

ORIGINAL RESEARCH

Relationship between Quality of Life, Depression, and Participation in Elderly Integrated Health Service Post among Older Adults



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Abstract

Background: Older adults are susceptible to worsened quality of life (QOL) and depression due to aging. Elderly integrated health service post (EIHSP) is community-based health care that aims to improve older adults' health; however, not all older adults participate in this health service.

Purpose: This study was conducted to assess the relationship between the QOL, depression level, and older adults' participation in EIHSP.

Methods: A cross-sectional study was carried out among 102 older adults in a community-dwelling area in Semarang, Indonesia. Respondents were recruited using a total sampling technique. QOL was assessed by the WHOQOL-BREF questionnaire, while the level of depression was assessed by Geriatric Depression Scale (GDS) questionnaires. Descriptive statistics, Spearman, and Sommers' d tests were used to analyze the data.

Results: Higher participation in EIHSP significantly affected QOL on every domain (general quality of life, physical, psychological, social relationship, and environmental domains) with $p < 0.05$. This study also showed that participation in EIHSP had a significant relationship with depression levels ($p = 0.002$). Furthermore, higher depression levels significantly affected QOL on every domain ($p < 0.05$).

Conclusion: This study showed that older adults' participation in EIHSP had a significant relationship with QOL and depression. Community nurses can promote the utilization of EIHSP among older adults for better physical and mental health. Future studies should investigate these relationships in a larger sample size.

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1. Introduction

The increase in aging population has become a global phenomenon (Beard et al., 2016). With the 4th largest population in the world, Indonesia is also facing the challenge of a rapidly increasing older adult population (Ministry of Health Republic of Indonesia, 2016b). In 2019, the total of older adults in Indonesia reached 9.6% of the total population, or approximately 25.64 million people (Basic Health Research, 2019). Furthermore, it is expected that the number of people aged ≥ 60 years old would keep increasing to 36 million by 2025 (Statistics Indonesia, 2014).

Aging can cause many health problems, thus reducing the quality of life (QOL) of older adults. QOL rates an individual's satisfaction about general well-being, which includes many aspects, such as physical, mental, social, emotional, and functional well-being (Karimi & Brazier, 2016). A previous study showed that the decline of QOL throughout aging was associated with increased depression, increased physical illness, and difficulties with activities of daily living (ADL) (Campos et al., 2014). In addition, higher levels of social support have been shown to have a lower risk of mental disorders, physical disease, and improved QOL (Onunkwor et al., 2016). Depression is the most common mental disorder that older adults experience. According to the Ministry of Health of the Republic of Indonesia, the highest prevalence of depression in 2018 occurred among older adults who were 75 years and older (8.9%) (Ministry of Health Republic of Indonesia, 2018).

To manifest healthy aging in Indonesia, the Ministry of Health launched the National Strategic Plan for the Health of Older Adults through the Regulation No. 25/2016, which encouraged the establishment of Elderly Integrated Health Service Post (EIHSP) as long-term care for older adults (Ministry of Health Republic of Indonesia, 2016a). EIHSP, which has been endorsed as *Posyandu Lansia* in Indonesia, is a community-based clinic at the village level initially providing health services for older adults (Erpandi, 2015). EIHSP aims to improve the health status of older adults by offering not only promotive and preventive but also some basic curative and rehabilitative health services (Pratono & Maharani, 2018). This health service post has several activities, such as physical exercise, health check-ups, counseling, nutritional program, and leisure time (Sumini et al., 2020). By joining EIHSP, older adults can also have peer group interactions which allow them to share their feelings and ideas (Rahmawati & Bajorek, 2015). Previous studies stated that peer counseling and social engagement were found to be effective in relieving depressive symptoms and improving the QOL of community-dwelling older adults (Chapin et al., 2013; Joo et al., 2016; Wang et al., 2014). An older adult who is engaged in social participation also tends to be avoided from depression (Gallegos-Carrillo et al., 2019; Perez-Sousa et al., 2020; Puciato et al., 2017). Peer group interaction and social participation provide many benefits for older adults, including emotional support, empowerment, and social network expansion (Fisher et al., 2015). Peer support can significantly reduce loneliness, improve mood scores, and increase the level of physical activity (Geffen et al., 2019). In addition, social participation increases the number of roles, thereby helping older adults keep active, preserve functioning, and maintain physical QOL (Kanamori et al., 2014).

