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Determinants of Elderly Income in Indonesia During the Covid-19 Pandemic

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ABSTRACT

This study aimed to determine the factors that influence the income of the elderly during the Covid-19 pandemic. This study uses a quantitative approach with a panel data design. The data used are macro data issued by the Central Statistics Agency in 2019, 2020 and 2021 (Covid-19 pandemic period). The results of the study showed a significant decrease in the average income of the elderly both nationally and in each province during the COVID-19 pandemic in 2019 - 2021. There was a decrease in the average income of the elderly in 2019 - 2020 by 6.92 percent and 7.02 percent in 2020 - 2021. The results of multiple regression analysis using panel data showed that only one variable, the Allocation of elderly working time, had a significant effect on the average income of the elderly in Indonesia. The other three variables that did not have a significant effect were the number of elderly working, education and health of the elderly. During the COVID-19 pandemic, the main problem faced by the elderly is the implementation of social distancing and physical distancing, and the government's policy of Large-Scale Social Restrictions (PSBB) has a direct impact on reducing the Allocation of working time for the elderly, which then has an impact on reducing the income of the elderly.

1. INTRODUCTION

Introduction The coronavirus, known as COVID-19, has attracted considerable public attention worldwide, including in Indonesia. Since the virus first emerged in Wuhan City, China, at the end of 2019, WHO has explained that COV (coronaviruses) is a type of virus that can infect the respiratory tract. The number of people who died from this virus has become a severe problem for many countries, including Indonesia.

The COVID-19 pandemic is an infectious disease caused by a new coronavirus, a global health crisis (Levkovich & Altman, 2021). Conditions during this pandemic have an impact on various aspects of the lives of the global population, especially vulnerable groups, namely individuals with comorbid diseases, obesity (overweight), individuals with low immunity and elderly individuals. The elderly are a vulnerable group that is very likely to be infected with the coronavirus. That is evidenced by cases of positive Coronavirus Disease 2019 patients who died predominantly among the elderly (Hakim, 2020).

The cessation of community mobility has also resulted in a new condition since the enactment of Government Regulation Number 21 of 2020 concerning Large-Scale Social Restrictions in accelerating the handling of Coronavirus Disease 2019 (COVID-19). That is official with the enactment of the Minister of Health Regulation Number 09 of 2020 concerning the Implementation of PSBB during the most extended incubation period of 14 days. The increasingly narrow space for movement has resulted in all activities ending at Home. Work From Home is the most appropriate word to describe this condition; office activities, schools, production, worship and other things are felt to be very limited and even stop completely (Craig & Churchill, 2021; Wibowo & Wihayati, 2021). The implementation of social distancing and physical distancing to PSBB regulations can also trigger problems with the isolation of the elderly during the pandemic. That is because the elderly find it difficult to adjust to the social environment, cannot carry out their activities as usual, and must keep their distance from the people around them. This condition also disrupts the social relationships of the elderly and causes them to decline (Tristanto, 2020). From an environmental perspective, the pandemic has also lowered the economic status of the elderly.

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During the pandemic, many older adults lost their jobs. That is reflected in the percentage of unemployed older adults, which increased to 1.39 percent as of August 2021 from 0.88 percent in the same period the previous year (BPS, 2021b). The study's results (Parinding et al., 2021) in Palu City found that around 14.70 percent of the elderly population left the labor market. This situation has caused the income of the elderly to decline significantly. According to the results of the study by Khan et al. (2021) in Malaysia, some older adults lost their income during the Covid-19 pandemic. The same results as the findings (Pariding et al., 2023) showed a decrease in the average income of the elderly in Indonesia from 2019 to 2021 by IDR 220,000.

