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PATHWAY ANALYSIS OF THE INFLUENCE OF DEPRESSION ON QUALITY OF LIFE AND ITS IMPACT ON HYPERTENSION INCIDENCE IN ELDERLY IN PAYA PUNTEUT VILLAGE LHOKSEUMAWE

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Abstract

Background: Health problems caused by physical and psychological changes due to aging cause elderly adults unable to enjoy their old age. One of them is hypertension which is caused by changes in the cardiovascular system of elderly, while depression may cause a further decline in their quality of life. **Methods:** This study used a cross-sectional approach with 247 hypertensive older adults as population and the 220 elderly adults as sample which were taken by purposive sampling technique. The endogenous variable in the study was hypertension. The exogenous variable was depression, measured by Geriatric Depression Scale-15 (GDS-15) questionnaire. The intervening variable was Quality of Life (QOL) of the elderly, measured by the WHOQOL-BREF questionnaire. The data collected analyzed by SPSS software for Pearson correlation and path analysis. **Results:** Age, gender and marital status had a significant impact on depression experienced by the elderly, with significance values of 0.000; 0.001; and 0.000. The depression has a significant impact on the QOL and the incidence of hypertension with probability values of 0.000 and 0.003, respectively. The Quality of Life has a significant impact on hypertension as well with a probability value of 0.001. **Conclusions:** The findings in path analysis revealed the indirect effect of depression on hypertension through QOL is greater (0.203) than the direct effect of depression on hypertension (0.154). It means depression exacerbated by quality of life detrimental on ageing adults may elevate risk of hypertension. **Recommendation:** The findings are used to develop a modified model on managing hypertensive elderly in Lhokseumawe, Aceh by suppressing the rate of depressive symptoms through improving the quality of life.

Keywords: Depression, Hypertension, Elderly, Path Analysis, Quality of Life.

1. INTRODUCTION

People aged 60 years old or over are considered as elderly. In 2013, 13.4% of the world's population was elderly, with 8.9% of that portion in Indonesia. By 2050, elder population worldwide is projected to reach 25.3% of the total population, with 21.4% is in Indonesia. The population census shows that the elder population in Indonesia is increasing every year. In 2010, there were 18.1 million aging adults in Indonesia, but in 2014 it increased to 18.781 million matures and is estimated to reach 36 million elders in 2025 (Khatami, 2018).

Depressive disorders and symptoms considerably decrease functioning in several domains, such as health, social functioning, and job functioning. In fact, the quality of life of adults with depression is worse than that of individuals with diabetes, hypertension, and chronic lung disease(Brenes, 2007). Quality of Life is negatively impacted by aging, particularly for people who are depressed. Depression in older age is linked to higher rates of illness and death, as well as cognitive changes, physical symptoms, lack of interest, and suicidal ideation. Aging is a physical and biological process that ultimately results in multiple medical changes, including neurological, cardiovascular, endocrine, inflammatory, and musculoskeletal abnormalities. Because of their vulnerability to physical and mental abnormalities, the elderly may suffer from a variety of health

issues. Depressive individuals' quality of life was negatively impacted by factors such as age, education level, income, unemployment, poor health perception, obesity, and mental health issues. Thus, patients with depression who have risk factors for low quality of life should be diagnosed and treated effectively (Cho et al., 2019) because professionals continue to place a significant emphasis on medicine for symptoms reduction, ignoring the quality of life of patients with depression . On the one hand, changes in anxiety and depression symptoms were similarly linked to changes in Quality of Life (QoL) over time but on the other hand, improved mental health is related with a higher QoL, emphasizing the importance of assistance during diseases (Hohls, König, Quirke, & Hajek, 2021).

Depression and low quality of life (QOL) can have a major impact on hypertension by making it more difficult to manage which is potentially leading to poorer blood pressure regulation and an increased risk of complications and poor adherence to drug regimens due to diminished desire and feelings of hopelessness associated with depression; in essence, a depressed person may be less likely to actively manage their hypertension, exacerbating its health implications (Krousel-Wood & Frohlich, 2010).