Despite the many benefits of EIHSP, the utilization of this preventive care is still low among older adults (Chen et al., 2013; Lee et al., 2019). Various studies showed that most older adults in Indonesia did not utilize EIHSP adequately (Mulyadi, 2009; Simbolon & Simbolon, 2018; Wahyuni et al., 2016). Lack of attitude, the poor role of the cadres, and lack of family support were shown to be the factors for not utilizing this kind of service (Cahyawati et al., 2020). Other reasons for not participating in EIHSP are lack of transportation and a preference for private clinics (Pratono & Maharani, 2018). Meanwhile, a previous study conducted in Indonesia showed that most of older adults still had low QOL (Hidayati et al., 2018). To the best of our knowledge, this is the first study to investigate the relationship between QOL, depression, and EIHSP participation in older adults all at once. Overall, this research is crucial because it provides an overview of the role and involvement of EIHSP in older adults' QOL and depression. Accordingly, this study aimed to analyze the relationship between QOL, depression levels, and older adults' participation in EIHSP.

2. Methods

2.1 Research design

A cross-sectional study was carried out at a community-dwelling area in Semarang, Indonesia. This area was selected as it provided EIHSP service (*Posyandu Lansia*).

2.2 Setting and samples

This study investigated the relationship between QOL, depression, and participation in EIHSP among older adults. There were 102 older adults involved as the participants of this study. They were recruited by a total sampling method to describe a much more complete picture and reduce the risk of biased sample selection. The inclusion criteria of the participants were (1) aged 60 years old or older, and (2) able to communicate. Those who fulfilled these criteria and agreed to participate were asked to fill the questionnaires given. Those respondents who could not read/and or write were helped to fill the questionnaires based on their interview answers. Older adults who did not fulfill the inclusion criteria were excluded from this research.

2.3 Measurement and data collection

This study collected data about socio-demographic, participation in EIHSP, QOL, and depression of the respondents in June 2020. The data were collected by socio-demographic questionnaire, the World Health Organization Quality of Life (WHOQOL)-BREF questionnaire, and Geriatric Depression Scale (GDS) questionnaire. The socio-demographic form was used to report the respondents' characteristics, such as gender, age, and marital status. To obtain data on participation, this study used the attendance list of EIHSP. The respondents were categorized into

three groups: not active (≤ 6 participations in 12 months), moderately active (7-9 participations in 12 months), and active (10-12 participations in 12 months).

The WHOQOL-BREF questionnaire was used to assess the QOL. This study used the Indonesian version of the WHOQOL-BREF questionnaire. This questionnaire consists of 26 questions. Two questions measure respondents' perception of their general quality of health (GQOL), and the remaining 24 questions measure QOL in four broad domains: physical (7 items), psychological (6 items), social relationships (3 items), and environmental (8 items). Each item is scored from 1 to 5. Higher scores reflected the higher quality of life. The WHOQOL-BREF has been widely used in Indonesia and has been proven as a valid and reliable questionnaire to be used in Indonesia (Purba et al., 2018). The Cronbach's alpha value for each domain of this questionnaire ranges between 0.41 and 0.77, while the Pearson's correlation coefficient ranges between 0.5 and 0.7 (Salim et al., 2007). The result score of GQOL was converted into sten scores (1-10 stens). The obtained sten scores were used to classify participants into groups with different ranges of perception of GQOL: low (scores <6), medium (scores 6), and high (scores >6).

To assess depression in older adults, this study used the Indonesian version of the GDS questionnaire. The Cronbach's alpha of this questionnaire was 0.80, while the Pearson's correlation items total score was significant at 0.05 ($p < 0.05$) (Pramesona & Taneepanichskul, 2018). GDS consists of 15 questions and the total score ranges from 0-15. Participants were categorized into four groups based on the GDS score: normal (scores 0-4), mild depression (scores 5-8), moderate depression (scored 9-11), and severe depression (scores 12-15).

Before conducting the survey, the objective of this study was informed to all potential participants over the telephone calls, SMS, and Whatsapp group of this area to ensure the maximum cooperation. To reduce the COVID-19 transmission, this research was conducted in compliance with the health protocols, such as 2-meter distancing, wearing a mask, and sanitizing hands. The questionnaires were given to each respondent by the door. If further interviews were needed, both researcher and respondent would always follow the health protocols. The researcher always conducted a rapid COVID-19 test and had a temperature check before collecting the data each day.

2.4 Data analysis

The data were analyzed using the Statistical Package for Social Sciences (SPSS) version 20.0. The characteristics of respondents were presented using descriptive statistics. Continuous variables were presented as means and standard deviations (SDs). Spearman and Sommers' d tests were used to analyze the relationship between QOL, depression level, and older adults' participation in EIHSP. Inferences were drawn at a significance level of <0.05 .

