Contents lists available at IOCS

**Science Midwifery**

journal homepage: www.midwifery.iocspublisher.org

# Trends of activity daily life (ADL) and mental health problems among middle-aged and elderly in Indonesia using IFLS 4 and IFLS 5

**Nur Cahyani Ari Lestari[1], Tut Barkinah[2], Syahrida Wahyu Utami[3], Rahmawati Wahyuni[4], Deananda[5], Rosalin Ariefah Putri[6]**

[1]Program Studi Kebidanan, Stikes Bakti Utama Pati, Pati, Indonesia
[2]Program Studi Kebidanan, Poltekkes Kemenkes Banjarmasin, Banjarmasin, Indonesia
[3,5]Program Studi Kebidanan, Stikes Abdi Persada Banjarmasin, Banjarmasin, Indonesia
[4,6]Program Studi Kebidanan, Poltekkes Kemenkes Kalimantan Timur, Samarinda, Indonesia

**ARTICLE INFO**

***Article history:***

Received Oct 1, 2024
Revised Oct 15, 2024
Accepted Oct 30, 2024

***Keywords:***

Activity Daily Life
Elderly
IFLS
Mental Health
Middle Age

**ABSTRACT**

Indonesia is facing an aging society since the proportion of the elderly was almost 10% of the total population. This situation is reflected by the increasing total number of elderlies, dependency ratio, and life expectancy. Aim: This study aimed to describe the distribution of total score of mental health and activity daily life (ADL) among middle age and elderly in Indonesia. This study used pooled data from Indonesia Family Life Survey (IFLS) wave 4 and wave 5. It was conducted in 2007 and 2014. The sample size of this study consisted of middle age (40 to 59 years old) and elderly (60 years old and up). Results: The findings of this study revealed that from 2007 to 2014, the total score of mental health problems was increasing, and also the total score of activity daily life (ADL). Middle age and elderly in Indonesia had an increased number of depressions, but the total majority of them had a higher ability to do daily activity life (ADL). According to an aging population that faced the Indonesian population, this study can describe the increasing number of depressed but increasing their ability of them to do daily activity life (ADL).



***Corresponding Author:***

Nur Cahyani Ari Lestari,
Program Studi Kebidanan,
Stikes Bakti Utama Pati,
Jl. Ki Ageng Selo No.15, Blaru, Kec. Pati, Kabupaten Pati, Jawa Tengah 59114, Indonesia.
Email: nurcahyaniarilestari@gmail.com

# INTRODUCTION

About 70.4% of the world's population is at high risk for exposure to traumatic events, such as being the victim or witness of threatened death, sexual, or physical violence, or a natural disaster (Kessler et al., 2017). These events frequently provoke feelings of dread, horror, and/or helplessness and leave the individual with confusion, insecurities, and shattered fundamental worldviews (Kapfhammer, 2018). Although feelings of sadness typically subside within a few weeks, approximately 4% of individuals exposed to horrific incidents develop posttraumatic stress disorder (PTSD)(Ningsih et al., 2021)(Mubin et al., 2024)(Anitasari, 2024)(Kessler et al., 2017). A

study provides critical evidence that severely depressed older adults have a two- to threefold higher risk for ADL decline compared to non-depressed individuals and that social inactivity partially explains this excess risk (Kondo et al., 2008). Therefore, it is very important for the elderly to take ADLs seriously to prevent mental health problems.

Physiologically, aging is a normal and inevitable process. It is defined as the irreversible structural and functional changes that occur over time at the molecular, cellular, tissue, organ, and system levels of an organism (Khan et al., 2017). In the past 40–50 years, the aging of the global population has been a significant demographic trend, particularly in industrialized nations (Cheng et al., 2022). Due to various changes and an increase in the number of losses, the onset of old age is accompanied by a sense of isolation (Nicolaisen et al., 2023).