Depression can possess a negative impact on hypertension management because of the chronic nature of the condition and the possibility of consequences, hypertension can also contribute to depression (Scalco, Scalco, Azul, & Neto, 2005). Adrian and Tommy (2019) explained that hypertension is one of the biggest causes of morbidity in the world. It is estimated that the number of people with hypertension will reach 1.5 billion in 2025, with an approximated death of 9.4 million. Systolic blood pressure of more than 130 mmHg or diastolic more than 80 mmHg is known as hypertension, with 80-95 percent of cases are essential hypertensions. Genetics and environment are two main components associate to essential hypertension. A combination of pharmacological drugs and non-pharmacological treatments are required for managing hypertension in elders by considering various factors, such as stage of hypertension, period of treatment, type of blood pressure drug given, comorbidities, periodic check-up, and related criteria.

Tambunan et al. (2021) describes hypertension as a condition in which blood pressure rises above normal limits and triggers illness or even death. The blood pressure rises above normal limits, which is more than 140/90 mmHg, called as hypertension. Blood pressure rises with a systolic which the height depends on individual and varies as per body position, age, and stress levels experienced.

Hypertension may trigger other diseases such as heart disease, congestive heart failure, stroke, visual impairment, kidney failure, heart failure, and even complications which must be conscious (Tambunan et al., 2021). In aging adults, the risk of getting heart attack, stroke and kidney failure possibly increase as complication of hypertension. Blood vessel damage, kidney failure, heart, blindness, and impaired cognitive function can be triggered by continuously increasing blood pressure as well. The heart experiences excessive workload as the outcome (Suaib et al., 2019). Hypertension in elders increases the risk of acute myocardial infarction by 5.231 times, more often in men and case groups compared to the control group. This manifest there is a significant relationship between hypertension and the incidence of acute myocardial infarction (Khatami, 2018).

Hypertension in mature patients is classified into two: hypertension characterized by systolic pressure over 140 mmHg and diastolic pressure over 90 mmHg; and isolated systolic hypertension characterized by systolic pressure over 160 mmHg and diastolic pressure less than 90 mmHg (Manuntung, 2018). Additionally, factors trigger the risk of essential hypertension are weight gain, unhealthy lifestyle, decreased frequency or intensity of physical activity, and old age (Adrian, 2019).

Aging symptom in mature does not only trigger hypertension but also mental health problems such as depression, anxiety, insomnia, paranoia and dementia. Those symptoms may appear naturally and spontaneously as depression is the most common problem in aging group. Most of hypertensive elders experienced depression because they perceive problems are too heavy and agitate their daily activities, yet often considered normal because of the aging process (Rokmawati, 2020).

Aged adults who are neglected and getting less support from spouse, family and social, experience psychological illnesses such as depression. Elders who undergo depression symptoms possess negative impact on their quality of life. Poorer quality of life is caused by a decline in their physical, emotional, social and psychological functions. In fact, depression faced

by the mature ages often undiagnosed and untreated properly. It is because symptoms which appeared in elders are usually considered as aging process. Untreated depression in old age may leave severe effects on their quality of life (Mukhtar, 2019).

According to statistics from health profile in Lhokseumawe, the number of hypertensive aging adults has been increasing significantly from 2020 to 2024 (Aceh, 2024). The goal and urgency of this research is to analyse the path of the depression influence on the quality of life and its impact on the incident of hypertension on elderls in Paya Punteut Village, Lhokseumawe in order to develop a modified model on managing hypertensive elderly in Lhokseumawe, Aceh by suppressing the rate of depressive symptoms through improving the quality of life.

