

Effectiveness of Leaflet-Based Education for the Elderly on Knowledge of Covid-19 Prevention



Suardi^a  

^aMaster of Public Health, Postgraduate Program, Gorontalo State University Indonesia

Abstract

Background: Covid-19 is an infectious disease caused by the acute respiratory syndrome coronavirus 2 (severe Acute Respiratory Syndrome Coronavirus 2 or SARS-coV-2). According to WHO, 2020 elderly people who are 80 years old are greatly affected by Covid 19 with a mortality rate reaching 21.9%. The purpose of the study was to see the effect of Leaflet-Based Education on the Elderly on Covid-19 Prevention Knowledge. **Method:** The method used is quasi experimental with a one-group pre-post tests approach. Research location in Takalar Regency, with a sample size of 32 elderly people. Data analysis used the Wilcoxon Signed Rank Test. **Results:** The results of the study, the average knowledge of Covid-19 prevention was 6.44. Meanwhile, after education the average knowledge of COVID-19 prevention was 11.53, meaning that the increase in knowledge after being given leaflet-based education was 5.09. From the analysis of the Wilcoxon Signed Rank Test, the value of p is $0.000 \leq \alpha$ (0.05). **Conclusion:** Conclusion on the effect of leaflet-based education on the elderly on knowledge of Covid-19 prevention in Takalar Regency.

Keywords: Elderly, Knowledge of Covid-19 Prevention, Leaflet-Based Education.

1. Introduction

Coronaviruses are a group of viruses found in animals and humans. COVID-19 is said to spread most easily through close contact with an infected person. An infected person's sneeze or cough releases droplets, and if you're close enough, the virus can spread through the breath of others or yourself. (WHO, 2020)

WHO (World Health Organization) determined the countries with the most positive cases of Covid-19 corona, namely, the first highest is the United States as many as: 399,929 positive cases, 12,911 deaths and 22,539 recoveries. Second, Spain: 141,942 positive corona cases 14,045 deaths and 43,208 recoveries. Third is Italy: 135,586 positive corona cases 17,127 deaths and 24,392 recoveries. Fourth is France: 110,070 positive corona cases 10,343 deaths and 19,523 recoveries. Fifth is Germany: 107,663 positive corona cases 2,016 deaths and 36,081 recoveries. Sixth is China: 82,783 positive corona cases 3,337 deaths and 77,537 recoveries. Seventh: Iran: 62,589 positive coronavirus cases, 3,872 deaths, and 27,039 recoveries. Eighth: United Kingdom: 55,949 positive coronavirus cases, 6,171 deaths, and 325 recoveries. Ninth: Turkey: 34,109 positive coronavirus cases, 725 deaths, and 1,582 recoveries. And finally, with the lowest percentage, Switzerland: 22,328 positive coronavirus cases, 824 deaths, and 8,704 recoveries.

According to the WHO, in 2020, seniors aged 80 and over were highly susceptible to COVID-19, with a mortality rate of 21.9%. The next senior groups most likely to die from the coronavirus were those aged 70-79 and 60-69, with mortality rates of 8% and 3.6%, respectively, of all coronavirus cases.

Based on scientific evidence, Covid-19 can be transmitted from human to human through coughing/sneezing droplets. People most at risk of contracting this disease are those who have close contact with Covid-19 patients, including those caring for Covid-19 patients. Standard recommendations to prevent the spread of infection include regular handwashing with soap and clean water, practicing coughing and sneezing etiquette, avoiding direct contact with livestock and wild animals, and avoiding close contact with anyone showing symptoms of respiratory illness such as coughing and sneezing. In addition, implementing Infection Prevention and Control (IPC) when in healthcare facilities, especially emergency units. (Depkes, 2020)

The elderly (seniors) face physical and psychological weaknesses during the COVID-19 pandemic. Approximately 827 deaths from COVID-19 have been among people over 60 years of age. A person aged 80 years or older is at a significantly higher risk of contracting the COVID-19 virus. The risk of death decreases with age. For patients under 40, the probability of death from COVID-19 is only 0.2% (Wu dan McGoogan, 2020).

This is due to the public's disobedience in breaking the chain of COVID-19 transmission. Many people still don't wear masks, go out, don't maintain physical distance, and sometimes don't wash their hands. This disobedience to government recommendations will lead to an increase in the number of COVID-19 cases.

