Media of Health Research

Vol. 4 No. 2, May 2026, pages: 231-239

e-ISSN 2987-7784

DOI: https://doi.org/10.70716/mohr.v4i2.497

Development of a Culture-Based Proactive Coping Intervention Model Using the Balinese Tri Hita Karana Mechanism to Reduce Depression Among Older Adults

I Wayan Suardana[1*], I Ketut Sudiantara[2], I Ketut Gama[3], Agus Sri Lestari[4]

[1,2,3,4] Department of Nursing, Poltekkes Kemenkes Denpasar, Indonesia

**Corresponding Author: suardanawayan@yahoo.com*

Article History

Manuscript submitted:
23 April 2026
Manuscript revised:
20 May 2026
Accepted for publication:
25 May 2026
Manuscript published:
28 May 2026

Keywords

depression;
older adults;
proactive coping;
tri hita karana.

Abstract

Background: Depression among older adults remains a significant public health concern in Bali, with prevalence reaching 5.1% in 2018, and particularly high rates in Klungkung Regency (51.2% in men and 48.3% in women). Despite the strong cultural roots of Tri Hita Karana in Balinese society, its potential as a proactive coping mechanism to reduce depression has not been systematically investigated. Methods: This quantitative study used a cross-sectional descriptive design and recruited 246 older adults through random sampling from Posyandu for older adults in Klungkung Regency. Data were analyzed using univariate and bivariate (Pearson correlation) analysis at a 95% confidence level. Results: Most respondents were female (54.9%), had an elementary school education (46.7%), worked as farmers (28.5%), and were married (62.2%). The majority demonstrated good overall Tri Hita Karana-based proactive coping (65.4%), while 78.9% showed no depression, and 21.1% had moderate depression. Parhyangan, Palemahan, and Pawongan coping were all significantly and negatively associated with depression ($r = -0.300$, -0.249, -0.230, respectively; all $p < 0.05$), with Parhyangan showing the strongest relationship. Overall, Tri Hita Karana-based proactive coping was significantly associated with lower depression scores ($r = -0.291$; $p < 0.05$). Conclusion: This study demonstrates that Balinese culture-based proactive coping grounded in Tri Hita Karana meaningfully reduces depression risk among older adults, supporting the development of culturally tailored intervention modules for older-adult care in Bali.

Copyright © 2026, The Author(s)
This is an open access article under the CC BY-SA license

How to Cite: Suardana, I. W., Sudiantara, I. K., Gama, I. K., & Lestari, A. S. (2026). Development of a Culture-Based Proactive Coping Intervention Model Using the Balinese Tri Hita Karana Mechanism to Reduce Depression Among Older Adults. *Media of Health Research, 4*(2), 231-239. https://doi.org/10.70716/mohr.v4i2.497

Introduction

Depression and quality of life are common problems experienced by older adults. The increase in life expectancy to 72.3 years is an indicator of success in health development. However, it also

creates new challenges related to aging and the social and cultural changes occurring in society. Depression is the most frequently identified mental health problem among older adults (World Health Organization, 2019). WHO reported that the prevalence of depression among older adults is 7%, contributing up to 60% to other illnesses and 17.4% to disability (Assariparambil et al., 2021). In Bali, the prevalence of depression in 2018 reached 5.1%, with the highest rate in Bangli Regency (53.4% in older men and 65.2% in older women), followed by Klungkung Regency (51.2% in men and 48.3% in women) (Dinas Kesehatan Provinsi Bali, 2023).

Sociocultural changes and weak coping skills influence high rates of depression among older adults due to limited practice of proactive coping(Paralikas et al., 2021). Proactive coping is an effort to improve older adults' ability to anticipate and manage stress adaptively, using problem-focused, emotion-focused, and spiritual approaches (Suardana et al., 2023). Older adults in Bali have distinctive cultural resources for addressing life problems, including the Tri Hita Karana cultural value system, which emphasizes harmony with God (Parhyangan), with other people (Pawongan), and with the environment (Palemahan) (Sukarma, 2016).