2.5 Ethical considerations

This study obtained ethical approval from the Health Research Ethics Committee of Faculty of Medicine, Universitas Diponegoro (Ref. No. 40/EC/KEPK/FK-UNDIP/IV/2020). Complete explanation and description of the purpose of the study, methods, and benefits of the study were given to all respondents. All respondents signed informed consent to participate in this study.

3. Results

3.1 Demographic characteristics of respondents

Table 1 shows the characteristics of respondents of this study. The majority were women (60.8%), aged 60-69 (77.5%), married (67.6%), and inactive in participating in EIHSP (51%). Most respondents had low GQOL (54%). The mean of physical, psychological, social relationship, and environmental domains were 63.6, 65.01, 57.72, and 60.42, consecutively. About 76% of respondents did not experience any depression.

3.2 Relationship between QOL and participation in EIHSP among respondents

Table 2 shows the relationship between QOL and participation in EIHSP among older adults. QOL assessment was classified into five assessments: assessment on general quality of life (GQOL), physical domain (PHYD), psychological domain (PSYD), social relationship domain (SD), and environmental domain (ED). Older adults' participation in EIHSP had significant relationships with QOL on every domain (GQOL, PHYD, PSYD, SD, ED).

Table 1. The demographic characteristics of respondents

Variable	f(%)	Mean ± SD	Median (min-max)
Sex			
Men	40 (39.2)		
Women	62 (60.8)		
Age		66.69 ± 5.57	65 (60-85)
60-69 years old	79 (77.5)		
≥70 years old	23 (22.5)		
Status			
Married	69 (67.6)		
Widowed	33 (32.4)		
Participation in EIHSP			
Not active	52 (51)		
Moderately active	27 (26.5)		
Active	23 (22.5)		
Quality of Life			
GQOL			
• Low	55 (54)		
• Moderate	34 (33)		
• High	13 (13)		
Physical domain		63.6±12.28	63 (25-94)
Psychological domain		65.01±10.99	62 (50-94)
Social relationship domain		57.72±13.44	56 (25-81)
Environmental domain		60.42±11.74	63(31-88)
Level of depression			
Normal	78 (76)		
Mild depression	20 (20)		
Moderate depression	4 (4)		
Severe depression	-		

The relationship between QOL and participation in EIHSP among older adults is shown in Table 2.

Table 2. Relationship between QOL and participation in EIHSP among respondents

Variable	Quality of Life						
	GQOL (%)			Domain (X±SD)			
	Low	Medium	High	Physical domain	Psychological domain	Social relationship domain	Environmental domain
Participation							
- Not active	67.3	28.8	3.8	58.5±9.4	62.1±8.3	51.9±11.2	56±10.2
- Moderate	51.9	40.7	7.4	63.3±8.9	63.4 ±9.4	59.2±11.7	62.1±10.5
- Active	26.1	34.8	39.1	75.7±13.3	73.2±13.9	68.9±12.6	68.3±11.9
P-value	<0.001 ^{a*}			<0.001 ^{φ*}	0.003 ^{φ*}	<0.001 ^{φ*}	<0.001 ^{φ*}
R	0.335 ^a			0.461 ^φ	0.296 ^φ	0.494 ^φ	0.431 ^φ

[§] Sommers' d, ^φSpearman, *p<0.05

3.3 Relationship between depression and participation in EIHSP among respondents

As shown in Table 3, there was a significant relationship between depression and older adults' participation in EIHSP ($p<0.001$, $r=-0.225$). Participation in EIHSP had a negative impact on depression. Respondents who participated more in EIHSP had lower depression levels.

3.4 Relationship between older adults' level of depression and QOL

This study investigated whether there was a relationship between the level of depression and QOL. As presented in Table 4, the level of depression had significant relationships with every domain of QOL, including GQOL ($p<0.001$, $r=-0.491$), physical domain ($p=0.001$, $r=-0.334$),

psychological domain ($p=0.003$, $r=-0.296$), social relationship domain ($p=0.003$, $r=-0.290$), and environmental domain ($p<0.001$, $r=-0.363$). According to these results, the more severe the depression an older adult experienced, the worse quality of life this person had.