Mental health problems may contribute to the development of physical and health concerns in the elderly (Chun et al., 2023). It can be caused of long-term solitude can jeopardize an individual's sense of mental health and exacerbate self-destruction (Dell et al., 2019). Aging makes it more difficult for a person to continue living as a capable, active, and robust individual (Irianti & Pramono, 2022)(Abidin et al., 2023). As an elderly person loses his or her formerly active role and assumes a passive position, it becomes increasingly difficult for him or her to satisfy the various requirements he or she previously met (Asrizal, 2019)(Nurulita, 2021)(SETYOBEKTI, 2022). Lack of trust in other people, dread of being subjected to aggression, and diminishing financial support further isolate and alienate the individual from society, heightening his or her feelings of loneliness and estrangement (Luanaigh & Lawlor, 2008). An ill or elderly person is inseparable from his physical, psychological, and cultural structure, as well as his social environment and family. Based on the information above, this research was planned and carried out with the aim of knowing activities of daily life (ADL) and mental health problems in middle-age and elderly in Indonesia.

# RESEARCH METHOD

**Study Design**

The descriptive design used in this study. This study only used IFLS wave 4 and wave 5. The Indonesia Family Life Survey (IFLS) is a long-term study carried out in Indonesia that gathers information on several facets of households, families, and people. It is one of the biggest and most thorough household surveys in the nation and has proved useful in researching Indonesia's socioeconomic dynamics, health, and other social variables. The Indonesia Family Life Survey includes the following important characteristics and facets. The IFLS's purpose and scope are to offer comprehensive data on the welfare, standard of living, and evolving dynamics of Indonesian households and families across time. It includes a wide range of subjects, such as social networks, demographics, education, health, and employment. The IFLS has a longitudinal design, which means it tracks the same people and families over a number of survey waves. This makes it possible for researchers to track changes and patterns over time in numerous elements of family life and well-being.

**Setting**

This pooled study used data from Indonesia Family Life Survey (IFLS) which contains individual, household, and facility data. The survey covered 321 communities in 13 provinces. There are North Sumatera, West Sumatera, South Sumatera, Lampung, DKI Jakarta, West Java, Central Java, D.I Yogyakarta, East Java, Bali, West Nusa Tenggara, South Kalimantan, and South Sulawesi.

**Sample/Participants**

In the original study, IFLS has been interviewed adults aged >18 years old and proxy for those under that age (Surveymeter, 2015). However, this study only focused on middle age (40 to 59 years old) and elderly (60 years old and older).

**Instrument and intervention**

All the items above were asked with "If you had…. (Items above), could you, do it?" the answer was categorized into: easily, with difficulty, and unable to do it. The functional capability was assessed by 6 items of the Katz Activity Daily Living (ADL), which includes items like bathing, dressing, toileting, transference, continence, and feeding. The categories and scores of each item include 1 = unable, 2 = with difficulty, 3 = easily. All the scores will be summed. Higher total ADL scores mean a higher capability to do daily activity life (ADL).

**Data Analysis**

Mental health in this study was derived from questionnaire 3B, section KP, and code KP02. Questions related to mental health are including 1) I was bothered by things that usually don't bother me, 2) I had trouble concentrating on what I was doing, 3) I felt depressed, 4) I felt everything I did was an effort, 5) felt hopeful about the future, 6) I felt fearful, 7) my sleep was restless, 8) I was happy, 9) I felt lonely, 10) I could not get going. All the questions have the possibility to be answered: 0 = never/rarely (< 1 day), 1 = some days (1-2 days), 2 = occasionally (3-4 days), 3 = most of the time (5-7 days). The scoring for each item is 3,2,1,0 for questions 5 and 8 and 0,1,2,3 for all other items. Depression was categorized if the total score is 10 or higher according to Centres for Epidemiologic Studies Depression Scale (CES-D 10). However, this study used the total scores instead of categorizing it into depression or not. Higher total mental health scores mean a higher possibility of being depressed. Activity Daily Life (ADL) in this study is unable conditions to do listed daily activity. This variable comes from questionnaire 3B, section KK (health conditions), code KK03a-KK03r which consisted of physical ability in daily activity: a) To carry a heavy load (like a pail of water) for 20 meters, b) To draw a pail of water from a well, c) To walk for 1 kilometre, d) To walk for 5 kilometres, e) To sweep the house floor yard, f) To bow, squat, kneel, g) To dress without help, h) To go to the bathroom (BM) without help, i) To bathe, j) To get out of bed, k) To walk across the room, l) To stand up from sitting on the floor without help, m) To stand up from a sitting position in a chair without help