Although Tri Hita Karana is strongly rooted in Bali, it has not been optimally utilized as a modality to address emotional and mental health problems among older adults. As a result, the prevalence of depression remains high in several regencies, including Klungkung, Bangli, and Buleleng (Badan Kebijakan Pembangunan Kesehatan, 2023; Kemenkes, 2018). Implementing Tri Hita Karana has the potential to reduce depression and improve the quality of life among older adults. According to the WHO, quality of life is an individual's perception of their life within the context of culture and value systems. Therefore, older-adult care should not only aim to extend lifespan but also to enhance quality of life by strengthening coping abilities. Older adults with strong proactive coping are better able to adapt to aging and less likely to experience depression, enabling optimal quality of life and reducing burdens on families and health systems (Rangarajan et al., 2021; van Heezik et al., 2020).

More recent data continue to underscore the urgency of this issue. According to the Indonesia National Health Survey (SKI) 2023, the prevalence of mental and emotional disorders among adults aged 15 years and older reached 12.9%, with older adults disproportionately affected (Badan Kebijakan Pembangunan Kesehatan, 2023). Globally, the WHO's 2024 Mental Health Atlas reported that depression remains a leading contributor to years lived with disability, particularly among adults aged 60 and above, affecting over 300 million people worldwide (World Health Organization, 2025). In Bali specifically, untreated depression among older adults has been linked to increased social withdrawal and worsening chronic illness outcomes, highlighting the need for targeted, culturally grounded interventions (Suriastini et al., 2021).

A significant research gap exists in the literature: while Tri Hita Karana has been studied in organizational, environmental, and spiritual contexts, its role as a structured proactive coping mechanism for reducing depression in older adults has not been empirically examined. Previous interventions for geriatric depression have largely relied on generic psychosocial or pharmacological approaches that do not account for culturally specific coping resources. This study addresses that gap by systematically investigating the relationship between each Tri Hita Karana domain (Parhyangan, Pawongan, and Palemahan) and depression, offering a culturally congruent approach that may be more acceptable and sustainable in Balinese communities than externally derived interventions.

This study aimed to: (1) describe the characteristics of older adults attending Posyandu in Klungkung Regency; (2) describe the distribution of Tri Hita Karana–based proactive coping levels across the three domains; (3) describe the distribution of depression levels among older adults; and (4) examine the association between Tri Hita Karana–based proactive coping and depression. The indicators of achievement include determining the significance and magnitude of the correlation

between each coping domain and depression, and providing an evidence base for the development of a culturally tailored proactive coping module for older-adult care in Bali.

Materials and Methods

Research Design

This study employed a quantitative descriptive approach with a cross-sectional design. Data were collected through a structured questionnaire-based survey to measure Tri Hita Karana–based proactive coping and depression levels among older adults. The cross-sectional design was selected to examine the association between proactive coping and depression at a single point in time across a representative sample. The findings are intended to inform the development of a Tri Hita Karana–based proactive coping module and a policy brief for a culture-based older-adult service model in Bali. The study was conducted from March to November 2025 at older-adult Posyandu (community-based integrated health posts) in Banjar communities within the service area of Dawan I Community Health Center (Puskesmas Dawan I), Klungkung Regency.

The study was conducted from March to November 2025 at older-adult Posyandu (community-based integrated health posts) in Banjar communities within the service area of Dawan I Community Health Center (Puskesmas Dawan I), Klungkung Regency.

Population and Sample Research

Participants were older adults attending Posyandu in Banjar communities within the service area of Puskesmas Dawan I, Klungkung Regency. The sample was selected from active Posyandu sites using a random sampling method. The total older-adult population in Puskesmas Dawan I was 3,760 individuals (Puskesmas Dawan I, 2025). Sample size was calculated using the formula for estimating a proportion in a finite population, with $\alpha = 0.05$, $p = 0.5$, and $d = 0.1$, yielding a minimum required sample of 240 participants.