Table 3. Relationship between depression and participation in EIHP among respondents

Variables	Level of Depression (%)			P-value	R
	Normal	Mild	Moderate		
Participation					
Not active	63.5	28.8	7.7	0.001 ^a	-0.225 ^a
Moderate	88.9	11.1	0		
Active	91.3	8.7	0		

^aSommers' d, * $p<0.05$

Table 4. Relationship between older adults' level of depression and QOL

Level of Depression	Quality of Life						
	GQOL (%)			Domain (X±SD)			
	Low	Medium	High	Physical domain	Psychological domain	Social relationship domain	Environmental domain
Normal	42.3	41	16.7	65.7±11.7	66.7±11.3	60.1±13	62.7±11.3
Mild	90	10	0	58.9±9.7	59.7±7.5	50.3±11.2	52.7±10.22
Moderate	100	0	0	47.0±16.6	57.7±8.0	46.7±14.7	53.2±8.14
P-value	<0.001 ^a			0.001 ^{*φ}	0.003 ^{*φ}	0.003 ^{*φ}	<0.001 ^{*φ}
R	-0.491 ^a			-0.334 ^φ	-0.296 ^φ	-0.290 ^φ	-0.363 ^φ

^a Sommers' d, * $p<0.05$

4. Discussion

This study aimed to explore the relationship between QOL, depression, and participation in EIHP among older adults. The results of this study showed that older adults' participation in EIHP had significant relationships with QOL and depression.

Our study showed that there were significant relationships ($p<0.05$) between older adults' participation in EIHP activities and QOL (GQOL, PHYD, PSYD, SD, and ED). An older adult who was more active in participating in EIHP activities had better QOL. Previous study suggests that people who engage more in healthier behaviors and preventive measures have better health and higher life satisfaction (Kim., 2015). Another recent study which analyzed the relationship between the utilization of preventive health care with health-related quality of life (HRQOL) obtained similar results to the present study; there was a significant relationship between the utilization of preventive health care with many domains, such as physical functioning (PF), role-physical (RP), bodily pain (BP), social functioning (SF), role-emotional (RE), vitality (VT), and general health (GH), except for mental health (MH) (Gallegos-Carrillo et al., 2019). However, our study used WHOQOL-BREF to assess the quality of life where the classification of the domains of quality of life is different from HRQOL. EIHP holds an exercise program whose goal is to increase the health degree of older adults. A previous study also reported that public physical exercise programs could improve older adults' self-esteem and provide opportunities for social relationship, thus contributing to the improvement of their QOL (Costa et al., 2018).

The present study also showed that there was a relationship between older adults' participation in EIHP activities and their level of depression. Older adults who were less active in participating in EIHP activities were more likely to experience depression compared to those who were more active. This finding is similar to a previous study, suggesting that group-based psychosocial programs in primary health care can effectively prevent depression and anxiety in older people (Saldivia et al., 2019). EIHP activities range from physical activity and health check-ups to psychosocial programs, which would benefit the physical and psychological health of older adults. Another study also showed similar findings, suggesting that physical activities could prevent and alleviate depressive symptoms (Alexandrino-Silva et al., 2019). Furthermore, EIHP is a form of social participation that is evident to be able to reduce depression in older adults by

preventing them from loneliness and feeling abandoned. Aside from that, older adults can also get social support from their environment while participating in EIHSP activities, thus preventing older adults from depression (Liet al., 2018; Liu et al., 2016). This support helps alleviate chronic or acute life stressor, encourage management behaviors, and cope with negative emotions (Dennis, 2003; Fisher et al., 2015). A recent study also showed that peer counseling, social engagement, and combination interventions at the community level were effective in alleviating depressive symptoms (Carandang et al., 2020).

Depression also had significant relationships with QOL of older adults. The more severe of depression that older adults experienced, the worse quality of life they had (GQOL, PHYD, PSYD, SD, and ED). This study had a similar result to a previous study, which stated that there was a significant relationship between the level of depression and QOL where the increased level of depression would be followed by the decrease of QOL (Chang et al., 2015). Our study showed that the correlation between the level of depression and PHYD was stronger than the correlation between the level of depression and PSYD. It has been argued that in older adults who experience depression, the somatic symptoms are more prevalent than the affective and cognitive ones (Schaakxs et al., 2017). However, the clinical presentations of somatic symptoms in depressed older adults can be overlapped with the clinical presentations of decreasing physical conditions caused by aging. Chronic illness that an older adult experiences can show similar symptoms with the somatic symptoms that a depressed older adult shows (Hazell et al., 2019). For that reason, further study is needed to analyze the correlation between the onset of chronic illness and depression symptoms in older adults.