**Ethical Consideration**

The surveys conducted by the IFLS underwent thorough evaluation and received approval from Institutional evaluation Boards (IRBs) in both the United States, namely at RAND, and in Indonesia at the University of Gadjah Mada (UGM) for the IFLS3, IFLS4, and IFLS5 studies. For further review, see the following link: https://www.rand.org/well-being/social-and-behavioral-policy/data/FLS/IFLS.html

# RESULTS AND DISCUSSIONS

Figure 1 below describes the distribution of mental health disorders (depression) scores among middle age and the elderly. Box plots are used as graphical summaries depicting distributions. In 2007, among middle age, mental health scores are in the range between 0 to 15. The minimum score was 0 and the maximum was 15, with a mean of around 7.5. Quartile 1 was around 5 and quartile 3 was around 9. It also showed some outliers in the data on middle age in 2007.

In the same year, among the elderly, mental health scores are in the range between 0 to 14. The minimum score was 0 and the maximum was 14, with a mean of around 7. Quartile 1 was around 4 and quartile 3 was around 8. Fewer outliers were also found in data on mental health among the elderly. In 2014, among middle age, mental health scores are in the range between 0 to 15. The minimum score was 0 and the maximum was 19, with a mean of around 6. Quartile 1 was around 4 and quartile 3 was around 9. It also showed some outliers in the data on middle age in 2014. Among the elderly, mental health scores are in the range between 0 to 15. The minimum score was 0 and the maximum was 16, with a mean of around 5. Quartile 1 was around 4 and quartile 3 was around 8. It also showed some outliers in the data of the elderly in 2014.

