

Measuring Health Literacy about Vaccination Covid-19 in Community of South Sulawesi, Indonesia: Survey using the HLQ Questionnaire

Nurul Fadhilah Gani, Eva Yustilawati, Aidah Fitriani, Eka Hadrayani

Abstract

Background: Covid-19 has developed a pandemic that attacks the entire biosphere and affects the whole world, especially in Indonesia, a developing country. Vaccination is the main prevention action of the COVID-19 pandemic. The public spirit and public obedience with the Covid-19 vaccine has not been evenly dispersed meanwhile the strategy was issued. Various issues can fill a role, including health literacy. **Methods:** This research is quantitative research with a transversal vision. The investigate was led between February and July 2022. This research involved people from South Sulawesi representing 3 ethnic groups, i.e. Buginese, Makassar and Toraja. In this research, 506 people were selected by the sampling system. Data were collected through the HLQ questionnaire. Data were analyzed with SPSS version 26. Conjoint analysis presented in the frequency spreading or mean (min-max). **Result:** The questionnaire was composed of 506 participants, aged 30 (18-67). The findings presented that the health literacy of people in South Sulawesi is 1 to 4 scales and a mean of 3.60 per HLQ domain at scale 1-5. There are changes in the SN of the community depending on their ethnicity. **Conclusions:** People with good well-being knowledge are lively in finding information, sorting through information and implementing a well existence, as well as joining in vaccines in the Covid-19. Determining healthiness services and communication with health workers requires a strategy to improve education and other strategies to increase health knowledge.

Keywords: Health literacy, Vaccination, Covid-19, community.

Department of Nursing, Faculty of Medicine and Health Science, Universitas Islam Negeri Alauddin, Makassar, Indonesia

Corresponding Author: Dr. Nurul Fadhilah Gani, Department of Nursing, Faculty of Medicine and Health Science, Universitas Islam Negeri Alauddin, Makassar, Indonesia

E-Mail: nurul.fadhilah@uin-alauddin.ac.id

Received: 11th October 2022

Accepted: 02nd January 2023

How to Cite this Article: Gani NF, Yustilawati E, Fitriani A, Hadrayani E. Measuring health literacy about Vaccination Covid-19 in community of South Sulawesi, Indonesia: survey using the HLQ Questionnaire. J Int Med Sci Acad 2023;36(2):190-193.

Access this article online : www.imsaonline.com



Introduction

Coronavirus disease is a communicable virus produced by rear respiratory syndrome coronavirus (SARS-CoV-2). Those that attack breathing include nasal congestion, nasal section, headache, conjunctivitis, sore throat, diarrhea, fatigue, smell and smell, rash, acute respiratory distress syndrome (ARDS), sepsis, shock, multicolored disability, cardiovascular disability, heart failure to cause death. In the elderly and people who have comorbidities such as hypertension, heart failure and pulmonary or respiratory disorders, elevated glucose or diabetes and other types of cancer are at greater risk of getting serious and causing death [1].

The spread of COVID-19 has reached all Indonesian provinces, not only in the health field, but also in all areas, from the economic, social, cultural, political, defense and security fields, to the prosperity of the community. The Republic of Indonesia has issued a Presidential Decree Number 11 of 2020 and has established a public health emergency for the COVID-19. According to the president's decree, Covid-19 is a type of disease outbreak that generates a public health emergency and states that COVID-19 must be used immediately in Indonesia, in accordance with the

applicable legal and regulatory provisions based on a decree issued by the president. (Ministry of Health of Indonesia, 2020).

Vaccines and Enforcement of Restrictions on Community Activities are programs in dealing with Covid-19 in the world and Indonesia. As of October 3, 2021, the number of Indonesians who have received the second dose of the vaccine, which is 52,676,052, are health workers, the elderly, serving officers or employees, the community and children aged 12-17 years, which is around 25.29% of the government's target. The Indonesian government has targeted 208,265,720 Indonesians who are the target of the Covid-19 vaccination because of the requirements for herd immunity, the vaccine must be carried out on 70% of the total population. The governor of South Sulawesi himself reported that 780,766 (51.82%) of its citizens had received the second dose of vaccination (Ministry of Health, South Sulawesi, 2021).