Considering the benefits of the EIHSP as preventive health care, its utilization should be improved. In community health care, nurses play an important role alongside other professional healthcare workers. As a specialty field of nursing, community health nursing adds public health knowledge and skills that address the needs and problems of communities and focuses care on communities and vulnerable populations (Allender et al., 2010). In Indonesia, the main objective of community health nursing service is to guide and educate people in the community to implement a healthy lifestyle in order to maintain and improve their health status (Effendy & Makhfudli, 2009). According to the Indonesian Ministry of Health, community nurses can serve in every order of the health care, including EIHSP (Ministry of Health Republic of Indonesia, 2006). Therefore, in order to promote healthy aging, the community nurses should also concern older adults within communities (Manasathakun et al., 2018). Nurses should be the support for older adults to live the way they want to be as independent people. Furthermore, it is important for nurses to not only focus on treating older adults but also maintaining their physical, psychological, cognitive, and social wellbeing (Wu et al., 2020). Community health nurses also need to focus on improving autonomy in elderly care and perform a professional nursing assessment. Through this systematic assessment, nurses can see the potential and abilities of each individual and prolong their independent living (Kim et al., 2016). Since depression among other adults is often underdiagnosed, community health nurses play a key role in assessing individuals' state of mind and addressing their mental health problems (Barker et al., 2014). Social and emotional support should also be given by nurses to reduce the risk of depression among older adults (Grundberg et al., 2016). A previous study showed that leadership skills and thinking system were reported to be the most important priorities of eight domains of community health nurses' competencies in Indonesia (Widyarani et al., 2020). This means that community health nurses are expected to have good leadership skills for the success of the health program in the area. Collaborative care with other health care professionals is also crucial to improve the health status of older adults.

5. Implication and limitation

This study has provided an insight into how participation in EIHSP can affect the QOL and mental health of older adults. Therefore, it is encouraged for the government and health care professionals, including general practitioners and community health nurses to promote the utilization of EIHSP among older adults.

This study has a limitation in which its samples were collected from one community-dwelling in Semarang. Therefore, the result of this study cannot be generalized on bigger subjects since one place can differ from another in cultural and spiritual value, which can influence the quality of life and depression.

6. Conclusion

This study showed that older adults' participation in EIHSP had significant relationships with the QOL and depression. Community nurses can promote the utilization of EIHSP among older adults for the better physical and mental health. Future studies should investigate these relationships in a larger sample size.

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Author's contribution

All authors were involved sufficiently in the concept, design, data analysis, writing, and revision of the manuscript.

Conflict of interest

None.

References

- Alexandrino-Silva, C., Ribeiz, S. R., Frigerio, M. B., Bassolli, L., Alves, T. F. A., Busatto, G., & Bottino, C. (2019). Prevention of depression and anxiety in community-dwelling older adults: the role of physical activity. *Archives of Clinical Psychiatry (SÃ\poundso Paulo)*, 46, 14–20. <https://doi.org/10.1590/0101-60830000000185>
- Allender, J. A., Rector, C., & Warner, K. D. (2010). *Community health nursing* (7th ed.). Williams & Wilkins.
- Barker, S., Heaslip, V., & Chelvanayagam, S. (2014). Addressing older people's mental health needs in the community setting. *British Journal of Community Nursing*, 19(5), 234–238. <https://doi.org/10.12968/bjcn.2014.19.5.234>
- Basic Health Research. (2019). *Statistik penduduk lanjut usia 2019 Indonesia [Indonesia's 2019 elderly population statistics]*. www.bps.go.id/publication/2019/12/20/.../statistik-penduduk-lanjut-usia-2019.html
- Beard, J. R., Officer, A., de Carvalho, I. A., Sadana, R., Pot, A. M., Michel, J.-P., Lloyd-Sherlock, P., Epping-Jordan, J. E., Peeters, G. M. E. E., Mahanani, W.R., Thiyagarajan, J. A., & Chatterji, S. (2016). The world report on ageing and health: A policy framework for healthy ageing. *Lancet*, 387(10033), 2145–2154. [https://doi.org/10.1016/S0140-6736\(15\)00516-4](https://doi.org/10.1016/S0140-6736(15)00516-4)
- Cahyawati, S., Rumaolat, W., Sayid, N., Rumi, J., & Rumaolat, W. (2020). Factors related to the utilization of the integrated health services center for the elderly. *Jurnal Ners*, 15(2), 63–66.
- Campos, A. C. V., Ferreira e Ferreira, E., Vargas, A. M. D., & Albala, C. (2014). Aging, gender and quality of life (AGEQOL) study: Factors associated with good quality of life in older Brazilian community-dwelling adults. *Health and Quality of Life Outcomes*, 12(1), 166. <https://doi.org/10.1186/s12955-014-0166-4>
- Carandang, R. R., Shibanuma, A., Kiriya, J., Vardeleon, K. R., Asis, E., Murayama, H., & Jimba, M. (2020). Effectiveness of peer counseling, social engagement, and combination interventions in improving depressive symptoms of community-dwelling Filipino senior citizens. *PLoS One*, 15(4), 1–16. <https://doi.org/10.1371/journal.pone.0230770>
- Chang, Y. C., Yao, G., Hu, S. C., & Wang, J. D. (2015). Depression affects the scores of all facets of the WHOQOL-bref and may mediate the effects of physical disability among community-dwelling older adults. *PLoS One*, 10(5), 1–11. <https://doi.org/10.1371/journal.pone.0128356>
- Chapin, R. K., Sergeant, J. F., Landry, S., Leedahl, S. N., Rachlin, R., Koenig, T., & Graham, A. (2013). Reclaiming joy: Pilot evaluation of a mental health peer support program for older adults who receive Medicaid. *The Gerontologist*, 53(2), 345–352. <https://doi.org/10.1093/geront/gns120>
- Chen, C.-C., Lin, Y.-J., & Lin, Y.-T. (2013). Awareness and utilization of preventive care services among the elderly under National Health Insurance. *International Journal of Health Care Finance and Economics*, 13(3), 247–260. <https://doi.org/10.1007/s10754-013-9128-3>
- Costa, F., Rodrigues, F., Prudente, C., & Souza, I. (2018). Quality of life of participants and non-participants of public physical exercise programs. *Revista Brasileira de Geriatria e Gerontologia*, 21, 24–34. <https://doi.org/10.1590/1981-22562018021.170136>