Instruments

Data are collected using structured questionnaires. Proactive coping grounded in Tri Hita Karana is measured across three domains: Parhyangan (spiritual/relationship with the divine), Pawongan (relationships with other people), and Palemahan (relationship with the environment). Each domain is assessed with a short set of items (5 questions per domain) and is categorized into levels (low, adequate/good) based on scores. Depression is measured using the Geriatric Depression Scale (GDS) Short Form, consisting of 15 items, with score ranges used to classify severity (e.g., normal/mild, moderate, severe). Demographic characteristics (such as age, sex, education, and marital status) are also captured through the questionnaire.

Procedure

Selected participants complete the questionnaires measuring Tri Hita Karana–based proactive coping and depression. Data collection is conducted using Google Forms, with entries completed with support from enumerators. Results from Phase 1 are analyzed and then used to design and compile the proactive coping module.

Data Analysis

Analyses include univariate and bivariate procedures. Univariate analysis summarizes numeric variables using mean, median, standard deviation, and minimum–maximum, and categorical variables using frequencies and percentages/proportions. Statistical inference is conducted at a 95% confidence level ($\alpha = 0.05$). Bivariate analysis is used to examine the distribution/association between Tri Hita Karana–based proactive coping and depression levels.

Ethical Clearance

This study received ethical approval from the Health Research Ethics Committee of Poltekkes Kemenkes Denpasar, with Ethics Approval Number: DP.04.02/F.XXXII.25/520/2025. All procedures followed ethical principles for health research: respect for persons, beneficence, non-maleficence, and justice. Before data collection, participants received explanations about the study's purpose, benefits, procedures, and potential risks—those who agreed to participate signed written informed consent. Participation was voluntary, and respondents could refuse or withdraw at any time without consequences.

Results and Discussions

Results

The study was carried out in the service area of Puskesmas Dawan I, Klungkung Regency. In this area, there were 3,760 older adults aged 60–69 years and 70 years or older. Health services for older adults were provided through the Integrated Primary Care Service (ILP) program and implemented across 38 older-adult Posyandu located within six auxiliary health centers (Puskesmas Pembantu) in the Dawan District.

Respondent Characteristics

A total of 246 older adults participated in the study. Slightly more than half of the respondents were female (135; 54.9%), while 111 were male (45.1%). In terms of education, nearly half had completed elementary school (115 people; 46.7%), followed by those with no formal schooling (61 people; 24.8%), senior high school (52 people; 21.1%), and higher education (18 people; 7.3%). Regarding occupation, the largest group worked as farmers (70 people; 28.5%), followed by retirees (65 people; 26.4%), respondents who were not working (53 people; 21.5%), fishermen (44 people; 17.9%), serati (9 people; 3.7%), and self-employed (5 people; 2.0%). Most respondents were married (153; 62.2%), while 80 (32.5%) were widowed/widowers, and 13 (5.3%) were not married. The mean age of respondents was 69.7 years, with ages ranging from 60 years (youngest) to 99 years (oldest).

Table 1. Respondent Characteristics (n=246)

Characteristic	N	Percentage (%)
Sex		
Male	111	45.1
Female	135	54.9
Education		
Uneducated	61	24.8
Elementary school	115	46.7
Senior High School	52	21.1
Higher Education	18	7.3
Occupation		
Not working	53	21.5
Retirement	65	26.4
Businessman	5	2.0
Fisherman	44	17.9
Farmer	70	28.5
Maid	9	3.7

Marital status		
Married	153	62.2
Single	13	5.3
Widowed/Divorced	80	32.5
Age (years old)		
Mean	69.7	
Oldest	99	
Youngest	60 tahun	