Many older adults who were still actively working part-time or as freelancers lost their jobs due to business closures or managing activities during and after the pandemic. This resulted in a loss of important income for them. Older adults are often less familiar with the digital technologies needed to utilize online services during and after the pandemic, such as shopping, health services, or government assistance applications. The inability to access these technologies can limit their ability to access available support and benefits. Observing the problems faced by the elderly population, this study tries to examine the factors that influence the income of the elderly during the Covid-19 pandemic period 2019 - 2021. Based on these gaps, this study aims to: 1.) The influence of allocation of elderly working time on Elderly Income, 2.) The influence of number of elderly working on Elderly Income, 3.) The influence of Elderly education on Elderly Income, 4.) The influence of Elderly health on Elderly Income. The urgency of this research related to the income of the elderly before and after COVID-19 is very important for various reasons related to understanding, planning, and social policy. Another urgency is so that the government can measure the financial resilience of the elderly and their ability to face economic crises in the future.

2. LITERATURE REVIEW

Definition of Covid-19

Coronavirus, or severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), is a virus that attacks the respiratory system. The disease caused by infection with this virus is called COVID-19. The definition of COVID-19 infection can be classified as follows (Handayani et al., 2020):

1. Suspected case: (a) Patients with acute respiratory distress (fever and at least one sign/symptom of respiratory disease, such as cough, shortness of breath) and a history of travel or residence in an area that reports community transmission of covid-19 disease for 14 days before symptom onset; or (b) Patients with acute respiratory distress and have had contact with a confirmed or probable case of covid-19 in the last 14 days before onset; or (c) Patients with severe respiratory symptoms (fever and at least one sign/symptom of respiratory disease, such as cough, shortness of breath and requiring hospitalization) and no other alternative diagnosis that can thoroughly explain the clinical presentation.
2. Probable cases: (a) Suspected cases whose test results for COVID-19 are inconclusive; or (b) Suspected cases whose test results cannot be done for any reason.
3. Confirmed cases are patients with positive laboratory results for COVID-19 infection, regardless of whether or not there are symptoms and clinical signs.

Elderly Concept

Aging is a natural and normal process. Elderly age is a natural process that cannot be avoided and must be accepted as a biological reality and phenomenon. Life moves with the aging process that ends in death (Hutapea, 2005). Therefore, this is a critical period for spiritual development with issues related to the end of life, such as death and its process (dying) (Nelson, 2009). The Elderly is a unity of social and biological facts. As a social fact, the elderly are withdrawing from various statuses in a social structure. Physically, increasing age can mean that humans are physically weaker and in health (Prayitno, 1999).

In contrast to this term, Law Number 13 Concerning Elderly Welfare (RI, 1998) defines the elderly in Chapter I, Article 1, points 2, 3 and 4:

1) Elderly is someone who has reached the age of 60 (sixty years) and above; 2) Potential elderly are elderly who are still able to do work and activities that can produce goods and services; 3) Non-potential elderly are elderly who are unable to earn a living so that their lives depend on the help of others.

The age division used as a benchmark by the World Health Organization (2012) regarding the elderly population, namely: 1) middle age, which is the age group 45-59 years; 2) elderly (elderly), is between 60-74 years; 3) old (old) is between 75 - 90 years; and 4) very old (very old) is over 90 years.

The Impact of Covid-19 on Elderly Income

The elderly face much more significant challenges during the COVID-19 pandemic. According to Republika (2020), COVID-19 affects the social relationships of the elderly with others around them and reduces social support for them. In addition, they also experience limitations in entering the workforce due to their vulnerability to COVID-19 transmission (Morrow-Howell et al., 2020). This reality makes the elderly vulnerable to economic shocks (TNP2K, 2020).

In addition, Covid-19 has almost paralyzed the community's economy. Implementing various government policies such as work-from-home, regional restrictions, and closure of various public places has indefinitely resulted in layoffs (PHK) and business closures (PUSPENSOS, 2020). The results of a study by Azimah et al. (2020) in the Klaten and Wonogiri Markets found a spike in the price of goods, a decrease in market economic activity and a decrease in market traders' income by 50 percent from normal before the Covid-19 pandemic. Similar findings by (BPS Jambi, 2020), of the 804 working respondents, 26.62 percent were temporarily laid off, and 2.49 percent had just been laid off from their workplace. Their income also decreased. 38.95 percent who were still working stated that their income had decreased, and 53.27 percent for those who were being laid off. Findings (Dubois et al., 2022) in Lithuania found a permanent loss of income sources for residents aged 50 years and over by five percent.