This is of course still far from the government's target of establishing herd immunity. The findings of preliminary studies conducted in various districts in South Sulawesi show that there are still people who have not been vaccinated, with various justifications. Getting erroneous information, hoax news circulating on social media, is a factor that affects public interest and awareness in vaccinating.

The role of community health literacy is also a factor that influences the achievement of this vaccination target. The achievement of health facilities affects not only the quality of the health personnel and the program participating in the program, but also the success of health services, which include patient access to and utilization of these services [2]. Their ability to access, recognize and use strength information and facilities in health care decision-making is health literacy [3,4,5].

Very many cases occur in connection with low health literacy skills. Patients will have a low ability to access health information so that they can misunderstand the therapy given, are wrong about the rules for taking medication, do not comply with therapy, don't know what therapy to follow to overcome the complaints they feel or the disease they are experiencing, and even increase the risk, increasing disease severity and risk of complications [6,7].

There are some previous investigations analyzing the association among health literacy and covid prevention, while few research were analyzed Health literacy and covid-19 vaccination. Research by (Yunita et al., 2021) found a strong relationship among the stage of health literacy and attitudes in preventing Covid-19 by keeping a distance. Meanwhile, health literacy has a strong level of closeness in implementing Covid-19 prevention behavior, and health education carried out using internet social media, has a relationship with a low or low level of closeness in preventing Covid-19. Another research presented that health literacy is linked to the acceptance of the Covid-19 vaccine. People who have more good Health literacy have a good adherence with vaccination [8].

How people search for, use information, and make health decisions, including making decisions about vaccination is the essence of health literacy. The other article revealing that Health literacy is a social vaccine [9]. The level of community health literacy needs to be known so that it becomes a basic data that can be used as a reference in providing appropriate interventions to the community. Good health literacy can prevent people from misunderstandings, provocations and misleading information (hoaxes) related to vaccines so that people can make the right decisions and increase people's motivation and interest in vaccinating. The objective of

this research was to measure health literacy in the South Sulawesi community, due to Covid-19 injection.

Methods

This research is quantitative research with a transversal vision. The research was conducted between February and July 2022. This research included people from South Sulawesi, representing 3 ethnic groups, i.e. Buginese, Makassar and Toraja. In this research, 506 people were selected through the sampling technique. Data were collected through the HLQ questionnaire. HLQ questionnaire were a complex assesment instruments which have 9 domains. Each domains consist 4 or 5 items. The five first items, asked the participants "how strongly disagree or agree" with scores 1-4 for the following statements. While the next four domains asked the participants "how easy or difficult" each statement. Range score from 1 to 5.

Data were examined using SPSS version 26. Univariate analysis obtainable in frequency distribution or median (min-max). The changes Health literacy by ethnicity were examined with the Mann Whitney U test and Kruskal Wallis.

The research team strictly followed ethical standards in the research, with ethics approval documents no. Komisi Etik Pennettian Kestan (KEPK) available by UIN Alauddin Makasa; informed consent was obtained from participants before enrolment, and all personal information was strictly kept confidential and not reported on paper.

Result

Table 1 displayed the demographic characteristics of study participants. The majority of respondents are women, as many as 355 people (70.2%) in a very varied age group of 18-67 years with mean age of 30 years. Based on the level of education, the most respondents were lower education, 179 people (35.4%), but at least 25 people had master's education levels (4.9%). The occupations of the participants in this research also varied greatly, most of whom worked as entrepreneurs, 161 people (31.81%), but there were also those who had not worked, 64 people (12.6%).

