7Don't know5920.3Know the COVID 19 vaccine program5920.3Yes27895.5No134.5Vaccinated134.5Yes28397.3No82.7Stigma against the COVID 19 vaccine10435.7   | Working in the health sector             |           |      |
| Self-perception of knowing knowledge<br>about COVID 19Very know23279.7Don't know5920.3Know the COVID 19 vaccine program7895.5No134.5Vaccinated134.5Vaccinated28397.3No82.7Stigma against the COVID 19 vaccine10435.7  | Yes                                      | 151       | 51.9 |
| about COVID 19Very know23279.7Don't know5920.3Know the COVID 19 vaccine program7895.5No134.5Vaccinated134.5Vaccinated28397.3No82.7Stigma against the COVID 19 vaccine10435.7  | No                                       | 140       | 48.1 |
| Don't know5920.3Know the COVID 19 vaccine programYes27895.5No134.5Vaccinated134.5Yes28397.3No82.7Stigma against the COVID 19 vaccine10435.7   |  |           |      |
| Know the COVID 19 vaccine programYes27895.5No134.5Vaccinated134.5Yes28397.3No82.7Stigma against the COVID 19 vaccine10435.7   | Very know                                | 232       | 79.7 |
| Yes      278      95.5        No      13      4.5        Vaccinated      283      97.3        Yes      283      97.3        No      8      2.7        Stigma against the COVID 19 vaccine      Yes      104   | Don't know                               | 59        | 20.3 |
| No134.5Vaccinated28397.3Yes28397.3No82.7Stigma against the COVID 19 vaccine10435.7  | Know the COVID 19 vaccine program        |           |      |
| Vaccinated<br>Yes 283 97.3<br>No 8 2.7<br>Stigma against the COVID 19 vaccine<br>Yes 104 35.7   | Yes                                      | 278       | 95.5 |
| Yes28397.3No82.7Stigma against the COVID 19 vaccineYes10435.7   | No                                       | 13        | 4.5  |
| No82.7Stigma against the COVID 19 vaccineYes104   | Vaccinated                               |           |      |
| Stigma against the COVID 19 vaccine<br>Yes 104 35.7   | Yes                                      | 283       | 97.3 |
| Yes 104 35.7  | No                                       | 8         | 2.7  |
|   | Stigma against the COVID 19 vaccine      |           |      |
| No 187 64.3   | Yes                                      | 104       | 35.7 |
|   | No                                       | 187       | 64.3 |

of knowing about Covid 19 (P = 0.001, r = 0.195), and know the COVID 19 vaccine program (P = 0.000, r = 0.221). These three factors also show a strong correlation r > 0.001.

Statistical analysis of the Odd Ratio on the variable knowing about the vaccine program and not having a stigma against the vaccine is OR = 10,941. The Odd Ratio to find out the vaccine program and vaccination are OR = 118,286.

| Table 2. Relationship of factors affecting the strumm of the COVID-19 vaccine |           |           |                |       |        |        |
|---|-----------|-----------|----------------|-------|--------|--------|
|   |           | STIGMA CO | VID-19 vaccine |       |        |        |
| Variable  | No        |           | Yes            |       | Р      | r      |
|   | Frequency | %         | Frequency      | %     |        |        |
| Jobs in the health sector   |           |           |                |       |        |        |
| Yes   | 111       | 73.51     | 40             | 26.49 | 0.001* | 0.200§ |
| No  | 76        | 54.29     | 64             | 45.71 |        |        |
| Self-perception of knowing knowledge about COVID 19                           |           |           |                |       |        |        |
| Well-known  | 160       | 68.97     | 72             | 31.03 | 0.001* | 0.195§ |
| Don't know  | 27        | 45.76     | 32             | 54.24 |        |        |
| Know the COVID 19 vaccine program   |           |           |                |       |        |        |
| Yes   | 185       | 66.55     | 93             | 33.45 | 0.000‡ | 0.221§ |
| No  | 2         | 15.38     | 11             | 84.62 |        |        |

# Table 2. Relationship of factors affecting the STIGMA of the COVID-19 vaccine

\*Chi-square statistical test. ‡Fisher exact test statistical test. §spearman correlation test.

| Table 3. Relationship between knowing the COVID-19 program and getting vaccinated |           |              |                   |       |        |        |
|---|-----------|--------------|-------------------|-------|--------|--------|
|   | Have b    | een vaccinat | ted against COVID | -19   |        |        |
| Variable  | Yes       |              | Not y             | vet   | Р      | r      |
|   | Frequency | %            | Frequency         | %     | _      |        |
| Know the COVID-19 vaccine program   |           |              |                   |       |        |        |
| Yes   | 276       | 99.28        | 2                 | 0.72  | 0.000‡ | 0.574§ |
| No  | 7         | 53.85        | 6                 | 46.15 |        |        |
| The Stigma of the COVID-19 Vaccine  |           |              |                   |       |        |        |
| No  | 187       | 100.00       | 0                 | 0.00  | 0.000‡ | 0.225§ |
| Yes   | 98        | 92.45        | 8                 | 7.55  |        |        |

<sup>‡</sup>Fisher exact test. <sup>§</sup>Spearman correlation test (r is significant if > 0.001).

Table 3 presents a statistical analysis using the Fisher Exact Test, where there is a significant relationship with having been vaccinated against COVID-19, namely knowing the vaccine program (P = 0.000) and stigma against the COVID-19 vaccine (P = 0.000).

# Discussion

The data in Table 1 consists of 291 respondents whose numbers have been balanced between regions, namely around 23.0–26.8% for each region. This is done so that no confounding factors come from the number of respondents per region. Apart from that, we also try to balance the occupational factor, namely respondents who work in the health sector and those who do not work in the health sector, so as not to affect the assessment results of the respondent's opinions. One of the possibilities, if the number of respondents coming from the health sector is too high, is that it will show that the number of vaccinated is also high due to government policy that requires all health workers and staff in the health sector.