3. METHOD

Results

This study uses a quantitative approach with a panel data design, combining time series and cross-section data. The data used is macro data issued by BPS in 2019-2021, when the COVID-19 pandemic broke out in Indonesia. The data in question is data that has been processed by BPS, which comes from Sakernas data and Susenas data. These data include income, work time allocation, numberthe of elderly people working, and the education and health of the elderly population both nationally and for each province. Multiple linear regression is a statistical method used to analyze the relationship between one dependent variable and two or more independent variables (predictors). The goal of this analysis is to understand how the independent variables affect the dependent variable and to make predictions about the value of the dependent variable based on the values of the independent variables. Multiple linear regression is a powerful tool for analyzing data involving multiple factors and can provide deep insights into how these variables interact.

This study uses multiple regression analysis of panel data with the following model (Gujarati, 2003):

Yit = β1i + β2X2it + β3X3it + uit,

i = 1, 2, …. N and t = 1, 2, … T

Based on the model above, the model used in this study is as follows:

$Yit = \beta 0 + \beta 1X1it + \beta 2X2it + \beta 3X3it + \beta 4X4it + \varepsilon it$

Description:

β0	= Constant
β1, β2, β3, β4	= Regression coefficient
Y	= Elderly income
X1	= Allocation of elderly working time
X2	= number of elderly working
X3	= Elderly education
X4	= Elderly health

The dependent variable is symbolized by Y, namely the income of the elderly measured from the average income of working elderly in a month by province (rupiah). The independent variables consist of the Allocation of working time, the number of working elderly, education and health of the elderly. Allocation of working time of the elderly is measured from the average number of hours of work of the elderly in a week by province (hours). The number of working elderly population is measured from the percentage of elderly population working in the last week by province (percent). Education of the elderly is measured from the average length of schooling of the elderly by province (years). The health of the elderly is measured from the morbidity rate of the elderly (percentage of the elderly population who have health complaints) by province (percent). By collecting and analyzing data on the income of older adults before and after COVID-19, researchers selected independent variables with the aim of exploring factors that are assumed to contribute to better policies, programs, and support for older adults, as well as mitigating the impact of future crises.

4. RESULTS AND DISCUSSION

Adequate income is essential in ensuring the welfare of workers and is a crucial component of decent work, including for the elderly. The average income of working older adults decreased from 2018-2021. Although it increased from 2018 to 2019 by 4.84 percent, after entering the COVID-19 pandemic, it continued to decline. There was a decrease from 2019 to 2020 by 6.92 percent and from 2020 to 2021 by 7.02 percent (see Figure 4-1).