2. METHODOLOGY

The quantitative study used a cross-sectional design, which the independent variables and dependent variables were measured only once (Wang & Cheng, 2020). The research was conducted at the Community Health Centre in Paya Punteut Village, Muara Dua District, Lhokseumawe in September-October 2024 and has obtained permission and approval from the authorities. The sample was 220 elderly people from 247 populations selected by purposive sampling techniques with criteria hypertensive and non-hypertensive elders as 1:1 from age groups of 60-69 years old, 70-79 years old, and 80+ years old. This technique was chosen because of their suitability, benefits, and representative value which means they are able to represent the population. The research variables are described as follows:

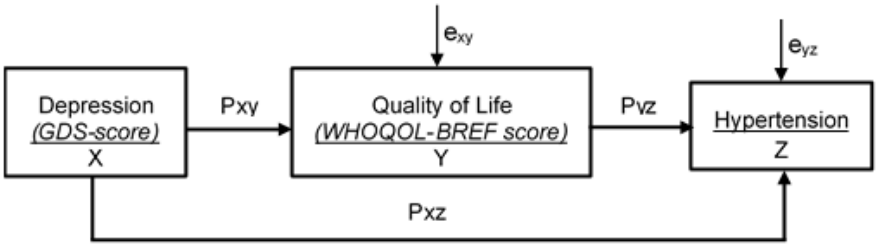

Figure 1. *Study design.*

Description:
X: Exogenous variable, depression in the elderly, measured by the GDS score.
Y: Intervening variable, quality of life of the elderly, measured by the WHOQOL-BREF score.
Z: Endogenous variable, incidence of hypertension in the elderly.
$e_{xy,yz}$: Error path Pxy and Pyz.

The data were acquired using Geriatric Depression Scale-15 (GDS-15) questionnaire for measuring level of depression with "yes" and "no" answers; and WHOQOL-BREF questionnaire for measuring quality of life through 26 questions (WHO, 2004). The depression level classified into four categories, namely no depression (score 0-4); mild depression (score 5-8); moderate depression (score 9-11); and Severe depression (score 12-15). The WHOQOL-BREF score classified into poor QoL (score 25-60), moderate QoL (score 61-95), and good QoL (score 96-130). The data were proceeded and analyzed for the path analysis by SPSS software. Path analysis is used to examine chronological cause and effect between variables tested in the study (Sudaryono, 2011).

3. RESULTS

The results of study described into descriptive statistical analysis and inferential statistical analysis. The former figures the characteristics of elderly in the study while the later one tests the hypothesis and examines the path analysis.

3.1 Descriptive Statistical Analysis

The descriptive statistical analysis of the data is expressed in the form of frequencies and percentages as shown in Table 1. The characteristics of sample, in term of age, consisted of 13.6% (30 elderly) aged 60-69 years old; 63.6% (140 elderly) aged 70-79 years old; and 22.7% (50 elderly) aged ≥ 80 years old. In term of gender, the sample consisted of 37.3% (82 persons) men and 62.7% (138 persons) women. The composition of respondents based on marital status found that most respondents 70.9% (156 persons) are widowers/widows; 28.2% (62 persons) are married; and the remaining 0.9% (2 persons) are divorced. Based on GDS score assessment, the study finds the largest composition of the elderly experienced mild depression symptoms is 50.9% (112 aging adults); moderate and severe depression symptoms are 37.7% (83 aging adults) and 8.2% (18 aging adults) respectively; and without depression symptom is 3.2% (7 aging adults). The majority of elderly people with moderate quality of life is 95.5% (210 elderly); 4.1% (9 elderly) others in poor quality of life conditions; only 0.5% (1 person) had a good/high quality of life. Based on hypertension, the composition of hypertensive elderly and non-hypertensive elderly is almost balanced in the proportion of 50.9% (112 persons) and 49.1% (108 persons).

Tabel 1. *Elderly adults in Lhokseumawe.*

Respondent characteristics		Frequency	Percentage (%)
Age	60 - 69 years old	30	13.6
	70 - 79 years old	140	63.6
	≥ 80 years old	50	22.7
	Total	220	100.0
Gender	Man	82	37.3
	Woman	138	62.7
	Total	220	100.0
Marriage Status	Married	62	28.2
	Divorced	2	0.9
	Widowed	156	70.9
	Total	220	100.0
GDS score	No depression (score 0-4)	7	3.2
	Mild depression (score 5-8)	112	50.9
	Moderate depression (score 9-11)	83	37.7
	Severe depression (score 12-15)	18	8.2
	Total	220	100.0
WHOQOL-BREF score	Poor (score 25-60)	9	4.1
	Moderate (score 61-95)	210	95.5
	Good (score 96-130)	1	0.5
	Total	220	100.0
Hypertension	Hypertensive	108	49.1
	Non-hypertensive	112	50.9
	Total	220	100.0

Source: Primary data proceeded by SPSS, 2025.

