Original Article

Independence in Daily Activities and Living with Family: Predictors of Gratitude in Elderly with Disability in Indonesia

Abstract

Background: While aging is associated with health decline leading to disability, gratitude is vital for it has positive impacts on health, both mentally and physically. Being grateful reduces stress, lowers blood pressure, and improves sleep patterns. The study aimed to identify variables associated with gratitude in elderly with disability. **Materials and Methods:** This research was a descriptive analytical cross-sectional study. Respondents were people aged 60 years and over with disability. They were recruited using purposive sampling. Data on demography, living arrangements, self-reported diseases, age at disability onset, disability (assessed using Washington Group Short of Questions on Functioning), independence in daily activities [assessed using Activities of Daily Living and Instrumental Activities of Daily Living (IADL) questionnaires], and gratitude (measured with a questionnaire) were collected from the respondents. Multivariate linear regression analysis with a stepwise method was used to identify variables significantly correlated with gratitude. **Results:** Fifty-five older people aged 60–90 years participated in the study. The respondents had mobility, speech, hearing, or speech impairment. The stepwise linear regression showed that IADL and living arrangement explained 40% variance in the gratitude with F = 17.99, $p < .001$ (R^2=0.40). Independence in instrumental daily activities and living with family were positively associated with gratitude in elderly with disability. **Conclusions:** Independence in daily activities and living arrangement are significant factors associated with gratitude in elderly with disability. The findings suggest priority be given to those living alone and needing help for daily activities. Exercise to increase gratitude can be incorporated into holistic care of elderly.

Keywords: *Activities of daily living, disability evaluation, elderly, grateful, living arrangement*

The Maria Meiwati Widagdo[1], Novita Eveline Tjuluku[2], Maria Fransiska Pudjohartono[3], Bernadeta Dhaniswara Widyaningsih[4]

[1]Department of Public Health, Faculty of Medicine, Universitas Kristen Duta Wacana, Yogyakarta, Indonesia, [2]Faculty of Medicine, Universitas Kristen Duta Wacana, Yogyakarta, Indonesia, [3]Faculty of Medicine, Universitas Gadjah Mada, Yogyakarta, Indonesia, [4]Department of Psychology, Institut Parahita Padma, Yogyakarta, Indonesia

Address for correspondence:
Dr. The Maria Meiwati Widagdo, Duta Wacana Christian University, Jl. Dr. Wahidin Sudirohusodo 5-25, Yogyakarta, 55224, Indonesia.
E-mail: maria_widagdo@staff.ukdw.ac.id

Access this article online

Website: https://journals.lww.com/jnmr

DOI: 10.4103/ijnmr.ijnmr_407_23

Quick Response Code:

Introduction

The global population is aging. The population of children under 5 keeps decreasing, and the number of elderly aged 60 years and older has become higher than the number of children under 5.[1] World Health Organization (WHO) estimates that the percentage of the population of older people will increase significantly from 12% to 22% between 2015 and 2050, and 80% of them will live in low- and middle-income countries.[1] The increased population of older people is accompanied by the increased number of people with disability as aging is associated with disability.[2] The aging process is accompanied by physical and mental changes that lead to a decline in health and functional capacity. Those changes increase the possibility of acquiring disability. Aging has been associated with increased disability.[3] The WHO estimated that more than 46% elderly has disability.[2] There are no data of the percentage of Indonesian elderly with disability.

Gratitude or being grateful is the quality of being thankful. Gratitude was defined as recognition that a positive outcome has been obtained and acknowledgment of the contribution of an external source (s) for the positive outcome.[4] Gratitude has been categorized into three types: an "affective trait" (one's tendency to be grateful most of the time), a mood (a grateful feeling that fluctuates daily), and an emotion (a shorter feeling of gratitude that one feels after receiving a gift or a favor from other people). Studies on gratitude have reported that gratitude has a positive impact on physical and mental health. More grateful people have been reported to have higher self-rated health.[5] Gratitude is effective in improving mental wellbeing.[6] Gratitude

How to cite this article: Widagdo TMM, Tjuluku NE, Pudjohartono MF, Widyaningsih BD. Independence in daily activities and living with family: Predictors of gratitude in elderly with disability in Indonesia. Iran J Nurs Midwifery Res 2025;30:407-12.