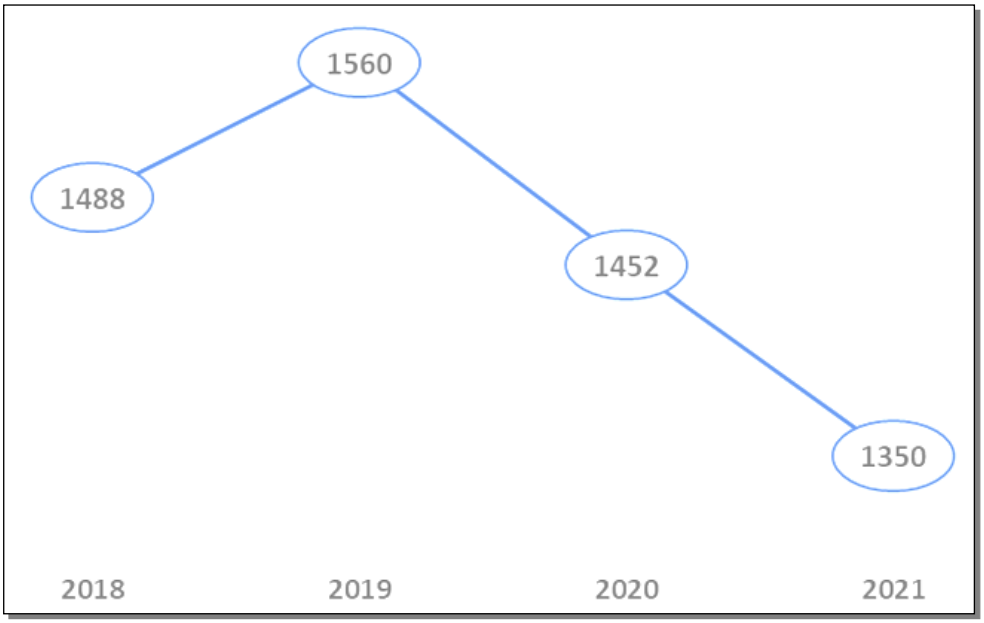

Figure 1. Average Monthly Income of Elderly Population 2018 – 2021 (000 rupiah)
Source: BPS, 2021 Elderly Population Statistics

Similar findings by (BPS Jambi, 2020), the income of the elderly population who are still working has decreased by 38.95 percent and 53.27 percent for those who are being laid off. Similar results by (Dubois et al., 2022) in Lithuania found a five percent permanent loss of income sources for residents aged 50 years and over. In Malaysia, Khan et al. (2021) found that some older adults lost income during the Covid-19 pandemic. Furthermore, the income of the elderly population is determined by the characteristics of domicile, gender, education level, and field of business, as shown in Table 4-1. Based on the characteristics of domicile, the income of the elderly working in urban areas is higher than that of the elderly in rural areas. The low income of elderly workers in rural areas is related to the large number of elderly workers working in the agricultural sector, where their income is lower than that of the elderly working in other fields of business.

Table 1. Average Monthly Income of Indonesian Elderly in 2021 (000 rupiah)

Characteristics	2021
Domicile:	
Urban	1 575
Rural	1 048
Gender:	
Male	1 572
Female	969
Age Group:	
Young Elderly (60 – 69)	1 438
Adult Elderly (70 – 79)	1 066
Full Elderly (80+)	710
Education Level:	
Did not finish elementary school	951
Elementary school graduate	1 219

Junior high school graduate	1 560
High school graduate	2 025
College Graduate	4 793
Business Fields:	
Agriculture	1 002
Manufacturing	1 519
Services	1 590

Source: Processed from BPS, 2021 Elderly Population Statistics

The income gap is also seen in older men and women. Older men who work earn an average income of 1.572 million rupiah per month, while older women earn a lower income. That is due to the ongoing wage gap between men and women. When viewed from the age group, young elderly are more productive than adults and full elderly.

Furthermore, when viewed from the education characteristics, the elderly with a college education level have a much higher income, five times higher than those who have not graduated from elementary school with an income of less than one million rupiah per month. Those who work in the service sector have a higher income than those who work in the manufacturing and agricultural sectors,

Table 4-2 shows the five provinces with the lowest average income for older adults and the five with the highest income. East Nusa Tenggara Province has the lowest average income, with IDR 984,000 monthly in 2019 and IDR 754,000 in 2021. Meanwhile, the highest average income is in DKI Jakarta Province, with an average monthly income of IDR 3,610,000 in 2019, decreasing to IDR 2,701,000 in 2021. The highest average income decline from 2019 to 2021 occurred in Riau Islands Province and DKI Jakarta by 34.42 percent and 25.18 percent, respectively.

Table 2. Five Provinces with the Highest and Lowest Average Elderly Income in 2019 2021 (000 rupiah per month)

Area	2019	2021
Lowest:		
East Nusa Tenggara	984	754
West Nusa Tenggara	1 190	946
DI Yogyakarta	1 200	1 078
Central Java	1 235	1 016
Southeast Sulawesi	1 240	1 163
Highest:		
DKI Jakarta	3 610	2 701
Papua	2 924	2 485
Riau Islands	2 644	1 734
East Kalimantan	2 294	1 774
West Papua	2 033	2 019

Source: Processed from BPS, 2019 and 2021 Elderly Population Statistics

Multiple Regression Analysis Results

Based on the model selection test results through the Chow test and the Hausman test, the Fixed Effect method was selected to estimate panel data. The estimation results obtained a determination coefficient value (R2adj.) Of 0.8788 and a probability (F-statistic) of 0.0000 < 0.01 explaining that the model built can explain the income of the elderly in Indonesia. The R2adj. A value of 0.8788 means that changes in the income of the elderly can be explained simultaneously by the variables of work time allocation, the working population, education and morbidity rate of 87.88 percent.