- Dennis, C.-L. (2003). Peer support within a health care context: A concept analysis. *International Journal of Nursing Studies*, 40(3), 321–332. [https://doi.org/10.1016/S0020-7489\(02\)00092-5](https://doi.org/10.1016/S0020-7489(02)00092-5)
- Effendy, F., & Makhfudli. (2009). *Community health nursing: Theory and practice in nursing*. Penerbit Buku Kedokteran EGC.
- Erpandi, E. (2015). *Posyandu lansia [Elderly integrated service post]*. Penerbit Buku Kedokteran EGC.
- Fisher, E. B., Ayala, G. X., Ibarra, L., Cherrington, A. L., Elder, J. P., Tang, T. S., Heisler, M., Safford, M M., Simmons, D. (2015). Contributions of peer support to health, health care, and prevention: Papers from peers for progress. *Annals of Family Medicine*, 13(1), S2-8. <https://doi.org/10.1370/afm.1852>
- Gallegos-Carrillo, K., Honorato-Cabañas, Y., Macías, N., García-Peña, C., Flores, Y. N., & Salmerón, J. (2019). Preventive health services and physical activity improve health-related quality of life in Mexican older adults. *Salud Publica de Mexico*, 61(2), 106–115. <https://doi.org/10.21149/9400>
- Geffen, L. N., Kelly, G., Morris, J. N., & Howard, E. P. (2019). Peer-to-peer support model to improve quality of life among highly vulnerable, low-income older adults in Cape Town, South Africa. *BMC Geriatrics*, 19(1), 279. <https://doi.org/10.1186/s12877-019-1310-0>
- Grundberg, Å., Hansson, A., Hillerås, P., & Religa, D. (2016). District nurses' perspectives on detecting mental health problems and promoting mental health among community-dwelling seniors with multimorbidity. *Journal of Clinical Nursing*, 25(17–18), 2590–2599. <https://doi.org/https://doi.org/10.1111/jocn.13302>
- Hazell, C. M., Smith, H. E., & Jones, C. J. (2019). The blurred line between physical ageing and mental health in older adults: implications for the measurement of depression. *Clinical Medicine Insights: Psychiatry*, 10, 1179557319885634. <https://doi.org/10.1177/1179557319885634>
- Hidayati, A. R., Gondodiputro, S., & Rahmiati, L. (2018). Elderly profile of quality of life using whoqol-bref indonesian version: a community dwelling. *Althea Medical Journal*, 5(2), 105–110.
- Joo, J. H., Hwang, S., Abu, H., & Gallo, J. J. (2016). An innovative model of depression care delivery: Peer mentors in collaboration with a mental health professional to relieve depression in older adults. *The American Journal of Geriatric Psychiatry*, 24(5), 407–416. <https://doi.org/10.1016/j.jagp.2016.02.002>
- Kanamori, S., Kai, Y., Aida, J., Kondo, K., Kawachi, I., Hirai, H., Shirai, K., Ishikawa, K. Y., Suzuki, K. (2014). Social participation and the prevention of functional disability in older Japanese: The JAGES cohort study. *PloS One*, 9(6), e99638. <https://doi.org/10.1371/journal.pone.0099638>
- Karimi, M., & Brazier, J. (2016). Health, health-related quality of life, and quality of life: What is the difference?. *Pharmaco Economics*, 34(7), 645–649. <https://doi.org/10.1007/s40273-016-0389-9>
- Kim, E. S., Kubzansky, L. D., & Smith, J. (2015). Life satisfaction and use of preventive health care services. *Health Psychology*, 34(7), 779–782. <https://doi.org/10.1037/hea0000174>
- Kim, H. J., Choi, J. E., Kim, M. S., Kim, S. J., & Chang, S. O. (2016). Nurses' clinical decision-making for preserving nursing home residents' remaining abilities. *Journal of Clinical Nursing*, 25(9–10), 1326–1335. <https://doi.org/10.1111/jocn.13206>
- Lee, Y.-H., Chang, Y.-C., & Liu, C.-T. (2019). Preventative care utilization and associated health-related measurements among older adults following the 2009 health reform in China. *The International Journal of Health Planning and Management*, 34(2), e1135–e1148. <https://doi.org/10.1002/hpm.2749>
- Li, C., Jiang, S., Li, N., & Zhang, Q. (2018). Influence of social participation on life satisfaction and depression among Chinese elderly: Social support as a mediator. *Journal of Community Psychology*, 46(3), 345–355. <https://doi.org/10.1002/jcop.21944>
- Liu, L., Gou, Z., & Zuo, J. (2016). Social support mediates loneliness and depression in elderly people. *Journal of Health Psychology*, 21(5), 750–758. <https://doi.org/10.1177/1359105314536941>