Submitted: 24-Dec-2023. **Revised:** 14-Nov-2024. **Accepted:** 25-Nov-2024. **Published:** 08-May-2025.

is also associated with life satisfaction.[7] Another study has reported that patients with heart failure who express more gratitude have better sleep, lower depression, and less fatigue.[8] One systematic review has listed 13 studies showing the positive impact of gratitude on biomarkers.[9]

There are some studies on gratitude and aging. There has been a study reporting that older people have greater gratitude compared to middle-aged and young adults, and a positive correlation between gratitude and wellbeing.[10] Gratitude may have mediated the relationship between time perspective and life satisfaction.[11] Studies on the gratitude of people with disability have also been conducted. A study on people with physical disability has demonstrated a significant positive relationship between gratitude and self-esteem with optimism.[12] Another study on people with multiple sclerosis has found that gratitude is positively associated with life satisfaction and negatively associated with stress and mental health problems.[13] Despite the increasing number of disabilities with aging, there are still very limited studies on gratitude in elderly with disability. The current study investigated the predictors of gratitude in the elderly with disability. The results of this study can inform policymakers, health providers, and families to identify variables that affect gratitude. Interventions can be developed to increase gratitude that can directly or indirectly increase the physical health and wellbeing of the elderly with disability.

Materials and Methods

This was a cross-sectional study that took place in Gunungkidul Regency from April to June 2021. The respondents were elderly aged 60+ years with a disability who lived in the community. The inclusion criteria were those who could communicate verbally or nonverbally (body or sign language) and without apparent cognitive impairment. Research participants were recruited in collaboration with 'Mitra Sejahtera', a local organization of people with disabilities. Purposive sampling technique was used in this. The sample size of 55 respondents was calculated at a 95% confidence interval by considering a test power of 95% and a large effect size (d) of 0.35. Data of the respondents' age, sex, marital status, educational status, employment status, living alone or with family, age at disability onset, and self-reported diseases (diabetes mellitus, hypertension, stroke, hypercholesterolemia, hyperuricemia, heart disease, osteoarthritis, and cancer) were collected. Data using questionnaires were collected at the respondents' house.

The cognitive function was verified using the Mini Mental State Examination (MMSE). It has 11 questions to assess cognitive functions. They are time and place orientation, registration (repeating names of things), calculation and attention, language, and recall. The highest score is 30. It has been extensively used as an instrument for cognitive screening in the elderly. An MMSE score >23 was used to rule out possible cognitive impairment.[14] The instrument used to assess disability was the Washington Group Short Set of Questions on Functioning (WG-SS). There are six questions on functioning that reflect the conceptualization of disability. The questions explore if the respondent has any difficulty seeing, walking, or climbing steps, hearing, remembering, or concentrating, doing self-care, and communicating. There are four choices of answer: no difficulty, some difficulty, a lot of difficulty, and cannot do at all. If the answer indicates any level of difficulty, the respondent has functional limitations or disability. This questionnaire has been translated into many languages including Indonesian.[15] Independence in daily activities was assessed using the Barthel Index of Activities of Daily Living (ADL). The questionnaire has been widely used in clinical and research settings. There are ten activities assessed: bathing, dressing, grooming, controlling the bladder, controlling the bowel movements, toileting, moving from bed to sitting, walking on a level surface, ascending and descending stairs, and feeding. The maximum score is 20 and is considered independent. If the score is 12–19, the respondent is classified as mildly dependent, 9–11 as moderately dependent, 5–8 as severely dependent, and 0–4 as totally dependent.[16] The level of independence in more complex daily activities was measured using the Instrumental Activities of Daily Living (IADL) Scale. There are six activities assessed by IADL; they are ability in using the telephone, cooking, cleaning the house, doing laundry, managing self-medication, shopping, managing finances, and ability to travel independently using public transportation (mode of transportation). There are three levels of independence in each activity: 0 = unable to do it, 1 = needs assistance, and 2 = independent. A total score of 9–16 is considered as independent, 1–8 as needing assistance, and 0 as totally dependent. ADL and IADL are tools used for research and clinical purposes. Gratitude was assessed using the *Skala Kebersyukuran* (Gratitude Scale) questionnaire.[17] This instrument was developed based on the theory put forward by Fitzgerald (1998), who hypothesized that gratitude consists of three components: knowledge (appreciation for others), valuable attitude (goodwill toward someone or something), and the disposition to act (to act positively based on the appreciative feeling and goodwill one owns).[18,19] The questionnaire contains 31 statements: 14 favorable and 17 unfavorable. The respondents must choose one of four choices: strongly agree, agree, disagree, and strongly disagree. The score ranges from 31 to 124; a higher score indicates higher gratitude feeling. This questionnaire was selected to use in the study because it fits the Indonesian culture. The questionnaire has been used in research studies and tested for its validity.[20,21] The reliability of this instrument was high as the Cronbach α in the current study was 0.902.