3.2 Inferential Statistical Analysis

The inferential statistical analysis of the data is expressed in the form of Pearson correlations as shown in Table 2 and Path Analysis as shown in Table 3. Table 2 shows the probability (significance value) of age, gender, marital status, quality of life and hypertension influences on depressive symptoms in the elderly are 0.000; 0.001; 0.000; 0.000 and 0.003 respectively, with their Pearson correlation values (r) are 0.395; 0.228; 0.235; -0.468; and 0.197 respectively. The influence of quality of life on depressive symptoms and the incidence of hypertension is 0.000 and 0.001 respectively with the strength of correlation are -0.468 and -0.213 respectively.

Tabel 2. *Pearson correlation*

Keterangan		*Sig. (2-tailed)*	*Pearson correlation*
Depression	Age	0.000	0.395
	Gender	0.001	0.228
	Marriage status	0.000	0.235
	Quality of Life	0.000	-0.468
	Hypertension	0.003	0.197
Quality of Life	Hypertension	0.001	-0.213

Source: Primary data proceeded by SPSS, 2025.

Tabel 3. *Path analysis*

Path	Standardized coefficients beta	R^2	Sig. (2 tailed)
GDS score (X) – QOL score (Y)	-0,323	0,104	0,000
QOL score (Y) – Hypertension (Z)	-0,151	0,023	0,025
GDS score (X) – Hypertension (Z)	0,154	0,024	0,022

Source: Primary data proceeded by SPSS, 2025.

Data in Table 3 explains the path analysis for endogenous (Z), intervening (Y) and exogeneous (X) variables in the study. The path analysis in this study examines the increase of hypertension incidence in elderly caused by escalated depression symptoms which is aggravated by poor quality of life.

The probability value of depression impact on QOL is 0.000 (sig. < 0.05) which means a significant relationship between them. The R-square value of 0.104 means the contribution of depression to the quality of life is only 10.4%, while remaining 89.6% derived from other factors which are not included in the study. The depression-QOL path coefficient is -0.323 with path error exy = $\sqrt{1-R^2} = \sqrt{1-0{,}104} = 0{,}947$.

The significance value of QOL impact on hypertension is 0.025 (sig. < 0.05) which means a significant relationship among them. The R-square value of 0.023 means the contribution of QOL to hypertension is only 2.3%, while remaining 97.7% derived from other factors which are not included in the study. The QOL-hypertension path coefficient is -0.151 with path error exy = $\sqrt{1-R^2} = \sqrt{1-0{,}023} = 0{,}988$.

The probability value of depression impact on hypertension is 0.022 (sig. < 0.05) which means a significant relationship between two variables. The R-square value of 0.024 means the contribution of depression to the quality of life is only 2.4%, while remaining 97.6% derived from other factors which are not included in conducted research. The depression-hypertension direct path coefficient is 0.154 with path error exy = $\sqrt{1-R^2} = \sqrt{1-0{,}024} = 0{,}988$.

The total path coefficient of variable X through Y towards Z can be obtained by (0.154 + (-0,323 × -0,151)) = (0.154 + 0.049) = 0.203. The path analysis model in this study can be simplified as below:

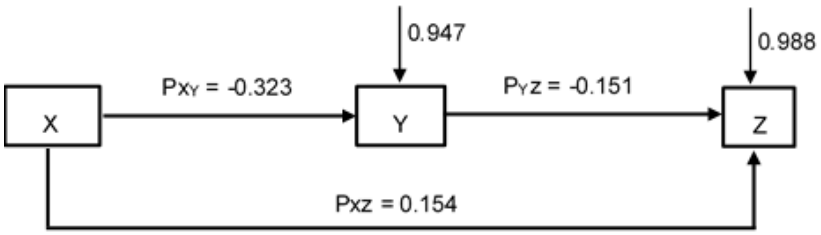

Figure 2. *Path analysis depression-QOL-hypertension.*

3.3 Discussions

More than half portion of the elderly in this study experienced hypertension, with the majority of the elderly having a moderate quality of life, a half portion experienced mild depression and one-third portion had moderate depression. The findings in this study empirically show that age, gender, marital status or the presence of a spouse significantly impact on depressive symptoms in adults over 60 years old. Depression symptoms experienced by the elderly also have a significant impact on their quality of life and the incidence of hypertension. Moreover, the detrimental of their quality of life significantly elevated the risk of hypertension.

The path analysis PXZ explains the rise of depressive symptoms in the elderly significantly impact on escalated hypertension. The direct effect of depression to hypertension is 0.154. The PXY path elucidates the more severe depressive symptoms in the elderly significantly impact to the poorer quality of life. The direct effect of escalated depression to their poorer quality of life is 0.323. While the PYZ path describes a significant relationship between the decline in quality of life and the increasing of hypertension in the elderly. The direct effect is 0.151. Thus, the PXY × PYZ path demonstrates indirectly path of significant effect of depression to hypertension in elderly as a result of a decrease in their quality of life. This indirect effect of 0.203 is greater than the direct effect of 0.154. In other words, depression exacerbated by a decrease in the quality of life possibly amplify the risk of hypertension in people aged ≥ 60 years old. The significant correlation between depression in the elderly and aging shows that physical changes due to increasing age cause a decrease in cognitive function and the ability to do daily activities, triggering feelings of anxiety, fear, worry and despair which lead to depressive symptoms build up.

The findings unravel depressive symptoms experienced by the elders are significantly related to gender. Mature women with a history of hypertension tend to be more vulnerable to depression because of temper, feel less enthusiastic and less meaningful in terms responding to difficulties in their lives due to a lessening of physical abilities caused by biological aging or complications of other diseases. Other discovery proved that marital status significantly effects depression symptoms encountered by aging adults directly and significantly sways quality of life elders indirectly as the majority of sample in the research was widowed thus the absence of partner or family may trigger elders feeling hopeless, worthless, apathetic and less enthusiastic for life.

The disclosures in the study are in agreement with Amelia (2018), Azzahro (2016) and Andriani (2023) which unfold the significant impact of emotional disorder as depressive symptoms on the quality of life the elders. Based on The Ministry of Health (2024b), depression is a disease characterized by persistent sadness and decreased interest in things which normally done. Depression may cause elderly stop doing their daily activities and start experiencing sadness, anxiety, loss of interest in activities they usually enjoy, feel worthless, or having negative thoughts about themselves, life, or death, decreased energy, sleep disturbances, changes in appetite, and other physical problems which impacts quality of life downturn in elders (Ministry of Health, 2024a). In contrast, aging matures who are able to overcome their depressive symptoms will unaffected their quality of life, as this revelation is in line to Zawawi (2023) determination. The quality of life affects hypertension significantly in aging adults as cutbacks in body functions contribute to their mental aspects dominantly (Seftiani, 2017) and (Suryonegoro, 2021). Hypertension often diagnosed as multiple syndrome which is undetectable distinctly but triggering a higher risk of diseases complication such as stroke, kidney and hearth malfunctions which leads to death if untreated immediately (Aspiani, 2014). Therefore, an effort is needed to improve their quality of life by increasing their knowledge especially for hypertensive female elders and hypertensive elders whom live apart from family (Ha et al., 2014).

The revelations in the study are expected to contribute in lessening the occurrences of hypertension and depression in the elderly hence modified model for managing the surge of hypertension in the elderly adults in Lhokseumawe and Aceh. It is advisable for community health center in Paya Punteut Village to enhance their health promotion in order to improve the related knowledge for aging adults and their families thus preventive actions can be acquired.