- Manasatchakun, P., Choowattanapakorn, T., Roxberg, Å., & Asp, M. (2018). Community nurses' experiences regarding the meaning and promotion of healthy aging in Northeastern Thailand. *Journal of Holistic Nursing*, 36(1), 54–67. <https://doi.org/10.1177/0898010116688126>
- Ministry of Health Republic of Indonesia. (2006). *Keputusan Menteri Kesehatan no. 279 tentang pedoman penyelenggaraan upaya perawatan kesehatan masyarakat di puskesmas [The minister of health's decree no. 279 about the guidelines on the administration of public health nursing efforts in community health]*. Kementerian Kesehatan Republik Indonesia.
- Ministry of Health Republic of Indonesia. (2016). *Peraturan Menteri Kesehatan Republik Indonesia nomor 25 tahun 2016 tentang rencana aksi nasional kesehatan lanjut usia tahun 2016-2019 [The minister of health's regulation no. 25 year 2016 about strategic plan for the health of adults 2016-2019]*. Kementerian Kesehatan Republik Indonesia.
- Ministry of Health Republic of Indonesia. (2016b). *Situasi lanjut usia di Indonesia [Older Adults Situation in Indonesia]*. <http://www.pusdatin.kemkes.go.id/resources/download/pusdatin/infodatin/Infodatin-lansia-2016.pdf>
- Ministry of Health Republic of Indonesia. (2018). *Hasil utama Riskesdas 2018 [Main results of Riskesdas 2018]*. www.kemkes.go.id/resources/download/info-terkini/hasil-riskesdas-2018.pdf
- Mulyadi, Y. (2009). Pemanfaatan posyandu lansia di Kota Pariaman [Utilization of the elderly posyandu in Pariaman]. *Jurnal Kesehatan Masyarakat Nasional*, 3(5), 224–228.
- Onunkwor, O. F., Al-Dubai, S. A. R., George, P. P., Arokiasamy, J., Yadav, H., Barua, A., & Shuaibu, H. O. (2016). A cross-sectional study on quality of life among the elderly in non-governmental organizations' elderly homes in Kuala Lumpur. *Health and Quality of Life Outcomes*, 14(1), 6. <https://doi.org/10.1186/s12955-016-0408-8>
- Perez-Sousa, M. A., Olivares, P. R., Gonzalez-Guerrero, J. L., & Gusi, N. (2020). Effects of an exercise program linked to primary care on depression in elderly: Fitness as mediator of the improvement. *Quality of Life Research*, 29(5), 1239–1246. <https://doi.org/10.1007/s11136-019-02406-3>
- Pramesona, B. A., & Taneepanichskul, S. (2018). The effect of religious intervention on depressive symptoms and quality of life among Indonesian elderly in nursing homes: A quasi-experimental study. *Clinical Interventions in Aging*, 13, 473–483. <https://doi.org/10.2147/CIA.S162946>
- Pratono, A. H., & Maharani, A. (2018). Long-term care in Indonesia: The role of integrated service post for elderly. *Journal of Aging and Health*, 30(10), 1556–1573. <https://doi.org/10.1177/0898264318794732>
- Puciato, D., Borysiuk, Z., & Rozpara, M. (2017). Quality of life and physical activity in an older working-age population. *Clinical Interventions in Aging*, 12, 1627–1634. <https://doi.org/10.2147/CIA.S144045>
- Purba, F. D., Hunfeld, J. A. M., Iskandarsyah, A., Fitriana, T. S., Sadarjoen, S. S., Passchier, J., & Busschbach, J. J. V. (2018). Quality of life of the Indonesian general population: Test-retest reliability and population norms of the EQ-5D-5L and WHOQOL-BREF. *PLoS One*, 13(5), e0197098. <https://doi.org/10.1371/journal.pone.0197098>
- Rahmawati, R., & Bajorek, B. (2015). A community health worker-based program for elderly people with hypertension in Indonesia: A qualitative study, 2013. *Preventing Chronic Disease*, 12, E175. <https://doi.org/10.5888/pcd12.140530>
- Saldivia, S., Inostroza, C., Bustos, C., Rincón, P., Aslan, J., Bühring, V., Farhang, M., King, M., Cova, F. (2019). Effectiveness of a group-based psychosocial program to prevent depression and anxiety in older people attending primary health care centres: A randomised controlled trial. *BMC Geriatrics*, 19(1), 237. <https://doi.org/10.1186/s12877-019-1255-3>
- Salim, O. C., Sudharma, N. I., & Kusumaratna, R. (2007). Validity and reliability of World Health Organization Quality of Life-BREF to assess the quality of life in the elderly (in Bahasa Indonesia). *Universa Medicina*, 26(1), 27–38. <https://doi.org/http://dx.doi.org/10.18051/UnivMed.2007.v26.27-38>
- Schaakxs, R., Comijs, H. C., Lamers, F., Beekman, A. T. F., & Penninx, B. W. J. H. (2017). Age-related variability in the presentation of symptoms of major depressive disorder. *Psychological Medicine*, 47(3), 543–552. <https://doi.org/10.1017/S0033291716002579>