Data were analyzed using R. Univariate analysis was conducted for demographic data, particularly data on the

independence in daily activities. Then data were analyzed using the stepwise linear regression method to identify variables significantly correlated with gratitude. Eta squared partial (η^2p) was used to estimate the effect size. The effect size value (d) < 0.06 is relatively low, 0.06 ≤ d < 0.14 is classified as moderate, and d ≥ 0.14 is considered high.[22]

Ethical considerations

The current study obtained ethical clearance from the Duta Wacana Ethics Committee for Health Research, Duta Wacana Faculty of Medicine, with Letter No. 1245/C.16/FK/2021 dated March 2, 2021. All study participants gave their informed written consent.

Results

In total, there were 55 community-dwelling elderly aged 60–90 years with disability who participated in this study. Data of the study participants can be seen in Table 1.

A stepwise linear regression test was chosen to identify independent variables significantly predicting gratitude. The independent variables that demographic data were sex, education, age, living arrangement, marital status, comorbidities, MMSE, ADL, and IADL. The results showed IADL and living arrangement as significant variables predicting gratitude. A stepwise linear regression was calculated to predict gratitude based on their IADL and living arrangement. The results can be found in Table 2.

Table 2 shows the impact of IADL and living arrangement on gratitude in elderly with disability. In step 1, the R^2 value of .34 revealed that the IADL explained 34% variance in the gratitude with F (1, 53) =27.20, $p < .001$. The finding revealed that IADL positively predicted gratitude (ß =0.58, $p < .001$). In step 2, the R^2 value of. 40 revealed that the IADL and living arrangement explained 40% variance in the gratitude with F (2,52) =17.99, $p < .001$. It was shown that living with family positively predicted gratitude (ß =0.26, $p < .005$). The ΔR^2 value of. 07 revealed 7% chance in the variance of step 1 and the step 2 with ΔF (1, 52) =6.15, $p < .005$.

Analysis was conducted on the independence of the study participants in each of the eight activities assessed in IADL. A frequency table was generated to describe the distribution of IADL variables, as presented in Table 3.

Further statistical analysis using a two-way ANOVA was conducted on each of the IADL activities to find out its effect on gratitude between the independent and dependent elderly groups. The results are presented in Table 4, showing the mean, standard deviation, and F-values for gratitude across IADL variables with independent and dependent categories. Elderly with disability who were independent in instrumental daily activities exhibited higher mean scores on gratitude as compared to dependent elderly. Based on Cohen's partial eta squared categorization where d ≥ 0.14 is considered high effect size, independence