Stigma toward COVID-19 vaccination in this study reached 35.7%. The stigma that can arise against the COVID-19 vaccine is people's subjective opinions, negative sentiments, anxiety, anger, and the notion of certain risks.<sup>14</sup>

Stigma can also be said to be a negative perception of the COVID-19 vaccine, namely in the form of anxiety about side effects, vaccine insecurity, and the of a pandemic as the end of time.<sup>15</sup> Uzochukwa et al.<sup>4</sup> stated that the reasons for respondents having doubts about the COVID-19 vaccine were concerns about vaccine efficacy (34.34%), vaccine effectiveness (18.525%), vaccine safety (9.17%), conspiracy theories (10.8%), counterfeit vaccines (6.2%), fears of side effects side (11.2%) and several other reasons.

The number of vaccinated in the four regions reached a very high rate of 97.3%. This is not much different from the national record; the achievement of vaccine 1 reached 86.87% on June 28, 2023.16 Table 2 presents the factors related to STIGMA; work in the health sector shows a significant relationship (P = 0.001). Workers in the health sector are more likely to know about COVID-19 infection and its vaccines than those who do not work in the health sector. This will certainly minimize the emergence of stigma against the COVID-19 vaccine. However, further research can be carried out to prove this. Razal MS et al.<sup>17</sup> stated that it was expected that Health Care Workers (HCWS) would have no doubts about the COVID-19 vaccination. Because HCWS is a trusted source for information on COVID-19 and the COVID-19 vaccine. So HCWS must have confidence because it will educate the public. In addition, HCWS also has the highest risk of exposure to COVID-19 compared to other communities, which makes HCWS have to vaccinate first to protect themselves. HCWS must have confidence in the COVID-19 vaccine, so they want to be vaccinated against COVID-19. Leigh JP et al.<sup>18</sup> reported a higher willingness to be given the COVID-19 vaccination in HCWS than those who did not work in HCWS.

Self-perception of knowing about Covid19 is also significantly related to stigma (P = 0.001). The group whose selfperception did not know COVID-19 showed a higher percentage of stigma (84.62%) than those who knew (33.45%). This follows the theory that if someone understands or has good knowledge about something, he will act according to the provisions.

The Odd Ratio statistical analysis shows that respondents who know about the vaccine program will have an OR of 10,941 without stigma against vaccines. In addition, the Odd Ratio knows that the vaccine program has an OR of 118,286 for respondents to vaccinate. This explains that information about vaccines and vaccine programs is essential to prevent stigma in the community and make people participate in the program to get vaccinated. Afianur<sup>19</sup> conducted research and found that 94% of respondents had good knowledge about COVID-19, and 90% had a positive attitude about the COVID-19 vaccine. This shows that good knowledge will support positive attitudes about the COVID-19 vaccine. Hutapea MA et al.<sup>20</sup> stated that there was a relationship between knowledge and willingness to do the vaccine (P = 0.002). Decision-making is influenced by knowledge so that beneficial actions for individuals are formed, including the willingness to be vaccinated against COVID-19.

Monayo<sup>21</sup> stated that only 27% of respondents had good knowledge of the COVID-19 vaccination, although most respondents (56%) were interested in vaccinating. Our study showed that 79.7% had a self-perception that they knew about Covid, 95.5% knew about the vaccination program, and 97.3% had done the vaccination. Our research obtained different results from previous studies. This could be due to the different research times. Research Hutapea M et al.<sup>20</sup> will be carried out in 2021, while our research will be carried out in 2022 and 2023. The one-year time difference will allow the government to socialize and increase information regarding the COVID-19 vaccination to the community.

Research by Apriani WD et al.<sup>22</sup> found that 90% knew about the COVID-19 vaccine, and 92% were willing to be vaccinated (P = 0.000, r = 0. This shows that there is a relationship between the level of knowledge and willingness to be vaccinated. The conclusion is the same as our study: the higher the respondent's knowledge, the greater the willingness to be vaccinated.

Table 3 presents a statistical analysis using the Fisher Exact Test, where there is a significant relationship between knowing the vaccine program (P = 0.000), stigma against the

COVID-19 vaccine (P = 0.000), and having been vaccinated against COVID-19. This proves that if someone knows about the vaccine program and knows the vaccination schedule to be carried out will help motivate them to be willing to receive vaccinations (99.28% of respondents). In our panel research, knowledge of vaccines, apart from increasing readiness to receive COVID-19 vaccinations, can also reduce the stigma against COVID-19 vaccinations, the results of a study by Tinungki et al.<sup>15</sup> stated the same thing. However, different things were found in the research by Uzochukwu IC et al.<sup>4</sup> who reported that 97.13% of respondents knew the schedule for the COVID-19 vaccine, but only 34.67% were willing to vaccinate. This is because 65.04% of respondents have doubts about the COVID-19 vaccine.

Stigma or doubts about the COVID-19 vaccine can make someone unwilling to receive the COVID vaccination. In Tinungki et al.<sup>15</sup> states that rejection of the COVID-19 vaccination can be caused concern about the side effects that arise after the vaccine. In addition, some are worried or unsure about the safety of the vaccine drug. In the community, it was also reported that rejection occurred in sufferers of systemic diseases who did not receive information/understanding about the COVID-19 vaccine, patient readiness (feeling unprepared), and fear or phobia of needles. Josia M et al.<sup>9</sup> states that having a positive attitude towards the COVID 19 vaccine (97.8%) and the number who received the vaccine also showed a high number (86.7%). Positive knowledge and attitude about COVID 19 and its vaccine will help the COVID 19 vaccination program.