Table 1: Socio-demographic characteristics of study participants (n= 506)

Variables	Categories	n (%)
Age	< 65 years	497(98.2%)
	≥ 65 years	9(1.8%)
Sex	Male	151(29.8)
	Female	355(70.2)
Ethnicity	Buginese	180(35.6)
	Makassar	194(38.3)
	Toraja	132(26.1)
Employment status	Unemployed	64(12.6)
	Housewife	100(19.8)
	Teacher/lecturer	10(2.0)
	Government employees	48(9.5)
	Entrepreneur	161(31.81)
	Honorary	11(2.2)
	Students	112(22.1)
Education	Elementary	84(16.6)
	Junior high school	51(3.0)
	Senior high school	152(30.0)
	Diploma	15(3.0)
	Bachelor	179(35.4)
	Magister	25(4.9)

This research involved 3 ethnic groups in South Sulawesi, namely the Bugis, Makassar and Toraja tribes. Most of the participants came from the Makassar tribe, 194 people (38.3%), followed by the Bugis ethnic group 180 people (35.6%), and the Toraja ethnic group were 132 people (26.1%).

Table 2 showed the average value of health literacy based on each domain. Viewed in general, based on the domain, it can be said that the average value of respondents is between 3-3.67. Domains 1-5 have the same average score, which is 3 with a maximum score of 4. While domains 6-9 have an average score of 3.60 with the highest score of 5. But the higher score is in D7 about navigating the healthcare system with median 3.67 minimum score is 1 and maximum 5.

Table 3 showed the median value of each term based on each domain and also the total value. When viewed from each domain, the average value of the Bugis and Makassar tribes is not much different, namely the average value of 3 with a range of values of 1-4. The lower and varied mean values are seen in the Toraja tribe. The lowest score is seen in domain 1, "Feel understood and supported by health care providers", which is 2.5 (1.25-3.75). The average value which is also quite low in the Toraja tribe comes from domains

3, 4, and 5, which are related to health management, social support, and if viewed from the total value, it can be seen that the highest average value is found in the Makassar tribe with a median of 3.43 (2.14-4.48), and the lowest is Toraja with a median of 2.95 (1.05-4.45).

Based on the data above, it is also known that there are differences in community health literacy based on ethnicity. Kruskal-Wallis nonparametric test is used to analyze, where the test is used to analyze differences between variables in numerical data that are not normally distributed in more than three unpaired groups. The p value for all domains is 0.000 except for domain 2, the p value is 0.002. But the p value for all domains < 0.005 means that there are differences in health literacy based on ethnicity in terms of each HLQ domain. This is in line with the difference in health literacy in terms of the total value. There are also differences in health literacy based on ethnicity in terms of the total value, namely p value 0.000.

Furthermore, an analysis of differences between tribes was also carried out using the post hoc Kruskal-Wallis analysis, which compared the Bugis vs Makassar, Bugis vs Toraja, and Makassar vs Toraja ethnic groups. From the findings of the research, it was

Table 2: HLQ scale scores of communities in South Sulawesi, 2022 (n= 506).

Domains	Median (min-max)
D1: Healthcare provider support	3.00(1-4)
D2: Having sufficient information	3.00(2-4)
D3: Actively managing health	3.00(1-4)
D4: Social support for health	3.00(1-4)
D5: Active appraisal of health information	3.00(1-4)
D6: Active engagement with healthcare	3.60(1-5)
D7: Navigating the healthcare system	3.67(1-5)
D8: Ability to find good health information	3.60(1-5)
D9: Understanding health information	3.60(1-5)

Table 3: The differences in Health literacy in the community of South Sulawesi by Ethnicity (n= 506).

