International Journal of Social Science (IJSS)
Vol.5 Issue.6 April 2026, pp: 645-650
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)
DOI: https://doi.org/10.53625/ijss.v5i6.12575

STRESS AND MENTAL DISORDERS AMONG THE ELDERLY IN EMERGING TOURISM DESTINATIONS IN BALI

By
Ni Ketut Sri Diniari[1], Marianto[2]
[1,2]Department of Psychiatry, Ngoerah Hospital, Faculty of Medicine, Udayana University, Bali, Indonesia
Email: [1]sridiniari@ymail.com

Article Info
Article history:
Received Jan 03, 2026
Revised Jan 26, 2026
Accepted Feb 06, 2026

Keywords:
Elderly, Stress, Anxiety, Depression, Cognitive Impairment

ABSTRACT
Mental disorders, including stress, anxiety, depression, cognitive impairment, and insomnia, are highly prevalent among the elderly, affecting approximately 15% of this population. In rapidly urbanizing areas such as Nusa Penida Island, Bali, substantial transitions from agricultural communities to major tourist destinations have occurred, attracting both domestic and international visitors. These transitions may adversely affect the mental health of elderly through cultural changes, lifestyle modifications, shifts in family structures, increased population density, and frequent interactions with tourism stakeholders and tourists. This study aimed to determine the prevalence and characteristics of stress and mental disorders among the elderly population in Nusa Penida. Screening of 66 elderly individuals revealed that 63.6% experienced moderate stress, 62.1% had mild anxiety, 94.0% had mild to moderate depression, and 51.5% had moderate to severe cognitive impairment. Elder individuals with moderate stress were quite likely to experience severe anxiety, mild to moderate depression, and moderate cognitive impairment. The high prevalence of stress, anxiety, and other mental disorders among elderly individuals in newly developed tourist destinations indicates the urgent need for targeted interventions to improve their overall quality of life.

Corresponding Author:
Ni Ketut Sri Diniari
Department of Psychiatry, Ngoerah Hospital, Faculty of Medicine, Udayana University, Bali, Indonesia
Email: sridiniari@ymail.com

1. INTRODUCTION

Mental disorders are among the most common health problems experienced by elderly, with prevalence varying across countries. In 2012, several countries reported that 28.3% of elderly experienced at least one mental disorder, with anxiety and depression being the most prevalent diagnoses. In China, the prevalence of anxiety disorders among elderly ranges from 11.4% to 12.3%, while mood disorders such as depression occur in approximately 6.8% to 9.1% of this population.[1,2]

In Indonesia, the 2018 Basic Health Research reported that the prevalence of mood disorders among elderly individuals was 9.8%, while the prevalence of depression was 6.5% in the 55–64-year age group, 8.0% in the 65–74-year age group, and 8.9% among those aged over 75 years. Meanwhile, a study conducted in Java and Bali reported that the prevalence of dementia in Indonesia is approximately 30%.[2,3] Stressful life events in elderly, such as retirement, declining health, and bereavement, are considered predictors of physical, psychological, and cognitive decline in this population.[4,5]

Anxiety disorders are the most common psychiatric disorders, affecting approximately one in four individuals. A community-based study of adults aged 55 years and older showed that 23% of those with anxiety disorders also met the primary diagnostic criteria for depressive disorders. Among women aged 65 years and over, anxiety symptoms were found to predict impairment in activities of daily living (ADL) and mild disability over a three-year follow-up period.[6]

International Journal of Social Science (IJSS)
Vol.5 Issue.6 April 2026, pp: 645-650
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

Anxiety symptoms often coexist with medical conditions such as pulmonary, neurological, cardiovascular, and endocrine disorders, which can complicate diagnosis.[11] Symptoms including dizziness, chest pain, shortness of breath, fatigue, palpitations, and nausea may also occur in medical conditions such as heart disease, chronic obstructive pulmonary disease, postural hypotension, and thyroid disorders. In addition, certain medications and generalized weakness syndrome may contribute to these symptoms, further obscuring accurate diagnosis.[6,7]

Furthermore, stigma related to mental health remains a significant concern, particularly in rural areas. Additional challenges faced by elderly, including limited mobility, lack of transportation, and restricted availability of local mental health services, often hinder access to appropriate mental health care.[8]