Tri Hita Karana–Based Proactive Coping

Proactive coping based on Tri Hita Karana was assessed across three domains—Parhyangan, Pawongan, and Palemahan—and an overall Tri Hita Karana coping score. In the Parhyangan domain, most respondents demonstrated a good level of proactive coping (211 people; 85.8%), with 11 people (4.5%) categorized as adequate and 24 people (9.8%) categorized as low. In the Pawongan domain, nearly half of the respondents were in the good category (117; 47.6%), while 88 (35.8%) were in the adequate category and 41 (16.7%) were in the low category. In the Palemahan domain, the majority of respondents also showed good proactive coping (172 people; 69.9%), while 37 people (15.0%) showed adequate coping and 37 people (15.0%) showed low coping. When combined into an overall Tri Hita Karana coping measure, most respondents were classified as having good coping (161 people; 65.4%), followed by adequate coping (79 people; 32.1%), and only a small proportion fell into the low category (6 people; 2.4%).

Table 2. Distribution of Tri Hita Karana–Based Proactive Coping (n=246)

Proactive Coping Parhyangan		
Low	24	9.8
Adequate	11	4.5
Good	211	85.8
Proactive Coping Pawongan		
Low	41	16.7
Adequate	88	35.8
Good	117	47.6
Proactive coping Palemahan		
Low	37	15.0
Adequate	37	15.0
Good	172	69.9
Proactive Coping Based on Tri Hita Karana		
Low	6	2.4
Adequate	79	32.1
Good	161	65.4

Depression Among Older Adults

Depression levels among respondents were grouped into normal and moderate categories. Most respondents were classified as non-depressed (normal), totaling 194 people (78.9%). The remaining 52 respondents (21.1%) were classified as having moderate depression. No other categories were reported in the results presented.

Table 3. Distribution of Depression Among Older Adults (n=246)

Tingkat Depresi		
Normal	194	78.9
Moderate	52	21.1

Association Between Tri Hita Karana–Based Coping and Depression

Pearson correlation analysis showed statistically significant relationships between each proactive coping domain and depression ($p < 0.05$). Parhyangan proactive coping was negatively correlated with depression ($r = -0.300$, $p = 0.00$, $N = 246$), indicating that higher Parhyangan coping scores were associated with lower depression scores. Pawongan's proactive coping also had a significant negative correlation with depression ($r = -0.230$, $p = 0.00$, $N = 246$). Similarly, Palemahan's proactive coping was significantly negatively correlated with depression ($r = -0.249$, $p = 0.00$, $N = 246$). When proactive coping was analyzed as an overall Tri Hita Karana composite, the correlation with depression remained significant and negative ($r = -0.291$, $p = 0.00$, $N = 246$), showing that higher overall Tri Hita Karana–based proactive coping was associated with lower depression scores in this sample.

Table 4. Pearson Correlation Between Tri Hita Karana–Based Coping and Depression

Uji Korelasi	**N**	**Pearson Correlation**	**Sig (2-tailed)**
Proactive Koping Parhyangan-Depresi	246	-0.300	0,00
Proactive Koping Pawongan-Depresi	246	-0.230	0,00
Proactive Koping Palemahan -Depresi	246	-0.249	0.00
Proactive Koping Tri Hita Karana -Depresi	246	-0.291	0.00

Discussions

The average age of participants was 69.7 years, with ages ranging from 60 to 99 years. Prior findings have reported that older adults above certain age thresholds (e.g., >65 or >70) may have higher odds of depression compared to younger older adults (Suardana et al., 2024). In the present study, however, the proportion of respondents classified as depressed was relatively low overall, suggesting the presence of protective factors in this setting (Suriastini et al., 2021).

Regarding sex, women comprised 54.9% of the sample. Previous studies have reported that older women tend to show higher vulnerability to depression than older men, potentially due to a combination of biological and psychosocial factors (Paralikas et al., 2021). Even so, the local context and lifestyle patterns among Balinese women—such as lifelong role expectations, responsibility, and community involvement—may shape resilience in later life (Dharmapatni & Putri, 2023).