# Conclusion

Vaccination is important in situations such as the COVID-19 pandemic so that her immunity can immediately form and prevent wider transmission of infection. Information about COVID-19 and its vaccine is important to convey to the whole community so that perceptions and doubts are not formed about the COVID-19 vaccination, which will lead to a STIGMA for the vaccine itself. Our research proves two factors that have a significant relationship with receiving the COVID-19 vaccination; knowing the vaccine program (P =0.000) and stigma against the COVID-19 vaccine (P = 0.000). Respondents who know about the vaccine program will receive vaccinations 118,286 times and do not have a stigma against vaccines 10,941 times greater than those who do not know about the program.

# Funding

Faculty of Medicine, Universitas Trisakti, Jakarta, Indonesia.

# **Conflict of Interest**

None declared.

### References

1. Alasmri, B.S.; Mahmood, S.E. COVID-19 Vaccine Hesitancy-A Challenge to Vaccine Uptake among Youth in Saudi Arabia. Rwanda Medical Journal, 2022, 79, 57–59.

Nugroho, S.A.; Hidayat, I.N. Efektivitas Dan Keamanan Vaksin Covid-19: Studi Refrensi (Effectiveness and Safety of Covid-19 Vaccine: Reference Study). Jurnal Keperawatan Profesional, 2021, 9.

Adebowale, O.O.; Adenubi, O.T.; Adesokan, H.K.; Oloye, A.A.; Bankole, N.O.; Fadipe, O.E.; Ayo-Ajayi, P.O.; Akinloye, A.K. SARS-CoV-2 (COVID-19 Pandemic) in Nigeria: Multi-Institutional Survey of Knowledge, Practices and Perception amongst Undergraduate Veterinary Medical Students. PLoS One, 2021, 16, doi:10.1371/journal.pone.0248189.

- Uzochukwu, I.C.; Eleje, G.U.; Nwankwo, C.H.; Chukwuma, G.O.; Uzuke, C.A.; Uzochukwu, C.E.; Mathias, B.A.; Okunna, C.S.; Asomugha, L.A.; Esimone, C.O. COVID-19 Vaccine Hesitancy among Staff and Students in a Nigerian Tertiary Educational Institution. Ther Adv Infect Dis, 2021, 8, 1–12, doi:10.1177/20499361211054923.
- Uyun, N.Z.; Farida, N.; Maulidia, D.N.; Nurohmah, N.; Fadilah, N.Y.; Masykur. Pendampingan Masyarakat Kota Serang Dalam Pandangan Pro Dan Kontra Terhadap Vaksinasi Covid 19 (Assistance for the People of Serang City in View of the Pros and Cons of Covid 19 Vaccination). Jurnal Pengabdian Masyarakat, 2021, Vol. 14, 164–183.
- Kamel, S.H.; Jawad Al-Tu'ma, F.; Mohi Al-Saegh, R. The Impact of Severe Covid-19 in Iraqi Patients on Serum Angiotensin-Converting Enzyme-2 Level and other Various Diagnosis Biomarkers. Iraq Medical Journal, 2024, 7(4),115–120.
- Abbood, M. H., Hassan, J. S., & Mehammed, A. J. Case study of COVID 19 from August to end of December 2020 in Babylon, Iraq. Iraq Medical Journal, 2021, 5(3), 104–107. https://doi.org/10.22317/imj.v5i3.1078
- Musanabagnwa, C.; Munir, L.; Mazarati, J.B.; Muvunyi, C.M.; Nsanzimana, S.; Mutesa, L. Easing Lockdown Restrictions during COVID-19 Outbreak in Rwanda. Rw. Public Health Bul, 2020; 2, 24–29.
- 9. Josia, M.; Fadilah, T.F. Middle-High School Students' attitudes towards the COVID 19 vaccine with the COVID 19 vaccination coverage. J Biomedika Kesehat, 2022, 5, 102–108, DOI: 10.18051/JBiomedKes.2022.v5.102-108.
- Sari, I.P.; Sriwidodo, S. Perkembangan Teknologi Terkini Dalam Mempercepat Produksi Vaksin COVID-19 (Latest Technological Developments in Accelerating COVID-19 Vaccine Production). Majalah Farmasetika, 2020, 5, 204, doi:10.24198/mfarmasetika.v5i5.28082.
- Nurdiana, A.; Marlina, R.; Adityasning, W. Berantas Hoax Seputar Vaksin Covid-19 Melalui Kegiatan Edukasi Dan Sosialisasi Vaksin Covid-19 (Eradicates hoaxes about the Covid-19 vaccine through Covid-19 vaccine education and socialization activities). Abdimas Jurnal Pengabsian Masyarakat, 2022, 4, 489–495.
- 12. Rachman, F.F.; Pramana, S. Analisis Sentimen Pro Dan Kontra Masyarakat Indonesia Tentang Vaksin COVID-19 Pada Media Sosial Twitter (Analysis of Indonesian People's Pros and Cons Sentiment About the COVID-19 Vaccine on Twitter Social Media). INOHIM, 2020, 8, 100–109.