Table 1: Demographic Data

Variables	*n* (%)	Mean (SD)
Age		
60-69 years	16 (29.09)	
70-79 years	22 (40.00)	
80 years and over	17 (30.91)	
Sex		
Male	33 (60.00)	
Female	22 (40.00)	
Education		
No schooling	30 (54.55)	
Primary school	19 (34.55)	
Junior high school	4 (7.27)	
Senior high school	2 (3.64)	
Marital status		
Married	18 (32.73)	
Single/divorced	37 (67.27)	
Living arrangement		
Alone	3 (5.45)	
Family	52 (94.55)	
Comorbidities		
Yes	43 (78.18)	
No	12 (21.82)	
Disability		
Mobility, speech impairment	22 (40.00)	
Mobility impairment	16 (29.09)	
Mobility, hearing, speech impairment	13 (23.64)	
Mobility, hearing impairment	4 (7.27)	
MMSE		25.36 (2.83)
Activities of Daily Living (ADL)		15.82 (5.93)
Independent	10 (18.18)	
Dependent	45 (81.82)	
7.05	5.49	
Independent	23 (41.81)	
Dependent	32 (58.19)	
Gratitude Scale		89.45 (5.37)

in the ability to use telephone, shopping, food preparation, housekeeping, ability to manage own medication, ability to handle finances, and food preparation had high effect on gratitude, while independence in the ability to do laundry and travel using public transportation had moderate effect on gratitude.

Discussion

Fifty-five older people with disability took part in this research. All of them had mobility impairment, almost half had speech impairment, and about a quarter had speech and hearing impairment. Difficulty in mobility was the most common type of disability found in elderly in USA; 40% of adults aged 65 years and over had a problem with movement.[23] A survey in UK also revealed that difficulty in walking was the most common type of disability in people aged 60+.[24] Hearing and visual impairment were

Table 2: Stepwise linear regression results for gratitude

Variable	*B*	95% CI[$]		*SE B*	ß	R^2	ΔR^2
		LL[$$]	*UL*[$$$]				
Step 1						0.34	0.334***
Constant	85.43*	83.80	87.39	0.97			
Instrumental Activities Daily Living	0.57*	0.35	0.79	0.11	0.58		
Step 2						0.41	0.070**
Constant	73.25*	63.22	83.29	5.00			
IADL[$$$$]	0.58*	0.38	0.80	0.11	0.60		
Living arrangement	6.21**	1.18	11.23	2.50	0.27		

[$]CI=Confidence Interval; [$$]LL=Lower Limit; [$$$]UL=Upper Limit; [$$$$]IADL=Instrumental Activities of Daily Living. *$p<0.05$; **$p<0.01$; ***$p<0.001$

Table 3: Descriptive Statistic of Instrumental of Activities in Daily Living (IADL) | *n*=55

Instrumental Activities of Daily Living (IADL)	Independent		Dependent		Mean(SD)
	n	%	*n*	%	
Mode of transportation	4	7.3	51	92.7	1.93(0.262)
Ability to use telephone	15	27.3	40	72.7	1.73(0.449)
Food preparation	16	29.1	39	70.9	1.71(0.458)
Housekeeping	20	36.4	35	63.6	1.64(0.485)
Ability to handle finances	21	38.2	34	61.8	1.62(0.490)
Laundry	22	40.0	33	60.0	1.60(0.494)
Responsibility for own medication	30	54.5	25	45.5	1.45(0.503)
Shopping	40	72.7	15	27.3	1.67(0.474)

Table 4: Results of Two-way ANOVA to reveal the effect of each Instrumental of Activities in Daily Living (IADL) activity on gratitude between independent and dependent elderly groups

Instrumental Activities of Daily Living	M (SD)		*F* (1. 53)	η2p	Sig.
	Independent	Dependent			
Ability to use telephone	94.07 (5.43)	87.73 (4.26)	20.74***	0.28	<0.001
Shopping	93.11 (5.27)	87.68 (4.50)	15.778***	0.23	<0.001
Responsibility for own medications	91.67 (5.20)	86.80 (4.34)	13.84***	0.21	<0.001
Housekeeping	92.25 (6.23)	87.86 (4.11)	9.91	0.16	0.003
Ability to handle finances	92.14 (6.14)	87.79 (4.12)	9.90	0.16	0.003
Food preparation	92.56 (4.59)	88.18 (5.20)	8.61	0.14	0.005
Laundry	91.73 (6.42)	87.94 (3.99)	7.33	0.12	0.009
Mode of transportation	95.00 (6.93)	89.02 (5.07)	4.93	0.09	0.031