Education levels in this sample were generally low: 46.7% completed elementary school, and 24.8% reported no formal schooling. While education is often considered an important resource for cognitive coping and emotional regulation (Aungsuroch et al., 2024), this study context suggests that protective cultural and experiential factors may also play a strong role in psychological adjustment (Upasen et al., 2025).

Most respondents were married (62.2%). Social support from a spouse can reduce loneliness and provide emotional support in older age, which may lower the risk of depression (Banerjee et al., 2021; Kurniawidjaja et al., 2022). From the Tri Hita Karana perspective, the continued presence of a spouse can also strengthen daily interpersonal harmony (pawongan).

Occupation data showed the largest proportion worked as farmers (28.5%), and a substantial proportion remained active through various roles. Staying active through appropriate work or daily activities can help older adults maintain purpose, social interaction, and routine—factors commonly linked to better mental health (Walter et al., 2022). In Tri Hita Karana terms, work and daily responsibilities may align with spiritual meaning (parhyangan), social connectedness (pawongan), and interaction with nature (palemahan), especially for farmers and fishermen (Adhitama, 2020).

Tri Hita Karana–Based Proactive Coping and Its Relationship With Depression

Parhyangan (Spiritual Domain)

Most participants showed good parhyangan-based coping (85.8%). The correlation analysis also showed a significant negative association with depression ($r = -0.300$), indicating that higher spiritual proactive coping tends to align with lower depression scores. This may reflect how religious faith, gratitude practices, prayer/ritual participation, and meaning-making can support emotional regulation and reduce stress responses (I Made Sutharjana, 2022).

Pawongan (Social Domain)

Pawongan coping showed a smaller proportion in the "good" category (47.6%) and a significant negative correlation with depression ($r = -0.230$). Although the relationship was weaker than parhyangan, it still suggests that stronger social support, family involvement, and community harmony may help protect older adults from depressive symptoms. Cultural concepts such as menyama braya (social solidarity) can serve as social capital that supports older adults during physical or emotional decline (Sudama, 2020).

Palemahan (Environmental Domain)

Palemahan coping was “good” for 69.9% of participants and also showed a significant negative correlation with depression ($r = -0.249$). This supports the idea that engagement with the physical environment—such as gardening, caring for animals, spending time outdoors, or maintaining a pleasant living space—may help older adults manage stress and improve mood (Syahriyah, U.U., & Zahid, 2022).

Overall Tri Hita Karana Proactive Coping

Overall, 65.4% of participants were categorized as having “good” Tri Hita Karana–based proactive coping, and the composite coping score was significantly negatively correlated with depression ($r = -0.291$). Conceptually, this suggests that proactive coping is most meaningful when it is integrated across the three domains (spiritual, social, and environmental). When one domain is limited by circumstances (e.g., reduced family support or limited land/space), strengthening the other domains may help maintain balance and resilience (Huang & Rockwell, 2019; Satya & Lase, 2018; Suardana et al., 2023).

Conclusion

This study demonstrates that Tri Hita Karana–based proactive coping is meaningfully associated with reduced depression among older adults in Klungkung Regency, Bali. Older women with basic education dominated the respondent profile; many worked as farmers, and most were still

married, with a mean age of 69.7 years. In Tri Hita Karana–based proactive coping, Parhyangan was the most frequently used strategy, followed by Palemahan and Pawongan.

Statistical analysis showed significant associations between Parhyangan proactive coping and depression ($p < 0.05$; $r = -0.30$), Pawongan proactive coping ($p < 0.05$; $r = -0.23$), and Palemahan proactive coping ($p < 0.05$; $r = -0.249$). Overall, Tri Hita Karana–based proactive coping was significantly associated with depression ($p < 0.05$) with $r = -0.291$. Although this association is relatively weak, it suggests that a Balinese culture–based proactive coping mechanism contributes 29.1% to reducing depression risk among older adults.