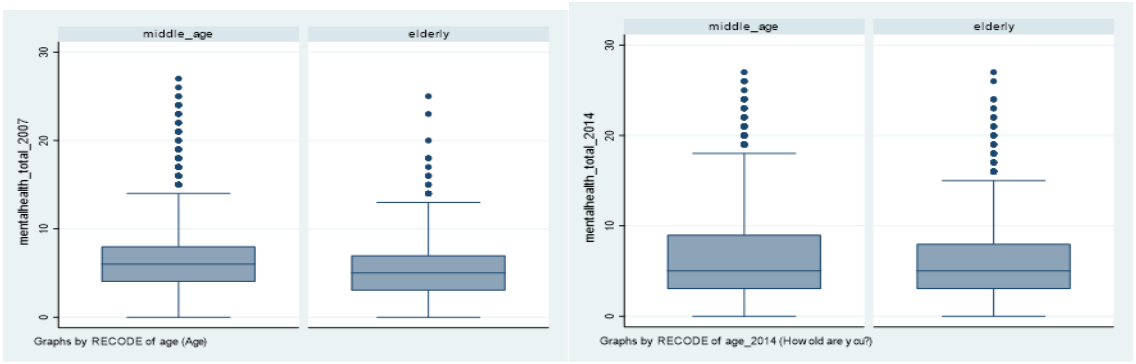


**Figure 1:** The box plot of mental health disorders among middle age and elderly in 2007 and 2014

Figure 2 below describes the distribution of activity in daily life (ADL) among middle age and the elderly. In 2007, among middle age, ADL scores are in the range between 10 to 19. The minimum score was 10 and the maximum was 19, with a mean of around 15. Quartile 1 was around 13 and quartile 3 was around 18. It also showed some outliers in the data on middle age in 2007. In the same year, among the elderly, ADL scores are in the range of 10 to 28. The minimum score was 10 and the maximum was 28, with a mean of around 19. Quartile 1 was around 18 and quartile 3 was around 20. Some outliers were also found in data on mental health among the elderly. In 2014, among middle age, ADL scores are in the range between 15 to 30. The minimum score was 15 and the maximum was 30, with a mean of around 18. Quartile 1 was around 17 and quartile 3 was around 20. It also showed some outliers in the data on middle age in 2014. Among the elderly, ADL scores are in the range of 15 to 40. The minimum score was 15 and the maximum was 40, with a mean of around 20. Quartile 1 was around 18 and quartile 3 was around 25. It also showed some outliers in the data of the elderly in 2014.

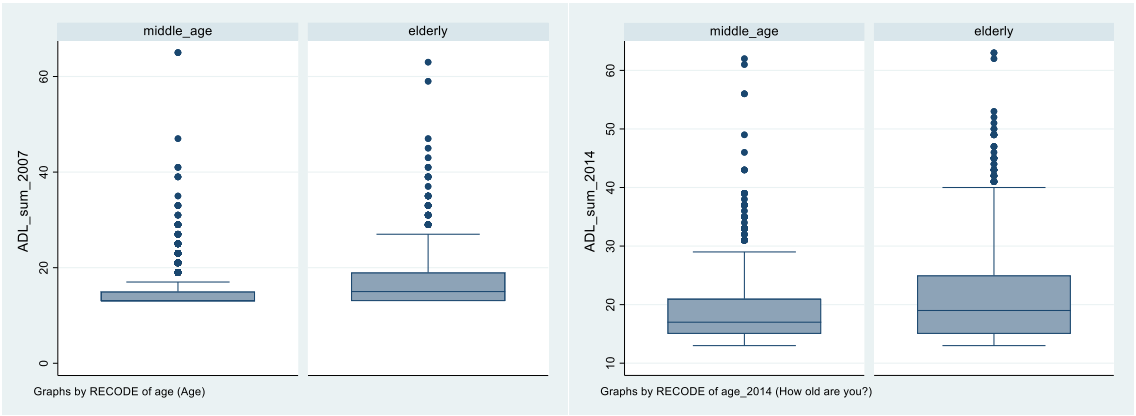


**Diagram 2**: The box plot of Activity Daily Life (ADL) among middle age and elderly in 2007 and 2014

According to the study results above, the trend of mental health problems among middle age in Indonesia was increasing with the mean relatively higher in 2014. Furthermore, the trend among the elderly was also increasing with mean relatively stable in 2014. Generally, the prevalence of middle age and elderly who had depression was higher based on the data from 2007 and 2014. It can be concluded that middle age and the elderly had a serious problem of mental health during the period 2007 to 2014. A previous study conducted in Indonesia, Vietnam, and Japan found that Indonesia had the highest prevalence of elderly depression (Wada et al., 2005). The study in China has similar findings which revealed 35.8% of the elderly in that survey were

categorized as depressed. A previous study in Switzerland found the prevalence of young adults who had depression was 21.3% (SETYOBEKTI, 2022).