Depressive disorders are frequently underdiagnosed among the elderly population. According to World Health Organization data, the prevalence of depressive disorders among elders ranges from 10% to 20%. Studies conducted in India have reported a wide variation in the prevalence of depression, with community-based studies showing rates between 8.9% and 62.16%, and clinical-based studies estimating prevalence between 42.4% and 72%.[9]

Depression in elderly is often mistakenly regarded as a normal part of aging and, consequently, remains under-recognized and underdiagnosed. Therefore, both early identification and appropriate management of depression in the elderly are essential. In addition, elderly may experience abuse, neglect, or significant changes in caregiving arrangements by family members. Shifts in cultural norms and family structures may further trigger the onset of depression in later life. These experiences can contribute to the development or exacerbation of depressive disorders.[10]

Cognitive impairment and dementia represent additional mental health challenges in aging populations. Cognitive impairment is a complex and multidimensional condition that must be approached holistically. It is closely associated with psychosocial factors, including chronic stress, anxiety, loneliness, depression, and limited family or community support.[11,12] Prevention strategies, increased awareness, development of health services, and strengthened community support are key to mitigating the burden of dementia both globally and in Indonesia. If left unaddressed, these conditions may escalate into major public health crises. In Indonesia, current efforts focus on early recognition, public education, and strengthening community-based support systems to manage cognitive disorders. Families and the surrounding social environment play a crucial role in providing care and support for individuals living with dementia.[13]

Several factors contribute for mental disorders in the elderly, including changes in social roles and environment, physical disability, cognitive impairment, economic challenges, and relocation of residence.[14,15] One emerging and often underrecognized contributor to mental health problems in the elderly is the rapid transformation of rural areas into urban or tourism-oriented regions.[15–17] On Nusa Penida Island, Bali, the rapid expansion of tourism since 2015 has driven a transition from a predominantly rural community to an urbanized, tourism-based society. Many elderly who were previously dryland farmers have sold or leased their land to support tourism-related activities. This abrupt transformation may contribute to mental health disorders, potentially through cultural disruption and loss of traditional livelihoods.

Given these concerns regarding the mental well-being of older community members, it is essential to identify the long-term psychological effects of such transitions on the elderly population. Therefore, this study aims to assess the prevalence and characteristics of stress and mental disorders among elderly in Nusa Penida. Additionally, this study seeks to determine whether mental disorders remain prominent among elderly populations undergoing rapid cultural and environmental change.

MATERIAL AND METHOD

This cross-sectional study was conducted in August 2024 using a structured questionnaire administered to elderly individuals in Batumulapan Village, Nusa Penida, Klungkung, Bali. The study population consisted of community-dwelling adults aged 60 years and older who resided in Batumulapan Village. Participants were recruited using consecutive sampling based on their availability and willingness to participate during the data collection period. The inclusion criteria were age ≥60 years, ability to communicate verbally, and provision of informed consent. The exclusion criteria included severe physical illness or cognitive impairment that interfered with the ability to complete the questionnaires. Standardized instruments were used to assess anxiety, depression, cognitive function, and perceived stress, including the Geriatric Anxiety Inventory (GAI), Geriatric Depression Scale (GDS), Abbreviated Mental Test (AMT), and Perceived Stress Scale (PSS). All instruments were validated Bahasa Indonesia versions. Data collection was conducted through face-to-face interviews by trained research assistants. The collected data were analysed using the Statistical Package for the Social Sciences (SPSS) software, Windows version 26.

RESULTS

Among the 66 elderly participants, the majority were aged 70–79 years (45.5%), had completed elementary school education (53.0%), were unemployed (65.2%), had a monthly income below the regional

International Journal of Social Science (IJSS)
Vol.5 Issue.6 April 2026, pp: 645-650
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)
DOI: https://doi.org/10.53625/ijss.v5i6.12575

minimum wage (54.5%), and lived with family members (43.9%). The screening results showed that most elderly participants experienced a moderate level of stress (63.6%). Anxiety levels were predominantly low (62.1%), and the majority of participants also exhibited low levels of depression (54.5%). Additionally, 32 participants (48.5%) showed no cognitive impairment and were classified as cognitively normal. The screening data are presented in Table 1.