- Larson, H.J.; Gakidou, E.; Murray, C.J.L. The Vaccine-Hesitant Moment. New England Journal of Medicine 2022, 387, 58–65, doi:10.1056/ nejmra2106441.
- Straton, N. COVID Vaccine Stigma: Detecting Stigma across Social Media Platforms with Computational Model Based on Deep Learning. Applied Intelligence, 2022, doi:10.1007/s10489-022-04311-8.
- Tinungki, L.Y.; Pangandaheng, D.; Simanjorang, C.; Medea, G.P. Persepsi Masyarakat Terhadap Vaksinasi Covid-19: Studi Kualitatif Di Indonesia (Public perceptions of Covid-19 vaccination: qualitative study in Indonesia). The Indonesian Journal of Public Health, 2022,17, 67–72.
- Vaksin Covid 19 Nasional Available online: https://vaksin.kemkes.go.id/#/ vaccines (accessed on 30 June 2023).
- 17. Razai, M.S.; Chaudhry, U.A.R.; Doerholt, K.; Bauld, L.; Majeed, A. Covid-19 Vaccination Hesitancy. The BMJ, 2021, 373.
- Leigh, J.P.; Moss, S.J.; White, T.M.; Picchio, C.A.; Rabin, K.H.; Ratzan, S.C.; Wyka, K.; El-Mohandes, A.; Lazarus, J. V. Factors Affecting COVID-19 Vaccine Hesitancy among Healthcare Providers in 23 Countries. Vaccine, 2022, 40, 4081–4089, doi:10.1016/j.vaccine.2022.04.097.
- 19. Afianur. Pengetahuan Tentang COVID 19 Dan Sikap Tentang Vaksin COVID 19 (Knowledge of COVID 19 and attitudes about COVID 19 vaccines). Journal of Borneo Holistic Health, 2021, 146–154.
- Hutapea, M.A.; Rizka, Y.; Lestari, W. Pengetahuan Dan Sikap Masyarakat Tentang Vaksin COVID-19 Berhubungan Dengan Kesediaan Untuk Dilakukan Vaksinasi COVID-19 (Public knowledge and attitudes about the COVID-19 vaccine are related to willingness to be vaccinated against COVID-19). Jurnal Penelitian Perawat Profesional, 2022, 4, 917–924.
- Monayo, E.R. Pengetahuan Dan Minat Vaksinasi Covid-19 Masyarakat Di Kota Gorontalo Dan Kabupaten Bone Bolango (Knowledge and Interest in Covid-19 Vaccination for People in Gorontalo City and Bone Bolango Regency). JNJ, 2022; 4, 32–43
- 22. Apriani, W.D.; Dewi, S.R. Hubungan Antara Tingkat Pengetahuan Dengan Kesediaan Vaksinasi Covid-19 Pada Masyarakat Di Kabupaten Kutai Kartanegara (The relationship between the level of knowledge and the willingness of Covid-19 vaccination in the community in Kutai Kartanegara Regency). Jurnal Sains dan Kesehatan, 2022, 4, 420–427, doi:10.25026/jsk. v4i4.1320.

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# STIGMA and Knowledge of COVID 19 Vaccines Affect the COVID 19 Vaccination in Indonesia

by Husnun Amalia

Submission date: 18-Aug-2024 01:55PM (UTC+0700) Submission ID: 2433621884 File name: TIGMA\_and\_knowledge\_of\_COVID\_19\_vaccines\_affect\_the\_COVID\_19.pdf (131.97K) Word count: 4143 Character count: 21350 Original ISSN 2521-8492

# STIGMA and Knowledge of COVID 19 Vaccines Affect the COVID 19 Vaccination in Indonesia

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#### Abstract

Objective: This study aimed to assess STIGMA's effect and knowledge of the COVID-19 vaccine on COVID-19 vaccination.

**Methods:** The research design is cross-sectional with consecutive non-random sampling. The method used is a questionnaire-based survey given online. The questionnaire in 17 ed respondent characteristics, history of COVID-19 vaccination, stigma, and factors that influenced the COVID-19 vaccinatic 18 he data were exported from the Google form to Microsoft Excel version 16.57 for cleaning and coding, and analysis with SPSS 25.0. Variables were analyzed using the chi-square and Fisher's exact tests (95% confidence level and *P*-value 5%). Correlation using the Spearman test (r is significant if > 0.001) and the odds ratio (OR) of the two variables.

**Results:** The study was attended by 291 respondents aged 15–59 years, 51.9% worked in the health sector, and 48.1% were the general public. Perception regarding knowledge of COVID-19 shows that 79.7% know and 20.3% don't know. 95.5% of respondents knew about the COVID-19 vaccine program, and the remaining 4.9% did not know. Respondents who had received vaccinations were 97.3%, and 2.7% had not been vaccinated. Factors related to the STIGMA of the 10 VID-19 vaccine were work in the health sector (P = 0.001, r = 0.200), knowledge of COVID-19 (P = 0.001, r = 0.195), and knowledge of the COVID-19 vaccine program (P = 0.00010 0.221). Factors related to receiving vaccinations were knowing the COVID-19 vaccine program (P = 0.000, r = 0.574) and the STIGMA of the COVID-19 vaccine (P = 0.000, r = 0.225).

Conclusion: Implementing the vaccination program will be successful if the community has good knowledge about vaccines and does not have a STIGMA for vaccines.

Keywords: STIGMA, COVID-19 vaccine, knowledge of the COVID-19 vaccine, vaccination

### Introduction

The coronavirus (21) ase (COVID-19) has spread across all countries, causing a Public Health Emergency of International Concern.<sup>1</sup> The COVID-19 epidemic is a large-scale outbreak of an infectious disease that can increase morbidity and mortality over a wide geographic area.<sup>2</sup> The pandemic caused problems in terms of health, economy, social, and politics.<sup>2-4</sup> This virus shows a very high transmission level and causes many deaths.<sup>2</sup> Pandemic outbreaks have affected various aspects of the world community's life and can potentially bring significant challenges to the world health system and influence the global economy. The government is making multiple efforts to stop this pandemic.<sup>5</sup>

The causative virus is a novel type of coronavirus known as SARCoV2.<sup>1,6,7</sup> This virus is highly contagious through particles that come out during the breathing process at a distance of less than 1 meter.<sup>2</sup> So prevention must be carried out so that transmission does not occur with the health program of keeping a distance, wearing masks, washing hands, and others.<sup>1,8,9</sup> Vaccination against COVID-19 is one of the efforts made by the government to prevent the spread of this disease.<sup>2,9</sup> When given a vaccination, a person will have immunity to this virus and, if infected, will not experience severe disease conditions.<sup>2,4,10</sup> So that it will accelerate the overall immunity process in the community.<sup>2</sup> The government requires vaccination to form herd immunity (mass immunity) to prevent transmission of COVID-19 in Indonesia.<sup>11,12</sup> Herd immunity through mass vaccination will be developed more quickly than naturally through natural infection with COVID-19. However, the government's program to tackle and prevent the spread of the COVID-19 pandemic has been disrupted by the emergence of various hoaxes in online media. Often this information is spread by accounts that do not have good knowledge about the COVID-19 vaccine.<sup>11</sup> As a result, in society, there are various pro and con views against the COVID-19 vaccination.<sup>5</sup>