*$p<0.05$; **$p<0.01$; ***$p<0.001$

two of the major causes of disability adjusted life years as reported in the Global Burden of Diseases in 2019.[25] Those two types of disability were found in many older adults that can impair their independence in daily activities.[26]

The stepwise linear regression test showed that living arrangement and IADL were significant predictors of gratitude in the elderly with disability. Older people with disability who lived with family had higher gratitude compared to those who lived alone. A study reported that living with family provided the support needed by older people with debilitating health conditions.[27] Coresidential family care enhanced the quality of life of older people with disability. A more recent study found that social support mediated the positive relationship between gratitude and life satisfaction in elderly.[28] Elderly who lived alone were less likely to see other people or to receive help.[29] Living alone has been associated with depression and loneliness in elderly.[30,31] Living with family provided support for older people with disability. It also decreased loneliness and depression that could enhance their gratitude compared to their peers living alone.

Analysis of IADL data revealed that only three elderlies with disability could do the instrumental daily activities fully independently with a maximum score of 16. Using public transportation was the most challenging activity. Ability to use the telephone, food preparation, housekeeping, and ability to handle finances and do laundry were the activities that more than half of the study participants needed help to complete those activities. It has been reported that independence in finance handling and medication management are the first two activities of IADL first lost in older people with dementia.[32]

However, the elderly with disability in this study were still cognitively intact, so they were still able to manage their medication independently. All the study participants had mobility impairments; this might explain the finding that using public transportation was the most challenging activity for them. Public transportation in Indonesia was not friendly or accessible to people with disability.[33,34]

The activities assessed by IADL are more complex activities that require both physical and cognitive abilities. A recent study revealed the significant positive association between independence in IADL and life satisfaction.[35] The finding of that study might explain how independence in IADL predicted gratitude as a mediator of life satisfaction.

Analysis on each activity of IADL showed that all activities had moderate to high effect on gratitude in elderly with disability. Independence in doing laundry and mode of transportation had a moderate influence on gratitude. One research on family care in Indonesia reported that older people depended a lot on their family or caregivers, especially in transportation and laundry, even though they were still independent.[36] This might explain the finding that independence in the two activities did not affect gratitude as high as other IADL activities.

The findings from this study highlight the factors affecting gratitude in Indonesian elderly people with disability. For nurses and integrated health care workers, these findings reaffirm independence in daily activities and living arrangements as factors affecting wellbeing in elderly, through the mediating factor of gratitude. In places where there is a limited number of nurses to support elderly with home visits, these findings can suggest that priority should be given to those who live alone and need help in their daily activities.

Identifying elderly at high risk for lower gratitude also pinpoints individuals that might benefit from interventions targeting gratitude. Chamorro-Garrido *et al.* (2021)[37] reported that interventions that incorporate gratitude into autobiographical memory exercises improve life satisfaction. These exercises can be incorporated into the holistic care of elderly with disability, particularly high risk individuals. Conversely, programs to increase or maintain independence in daily activities should be developed or strengthened for elderly people, improving their gratitude and indirectly their wellbeing.

This study had limitations. Older people without disability were not included in the study, so comparison could not be conducted. Different types and severities of disabilities may affect gratitude differently, but it can be challenging to control for or fully capture these differences within the sample.

Conclusion

This study investigated the predictors of gratitude in elderly with disability. Independence in instrumental and basic daily activities, and living arrangement are significant predictors of gratitude. Lower independence in daily activities and living alone are associated with lower gratitude. Older people who live with family have higher gratitude than those who live alone. Our findings can help identify individuals at higher risk for low gratitude. The government and clinicians can develop interventions to increase gratitude that will benefit elderly with disability as the interventions can improve their physical and mental health.

Acknowledgments

Nil.

Financial support and sponsorship

Nil.

Conflicts of interest

Nothing to declare.