Table 1. Results of Mental Disorder Screening in the Elderly

Screening Results of Mental Disorder	Total	
	n	%
Stress Level		
Mild	21	31,8
Moderate	42	63,6
Severe	3	4,5
Anxiety Level		
Mild	41	62,1
Moderate	16	24,2
Severe	9	13,6
Depression Level		
Mild	36	54,5
Moderate	26	39,4
Severe	4	6,1
Cognitive Impairment		
Normal	32	48,5
Moderate	23	34,8
Severe	11	16,7

The results also indicated that among elderly participants with mild stress levels, most experienced mild anxiety (24.2%). Participants with moderate stress levels predominantly exhibited mild anxiety (36.4%), with higher levels of anxiety observed in this group compared to those with mild stress. A detailed distribution of anxiety levels according to stress categories is presented in Table 2.

Table 2. Anxiety levels based on stress levels

		Anxiety levels					
		Mild		Moderate		Severe	
		n	%	n	%	n	%
Stress levels	Mild	16	24,2	4	6,1	1	1,5
	Moderate	24	36,4	11	16,7	7	10,6
	Severe	1	1,5	1	1,5	1	1,5

Table 3 presents the distribution of depression levels among elderly participants according to stress categories. Among participants with mild stress, the majority exhibited mild depression (24.3%). In the moderate stress group, equal proportions (30.3%) had mild and moderate depression. In the severe stress group, only 3.0% experienced severe depression.

Table 3. Distribution of Depression Levels Based on Stress Levels

		Depression Level					
		Mild		Moderate		Severe	
		n	%	n	%	n	%
Stress Level	Mild	16	24,3	5	7,6	0	0
	Moderate	20	30,3	20	30,3	2	3

International Journal of Social Science (IJSS)
Vol.5 Issue.6 April 2026, pp: 645-650
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

	Severe	0	0	1	1,5	2	3

Among elderly participants with mild stress levels, 24.3% of them have severe cognitive impairment. Among those with moderate stress levels, 45.2% experienced moderate cognitive impairment. The results later described in table 4 below.

Table 4. Distribution of Cognitive Impairment Levels Based on Stress Levels

		Cognitive Impairment Level					
		Normal		Moderate		Severe	
		n	%	n	%	n	%
Stress Level	Mild	16	24,3	3	4,5	2	3
	Moderate	15	22,8	19	28,8	8	12,1
	Severe	1	1,5	1	1,5	1	1,5

DISCUSSION

Risk factors for mental disorders in the elderly population include female sex, loneliness, alcohol abuse, low educational attainment, financial hardship, family history of mental illness, and severe physical illness.[8,19] When combined with adverse life events during the presenile period, these factors may contribute to the development of mental disorders, particularly depression. However, compared with younger adults, elderly often experience depressive symptoms that do not meet the diagnostic criteria for major depressive disorder. Subclinical depression remains clinically important, as it is a significant risk factor for major depression, which affects approximately one in ten elderly. Although several studies have reported comparable prevalence rates of depressive symptoms in elderly (5–13%), this population frequently experiences chronic illnesses that are prone to relapse, respond poorly to treatment, and are often accompanied by cognitive decline.

Anxiety disorders affect approximately 2–19% of community-dwelling elderly, with nearly 20% experiencing anxiety symptoms that do not meet full diagnostic criteria.[8,19,20] In addition, behavioral and psychological symptoms of dementia (BPSD), including agitation, physical and verbal aggression, and psychosis, are prevalent in 10–70% of individuals with dementia. Psychiatric disorders in elderly are associated with decreased quality of life, increased disability, higher risk of dementia, cognitive decline, institutionalization, extrapyramidal side effects, and increased mortality, including suicide.[21]

Evidence suggests that both quantitative (e.g., number of social contacts) and qualitative (e.g., perceived social support) aspects of social networks are associated with anxiety symptoms. Furthermore, stressful life events and sociodemographic factors have been consistently identified as important risk factors for anxiety disorders. In regions experiencing rapid socioeconomic change, such as increased employment in the tourism sector, shifts in family roles and caregiving responsibilities may reduce attention and support for elderly.[7,19]