4. CONCLUSIONS

It has been empirically validated depressive symptoms experienced by elders aged ≥ 60 years old in Lhokseumawe have a significant relationship with their quality of life (Sig. = 0.000)

and hypertension (Sig. = 0.003). Age (Sig. = 0.000), gender (Sig. = 0,001), marital status (Sig. = 0.000) and hypertension (Sig. = 0.003) are significantly impact on depression in elders.

(Sig. < 0.05). Both directly and indirectly, depression has a significant effect on hypertension, but the indirect effect of depression on hypertensive elders through a drop in their quality of life contribute terrible consequences. The direct effect is only 0.154 but the indirect effect is 0.203 which is greater, obtained from path analysis in the study.

The discoveries verified depression affects hypertension (Sig. < 0.05); quality of life affects hypertension (Sig. < 0.05); and depression through quality of life affects hypertension (Sig. < 0.05) on elders in Paya Punteut Village, Lhokseumawe. Both direct and indirect effects of those chronological cause and effect have been studied through path analysis on each factor involved in this study hence empirical evidences have been obtained. Therefore, a modified model and strategy to handle hypertension in elders by controlling depressive symptom through improving their quality of life has been obtained for aging community in Paya Punteut Village, Lhokseumawe.

This research was limited to age, gender, marriage status criteria related to depression symptom, quality of life and hypertension in elders. Further research is needed by observing economic factors, obedience level for having treatment, duration of hypertension, knowledge and other dominant factors which have not been studied in this study.

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REFERENCES

[1] Aceh, D. K. (2024). *Pelayanan Kesehatan Penderita Hipertensi Menurut Jenis Kelamin*. https://profilkes.acehprov.go.id/statistik/grafik/pelayanan-kesehatan-penderita-hipertensi?tahun=2023.

[2] Aditia, D. (2023). Hubungan Loneliness dengan Quality of Life Lansia di Wilayah Kerja Puskesmas Dahlia Kecamatan Mariso. (Sarjana Keperawatan), Universitas Hasanuddin, Makassar.

[3] Adrian, S. J., & Tommy. (2019). *Hipertensi esensial: diagnosis dan tatalaksana terbaru pada dewasa*. Cermin Dunia Kedokteran, 46(3), 172-178.

[4] Aisyah, D. S. (2024). Hubungan Indeks Massa Tubuh terhadap Keseimbangan Lansiap pada Komunitas Upright Yoga Lampung. (Sarjana), Universitas Lampung, Lampung.

[5] Anggraini, R. D. (2018). Hubungan Status Bekerja dengan Kualitas Hidup Lansia sebagai Kepala Keluarga di Wilayah Kerja Puskesmas Sembayat Gresik. (Sarjana Keperawatan), Universitas Airlangga, Surabaya.

[6] Aspiani, R. Y. (2014). *Buku Ajar Asuhan Keperawatan Gerontik*. Jakarta: TIM.

[7] Brenes, G. A. (2007). *Anxiety, depression, and quality of life in primary care patients*. *Primary care companion to the Journal of clinical psychiatry, 9*(6), 437.

[8] Cho, Y., Lee, J. K., Kim, D.-H., Park, J.-H., Choi, M., Kim, H.-J., . . . Park, Y.-G. (2019). *Factors associated with quality of life in patients with depression: A nationwide population-based study*. *PloS one, 14*(7), e0219455.

[9] Cisternas, Y. C. (2019). Aging of Balance and Risk of Falls in Elderly. MOJ Gerontology and Geriatrics, 4(6), 255-257.

[10] Harahap, N. Z. (2021). Hubungan Gaya Hidup dengan Kejadian Hipertensi Pada Lansia di Puskesmas Padang Matinggi. (Sarjana), Universitas Aufa Royhan, Kota Padangsidimpuan.

[11] Hohls, J. K., König, H.-H., Quirke, E., & Hajek, A. (2021). Anxiety, Depression and Quality of Life—A Systematic Review of Evidence from Longitudinal Observational Studies. *International Journal of Environmental Research and Public Health, 18*(22), 12022.