The partial estimation results show one significant variable that affects the income of the elderly population and three variables that do not have a significant effect. The variable that has a significant effect is only the Allocation of work time for the elderly population.

The work time allocation variable has a coefficient of 44.4993 and a significant value of 0.0317 (<0.05). The variable of work time allocation is significant. It has a positive slope, which can be interpreted as the Allocation of work time for the elderly during the pandemic having a significant effect on income. The regression coefficient means that every increase in the Allocation of work time by one hour per week can increase the average income by IDR 44,499.3. This finding is in line with the findings of (Widiastuti, 2018) also in Indonesia, which used the 2015 Sakernas microdata. The results of research during the COVID-19 pandemic also found the same results, such as the results of research conducted by (Parinding et al., 2021)

and (Parinding et al., 2023) that the COVID-19 pandemic and various government policies have caused the elderly to reduce their work time allocation which then has an impact on the income of the elderly.

Table 3. Results of Partial Test and Simultaneous Test Analysis

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	1084.681	1180.264	0.919016	0.3616
X1	44.49933	20.24965	2.197535	0.0317
X2	-17.81907	13.45984	-1.323869	0.1903
X3	-49.72307	82.09970	-0.605643	0.5469
X4	8.660051	9.021138	0.959973	0.3407
R-squared	0.923667	Mean dependent var		1574.020
Adjusted R-squared	0.878836	S.D. dependent var		519.3494
S.E. of regression	180.7782	Akaike info criterion		13.51291
Sum squared resid	2058887.	Schwarz criterion		14.49681
Log-likelihood	-644.4018	Hannan-Quinn criteria.		13.91122
F-statistic	20.60350	Durbin-Watson stat		2.779520
Prob(F-statistic)	0.000000			

Source: Data processing results

The working population has a coefficient of -17.8190 and a significant value of 0.1903 (> 0.05). The results that give meaning to the number of older adults working have a negative and insignificant effect on the average income of the elderly. The number of older adults working gives a negative slope due to their low income. According to the August 2019 Sakernas data, 32.70 percent of elderly workers receive low wages, and 46.22 percent earn less than one million rupiah monthly (BPS, 2019). Furthermore, according to the August 2021 Sakernas data, 32.79 percent of elderly workers receive low wages, and 52.31 percent earn less than one million rupiah monthly (BPS, 2021b). Elderly education has a coefficient of -49.7231 and a significant value of 0.3407 (> 0.05), which means that education, as measured by the average length of schooling, has a negative and insignificant effect on income. This negative impact is greatly influenced by the percentage of older adults who work, dominated by older adults with low levels of education. The August 2021 Sakernas data shows that the percentage of elderly workers who did not graduate from elementary school was 41.72 percent, and elderly workers who graduated from elementary school were 38.37 percent. Those with higher education were only 3.74 percent, so the proportion of income in each province sampled was dominated by those with low education. It might give different results if the data used was microdata. Elderly health is measured by the morbidity rate, namely the percentage of older adults with health complaints. Health complaints recorded in Susenas include frequently experienced disorders such as fever, cough, runny nose, diarrhea, headaches, or complaints caused by chronic diseases, disabilities, accidents, or other health complaints. The morbidity rate has a regression coefficient of 8.6601 and a significant value of 0.5469 (> 0.05), which means a positive and insignificant effect on income. According to (BPS, 2021b), the elderly morbidity rate has reached its lowest point over the past seven years. In 2015, the morbidity rate for the elderly was 28.62 percent, continuing to decline from year to year to reach 22.48 percent in 2021. Along with the decline in the morbidity rate in the last three years, it has also been followed by a decline in the income of the elderly. These results explain that the decline in the morbidity rate during the COVID-19 pandemic could not increase the income of the elderly. The emergence of the COVID-19 pandemic has significantly impacted income, particularly among the elderly population, leading to a noticeable decline (Republika, 2020; Azimah et al., 2020). According to (BPS, 2021a), the Allocation of working time for the elderly decreased by 19.83 percent during the COVID-19 pandemic, which is the leading cause of the decline in the income of the elderly. This situation makes the three variables, namely the number of working population, the education of the elderly and the health of the elderly no longer have a significant influence.