References

1. WHO. Ageing and Health. 2022. Available from: https://www.who.int/news-room/fact-sheets/detail/ageing-and-health.
2. WHO. Ageing and Disability. 2023. Available from: https://www.un.org/development/desa/disabilities/disability-and-ageing.html.
3. Luo Y, Su B, Zheng X. Trends and Challenges for Population and Health During Population Aging — China, 2015–2050. China CDC Wkly 2021;3:593–9.
4. Emmons RA, Froh J, Rose R. Gratitude. In: Gallagher M, Lopez S, editors. Positive Psychological Assessment: A Handbook of Models and Measures. 2nd ed. Washington, DC: American Psychological Association; 2019. p. 317–32. Available from: https://psycnet.apa.org/doi/10 0.1037/0000138-020.
5. Chang LC, Dattilo J, Huang FH. Gratitude strengthens the relationship between leisure social support and self-rated health among nursing home residents. J Gerontol Nurs 2022;48:23–30.
6. Bohlmeijer ET, Kraiss JT, Watkins P, Schotanus-Dijkstra M. Promoting gratitude as a resource for sustainable mental health: Results of a 3-armed randomized controlled trial up to 6 months follow-up. J Happiness Stud 2021;22:1011–32.
7. Baumann D, Ruch W, Margelisch K, Gander F, Wagner L. Character strengths and life satisfaction in later life: An analysis of different living conditions. Appl Res Qual Life. 2019;15:329–47.
8. Boggiss AL, Consedine NS, Brenton-Peters JM, Hofman PL, Serlachius AS. A systematic review of gratitude interventions: Effects on physical health and health behaviors. J Psychosom Res 2020;135:110165.
9. Cousin L, Redwine L, Bricker C, Kip K, Buck H. Effect of gratitude on cardiovascular health outcomes: A state-of-the-science review. J Posit Psychol 2021;16:348–55.
10. Chopik WJ, Newton NJ, Ryan LH, Kashdan TB, Aaron J, Wellbeing T, *et al*. Gratitude across the life span: Age differences and links to subjective well-being. J Posit Psychol 2019;14:292–302.
11. Przepiorka A, Sobol-Kwapinska M. People with positive time perspective are more grateful and happier: Gratitude mediates the relationship between time perspective and life satisfaction. J Happiness Stud 2021;22:113–26.
12. Lestari R, Fajar M. Gratitude, self-esteem and optimism in people with physical disabilities. Prizren Soc Sci J 2020;4:14–21.