[12] Johantoro, M. Y. (2024). Hubungan Aktivitas Fisik dengan Fungsi Kognitif Lansia di Rumah Pelayanan Sosial Lanjut Usia. (Sarjana), Universtias Islam Sultan Agung, Semarang.

[13] Kemenkes. (2021). *Pedoman Nasional Pelayanan Kedokteran (PNPK) 2012-Tata Laksana Hipertensi Dewasa*. Retrieved from https://www.kemkes.go.id/eng/pnpk-2021---tata-laksana-hipertensi-dewasa.

[14] Kemenkes. (2024a). *Penyakit Kelainan Mental: Depresi*. Retrieved from https://ayosehat.kemkes.go.id/topik-penyakit/kelainan-mental/depresi.

[15] Kemenkes. (2024b). *Penyakit Tidak Menular Indonesia: Apa itu depresi?* Retrieved from https://p2ptm.kemkes.go.id/infographic-p2ptm/stroke/apa-itu-depresi.

[16] Kemenkes. (2024c). *Penyakit Tidak Menular Indonesia: Klasifikasi Hipertensi*. Retrieved from https://p2ptm.kemkes.go.id/infographic-p2ptm/hipertensi-penyakit-jantung-dan-pembuluh-darah/page/28/klasifikasi-hipertensi.

[17] Khatami, F. (2018). Hubungan Hipertensi dengan Depresi pada Pasien Usia Lanjut di RSUP. Dr.Mohammad Hoesin Palembang. Universitas Sriwijaya, Palembang.

[18] Krousel-Wood, M. A., & Frohlich, E. D. (2010). *Hypertension and depression: coexisting barriers to medication adherence*. *The Journal of Clinical Hypertension, 12*(7), 481.

[19] Kruithof, N., Haagsma, J. A., Karabatzakis, M., Cnossen, M. C., de Munter, L., van de Ree, C. L. P., Polinder, S. (2018). Validation and reliability of the Abbreviated World Health Organization Quality of Life Instrument (WHOQOL-BREF) in the hospitalized trauma population. Injury, 49(10), 1796-1804. doi:10.1016/j.injury.2018.08.016.

[20] Luhat, B. J. T., Djoar, R. K., & Prastyawati, I. Y. (2024). *Kualitas Hidup Pada Lansia Dengan Hipertensi.* Jurnal Penelitian Kesehatan, 14(1). doi:https://doi.org/10.54040/jpk.v14i1.260.

[21] Manuntung, A. (2018). *Terapi Perilaku Kognitif pada Pasien Hipertensi*. Malang: Penerbit Wineka Media.

[22] Muhith, A., & Nasir, A. (2011). *Dasar-Dasar Keperawatan Jiwa*. Jakarta: Salemba Medika.

[23] Mukhtar, U. b. A. R. (2019). Hubungan Antara Tingkat Depresi dengan Kualitas Hidup pada Lansia di Panti Jompo Kota Malang. (Sarjana), Universitas Brawijaya, Malang.

[24] Mulfiyanti, D., & Megawati. (2022). Analisis Hubungan Kualitas Hidup Lansia dengan Hipertensi di Wilayah Kerja Puskesmas Bajoe Kabupaten Bone. Journal Keperawatan Lapatau, 2(2).

[25] Pae, K. (2017). Perbedaan tingkat depresi pada lansia yang tinggal di panti werdha dan yang tinggal di rumah bersama keluarga. Jurnal ners lentera, 5(1), 21-32.

[26] PERKI. (2015). *Pedoman Tatalaksana Hipertensi pada Penyakit Kardiovaskular* (1st ed.): Perhimpunan Dokter Spesialis Kardiovaskular Indonesia.

[27] Prastika, Y. D., & Siyam, N. (2021). *Faktor Risiko Kualitas Hidup Lansia Penderita Hipertensi.* Indonesian Journal of Public Health and Nutrition, 1(3), 407-419.