This phenomenon of pro and 11 views can be caused by the lack of conveyance of sources of knowledge and information regarding COVID-19 vaccination in public spaces that the public can access. So that these circulating to be a size have created fear and concern among the public regarding the safety and effectiveness of the COVID-19 vaccine for the health of the human body.<sup>5</sup> Doubts and worries about vaccines areas at high risk of being infected with COVID-19.<sup>4</sup>

People with a negative stigma towards the COVID-19 vaccine will have a social impact. Negative STIGMA can cause refusal to be vaccinated, causing obstacles to herd immunity formation.<sup>13</sup> Base 3 on this, researchers want to assess STIG-MA's effect and knowledge of the COVID-19 vaccine on COVID-19 vaccination.



24

### H. Amalia et al.

### STIGMA and Knowledge of COVID 19 Vaccines Affect the COVID 19 Vaccination in Indonesia

### Methods

### **Research Population**

The study was attended by 291 respondents and was conducted from September 2022 to July 2023. The research locations were in 4 cities/districts in 4 regions of Indonesia, namely Puskesmas/Hospitals in DKI Jakarta Province, Puskesmas in Aceh Province (Puskesmas Lembah Seulawah), Puskesmas in Province of Bali (Puskesmas Abiansemal I), Puskesmas in North Maluku (working area of Puskesmas Soasio, City of Tidore Kepulauan). The population in this study is people aged 18-64 years in the Province of the Special Region of Aceh, the Special Capital Region of Jakarta, Bali, and North Maluku. The target population in this study is the community and health workers in the Puskesmas work environment. The research sample has inclusion criteria; Mature age (18-60 years), ability to communicate well, and respondents who work as health workers have worked for at least six months as health workers. The exclusion criteria were having certain psychological disorders such as phobias.

### Study Design

The research design is cross-sectional with a non-random sampling method. The method used is a questionnaire-based survey. The research instrument used in data collection was using primary data derived from interviewing respondents using a questionnaire. The questionnaire includes characteristics of respondents, Vaccination History COVID 19, Stigma, and factors that influence vaccination COVID-19.

### Statistical Analysis

After extracting the questionnaire from the Google form, the data were exported to Microsoft Excel 13 ion 16.57. Data analysis was performed using SPSS 25.0. Variables were analyzed using the chi-square test and Fisher's exact test (95% confidence level and *P*-value 5%), correlation using the Spearman test (r is significant if > 0.001), and the odds ratio (OR) of the two variables was calculated.

### Ethical Approval

Permission to conduct this study was obtained from the Faculty of Medicine, Trisakti University Research Board, with the number 180/KER/FK/X/2022. Research permits were also obtained from the Indonesian Ministry of Home Affairs with Numbers 400.5/7800/Polpum.

### Results

The study was attended by 291 respondents, with the calculation of the sample population from each province calculated using proportions.

Table 1 shows that the majority of respondents are adults (80.8%), women (69.4%), highly educated (68.7%), from a balanced region, namely around 67–78 respondents per region, with married status (52.9%), Muslim (77.0%), work in the health sector (51.9%), have a very good self-perception of knowledge about COVID 19 (79.7%), know the COVID 19 vaccination program (95.5%), have been vaccinated (97.3%) and have no stigma against COVID-19 vaccine (64.3%).

In Table 2, the factors related to STIGMA are presented and these three factors show a significant relationship, namely work in the health sector (P = 0.001, r = 0.200), self-perception

| Variable   | Frequency | %    |
|--|-----------|------|
| Age  |           |      |
| Youth (15–18 years)                                    | 20        | 6.9  |
| Adult (19–44 years)                                    | 236       | 80.8 |
| Pre-elderly (45–59 years)                              | 36        | 12.4 |
| Gender   |           |      |
| Man  | 89        | 30.6 |
| Woman  | 202       | 69.4 |
| Level of education                                     |           |      |
| Medium (junior high school)                            | 91        | 31.3 |
| Height (D3–S2)   | 200       | 68.7 |
| Origin   | 200       |      |
| Greater Jakarta  | 78        | 26.8 |
| Aceh   | 67        | 23.0 |
| Bali   | 73        | 25.1 |
| North Maluku   | 73        | 25.1 |
| Marital status   | 15        | 2011 |
| Marry  | 154       | 52.9 |
| Not yet/Not married/Divorced                           | 137       | 47.1 |
| Religion   | 157       |      |
| Islam  | 224       | 77.0 |
| Christian/Catholic                                     | 18        | 6.2  |
| Hindu  | 46        | 15.8 |
| Buddha   | 2         | 0.7  |
| Trust  | 1         | 0.3  |
| Working in the health sector                           | I         | 0.0  |
| Yes  | 151       | 51.9 |
| No   | 140       | 48.1 |
| Self-perception of knowing knowledge<br>about COVID 19 | 110       | 10.1 |
| Very know  | 232       | 79.7 |
| Don't know   | 59        | 20.3 |
| Know the COVID 19 vaccine program                      |           |      |
| Yes  | 278       | 95.5 |
| No   | 13        | 4.5  |
| Vaccinated   |           |      |
| Yes  | 283       | 97.3 |
| No   | 8         | 2.7  |
| Stigma against the COVID 19 vaccine                    |           |      |
| Yes  | 104       | 35.7 |
| No   | 187       | 64.3 |

of knowing about Covid 19 (P = 0.001, r = 0.195), and know the COVID 19 vaccine program (P = 0.000, r = 0.221). These three factors also show a strong correlation r > 0.001.