Based on these findings, it is recommended that a Balinese culture–based proactive coping module be developed for older adult groups across various regions. In addition, proactive coping training grounded in Tri Hita Karana should be integrated into routine activities in older-adult Posyandu and schools to strengthen older adults' capacity to manage stress and age-related changes. Integrated strengthening of Parhyangan, Pawongan, and Palemahan should also be enhanced as a local wisdom–based proactive coping model that supports not only depression prevention but also sustainable improvements in older adults' quality of life.

Theoretically, this study contributes to the growing body of evidence supporting culturally embedded coping frameworks as viable mechanisms for mental health promotion in non-Western populations. By empirically validating Tri Hita Karana as a proactive coping construct, this study extends its theoretical application beyond organizational and environmental domains into geriatric mental health. Future research should explore longitudinal designs to assess causality, investigate moderating variables such as physical health status and family support, and test the effectiveness of the Tri Hita Karana–based module in randomized controlled trials across other regencies in Bali and beyond.

References

Adhitama, S. (2020). Konsep tri hita karana dalam ajaran kepercayaan budi daya. *DHARMASMRTI*, *20*(2), 29–45.

Assariparambil, A. R., Noronha, J. A., Kamath, A., Adhikari, P., Nayak, B. S., Shankar, R., & George, A. (2021). Depression among older adults: a systematic review of South Asian countries. *Psychogeriatrics*, *21*(2), 201–219. https://doi.org/10.1111/psyg.12644

Aungsuroch, Y., Juanamasta, I. G., Elsherbiny, O. E., & Kabaya, S. (2024). Quality of life for adult family caregivers of patients with dementia: a Systematic review. *Jurnal Ners*, *19*(1), 112–122. https://doi.org/10.20473/jn.v19i1.47100

Badan Kebijakan Pembangunan Kesehatan. (2023). *Survey Kesehatan Indonesia 2023*. https://www.badankebijakan.kemkes.go.id/hasil-ski-2023/

Banerjee, D., Sathyanarayana Rao, T. S., Kallivayalil, R. A., & Javed, A. (2021). Psychosocial Framework of Resilience: Navigating Needs and Adversities During the Pandemic, A Qualitative Exploration in the Indian Frontline Physicians. *Frontiers in Psychology*, *12*, 622132. https://doi.org/10.3389/fpsyg.2021.622132

Dharmapatni, N. W. K., & Putri, N. M. M. E. (2023). Community Knowledge and Self-Awareness on Risk Factors for Chronic Kidney Disease (CKD) in Bali, Indonesia. *Babali Nursing Research*, *4*(4), 705–713. https://doi.org/10.37363/bnr.2023.44294

Dinas Kesehatan Provinsi Bali. (2023). Profil Kesehatan Provinsi Bali Tahun 2022. In *Dinas Kesehatan Provinsi Bali*.

Huang, H., & Rockwell, J. (2019). Nature and the Spirit: Tri Hita Karana, Sacred Artistic Practices, and Musical Ecology in Bali. *EnviroLab Asia*, *3*(2), 1–27.