Previous studies found the prevalence of mental emotional disorders in people aged ≥ 15 years in Indonesia was reported a decline from 11.6 percent (2007) to 6.0 percent (2013) but it increased to 9.8% in 2018. The prevalence of disability also declined from 21.3% (2007) to 11% (2013) and to 13.7% (2018). In Aceh Province, mental-emotional disorders declined from 4.9% (2007) to 6.6% (2013) and to 9.8% (2018), and disability from 12.7% in 2013 increased to 18% in 2018. According to the National Institute of Health Research and Development (NIHRD), in Aceh, severe mental diseases including schizophrenia were present at a rate of around 1.9 percent and mental emotional problems at a rate of about 14.1 percent in 2007. These rates exceeded the corresponding national averages of 0.46 percent and 11.6 percent (NIHRD, 2007). In Aceh, a follow-up study in 2013 indicated rates of severe mental illnesses of 0.24 percent and mental-emotional disorders of 6.6 percent, lower than those noted in the prior survey (Chairurrijal et al., 2018). Schizophrenia was also one of the most frequently reported serious mental disorders. Schizophrenia was the primary diagnosis for more than 92 percent of patients in the mental hospital in Aceh (Marthoenis et al., 2016). Rare studies have been done on the prevalence of various mental disorders such as major depression, bipolar disorder, personality disorders, or anxiety disorders. Among 3463 older adults, 1240 (35.8%) were classified as depressed, the prevalence of BADL and IADL disabilities were 756 (21.8%) and 1194 (34.5%). The correlation between depression and physical disability was found in the study in Indonesia (Ajuan, 2022)(Satria et al., 2022).

The variable of activity daily life (ADL) in this study was showed increasing significantly. Among the middle age, it showed increasing scores of total ADL. Among the elderly, the total ADL score was increasing significantly. Generally, the prevalence of middle age and elderly who can do daily activities was increasing (Li et al., 2019). It means the quality of health among middle age and elderly was better in 2007 and 2014. The results of this study mean Indonesia is facing an ageing society and needs improvement of healthcare providers (Naisal & Seno, 2022). In the local context, this study can improve current regulation of mental health that still faced stigmatization. Activity daily life information is important to see the capability of the elderly to be able to do daily needs. Future study hugely can include that statistical analysis. This study has limitations that future research on the correlation between mental health and daily activity life with bivariate and multivariate analysis(Naisal & Seno, 2022).

# CONCLUSION

From 2007 to 2014, the total score of mental health disorders was increasing a lot. In line with the variable of mental health, total daily activity life was showed increasing. The higher the total score of mental health and ADL, the higher age is most vulnerable. The government and related stakeholders need to discuss and solve these urgent conditions. Moreover, the gap in the total score of mental health and ADL between middle age and the elderly was not too different.

# References

Abidin, N. L. S., Kep, M., & Kom, S. K. (2023). BAB 4 Perubahan dan Masalah Kesehatan. *BUNGA RAMPAI KEPERAWATAN GERONTIK*, 30.

Ajuan, O. (2022). Keefektifan pemberian terapi guided imagery untuk mengurangi tingkat kecemasan pada pasien gangguan jiwa skizofrenia. *Professional Health Journal*, *4*(1), 1–9.

Anitasari, B. (2024). *Trauma Healing Pascabencana Banjir Bandang di Pengungsian*. Penerbit NEM.

Asrizal, M. (2019). *Evaluasi Kebijakan Program Keluarga Harapan Di Kecamatan Belat Kabupaten Karimun*. Universitas Islam Riau.

Chairurrijal, C., Abdullah, A., Nurjannah, N., Marthoenis, M., & Adamy, A. (2018). Analisis Hubungan Disabilitas Dengan Gangguan Mental Emosional (GME) di Provinsi Aceh (Riskesdas Tahun 2013).