In this study, most elderly participants experienced moderate stress levels, mild anxiety, mild-to-moderate depression, and moderate-to-severe cognitive impairment. Individuals with moderate stress were more likely to experience severe anxiety, mild-to-moderate depression, and moderate cognitive impairment. These findings suggest that stress and anxiety remain prevalent among elderly populations living in areas undergoing rapid transitions from agricultural or rural settings to urbanized and modernized environments. Globally, the highest prevalence of depression and anxiety among elderly has been reported in Africa. Limited access to mental health outreach services, low trust in healthcare systems, mental health stigma, social barriers, and concerns regarding psychotropic medications may contribute to the elevated risk of depression and anxiety in these populations.[7,13,20]

Life stress has a substantial impact on both mental and physical health, whereas effective coping strategies are associated with improved mental well-being. Evidence suggests that stress reduction and mindfulness-based interventions may have synergistic effects on mental health functioning.[5,6,9] Cultural change is a key stressor for elderly, particularly when it disrupts established social roles, livelihoods, and family dynamics. If unrecognized and untreated, chronic stress and cognitive disorders may significantly impair quality of life in later life.

The development of anxiety, depressive symptoms, and cognitive decline substantially affects the quality of life of elderly. Although some studies report a relatively low prevalence of these conditions—suggesting preserved quality of life in certain populations—social stressors such as unemployment, loneliness, declining physical health, and increased disease burden remain important triggers for depression in older age. Depression in the elderly is multifactorial, influenced by degenerative diseases, family and community support, and levels of physical, social, and

financial independence. Loss of employment, bereavement, social isolation, and chronic illness further increase vulnerability to depression. Recognition of depressive symptoms should involve not only elderly themselves but also families and caregivers.[7,22,23]

Depression, anxiety, and stress are among the most significant health challenges faced by elderly and carry substantial health, social, and economic consequences, including an increased risk of suicide. The implementation of targeted policies and preventive strategies aimed at mitigating risk factors may reduce the long-term societal burden of these disorders. Early identification of high-risk populations and the provision of continuous, accessible, and high-quality mental health care are essential to slow disease progression and minimize adverse outcomes.[17,20]

CONCLUSION

This study shows the high rates of stress, anxiety, depression, and cognitive impairment in elderly who reside in the transition area between rural and urban settings in a recently developed tourist region in Bali. Individuals with moderate stress often show high rates of anxiety and mild-to-moderate depression. It is partly associated with cultural change, as the society originally live in a traditional way and embrace modernization. It is also affected by the introduction of new cultural influences and civilizations through incoming tourists. Stress detection and monitoring of mental disorders among the elderly individuals are critical to ensure their well-being and optimize their quality of life.

RECOMMENDATION

The authors suggest that future study to be conducted on a larger demographic group of elderly individuals across different regions of Indonesia to enchance data diversity.

REFERENCES

[1] Giri M, Chen T, Yu W, Lü Y. Prevalence and correlates of cognitive impairment and depression among elderly people in the world's fastest growing city, Chongqing, People's Republic of China. *Clin Interv Aging*. 2016;11:1091-1098. DOI: 10.2147/CIA.S113668

[2] Kementrian Kesehatan RI. Hasil Riset Kesehatan Dasar Tahun 2018. Kementrian Kesehatan RI.2018. 53, 1689–1699.

[3] Farina, N., Jacobs, R., Turana, Y., Fitri, F.I., Schneider, M., Theresia, I., Docrat, S., Sani, T.P., Augustina, L., Albanese, E., Comas-Herrera, A., Du Toit, P., Ferri, C.P., Govia, I., Ibnidris, A., Knapp, M., Banerjee, S., 2023. Comprehensive measurement of the prevalence of dementia in low- and middle-income countries: STRiDE methodology and its application in Indonesia and South Africa. BJPsych Open 9, e102.

[4] Abdoli, N., Salari, N., Darvishi, N., Jafarpour, S., Solaymani, M., Mohammadi, M., Shohaimi, S.. The global prevalence of major depressive disorder (MDD) among the elderly: A systematic review and meta-analysis. Neurosci Biobehav Rev.2022. 132, 1067–1073.

[5] Duman B. Expectations of Elderly People Regarding Urban Renewal Based on Their Cultural Capital: The Case of Istanbul.2020.The Turkish Journal of Geriatrics 2020; 23(2): 241-250.