https://doi.org/10.5642/envirolabasia.20190302.02
I Made Sutharjana, L. (2022). Persepsi tri hita karana menurut umat hindu di dusun sidorukun pekon kotaagung kecamatan kotaagung kabupaten tanggamus. *Jurnal Pendidikan Agama*, *12*(1), 14–20.
Kemenkes, R. I. (2018). Hasil utama RISKESDAS 2018. *Jakarta: Kemenkes RI*.
Kurniawidjaja, M., Susilowati, I. H., Erwandi, D., Kadir, A., Hasiholan, B. P., & Al Ghiffari, R. (2022). Identification of Depression Among Elderly During COVID-19. *Journal of Primary Care and Community Health*, *13*. https://doi.org/10.1177/21501319221085380
Paralikas, T., Maria, M., Dimitrios, T., Christina, B., Nikolaos, C., Antigoni, F., Georgios, T., & Stiliani, K. (2021). Physical and Mental Health Level of the Elderly Living in Central Greece. *Materia Socio Medica*, *33*(1), 16. https://doi.org/10.5455/msm.2021.33.16-20
Rangarajan, S. K., Sivakumar, P. T., Manjunatha, N., Kumar, C. N., & Math, S. B. (2021). Public Health Perspectives of Geriatric Mental Health Care. *Indian Journal of Psychological Medicine*, *43*(5_suppl), S1–S7. https://doi.org/10.1177/02537176211047963
Satya, P., & Lase, F. J. (2018). *the Peaceful Means of Tri Hita Karana in Balinese Culture*.
Suardana, I. W., Yusuf, A., Hargono, R., & Juanamasta, I. G. (2023). Spiritual Coping "Tri Hita Karana" among Older Adults during Pandemic COVID-19: A Perspective of Balinese Culture. *Universal Journal of Public Health*, *11*(3), 297–304. https://doi.org/10.13189/ujph.2023.110303
Suardana, I. W., Yusuf, A., Hargono, R., Juanamasta, I. G., Sudiantara, K., Gama, I. K., & Mustika, I. W. (2024). Spiritual coping "tri hita karana" and depression prevention behavior among the elderly during the Covid-19 pandemic. *Healthcare in Low-Resource Settings*. https://doi.org/10.4081/hls.2024.13025
Sudama, I. N. (2020). Conflict within tri hita karana's fields: A conceptual review. *International Journal of Linguistics, Literature and Culture*, *6*(6), 8–23.
Suriastini, N. W., Suryani, L. K., Sikoki, B., Umaroh, R., & Qaimamunazzala, H. (2021). Depression among older people in bali. *Asian Journal of Gerontology and Geriatrics*, *16*(1), 22–29. https://doi.org/10.12809/ajgg-2020-400-oa
Syahriyah, U.U & Zahid, A. (2022). *Konsep Memanusiakan Alam Dalam Kosmologi Tri Hita Karana. Panangkaran: Jurnal Penelitian Agama dan Masyarakat Vol. 6 No. 1*.
Upasen, R., Saengpanya, W., Awae, W., Prasitvej, P., & Stithyudhakarn, S. (2025). Understanding how older adults sustain mental well-being when facing challenging in later life. *Acta Psychologica*, *259*, 105293. https://doi.org/10.1016/j.actpsy.2025.105293
Van Heezik, Y., Freeman, C., Buttery, Y., & Waters, D. L. (2020). Factors Affecting the Extent and Quality of Nature Engagement of Older Adults Living in a Range of Home Types. *Environment and Behavior*, *52*(8), 799–829. https://doi.org/10.1177/0013916518821148
Walter, A. A., Van Puymbroeck, M., Bosch, P., & Schmid, A. A. (2022). Complementary and integrative health interventions in post-stroke rehabilitation: a systematic PRISMA review. *Disability and Rehabilitation*, *44*(11), 2223–2232. https://doi.org/10.1080/09638288.2020.1830440
World Health Organization. (2019). *Mental Health, Brain Health and Substance Use*. https://www.who.int/teams/mental-health-and-substance-use/promotion-prevention/maternal-mental-health
World Health Organization. (2025). *Mental health atlas 2024*. World Health Organization (WHO). https://www.who.int/publications/i/item/9789240114487
Zadeh, T. H., Tabrizi, K. N., Fallahi-Khoshknab, M., Khankeh, H., & Shokooh, F. (2025). A clinical reasoning skills development plan for coronary care nurse: an action research. *BMC Nursing*, *24*(1), 490. https://doi.org/10.1186/s12912-025-03106-9