

COVID-19 vaccine acceptance among university students and lecturers in different provinces of Indonesia: A cross-sectional study

Madan Khatiwada^a, Ryan Rachmad Nugraha^b, Kuswandewi Mutyara^c, Laili Rahayuwati^d, Carine Dochez^a, Cissy Kartasasmita^e

^a Network for Education and Support in Immunisation (NESI), University of Antwerp, Antwerpen, Belgium

^b USAID Health Financing Activity/ ThinkWell, Jakarta, Indonesia

^c Department of Public Health, Faculty of Medicine, Universitas Padjadjaran, Bandung, Indonesia

^d Faculty of Nursing, Universitas Padjadjaran, Bandung, Indonesia

^e Department of Pediatric, Rumah Sakit Umum Pusat Hasan Sadikin, Bandung, Indonesia

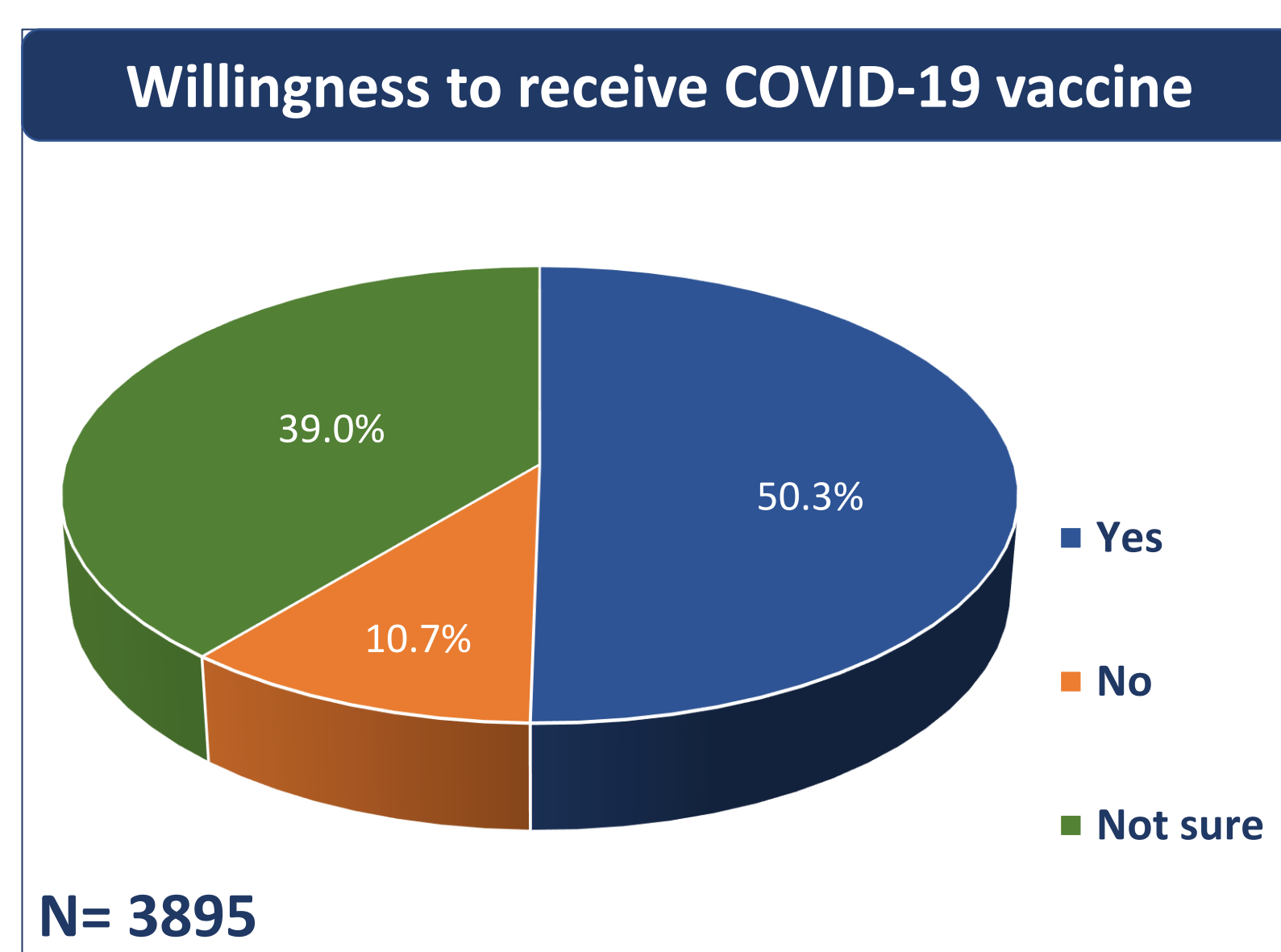


Background

- The coronavirus disease 2019 (COVID-19) pandemic has imposed a pressing threat globally. Indonesia is one of the most affected country in the South-east Asian Region.
- Vaccines against COVID-19 are attributed as a key tool to control the ongoing pandemic.
- The success of COVID-19 vaccination programs will largely depend on public willingness to receive the vaccine.
- Various factors (risk perception, safety and efficacy perception, trust on healthcare workers and health systems, source of information) might potentially influence vaccine acceptance.
- This study aimed to evaluate the acceptability of COVID-19 vaccines and to examine the factors influencing COVID-19 vaccine acceptance among university students and lecturers in four different provinces of Indonesia.

Methodology

- An anonymous cross-sectional study was conducted online among university students and lecturers in four provinces of Indonesia between 23rd December 2020 and 15th February 2021.