[6] Gee GH.The Effects of the Stress of Elderly People Living Alone in Urban Areas on the Quality of Life : With a Focus on the Mediating Effect of Social Support. 2017. The Korea Academia-Industrial cooperation Society. DOI:10.5762/KAIS.2017.18.12.443

[7] Beiro SR, Roget FM. Rural Urban Differences in Older adults life satisfaction and its Determining factors. 2024. Heliyon vol.10.issue 9. e30842.

[8] Petrova, N.N., Khvostikova, D.A. Prevalence, Structure, and Risk Factors for Mental Disorders in Older People. 2021. Adv. Gerontol. 11, 409–415. https://doi.org/10.1134/S2079057021040093

[9] De Frias CM, Whyne E. Stress on health-related quality of life in older adults: the protective nature of mindfulness.2014 ;19(3):201–206. doi: 10.1080/13607863.2014.924090

[10] Issalillah F, Nur Aisyah. 2022. The Elderly and the Determinants of Stress. 2022. Journal of Social Science Studies Vol. 2. No. 1, 2, pages 9 – 12

[11] Norton, J. et al. *Anxiety symptoms and disorder predict activity limitations in the elderly. Journal of Affective Disorders,* 2012. 141(2-3), pp. 276-285.

[12] Mellow, A. M., Kales, H. C. & Maixner, S. M. *Depression and Anxiety in Late Life*. In: A. M. Mellow, ed. *Geriatric Psychiatric.* Washington DC: American Psychiatric Publishing, 2003.pp. 1-22.

[13] Brenes GA, Danhauer SC, Lyles MF, Hogan PE, Miller ME. Barriers to Mental Treatment in Rural Older Adults. 2015. An J Geriatr.Psychiatry. 23 (11): 1172-1178

International Journal of Social Science (IJSS)
Vol.5 Issue.6 April 2026, pp: 645-650
ISSN: 2798-3463 (Printed) | 2798-4079 (Online)

[14] Grover S; Avasti A. Relationship of loneliness and social connectedness with depression in elderly a Multicentric study under the aegis oof Indian Association for Geriatric mental Health. 2018. Journal of Griatric Mental Health 5 (2): p9-106.
[15] Wu, J. J. et al. Late-life depression and the risk of dementia in 14 countries: a 10-year follow-up study from the Survey of Health, Ageing and Retirement in Europe. 2020. Journal of Affective Disorders, 274(May), pp. 671–677. doi: 10.1016/j.jad.2020.05.059.
[16] Monthine TJ, Bhukari SA, White LR. Cognitive Impairment in Older Adults and Therapeutic Strategies Pharmacol Revn; 2012. 73(1):152–162. doi: 10.1124/pharmrev.120.000031
[17] Silveira, M. M. d., & Portuguez, M. W. Analysis of life quality and prevalence of cognitive impairment, anxiety, and depressive symptoms in older adults. *Estudos de Psicologia, 2017.34*(2), 261–268. https://doi.org/10.1590/1982-02752017000200007
[18] Cui Y, He Y, Xu X, Zhou L. Cultural capital, the digital divide, and the health of older adults: a moderated mediation effect test. BMC Public Health. 2024. 24.302
[19] Vink, D., Aartsen, M. J. & Schoevers, R. A. *Risk factors for anxiety and depression in the elderly: A review. Journal of Affective Disorders.* 2014. Volume 106, pp. 29-44.
[20] Jalali A, Ziapour A, Karimi Z. Global prevalence of depression, anxiety, and stress in the elderly population: a systematic review and meta-analysis. 2024. BMC Geriatrics. 809.
[21] Pollock, B., Forsyth, C., Bies, R., The Critical Role of Clinical Pharmacology in Geriatric Psychopharmacology. 2009. Clin. Pharmacol. Ther. 85, 89–93. https://doi.org/10.1038/clpt.2008.229.
[22] Sadock, B. J., Sadock, V. A. and Ruiz, P. Kaplan & Sadock's Comprehensive Textbook of Psychiatry Tenth Edition'. China: Wolters Kluwer, pp. 4099–4137.Clinical Interventions in Aging. 2017. Apr 21;12:709–20.
[23] Akbar RR. Deteksi Dini Gangguan Kognitif dan Depresi Pada Lansia**.** Dinamisia Jurnal Pengabdian Kepada Masyarakat. 2020. 4(4):673- 678. DOI:10.31849/dinamisia.v4i4.4051.