Statistical analysis of the Odd Ratio on the variable knowing about the vaccine program and not having a stigma against the vaccine is OR = 10,941. The Odd Ratio to find out the vaccine program and vaccination are OR = 118,286.

Original

Criginal STIGMA and Knowledge of COVID 19 Vaccines Affect the COVID 19 Vaccination in Indonesia

#### H. Amalia et al.

| Table 2. Relationship of factors affecting the STIGMA of the COVID-19 vaccine |                         |       |           |       |        |        |
|---|-------------------------|-------|-----------|-------|--------|--------|
|   | STIGMA COVID-19 vaccine |       |           |       |        |        |
| Variable  | No                      |       | Yes       |       | Р      | r      |
|   | Frequency               | %     | Frequency | %     |        |        |
| Jobs in the health sector   |                         |       |           |       |        |        |
| Yes   | 111                     | 73.51 | 40        | 26.49 | 0.001* | 0.200§ |
| No  | 76                      | 54.29 | 64        | 45.71 |        |        |
| Self-perception of knowing knowledge<br>about COVID 19                        |                         |       |           |       |        |        |
| Well-known  | 160                     | 68.97 | 72        | 31.03 | 0.001* | 0.195§ |
| Don't know  | 27                      | 45.76 | 32        | 54.24 |        |        |
| Know the COVID 19 vaccine program   |                         |       |           |       |        |        |
| Yes   | 185                     | 66.55 | 93        | 33.45 | 0.000‡ | 0.221§ |
| No  | 2                       | 15.38 | 11        | 84.62 |        |        |

\*Chi-square statistical test. ‡Fisher exact test statistical test. §spearman correlation test.

| Table 3. Relationship between knowing the COVID-19 program and getting vaccinated |           |              |                   |       |        |        |
|---|-----------|--------------|-------------------|-------|--------|--------|
|   | Have b    | een vaccinat | ted against COVID | -19   |        |        |
| Variable  | Yes       |              | Not y             | et    | Р      | r      |
|   | Frequency | %            | Frequency         | %     | _      |        |
| Know the COVID-19 vaccine program   |           |              |                   |       |        |        |
| Yes   | 276       | 99.28        | 2                 | 0.72  | 0.000‡ | 0.574§ |
| No  | 7         | 53.85        | 6                 | 46.15 |        |        |
| The Stigma of the COVID-19 Vaccine  |           |              |                   |       |        |        |
| No  | 187       | 100.00       | 0                 | 0.00  | 0.000‡ | 0.225§ |
| Yes   | 98        | 92.45        | 8                 | 7.55  |        |        |

\*Fisher exact test. \*Spearman correlation test (r is significant if > 0.001).

Table 3 presents a statistical analysis using the Fisher Exact Test, where there is a significant relationship with having been vaccinated against COVID-19, namely knowing the vaccine program (P = 0.000) and stigma against the COVID-19 vaccine (P = 0.000).

### Discussion

The data in Table 1 consists of 291 respondents whose numbers have been balanced between regions, namely around 23.0-26.8% for each region. This is done so that no confounding factors come from the number of respondents per region. Apart from that, we also try to balance the occupational factor, namely respondents who work in the health sector and those who do not work in the health sector, so as not to affect the assessment results of the respondent's opinions. One of the possibilities, if the number of respondents coming from the health sector is too high, is that it will show that the number of vaccinated is also high due to government policy that requires all health workers and staff in the health sector.

Stigma toward COVID-19 vaccination in this study reached 35.7%. The stigma that can arise against the COVID-19 vaccine is people's subjective opinions, negative sentiments, anxiety, anger, and the notion of certain risks.<sup>14</sup>

Stigma can also be said to be a negative perception of the COVID-19 vaccine, namely in the form of anxiety about side effects, vaccine insecurity, and the of a pandemic as the end of time.15 Uzochukwa et al.4 stated that the reasons for respondents having doubts about the COVID-19 vaccine were concerns about vaccine efficacy (34.34%), vaccine effectiveness (18.525%), vaccine safety (9.17%), conspiracy theories (10.8%), counterfeit vaccines (6.2%), fears of side effects side (11.2%) and several other reasons.

The number of vaccinated in the four regions reached a very high rate of 97.3%. This is not much different from the national record; the achievement of vaccine 1 reached 86.87% on June 28, 2023.16 Table 2 presents the factors related to STIGMA; work in the sector shows a significant relationship (P = 0.001). Workers in the health sector are more likely to know about COVID-19 infection and its vaccines than those who do not work in the health sector. This will certainly minimize the emergence of stigma against the COVID-19 vaccine. However, further research can be carried out to prove this. Razal MS et al.17 stated that it was expected that Health Care Workers (HCWS) would have no doubts about the COVID-19 vaccination. Because HCWS is a trusted source for information on COVID-19 and the COVID-19 vaccine. So HCWS must have confidence because it will educate the public. In addition, HCWS also has the highest risk of



Iraq Med J Vol. 8, No. 1, Winter 2024: 24–28

### H. Amalia et al.

#### 2 Original STIGMA and Knowledge of COVID 19 Vaccines Affect the COVID 19 Vaccination in Indonesia

exposure to COVID-19 compared to other communities, which makes HCWS have to vaccinate first to protect themselves. HCWS much have confidence in the COVID-19 vaccine, so they want to be vaccinate a laganst COVID-19. Leigh JP et al.<sup>18</sup> reported a higher willingness to be given the COVID-19 vaccination in HCWS than those who did not work in HCWS.

Self-perception of knowing about Covid19 is also significantly related to stigma (P = 0.001). The group whose selfperception did not know COVID-19 showed a higher percentage of stigma (84.62%) than those who knew (33.45%). This follows the theory that if someone understands or has good knowledge about something, he will act according to the provisions.