[28] Putri, F. A. (2023). Faktor-Faktor yang Berhubungan dengan Kejadian Hipertensi pada Usia> 45 Tahun di Provinsi Sumatera Barat. Universitas Jambi.

[29] RISKESDAS. (2018). *Laporan Nasional RISKESDAS 2018*. Kementerian Kesehatan RI.

[30] Rokmawati, L. (2020). Hubungan Tingkat Depresi dengan Kualitas Hidup pada Lansia Hipertensi yang Mengikuti Prolanis di Puskesmas Kasihan II. (Sarjana Keperawatan), Universitas Alma Ata, Yogyakarta.

[31] Scalco, A. Z., Scalco, M. Z., Azul, J. B. S., & Neto, F. L. (2005). *HYPERTENSION AND DEPRESSION*. *Clinics, 60*(3), 241-250. doi:10.1590/S1807-59322005000300010

[32] Setyaningrum, E. (2024). Hubungan Dukungan Sosial dengan Tingkat Depresi pada Lanjut Usia di Panti Pelayanan Sosial Lanjut Usia Cepiring (Sarjana Keperawatan), Universitas Islam Sultan Agung, Semarang.

[33] Shumye, S., Belayneh, Z., & Mengistu, N. (2019). *Health related quality of life and its correlates among people with depression attending outpatient department in Ethiopia: a cross sectional study*. *Health and Quality of Life Outcomes, 17*(1), 169. doi:10.1186/s12955-019-1233-7

[34] Siagian, M. (2018). *Kualitas Hidup Lansia dengan Penyakit Kronis di RSUD. Dr. Pirngadi Medan.* (Sarjana), Universitas Sumatera Utara, Medan. Retrieved from http://repositori.usu.ac.id/handle/123456789/6338.

[35] Sinaga, E. M. (2024). Pengaruh Video Edukasi Pencegahan Hipertensi terhadap Pengetahuan dan Sikap pada Petani di Kecamatan Gisting, Kabupaten Tanggamus. (Sarjana), Universitas Lampung, Bandarlampung.

[36] Suaib, M., Cheristina, & Dewiyanti. (2019). *Hubungan Tingkat Pengetahuan dengan Kejadian Hipertensi pada Lansia.* Jurnal Fenomena Kesehatan, 02(01), 269-275.

[37] Sudaryono. (2011). Aplikasi analisis (Path Analysis) berdasarkan urutan penempatan variabel dalam penelitian. *Jurnal Pendidikan dan Kebudayaan, 17*(4), 391-403.

[38] Tambunan, F. F., Nurmayni, Rahayu, P. R., Sari, P., & Sari, S. I. (2021). *Hipertensi (Si Pembunuh Senyap)* (R. A. Harahap Ed.). Medan: CV. Pusdikra Mitra Jaya.

[39] Tamher, S., & Noorkasiani. (2009). *Kesehatan Usia Lanjut dengan Pendekatan Asuhan Keperawatan*. Jakarta: Penerbit Salemba Medika.

[40] Wang, X., & Cheng, Z. (2020). *Cross-Sectional Studies: Strengths, Weaknesses, and Recommendations*. *Chest, 158*(1, Supplement), S65-S71. doi:https://doi.org/10.1016/j.chest.2020.03.012.

[41] WHO. (1998). *Programme on Mental Health: WHOQOL User Manual*. World Health Organization Retrieved from https://iris.who.int/bitstream/handle/10665/77932/WHO_HIS_HSI_Rev.?sequence=1.

[42] The World Health Organization Quality of Life (WHOQOL)-BREF, (2004).

[43] WHO. (2010). *World Health Statistics 2010*: World Health Organization.

[44] WHO. (2021). Guideline for the pharmacological treatment of hypertension in adults: World Health Organization.

[45] Zawawi, W. O. M., Kusadhiani, I., & Siahaya, P. G. (2023). Hubungan Kejadian Hipertensi dengan Kualitas Hidup Penduduk Lanjut Usia di Wilayah Kerja Puskesmas Rijali Desa Batu Merah Kota Ambon Maluku. Jurnal Kesehatan Andalas, 11(3), 139-146.