13. Lee B. A serial mediation model of gratitude on life satisfaction in people with multiple sclerosis: The intermediary role of perceived stress and mental health symptoms Author links open overlay panel. Mult Scler Relat Disord 2022;58:103421.
14. Su Y, Dong J, Sun J, Zhang Y, Ma S, Li M, *et al*. Cognitive function assessed by Mini-mental state examination and risk of all-cause mortality: A community-based prospective cohort study. BMC Geriatr 2021;21:1–10.
15. Sloman A, Margaretha M. The Washington Group Short Set of questions on disability in disaster risk reduction and humanitarian action: Lessons from practice. Int J Disaster Risk Reduct 2018;31:995–1003.
16. MD App. Modified Barthel Index for Activities of Daily Living. 2020. Available from: https://www.physio-pedia.com/Barthel_Index#cite_note-:2-14. [Last accessed on 2024 May 3].
17. Listiyandini RA, Nathania A, Syahniar D, Sonia L, Nadya R. Mengukur Rasa Syukur. Pengembangan Model Awal Skala Bersyukur Versi Indonesia. J Psikol Ulayat 2017;2:473.
18. Trudel-Fitzgerald C, Millstein RA, Von Hippel C, Howe CJ, Tomasso LP, Wagner GR, *et al*. Psychological well-being as part of the public health debate? Insight into dimensions, interventions, and policy. BMC Public Health 2019;19:1–11.
19. Skrzelinska J, Ferreira JA. Gratitude: The state of art. Posit Psychol 2020;50:290–302.
20. Siregar TK, Kamila AT, Tasaufi MNF. Kebersyukuran dan Kecemasan akan Masa Depan pada Mahasiswa Tingkat Akhir di Masa Pandemi Covid-19. Borobudur Psychol Rev 2021;1:29–37.
21. Fathoni AB, Listiyandini RA. Kebersyukuran, Kesepian, Dan Distres Psikologis Pada Mahasiswa Di Masa Pandemi Covid-19. J Psychol Sci Prof 2021;5:11–9.
22. In J, Lee DK. Alternatives to the *P* value: Connotations of significance. Korean J Anesthesiol 2024;77:316–25.
23. Centers for Disease Control and Prevention (CDC). CDC: 1 in 4 US adults live with a disability. 2018. Available from: https://www.cdc.gov/media/releases/2018/p0816-disability.html.
24. Knott L. Disability in Older People Causes and Treatment. 2018. Available from: https://patient.info/doctor/disability-in-older-people.
25. Abbafati C, Abbas KM, Abbasi-Kangevari M, Abd-Allah F, Abdelalim A, Abdollahi M, *et al*. Global burden of 369 diseases and injuries in 204 countries and territories, 1990–2019: A systematic analysis for the Global Burden of Disease Study 2019. Lancet 2020;396:1204–22.
26. Chan YM, Sahril N, Chan YY, Wahab NAA, Shamsuddin N, Ismail MZH. Vision and hearing impairments affecting activities of daily living among malaysian older adults by gender. Int J Environ Res Public Health 2021;18:6271.
27. Mefteh KY. Circumstances precipitating rural older adults for co-residential family care arrangements in Central Ethiopia. Gerontol Geriatr Med 2022;8:23337214221113100.
28. El Keshky MES, Khusaifan SJ, Kong F. Gratitude and life satisfaction among older adults in Saudi Arabia: Social support and enjoyment of life as mediators. Behav Sci (Basel) 2023;13:527.
29. Fingerman KL, Ng YT, Zhang S, Britt K, Colera G, Birditt KS, *et al*. Living Alone during COVID-19: Social contact and emotional well-being among older adults. J Gerontol-Ser B Psychol Sci Soc Sci 2021;76:E116–21.
30. Bae SM. Factors associated with depressive symptoms among elderly Koreans: The role of health status, work ability, financial problems, living alone, and family relationships. Psychogeriatrics 2020;20:304–9.
31. Charpentier M, Kirouac L. Experiences of loneliness among older people living alone. A qualitative study in Quebec (Canada). Ageing Soc 2021;42:1-22.
32. Tabira T, Hotta M, Murata M, Yoshiura K, Han G, Ishikawa T, *et al*. Age-related changes in instrumental and basic activities of daily living impairment in older adults with very mild Alzheimer's disease. Dement Geriatr Cogn Dis Extra 2020;10:27–37.
33. Utari ZM, Kusuma NR. Accessibility for persons with mobility impairment at bus stops. IOP Conf Ser Earth Environ Sci. 2021;673. doi: 10.1088/1755-1315/673/1/012049.
34. Sony S, Rifai AI, Handayani S. The effectiveness analysis of bus rapid transit services (A Case Trans Semarang, Indonesia). Citiz J Ilm Multidisiplin Indones 2022;2:712–9.
35. Liu Y, Yang X, Xu Y, Wu Y, Zhong Y, Yang S. Cognitive function and depressive symptoms among chinese adults aged 40 years and above: The mediating roles of IADL disability and life satisfaction. Int J Environ Res Public Health 2023;20:4445.
36. Anisaningtyas NAF, Nurhadi, Rahman A. Pola Perawatan Lansia oleh Keluarga dan Panti Jompo di Kota Surakarta. Sosioedukasi J Ilm Ilmu Pendidik dan Sos 2022;11:234–48.
37. Chamorro-Garrido A, Ramírez-Fernández E, Ortega-Martínez AR. Autobiographical memory, gratitude, forgiveness and sense of humor: An intervention in older adults. Front Psychol 2021;12. doi: 10.3389/fpsyg. 2021.731319.