The research can be used as a consideration by policy makers in identifying deficiencies in existing social assistance programs and encouraging adjustments or development of new programs that are more responsive to the needs of the elderly, such as health subsidies or emergency benefits. Data on the impact of the pandemic on the income of the elderly can trigger pension policy reforms to improve the financial protection of the elderly, including adjustments in the way pensions are calculated or increased pension funds. The research can help in designing better financial planning and risk management strategies for the elderly, including planning for emergencies and managing future financial risks.

5. CONCLUSION

Based on the discussion of the results of this study, the following conclusions can be drawn. There was a decrease in the average income of the elderly nationally and in each province. The decrease from 2019 to 2020 was 6.92 percent, and from 2020 to 2021 was 7.02 percent. The highest average decrease in income occurred in the Riau Islands Province and DKI Jakarta, respectively, by 34.42 percent and 25.18 percent. Meanwhile, the lowest average income for the elderly occurred in East Nusa Tenggara Province, with an average income of IDR 754,000 per month. During the Covid-19 pandemic, only the variable of work time allocation significantly impacted the income of the elderly. That is due to the impact of social and physical distancing as well as the PSBB policy, which had a direct impact on a significant decrease in working hours, which then had an impact on the income of the elderly.

The significant decline in income of the elderly during the COVID-19 pandemic requires the government to provide economic support to the elderly post-pandemic. That is done to ensure that the entire elderly population, especially vulnerable elderly groups, such as people with low incomes and those living alone, have the opportunity to fulfill their daily needs. It is also hoped that the families and relatives of the elderly can optimize economic support for the elderly.

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7. REFERENCES

Azimah, R. N., Khasanah, I. N., Pratama, R., Azizah, Z., Febiantoro, W., & Purnomo, S. R. S. (2020). Analisis Dampak Covid-19 Terhadap Sosial Ekonomi Pedagang di Pasar Klaten dan Wonogiri. *Empati: Jurnal Ilmu Kesejahteraan Sosial*, *9*.

Badan Pusat Statistik Jambi. (2020). Kajian Dampak Covid-19 terhadap Kondisi Sosial dan Ekonomi Masyarakat Provinsi Jambi. In *BPS Provinsi Jambi* (Issue 27).

BPS. (2019). *Statistik Penduduk Lanjut Usia 2019*. BPS.

BPS. (2021a). *Hasil Sensus Penduduk 2020*. BPS.

BPS. (2021b). *Statistik Penduduk Lansia Usia 2021*. Badan Pusat Statistik.

BPS Jambi. (2020). *Analisis Isu Terkini Kajian Dampak Covid-19 Terhadap Kondisi Sosial dan Ekonomi Masyarakat Provinsi Jambi*. Badan Pusat Statistik Provinsi Jambi.

Craig, L., & Churchill, B. (2021). Working and Caring at Home: Gender Differences in the Effects of Covid-19 on Paid and Unpaid Labor in Australia. *Feminist Economics*, *27*(1–2), pp. 310–326. https://doi.org/10.1080/13545701.2020.1831039

Dubois, H., Nivakoski, S., Fóti, K., Patrini, V., & Mascherini, M. (2022). *COVID-19 and older people: Impact on their lives, support and care*.

Gujarati, D. N. (2003). *Basic Econometrics* (L. Sutton (ed.); 4th ed.). McGraw-HiII/lrwin.