Preventive measures that must be taken include relying on educational media to educate the public about Covid-19 prevention during times like these. With educational media, they can make informed decisions about preventing wider Covid-19 transmission (Sampurno, M. B. T., Kusumandyoko, T. C., & Islam, 2020). One health promotion strategy that can be implemented is to provide education designed to change health risk behavior (Alber, J. M., Paige, S., Stellefson, M., & Bernhardt, 2016).

Efforts that can be made to the community to increase knowledge in steps to prevent the spread of Covid-19 through educational media, both online and offline. (Bower, 2019). Educational information can be delivered either online or offline, depending on the needs of the community (Viranga Perera, Chris Mead, Sanlyn Buxner, David Lopatto, Lev Horodyskyj, Steven Semken dan Hatfull, 2018). Efforts to prevent the transmission of Covid-19 in the elderly by practicing social distancing, as the elderly are an age group that is more susceptible to Covid-19 infection. Information and education must be continuously provided to the public, and supervision must always be a priority so that the community will adopt healthy behaviors, especially the elderly. During this period of social distancing, it is important for the elderly to continue physical activity, although this must be adjusted to the circumstances. Always maintain cleanliness by washing hands frequently with soap and consuming nutritious food.

Educational institutions, especially in the health sector, have a role and responsibility in educating the public, especially the elderly who have a faster exposure range. Information about Covid-19, the symptoms that appear for sufferers and preventative measures that can be taken must be conveyed through health promotion activities, both through community service activities and other activities. Communities in a location need to be educated. Therefore, during the pandemic, gatherings are not allowed, so distributing leaflets is more appropriate by direct visits from house to house to the community is more effective. Based on the background above, the purpose of this study is to determine the effect of Leaflet-Based Education on the Elderly on Knowledge of Covid-19 Prevention in Takalar Regency

2. Materials and Methods

This study employed an experimental approach with a one-group pretest–posttest design to evaluate the effectiveness of leaflet-based education for the elderly on knowledge of COVID-19 prevention. This design was chosen because it allows for direct comparison of knowledge levels before and after the intervention within the same group, thereby controlling for inter-individual variability. The research was conducted in Bontokadatto Village, Takalar Regency, from June 22 to July 11, 2022. A total of 32 elderly respondents participated in the study. Participants were selected using an accidental sampling method, which was considered appropriate given the limited time frame and accessibility of the population. Although this method may not fully represent the entire elderly population, it was practical for exploratory research under real-world community conditions.

Data were collected through structured questionnaires administered both before and after the educational intervention using leaflets. The intervention focused on improving knowledge regarding COVID-19 prevention, including hygiene practices, mask usage, physical distancing, and vaccination awareness. Data analysis was conducted using the Wilcoxon Signed Rank Test with a significance level set at $p < 0.05$. This non-parametric statistical test was employed because it is suitable for small sample sizes and for data that do not meet the assumptions of normality.

3. Results

3.1 Characteristics of the Elderly in Takalar Regency

Table.1 Frequency distribution of respondents based on respondent characteristics in Takalar Regency

Respondent characteristics	Min-Max (Mean)	Std. Deviation
Age (years)	60-85 (56.06)	9.679
Respondent characteristics	n	%
Gender		
Female	23	71,87
Male	9	28,13
Education		
Elementary School	17	53,1
Middle School	7	21,9
High School	8	25,0
Occupation		
Housewife	23	71,87
Farmer	8	25

Self-Employed	1	3,1
Total	32	100,0

Based on table 1 above, it shows that of the 32 respondents, the average age of respondents was 55.97 years with the lowest age being 60 years and the highest age being 85 years with a standard deviation of 9.679. For gender, the majority of respondents were female with a total of 23 respondents (71.87%), seen from education, the majority of respondents had elementary school education, namely 17 respondents (53.1%) and for occupation, the majority of respondents worked as housewives, namely 23 respondents (71.87%).

3.2 Knowledge

Table 2. Frequency distribution of respondents based on knowledge of Covid-19 prevention among the elderly in Takalar Regency

Knowledge	Pre		Post	
	n	%	n	%
Good	14	43,8	27	84,4
Poor	18	62,2	5	15,6
Total	32	100	32	100

Based on table 2, it shows that good knowledge before providing leaflet-based education, out of 32 respondents, was 14 respondents (43.8%) and good knowledge after providing leaflet-based education increased to 27 respondents (15.6%), while poor knowledge before providing leaflet-based education was 18 respondents (56.2%) and poor knowledge after providing leaflet-based education decreased to 5 respondents (15.6%).