Domains	Bugis Ethnics Median (Min-max)	Makassar Ethnics Median (Min-max)	Toraja Ethnics Median (Min-max)	P value
D1: Healthcare provider support	3.00 (1-4)	3.00 (1-4)	2.5 (1.25-3.75)	0.000
D2: Having sufficient information	3.00 (1-4)	3.00 (2-4)	3.00 (1.5-4)	0.021
D3: Actively managing health	3.00 (1-4)	3.00 (1-4)	2.8 (1-4)	0.000
D4: Social support for health	3.00 (1-4)	3.00 (1-4)	2.8 (1-4)	0.000
D5: Active appraisal of health information	3.00 (1-4)	3.00 (1-4)	2.8 (1-4)	0.000
D6: Navigating the healthcare system	3.83 (1.67-5)	3.80 (1-5)	3 (1-5)	0.000
D7: Active engagement with healthcare	3.80 (1.60-5)	3.60 (1-5)	3.4 (1-5)	0.000
D8: Capability to find good health information	3.60 (1-5)	3.80 (1-5)	3.4 (1-5)	0.000
D9: Understanding health information	3.60 (1-5)	3.80 (1.8-5)	3.4 (1-5)	0.000
D10: Healthcare provider support	3.24 (3-4)	3.43 (2.14-4.48)	2.95 (1.05-4.45)	0.000

* Kruskal-Wallis test. Post Hoc Test: Bugis vs Makassar p = 0.073; Bugis vs Toraja: 0.000; Makassar vs Toraja p = 0.000.

found that there was no variance amongst the Bugis and Makassar tribes, p value 0.073, but there was a change among the Bugis and Toraja tribes and the Makassar and Toraja tribes, with each p value of 0.000. Of the three tribes, Health literacy with the highest score is the Makassarese, followed by the Bugis, and with the lowest average score is the Toraja.

Discussion

We found the HL scores in each domain in this research. In the domain 1-5, the average score is 3, with a range of 1-4. These competencies include health care, access to sufficient information, active health management, social health care and active health assessment. These abilities are important skills in supporting community health literacy. The average is still relatively low when compared to previous research by Mullan et al., 2017, where in the first 5 domains the mean value is higher between 3.02-3.48 [10]. However, different and more varied findings were found in the investigate showed by Jessup et al., 2017 which displayed a lower mean of 2.82-3.13 for the first 5 domains of HLQ [11]. Likewise in the next 5 domains, the mean HL score was obtained between 3.60-3.67. The best ability is in domain 7, namely Navigating healthcare system. The differences found indicate that the measurement of health literacy needs to be carried out in various community groups. Especially in developing countries like Indonesia. The use of HLQ in measuring Health literacy in Indonesian society is considered effective because it assesses specific abilities. Moreover, Health literacy database research is still rarely found, especially in the South Sulawesi region.

It is important to know the health literacy of each individual, which is connected to the capacity to get health information, in the effort to recover and preserve their health. In over-all, it can be said that health literacy can increase health knowledge and help individuals/communities make correct decisions about their health [3]. This involves literacy, numeracy, and listening skills to achieve healthiness-linked tasks, like filling out health forms, understanding prescription or informed consent, and understanding the content of other activities [5].

There are differences in health literacy based on the Makassar, Bugis, and Toraja ethnic groups. These findings showed that there are changes in the ability for seeking information, understanding information, and make the health decisions related to COVID-19 vaccination in 3 major ethnic groups in South Sulawesi. Based on the findings of a comparative analysis of 3 ethnic groups in South Sulawesi, the tribe that has the goodest health literacy is the Makassarese, then the Bugis and the lowest is Torajanese.

How did it happen? This can be caused because the Makassarese are easier to access the information received, actively seek information from various sources and actively participate in facilities for government programs, especially in the health sector. In line with the research by Aldilawati which explained that the Makassarese Gowa, South Sulawesi, actively participated in outreach activities and effectively increased knowledge related to Covid and Covid-19 vaccination, and were committed to maintaining health protocols by maintaining distance, wearing masks, wash hands, reduce crowds, reduce mobility and commit to following Covid-19 vaccinations [12]. This certainly confirms that the Makassar tribe is active and participates in carrying out government programs related to good health literacy regarding Covid-19 vaccination. The ability to search for information, access information, and analyze information in the Bugis and Makassar tribes is more varied when compared to the Toraja tribe in this research.