*Jurnal Ilmu Keperawatan*, *6*(2), 54–63.
Cheng, H., Luo, W., Si, S., Xin, X., Peng, Z., Zhou, H., Liu, H., & Yu, Y. (2022). Global trends in total fertility rate and its relation to national wealth, life expectancy and female education. *BMC Public Health*, *22*(1), 1346.
Chun, S., Heo, J., & Ryu, J. (2023). Leisure participation, physical health, and mental health in older adults. *Activities, Adaptation & Aging*, *47*(2), 195–213.
Dell, N. A., Pelham, M., & Murphy, A. M. (2019). Loneliness and depressive symptoms in middle aged and older adults experiencing serious mental illness. *Psychiatric Rehabilitation Journal*, *42*(2), 113.
Irianti, T. T., & Pramono, S. (2022). *Penuaan Dan Pencegahannya: Proses Faali Biokimiawi dan Molekuler*. Ugm Press.
Kapfhammer, H.-P. (2018). Acute and long-term mental and physical sequelae in the aftermath of traumatic exposure–some remarks on "the body keeps the score." *Psychiatria Danubina*, *30*(3), 254–272.
Kessler, R. C., Aguilar-Gaxiola, S., Alonso, J., Benjet, C., Bromet, E. J., Cardoso, G., Degenhardt, L., de Girolamo, G., Dinolova, R. V, & Ferry, F. (2017). Trauma and PTSD in the WHO world mental health surveys. *European Journal of Psychotraumatology*, *8*(sup5), 1353383.
Khan, S. S., Singer, B. D., & Vaughan, D. E. (2017). Molecular and physiological manifestations and measurement of aging in humans. *Aging Cell*, *16*(4), 624–633.
Kondo, N., Kazama, M., Suzuki, K., & Yamagata, Z. (2008). Impact of mental health on daily living activities of Japanese elderly. *Preventive Medicine*, *46*(5), 457–462.
Li, M., Yang, Y., Pang, L., Wu, M., Wang, Z., Fu, Y., & Li, K. (2019). Gender-specific associations between activities of daily living disability and depressive symptoms among older adults in China: Evidence from the China Health and Retirement Longitudinal Study. *Archives of Psychiatric Nursing*, *33*(6), 160–166.
Luanaigh, C. Ó., & Lawlor, B. A. (2008). Loneliness and the health of older people. *International Journal of Geriatric Psychiatry: A Journal of the Psychiatry of Late Life and Allied Sciences*, *23*(12), 1213–1221.
Marthoenis, M., Yessi, S., Aichberger, M. C., & Schouler-Ocak, M. (2016). Mental health in Aceh–Indonesia: a decade after the devastating tsunami 2004. *Asian Journal of Psychiatry*, *19*, 59–65.
Mubin, M. F., Hasanah, N. U., Kep, M., Mawaddah, N., Sulfian, N. W., Reni, N., Kep, M., & Adawiyah, Q. (2024). *Buku Ajar Keperawatan Jiwa I*. Mahakarya Citra Utama Group.
Naisal, M., & Seno, S. (2022). Readiness of healthcare providers to face the aging society in Indonesia. *Philippine Journal of Health Research and Development*, *25*(4), 61–64.
Nicolaisen, M., Pripp, A. H., & Thorsen, K. (2023). Why not lonely? A longitudinal study of factors related to loneliness and non-loneliness in different age groups among people in the second part of life. *The International Journal of Aging and Human Development*, *97*(2), 157–187.
Ningsih, D. A., Yunadi, F. D., & Retnowati, M. (2021). *Buku Ajar Asuhan Kebidanan Nifas dan Menyusui*. Penerbit Nem.
Nurulita, N. (2021). *Penyuluhan agama di era digital*. Lekkas.
Satria, A., Yeni, Y., Akbar, H., Kaseger, H., Suwarni, L., Abbani, A. Y., & Maretalinia, M. (2022). Relationship between depression and physical disability by gender among elderly in Indonesia. *Universa Medicina*, *41*(2), 104–113.
SETYOBEKTI, A. B. (2022). *Marriage guidance*. HegelPustaka.
Surveymeter. (2015). *Indonesia Family Life Survey 5 and IFLS East*.
Wada, T., Ishine, M., Sakagami, T., Kita, T., Okumiya, K., Mizuno, K., Rambo, T. A., & Matsubayashi, K. (2005). Depression, activities of daily living, and quality of life of community-dwelling elderly in three Asian countries: Indonesia, Vietnam, and Japan. *Archives of Gerontology and Geriatrics*, *41*(3), 271–280.