3.3 Analysis of the Effect of Leaflet-Based Education on the Elderly's Knowledge of Covid-19 Prevention in Takalar Regency

Table 3. Analysis of the influence of module-based education The influence of leaflet-based education on the elderly's knowledge of Covid-19 prevention in Takalar Regency

Knowledge	n	Mean	Min-Max	Std. deviation	P
Pre-intervention	32	6,44	4-9	1,268	0,000
Post-intervention	32	11,53	6-14	2,540	

*Uji Wilcoxon

Based on table 3, it was found that before being given education, the average value of knowledge of preventing COVID-19 was 6.44 with a standard deviation of 1.268. Meanwhile, after leaflet-based education, the average value of knowledge of preventing COVID-19 was 11.53 with a standard deviation of 2.540, meaning that there was an increase in knowledge after being given leaflet-based education of 5.09. From the results of the Wilcoxon Signed Rank Test analysis, the p value was $0.000 \leq \alpha$ (0.05), which indicates that H_a is accepted. This means that there is an influence of leaflet-based education on the elderly on knowledge of preventing COVID-19 in Takalar Regency.

4. Discussion

The results obtained before being given education, the average value of knowledge of preventing COVID-19 was 6.44 with a standard deviation of 1.268. Meanwhile, after leaflet-based education, the average value of knowledge of preventing COVID-19 was 11.53 with a standard deviation of 2.540, meaning that there was an increase in knowledge after being given leaflet-based education of 5.09. From the results of the Wilcoxon Signed Rank Test analysis, the p value was $0.000 \leq \alpha$ (0.05), which indicates that H_a is accepted. This means that there is an influence of leaflet-based education on the elderly's knowledge of preventing COVID-19 in Takalar Regency.

One of the causes of the transmission of COVID-19 is the lack of public knowledge, especially among the elderly, regarding COVID-19, how and what to do to prevent infection or transmission to others, and avoid psychosocial problems due to this pandemic. In this situation, the community, especially the elderly, needs to increase their knowledge about COVID-19. One way to increase the knowledge of the elderly is through health education about COVID-19 to minimize the transmission or spread of COVID-19. By providing this health education, it is hoped that the elderly will understand the meaning of COVID-19, understand the causes of COVID-19, complications of COVID-19, treatment of COVID-19, prevention of COVID-19 and understand the psychological impact of COVID-19 as well as understand how to overcome anxiety amid the COVID-19 outbreak (Ausrianti et al., 2020).

Knowledge essentially consists of a number of facts and theories that enable a person to solve the problems they face. Health knowledge includes what a person knows about ways to maintain health, such as knowledge about infectious diseases, knowledge about factors related to and influencing health, knowledge about health service facilities, and knowledge about how to avoid accidents (Notoatmodjo, 2012).

Leaflets are concisely structured informational media, making it easy to obtain accurate information. The information presented in leaflets can include images or explanations. Furthermore, the leaflet's content must align with the educational objectives being addressed (Yulianti D, Yudha KE, 2011).

This is also supported by research by Afridah (2017), who stated that education is one of the factors that can influence a person. The higher a person's education, the broader their experience (Afridah dan Fajariani, 2017)

Good knowledge will encourage a positive attitude (Peng et al., 2020). This is shown in this study that the highest percentage of knowledge is in the good category after education, namely 27 (84.4%), the education provided to the community will later encourage them to show a positive attitude in preventing Covid-19 (Peng et al., 2020).

This research is supported by research conducted in Uganda that those who have good knowledge also have good attitudes (Ssebuufu, 2020), just like in China, those who have good knowledge will also have a good attitude in preventing Covid-19.

According to Utami, Mose dan Martini (2020), It is explained that knowledge and attitudes greatly influence the behavior of the target community in providing educational information with more innovative methods. The most effective way to prevent the spread of Covid-19 is to break the chain of Covid-19 transmission. Transmission of Covid-19 infection occurs primarily through physical contact. Based on this method of transmission, Covid-19 prevention is focused on safe community behavior patterns, namely taking preventive measures such as personal hygiene, healthy eating, wearing masks, and self-isolation by staying at home. Low public knowledge and awareness, especially regarding health and disease, makes it difficult to detect diseases that occur in the community. Covid-19 prevention is very important to be carried out through methods of providing information through media that can have an impact on increasing correct knowledge about preventing the spread of Covid-19.