- The questionnaire collected sociodemographic characteristics, awareness, risk perception, impact of COVID-19, factors influencing vaccination decision, vaccine acceptance, information sources and trust.
- Logistic regression was used to evaluate the factors influencing the acceptance of COVID-19 vaccination.



Acknowledgement:

We thank all the participants, as well as the study site coordinators and research assistants who helped monitoring the study at each site and assisted with distributing the questionnaire and data collection.

Results

- Social Media (Facebook, Instagram, WhatsApp, Twitter) was the most frequent information source on COVID-19, COVID-19 vaccine and vaccination followed by radio, newspaper and television
- However, Ministry of Health and COVID-19 Task force website was the most trusted information source followed by Doctors.

Reasons for willingness to receive COVID-19 vaccine

- I would like to protect myself and people around me against COVID-19 (69.7%).
- COVID-19 vaccine will be effective to prevent future infections (66.9%).
- COVID-19 vaccine is safe (37.9%).
- COVID-19 is dangerous to my health (17.5%).

Reasons for not willing to receive COVID-19 vaccine

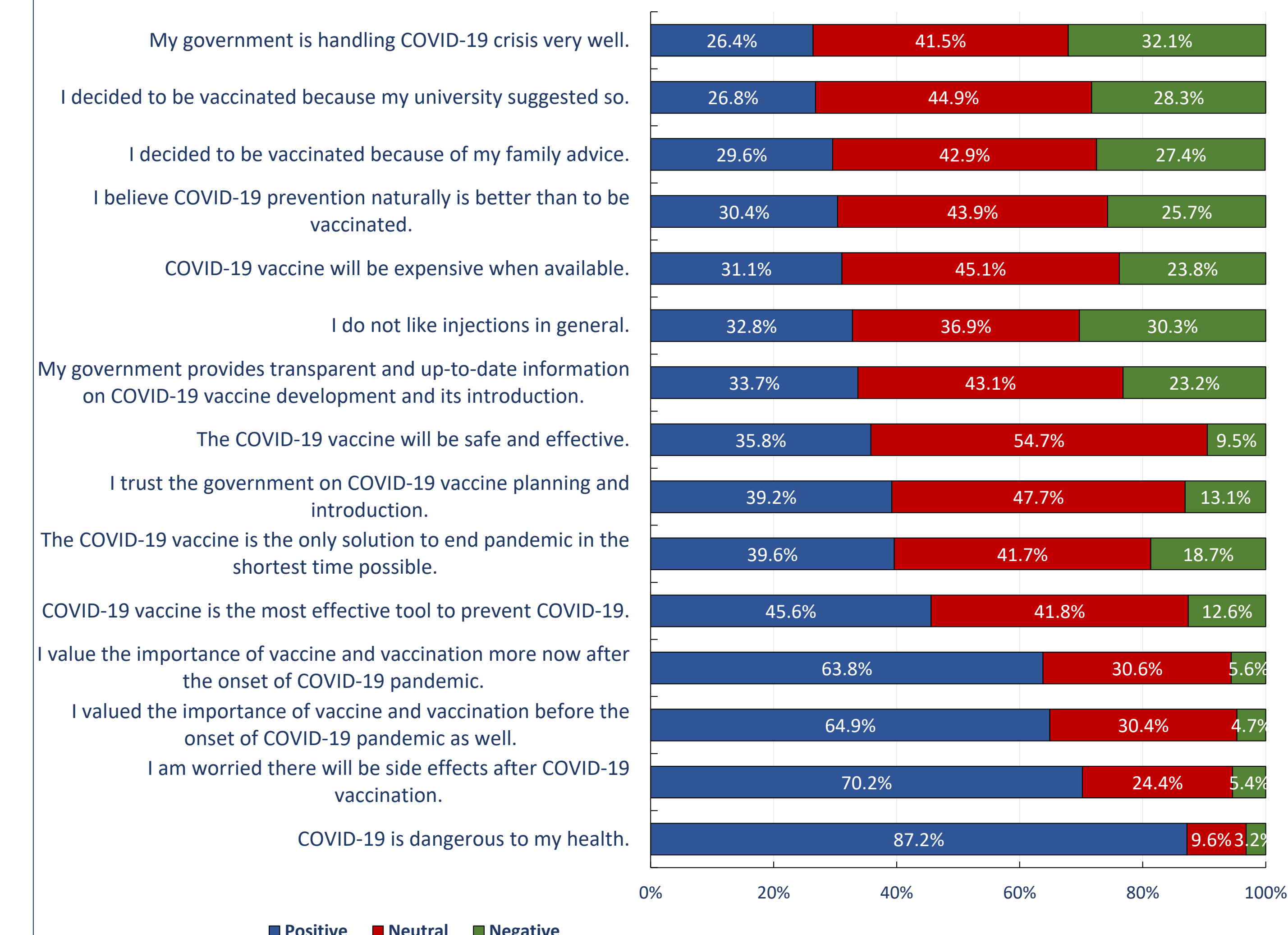
- I am concerned about the potential side-effects of the COVID-19 vaccine (79.9%).
- COVID-19 vaccine may not be safe (28.8%).
- COVID-19 vaccine may not be effective (20%).
- COVID-19 is not dangerous to my health (2.6%).
- Others (No trust on Healthcare workers and governments, Misinformation on medias, Lack of trust on some vaccine manufacturers) (11.8%).