Hakim, L. N. (2020). Perlindungan Lanjut Usia Pada Masa Pandemi Covid-19. *Kajian Singkat Terhadap Isu Aktual Dan Strategis*, *XII*.

Handayani, D., Hadi, D. R., Isbaniah, F., Burhan, E., & Agustin, H. (2020). Penyakit Virus Corona 2019. *Jurnal Respirologi Indonesia*, *40*(1), 119–129.

Hutapea, R. (2005). *Sehat dan Ceria Di Usia Senja*. Rhineka Cipta.

Khan, M. A., Chin, K. S., & SPR, C. R. (2021). Impact of the COVID-19 Pandemic on the Financial Well-being of Older Adults in Malaysia. *International Journal of Management, Economics and Social Sciences*, *10 (2-3)*, pp. 140–155.

Levkovich, I., & Altman, S. S. (2021). Impact of the COVID-19 pandemic on stress and emotional reactions in Israel: a mixed-methods study. *International Health*, *13*, 358–366.

Morrow-Howell, N., Galucia, N., & Swinford, E. (2020). Recovering from the COVID-19 Pandemic: A Focus on Older Adults. *Journal of Aging and Social Policy*, *32*(4–5), pp. 526–535. https://doi.org/10.1080/08959420.2020.1759758

Nelson, J. M. (2009). *Psychology, Religion, and Spirituality*. Valparaiso.

Parıding, K. A., Anwar, C., Paembonan, L., & Sir, S. Y. (2023). The Impact OF Covid-19 Pandemic on Working Time Allocation and Income: A Study of Elderly Population in Indonesia. *Intern. Journal of Profess. Bus. Review (JPB)*, *8*, 1–17.

Parinding, K. A., Anwar, C., Suparman, & Paembonan, L. (2021). The Work Participation of the Elderly during the COVID-19 Pandemic in Palu City. *Budapest International Research and Critics Institute-Journal (BIRCI-Journal)*, *4*, 13609–13619. https://doi.org/https:doi.org/10-33258/birci.4i4.3445

Prayitno, S. (1999). PENDUDUK LANJUT USIA: Tinjauan Teori, Masalah dan Implikasi Kebijakan. *Masyarakat, Kebudayaan Dan Politik*, *XII*(4), 45–50.

PUSPENSOS. (2020). Menganalisa Masalah Sosial Ekonomi Masyarakat Terdampak Covid-19. *Pusat Penyuluhan Sosial*. https://puspensos.kemensos.go.id/menganalisa-masalah-sosial-ekonomi-masyarakat-terdampak-covid-19

R.I. (1998). *Undang-Undang Nomor 13 Tentang Kesejahteraan Lansia* (pp. 1–24). Pemerintah Republik Indonesia.

Republika. (2020). Perlu Perhatian Lebih ke Lansia Saat Pandemi ini. *Republika*. https://republika.co.id/berita/qjy20v380/perlu-perhatian-lebih-ke-lansia-saat-pandemi-ini

TNP2K. (2020). Kerentanan Lansia Di Masa Wabah Covid-19. *TNP2K*. http://tnp2k.go.id/articles/vulnerability-of-the-elderly-amid-the-covid-19-outbreak:-efforts-to-ensure-comprehensive-social-protection-to-address-vulnerability

Tristanto, A. (2020). Dukungan Kesehatan Jiwa dan Psikososial (DKJPS) dalam Pelayanan Sosial Lanjut Usia pada Masa Pandemi COVID-19. *Sisio Informa*, *6*(2), 205–222.

Wibowo, F. W., & Wihayati. (2021). Prediction Modelling of COVID-19 on Provinces in Indonesia Using Long Short-Term Memory Machine Learning. *Journal of Physics: Conference Series*, *1844*(1). https://doi.org/10.1088/1742-6596/1844/1/012006

Widiastuti, A. (2018). Pengaruh Pendidikan, Jam Kerja, dan Pengalaman Kerja Terhadap Pendapatan Tenaga Kerja Lansia. *Jurnal Pendidikan Dan Ekonomi*, *7*, 253–262.

World Health Organization. (2012). *Definition of an older or elderly person.*