The author believes that education is crucial for improving the elderly's knowledge of preventing COVID-19 transmission. One form of education that can be provided in these circumstances is through leaflets.

5. Conclusions

The effect of leaflet-based education on the elderly's knowledge of Covid-19 prevention in Takalar Regency was found. Before being given education, the average value of knowledge about Covid-19 prevention was 6.44. Meanwhile, after leaflet-based education, the average value of knowledge about Covid-19 prevention was 11.53, meaning that there was an increase in knowledge after being given leaflet-based education of 5.09.

Conflict of Interest

The authors declare no conflicts of interest.

Funding

This research did not receive any financial support.

References

- Afridah, W. dan Fajariani, R. (2017) "Tingkat pengetahuan kesehatan reproduksi pada siswa sma kanjeng sepuh gresik," 1(1), hal. 53–57.
- Alber, J. M., Paige, S., Stelfson, M., & Bernhardt, J. M. (2016) "Social media Self-efficacy of Health Education specialists: training and organizational development implications," *Health Promotion Practice*, 17(6), hal. 915–921.
- Ausrianti, R. et al. (2020) "Edukasi Pencegahan Penularan Covid 19 serta Dukungan Kesehatan Jiwa dan Psikososial pada Pengemudi Ojek Online," *Jurnal Peduli Masyarakat*, 2(2), hal. 59–64. doi: 10.37287/jpm.v2i2.101.
- Bower, M. (2019) "Technology-mediated learning theory.," *British Journal of Educational Technology*, 50(3), hal. 1035–1048.
- Depkes (2020) "Pedoman Pencegahan dan Pengendalian Corona Virus Disease (COVID-19).," in. Jakarta: Kemenkes RI & Dirjen Pencegahan dan Pengendalian Penyakit.
- Notoatmodjo, S. (2010) *Promosi Kesehatan & Teori Aplikasi*. Jakarta: PT Rineka Cipta.
- Peng, Y. et al. (2020) "A cross-sectional survey of knowledge, attitude and practice associated with COVID-19 among undergraduate students in China," *BMC Public Health*, 20(1), hal. 1–24. doi: 10.1186/s12889-020-09392-z.
- Sampurno, M. B. T., Kusumandyoko, T. C., & Islam, M. A. (2020) "Budaya Media Sosial, Edukasi Masyarakat, dan Pandemi COVID-19.," *SALAM: Jurnal Sosial Dan Budaya Syar-I*, 7(5). doi: <https://doi.org/10.15408/sjsbs.v7i5.15210>.
- Ssebuufu, R. et al. (2020) "Awareness, knowledge, attitude and practice towards measures for prevention of the spread of COVID-19 in the Ugandans: A nationwide online cross-sectional Survey. medRxiv."
- Utami, R. A., Mose, R. E. dan Martini, M. (2020) "Pengetahuan, Sikap dan Keterampilan Masyarakat dalam Pencegahan COVID-19 di DKI Jakarta," *Jurnal Kesehatan Holistic*, 4(2), hal. 68–77. doi: 10.33377/jkh.v4i2.85.

- Viranga Perera, Chris Mead, Sanlyn Buxner, David Lopatto, Lev Horodyskyj, Steven Semken, and A. D. A. dan Hatfull, G. F. (2018) "Students in Fully Online Programs Report More Positive Attitudes toward Science Than Students in Traditional, In-Person Programs," *CBE—Life Sciences Education*, 16(4). doi: <https://doi.org/10.1187/cbe.16-11-0316>.
- WHO (2020) *Situation reports* : Web:https://www.who.int/docs/defaultsource/coronaviruse/situation-reports/20200729-sitrep-69-covid-19.pdf?sfvrsn=8d6620fa_8. Diakses pada tanggal 29 Juli 2020.
- Wu, Z. dan McGoogan, J. M. (2020) "Characteristics of and Important Lessons from the Coronavirus Disease 2019 (COVID-19) Outbreak in China: Summary of a Report of 72314 Cases from the Chinese Center for Disease Control and Prevention," *JAMA - Journal of the American Medical Association*, 323(13), hal. 1239–1242. doi: 10.1001/jama.2020.2648.
- Yulianti D, Yudha KE, H. A. (2011) *Promosi Kesehatan dalam Praktik Kebidanan*. Jakarta: EGC.