- Simbolon, P., & Simbolon, N. (2018). Association between social-cultural and the utilization of elderly integrated health services (posyandu lansia) in Hamparan Perak Health Center. *Unnes Journal of Public Health*, 7(1), 50-54. <https://doi.org/10.15294/ujph.v7i1.18201>
- Statistics Indonesia. (2014). *Statistik penduduk lanjut usia 2014 [Aging statistics Indonesia 2014]*. Badan Pusat Statistik.
- Sumini, Sukamdi, Pangaribowo, E. H., Keban, Y. T., & Darwin, M. (2020). Elderly care: A study on community care services in Sleman, DIY, Indonesia. *Journal of Aging Research*, 2020, 3983290. <https://doi.org/10.1155/2020/3983290>
- Wahyuni, I. D., Ainy, A., & Rahmawati, A. (2016). Analysis of elderly participation in health development activities at the working area of Puskesmas Sekar Jaya Ogan Komering Ulu regency. *Jurnal Ilmu Kesehatan Masyarakat*, 7(2), 96–107.
- Wang, J., Chen, C.-Y., Lai, L.-J., Chen, M.-L., & Chen, M.-Y. (2014). The effectiveness of a community-based health promotion program for rural elders: A quasi-experimental design. *Applied Nursing Research*, 27(3), 181–185. <https://doi.org/10.1016/j.apnr.2013.11.014>
- Widyarani, D., Susanto, T., Wahyuni, D., & Pham, H. T. T. (2020). Identifying community/public health nursing competencies in Indonesia: A modified Delphi method. *Nurse Media Journal of Nursing*, 10(3), 350-360. <https://doi.org/10.14710/nmjn.v10i3.29435>
- Wu, F., Drevenhorn, E., & Carlsson, G. (2020). Nurses' experiences of promoting healthy aging in the municipality: A qualitative study. *Healthcare*, 8(2). <https://doi.org/10.3390/healthcare8020131>