The low health literacy of the Toraja ethnicity is relatively low in all domains compared to the other 2 ethnicities. It can also be seen from field observations that the Toraja people are rarely in seeking information, analyzing information, and classifying how health information is used. The Toraja tribe has the characteristics of obedience to beliefs, ancestors, customs, and government. Due to the high compliance of health workers and the government, the Toraja people no longer search, analyze, and decide from various sources, as complicated as the Health Literacy domain. The role of health workers in this tribe is very important to provide maximum protection through promotion and prevention in the community, because the largest source of information is health workers.

Improving Health literacy in across region is a global issue. WHO declare that Health literacy is core indicator in achieving Sustainable development Goals (SDG's) [13]. These findings will serve as a database on Health Literacy in South Sulawesi, Indonesia. We need larger data to generalize the findings and can be an indicator of future involvements to progress health literacy in the people of South Sulawesi.

Conflict of Interest:	All authors declare no COI
Ethics:	There is no ethical violation as it is based on voluntary anonymous interviews
Funding:	No external funding
Guarantor:	Dr. Nurul Fadhillah Gani will act as guarantor of this article on behalf of all co-authors.

References

1. World Health Organization. *Infection Prevention and Control guidance for Long-Term Care Facilities in the context of COVID-19*. March, 1–5, 2020.
2. Kohan S, Ghasemi S, Dodangeh M. Associations between maternal health literacy and prenatal care and pregnancy outcome. *Iran J Nurs Midwifery Res*. 2007;12(4):146–152.
3. Al Sayah F, Majumdar SF, Williams B, Robertson S, Johnson JA. Health Literacy and Health Outcomes in Diabetes: A Systematic Review. *J Gen Intern Med*. 2012;28(3):444–452.
4. Nutbeam D. Defining, measuring and improving health literacy. *Health Promot Int*. 2015;42(4):450–456.
5. Gani NF, Nurhidayah H. Precede Proceed model education in improving Health literacy in Pregnant Women. *journal of health research* 2022;13:323–329.
6. Berkman ND, Sheridan SL, Donahue KE, Halpern DJ, Crotty K. Low health literacy and health outcomes. *Ann Intern Med*. 2011;155:97–107.
7. Ownby RL. Why Is Health Literacy Related to Health? An Exploration Among U.S. National Assessment of Adult Literacy Participants 40 Years of Age and Older. *Educ Gerontol*. 2012;38(11):776–787.
8. Montagni I, Ouazzani-Touhami K, Mebarki A, Texier N, Schück S, Tzourio C et al. Acceptance of a Covid-19 vaccine is associated with ability to detect fake news and health literacy. *J Public Health (Oxf)*. 2021;43(4):695-702.
9. Okan O, Messer M, Levin-Zamir D, Paakkari L, Sørensen K. Health literacy as a social vaccine in the COVID-19 pandemic. *Health Promot Int*. 2022;1–9.
10. Mullan J, Burns P, Weston K, McLennan P, Rich W, Crowther S, et al. Health literacy amongst health professional university students: a study using the Health Literacy Questionnaire. *Educ Sci*. 2017;7(2):1-11.
11. Jessup RL, Osborne RH, Beauchamp A, Bourne A, Buchbinder R. Health literacy of recently hospitalized patients: a cross-sectional survey using the Health Literacy Questionnaire (HLQ). *BMC Health Serv Res*. 2017;17(1):52.
12. Aldilawati S, Hidayat R. Education on Covid-19 Vaccination and Implementation of 5M in Overcoming Covid-19 Transmission in Borissallo Village, Gowa Regency. *Community Serv Ideas*. 2021;1(2).
13. World Health Organization. *Health Literacy The Solid Fact*. WHO Regional Office for Europe. 2013