The Odd Ratio statistical analysis shows that respondents who know about the vaccine program will have an OR of 10,941 without stigma against vaccines. In addition, the Odd Ratio knows that the vaccine program has an OR of 118,286 for respondents to vaccinate. This explains that information about vaccines and vaccine programs is essential to prevent stigma in the community and make people participate in the program to get vaccing ed. Afianur<sup>19</sup> conducted research and found that 94% of research had good knowledge about COVID-19, and 90% had a positive attitude about the COVID-19 vaccine. This shows that good knowledge will support positive attitudes about the COV1D-19 vaccine. Hutapea MA et al.<sup>20</sup> stated that there was a relationship betwee 1 knowledge and willingness to do the vaccine (P = 0.002). Decision-making is influenced by knowledge so that beneficial actions for individuals are formed, including the willingness to be vaccinated against COVID-19.

Monayo<sup>21</sup> stated that only 27% of respondents had good knowledge of the COVID-19 vaccination, although most respondents (56%) were interested in vaccinating. Our study showed that 79.7% had a self-perception that they knew about Covid, 95.5% knew about the vaccination program, and 97.3% had done the vaccination. Our research obtained different results from previous studies. This could be due to the different research times. Research Hutapea M et al.<sup>20</sup> will be carried out in 2021, while our research will be carried out in 2022 and 2023. The one-year time 5 ifference will allow the government to socialize and increase information regarding the COVID-19 vaccination to the community.

Research by Apriani WD et al.<sup>22</sup> found that 90% knew about the COVID-19 vac 14 e, and 92% were willing to be vaccinated (P = 0.000, r = 0. This shows that there is a relationship between the level of knowledge and willingness to be vaccinated. The conclusion is the same as our study: the higher the respondent's knowledge, the greater the willingness to be vaccinated.

Table 3 presents a statistical analysis using the Fisher Exact Test, where there is a significant relationship betw 2 knowing the vaccine program (P = 0.000), stigma against the

### References

- Alasmri, B.S.; Mahmood, S.E. COVID-19Vaccine Hesitancy-A Challenge to Vaccine Uptake among Youth in Saudi Arabia. Rwanda Medical Journal, 2022, 79, 57–59.
- Nugroho, S.A.; Hidayat, I.N. Efektivitas Dan Keamanan Vaksin Covid-19: Studi Refrensi (Effectiveness and Safety of Covid-19 Vaccine: Reference Study). Jurnal Keperawatan Profesional, 2021, 9.

Iraq Med J Vol. 8, No. 1, Winter 2024: 24-28

COVID-19 vaccine (P = 0.000), and having been vaccinated against COVID-19. This proves that if someone knows about the vaccine program and knows the vaccination schedule to be carried out will help motivate them to be willing to receive vaccinations (99.28% of respondents). In our panel research, knowledge of vaccines, apart from increasing readiness to receive COVID-19 vaccinations, can also reduce the stigma against COVID-19 vaccinations, the results of a 19 y by Tinungki et al.<sup>15</sup> stated the same thing. However, different things were found in the research by Uzochukwu IC et al.<sup>4</sup> who reported that 97.13% of respondents knew the schedule for the COVID-19 vaccine, but ply 34.67% were willing to vaccinate. This is because 65.04% of respondents have doubts about the COVID-19 vaccine.

Original

Stigma or doubts about the COVID-19 vaccine can make someone unwilling to receive the COVID vaccination. In Tinungki et al.<sup>15</sup> states that rej 5 ion of the COVID-19 vaccination can be caused concern about the side effects that arise after the vaccine. In addition, some are worried or unsure about the safety of the vaccine drug. In the community, it was also reported that rejection occurred in sufferers of systemic diseases who did not receive information/understanding about the COVID-19 vaccine, patient readiness (feeling unprepare 6 and fear or phobia of needles. Josia M et al.<sup>9</sup> states that having a positive attitude towards the COVID 19 vaccine (97.8%) and the number who received the vaccine also showed a high number (86.7%). Positive knowledge and attitude about COVID 19 and its vaccine will help the COVID 19 vaccination program.

### Conclusion

Vaccination is important in situations such as the COVID-19 pandemic so that her immunity can immediately form and prevent wider transmission of infection. Information about COVID-19 and its vaccine is important to convey to the whole community so that perceptions and doubts are not formed about the COVID-19 vaccination, which will lead to a STIGM 5 or the vaccine itself. Our research proves two factors that have a significant relationship with receiving the COVID-19 vaccination; 12 wing the vaccine program (P = 0.000) and stigma against the COVID-19 vaccine (P = 0.000). Respondents who know about the vaccine program will receive vaccinations 118,286 times and do not have a stigma against vaccines 10,941 times greater than those who do not know about the program.

### Funding

Faculty of Medicine, Universitas Trisakti, Jakarta, Indonesia.

### **Conflict of Interest**

None declared.

 Adebowale, O.O.; Adenubi, O.T.; Adesokan, H.K.; Oloye, A.A.; Bankole, N.O.; Fadipe, O.E.; Ayo-Ajayi, P.O.; Akinloye, A.K. SARS-CoV-2 (COVID-19 Pandemic) in Nigeria: Multi-Institutional Survey of Knowledge, Practices and Perception amongst Undergraduate Veterinary Medical Students. PLoS One, 2021, 16. doi:10.1371/journal.pone.0248189.