Regression analysis of willingness to get vaccinated vs other variables

Variables	Willingness to receive COVID-19 vaccine Yes vs No and Not sure	
	p-value	aOR [95% C.I.]
Province (West Java vs Maluku)	<0.001**	2.70 [2.20-3.31]
Faculty (Medical vs Non-medical)	<0.001**	2.39 (2.08- 2.76)
Gender (Male vs Female)	0.008*	1.21 (1.05- 1.40)
Marital status (Married vs single)	0.70	1.03 (0.88- 1.40)
Religion (Hinduism vs Islam)	<0.001**	3.60 (2.33- 5.56)
Health insurance (Insurance vs no insurance)	<0.001**	2.27 (1.65- 3.12)
Association with health sector (Yes vs No)	<0.001**	1.43 (1.24- 1.66)
High risk perception (Yes vs No)	<0.001**	1.83 (1.53- 2.18)
Received Influenza vaccine (Yes vs No)	0.018*	1.41 (1.06- 1.86)
Awareness on COVID-19 vaccine Phase-III trial in Indonesia (Yes vs No)	<0.001**	1.59 (1.24- 2.03)
Vaccine Efficacy (≥ 80% vs hesitant)	0.001**	28.89 (3.96-210.96)
Willingness to pay (Full price vs for free)	<0.001**	4.53 (3.50- 5.84)
Trust in government on vaccine planning (Positive vs Negative)	<0.001**	2.55 (1.67- 3.89)

p-value significant at <0.05; p-value <0.05: *; p-value <0.005: **

Bar graph showing the level of agreement on COVID-19, COVID-19 vaccine and vaccination



Discussion

- COVID-19 vaccine acceptance rate is relatively low in Indonesia compared to other studies conducted in China (91%), USA (67%), Israel (75%), Brazil (85%) and South Africa (82%).
- COVID-19 vaccine acceptance highly contextual, is influenced by various factors and are reflective of trust and confidence in vaccines, systems delivering them and in governments.
- Higher the risk perception, lower the intention to decline COVID-19 vaccination. Therefore, it is important to increase awareness about the seriousness/ complications associated with COVID-19.
- The provinces Aceh and Maluku had lower COVID-19 vaccine acceptance rate as compared to the provinces West Java and West Nusa Tenggara. The main reason for this were low trust in government and doubts on covid-19 vaccine safety and efficacy.
- It is, therefore, vital to provide clear, up-to-date information on vaccine safety, efficacy and vaccination guidelines to the general public on regular basis by the trustworthy sources like healthcare professionals, scientific community, COVID-19 Task Force committee of Indonesia.

Madan Khatiwada_ Madan.Khatiwada@uantwerpen.be