### Original

### STIGMA and Knowledge of COVID 19 Vaccines Affect the COVID 19 Vaccination in Indonesia

- Uzochukwu, I.C.; Eleje, G.U.; Nwankwo, C.H.; Chukwuma, G.O.; Uzuke, C.A.; Uzochukwu, C.E.; Mathias, B.A.; Okunna, C.S.; Asomugha, L.A.; Esimone, C.O. COVID-19 Vaccine Hesitancy among Staff and Students in a Nigerian Tertiary Educational Institution. Ther Adv Infect Dis, 2021, 8, 1–12, doi:10.1177/20499361211054923.
- Uyun, N.Z.; Farida, N.; Maulidia, D.N.; Nurohmah, N.; Fadilah, N.Y.; Masykur. Pendampingan Masyarakat Kota Serang Dalam Pandangan Pro Dan Kontra Terhadap Vaksinasi Covid 19 (Assistance for the People of Serang City in View of the Pros and Cons of Covid 19 Vaccination). Jurnal Pengabdian Masyarakat, 2021, Vol. 14, 164–183.
- Kamel, S.H.; Jawad Al-Tu'ma, F.; Mohi Al-Saegh, R. The Impact of Severe Covid-19 in Iraqi Patients on Serum Angiotensin-Converting Enzyme-2 Level and other Various Diagnosis Biomarkers. Iraq Medical Journal, 2024, 7(4),115–120.
- Abbood, M. H., Hassan, J. S., & Mehammed, A. J. Case study of COVID 19 from August to end of December 2020 in Babylon, Iraq. Iraq Medical Journal, 2021, 5(3), 104–107. https://doi.org/10.22317/imj.v5i3.1078
- Musanabagnwa, C.; Munir, L.; Mazarati, J.B.; Muvunyi, C.M.; Nsanzimana, S.; Mutesa, L. Easing Lockdown Restrictions during COVID-19 Outbreak in Rwanda. Rw. Public Health Bul, 2020; 2, 24–29.
- Josia, M.; Fadilah, T.F. Middle-High School Students' attitudes towards the COVID 19 vaccine with the COVID 19 vaccination coverage. J Biomedika Kesehat, 2022, 5, 102–108, DOI: 10.18051/JBiomedKes.2022.v5.102-108.
- Sari, I.P.; Sriwidodo, S. Perkembangan Teknologi Terkini Dalam Mempercepat Produksi Vaksin COVID-19 (Latest Technological Developments in Accelerating COVID-19 Vaccine Production). Majala h Farmasetika, 2020, 5, 204, doi:10.24198/mfarmasetikav5i5.28082.
- Nurdiana, A.; Marlina, R.; Adityasning, W. Berantas Hoax Seputar Vaksin Covid-19 Melalui Kegiatan Edukasi Dan Sosialisasi Vaksin Covid-19 (Eradicates hoaxes about the Covid-19 vaccine through Covid-19 vaccine education and socialization activities). Abdimas Jurnal Pengabsian Masyarakat, 2022, 4, 489–495.
- Rachman, F.F.; Pramana, S. Analisis Sentimen Pro Dan Kontra Masyarakat Indonesia Tentang Vaksin COVID-19 Pada Media Sosial Twitter (Analysis of Indonesian People's Pros and Cons Sentiment About the COVID-19 Vaccine on Twitter Social Media). INOHIM, 2020, 8, 100–109.

- Larson, H.J.; Gakidou, E.; Murray, C.J.L. The Vaccine-Hesitant Moment. New England Journal of Medicine 2022, 387, 58–65, doi:10.1056/ nejmra2106441.
- Straton, N. COVID Vaccine Stigma: Detecting Stigma across Social Media Platforms with Computational Model Based on Deep Learning. Applied Intelligence, 2022, doi:10.1007/s10489-022-04311-8.
- Tinungki, L.Y.; Pangandaheng, D.; Simanjorang, C.; Medea, G.P. Persepsi Masyarakat Terhadap Vaksinasi Covid-19: Studi Kualitatif Di Indonesia (Public perceptions of Covid-19 vaccination: qualitative study in Indonesia). The Indonesian Journal of Public Health, 2022, 17, 67–72.
- Vaksin Covid 19 Nasional Available online: https://vaksin.kemkes.go.id/#/ vaccines (accessed on 30 June 2023).
- Razai, M.S.; Chaudhry, U.A.R.; Doerholt, K.; Bauld, L.; Majeed, A. Covid-19 Vaccination Hesitancy. The BMJ, 2021, 373.
- Leigh, J.P.; Moss, S.J.; White, T.M.; Picchio, C.A.; Rabin, K.H.; Ratzan, S.C.; Wyka, K.; El-Mohandes, A.; Lazarus, J. V. Factors Affecting COVID-19 Vaccine Hesitancy among Healthcare Providers in 23 Countries. Vaccine, 2022, 40, 4081–4089, doi:10.1016/j.vaccine.2022.04.097.
- Afianur. Pengetahuan Tentang COVID 19 Dan Sikap Tentang Vaksin COVID 19 (Knowledge of COVID 19 and attitudes about COVID 19 vaccines). Journal of Borneo Holistic Health, 2021, 146–154.
- Hutapea, M.A.; Rizka, Y.; Lestari, W. Pengetah uan Dan Sikap Masyarakat Tentang Vaksin COVID-19 Berhubungan Dengan Kesediaan Untuk Dilakukan Vaksinasi COVID-19 (Public knowledge and attitudes about the COVID-19 vaccine are related to willingness to be vaccinated against COVID-19). Jurnal Penelitian Perawat Profesional, 2022, 4, 917–924.
- Monayo, E.R. Pengetahuan Dan Minat Vaksinasi Covid-19 Masyarakat Di Kota Gorontalo Dan Kabupaten Bone Bolango (Knowledge and Interest in Covid-19 Vaccination for People in Gorontalo City and Bone Bolango Regency). JNJ, 2022; 4, 32–43
- Apriani, W.D.; Dewi, S.R. Hubungan Antara Tingkat Pengetahuan Dengan Kesediaan Vaksinasi Covid-19 Pada Masyarakat Di Kabupaten Kutai Kartanegara (The relationship between the level of knowledge and the willingness of Covid-19 vaccination in the community in Kutai Kartanegara Regency). Jumal Sains dan Kesehatan, 2022, 4, 420–427, doi:10.25026/jsk. v4i4.1320.

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28 https://doi.org/10.22317/imj.v8i1.1269

Iraq Med J Vol. 8, No. 1, Winter 2024: 24–28

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