



ARTICLE RESEARCH

URL artikel: <http://jurnal.fkmumi.ac.id/index.php/woh/article/view/woh8202>

The Impact of Mental Health Training Interventions on Cadres' Ability to Detect Depression Among Rural Elderly

Tri Nurhidayati^{1,2}, Desy Ariyana Rahayu^{1,2}, ^cAnna Kurnia², Ah Yusuf¹, Retno Indarwati¹, Chia-Jung Hsieh³

¹Faculty of nursing, Universitas Airlangga, Surabaya, Indonesia

²Department of nursing, Universitas Muhammadiyah Semarang, Semarang, Indonesia

³Nursing Department, School of Nursing, National Taipei University of Nursing and Health Science

Email Corresponding Author (^c): annakurnia@unimus.ac.id

ABSTRACT

Depression is a prevalent concern among the elderly population, potentially leading to suicidal ideation and behavior. Consequently, proactive measures are imperative to mitigate depression's impact. Community cadres, who offer voluntary assistance to healthcare professionals, play a crucial role in the early detection of depression. This study aims to evaluate the efficacy of a training program designed for cadres in identifying depression among elderly individuals residing in rural areas. This study utilized purposive random sampling to employ a pre-experimental design with a single-group pre-post intervention. 89 participants meeting the inclusion criteria—being mental health cadres and having completed comprehensive training—were randomly assigned. The intervention involved training participants in recognizing depression symptoms in the elderly. Data was collected using a personal information form and a questionnaire assessing the ability to detect early signs of depression in the elderly, administered before and after the intervention. Statistical analyses were conducted using SPSS-22, employing paired t-tests and Chi-square tests. The findings indicate a significant improvement in the cadres' ability to identify depression among rural elderly individuals following the intervention ($p = 0.005$). This study underscores the effectiveness of training programs in enhancing cadres' proficiency in recognizing depression among elderly rural residents. Consequently, we advocate for integrating regular mental health training sessions for community cadres within public health initiatives.

Keywords: depression; rural elderly; cadres

PUBLISHED BY :

Faculty of Public Health
Universitas Muslim Indonesia

Address :

Jl. Urip Sumohardjo Km. 5 (Campus II UMI)
Makassar, Sulawesi Selatan.

Email :

jurnal.fkm@umi.ac.id

Article history

Received 17 April 2024

Received in revised form 13 Agustus 2024

Accepted 18 April 2025

Available online 21 April 2025

licensed by [Creative Commons Attribution-ShareAlike 4.0 International License](https://creativecommons.org/licenses/by-sa/4.0/).



INTRODUCTION

High-incident depression in the elderly needs promotional efforts in the community. There are 100 million cases of depression every year. According to the Information Centre. The condition is not contagious, and depression affects 11.6% of the elderly in Indonesia. Reports from Research Basic Health (Riskesdas) state that the prevalence of elderly aged 55-64 years who experienced depression was 15.9%, the elderly 65-74 years old was 23.2%, and the elderly above 75 years old was 33.7 %. The prevalence of elderly people in Central Java who experience depression amounted to 12%. Depression affects 14.2% of the elderly aged 55-64, 18.0% of the elderly aged 65-74, and 28.7% of the elderly aged 75 and up.⁽¹⁾ The problem of aging is experienced in the form of psychological changes such as anxiety and depression. The results of another study stated that anxiety and depression are mental health problems that are mostly experienced by the elderly. It is estimated that 10-20% of the elderly experience depression accompanied by anxiety. Anxiety and depression are mental health issues contributing to extended incapacity and mortality in older adults.^{(2),(3)}

The elderly can't do activities or meet their daily needs, so they must rely on their families. They don't feel useful and tend to get more interested in the world around them. This can trigger depression in the elderly and is often found in almost all elderly people. Depression in the elderly can occur due to emotional changes in the elderly, loss of a partner or brother, loss of work, not being ready for death, as well as restrictions on socialization in society, which results in the elderly preferring to keep quiet by themselves at home. Factors causing depression in the elderly include grieving and loss, and decline in the function of the body, which causes the elderly to be unable to perform activities and fulfill their essential needs. These can all be factors in the elderly experiencing depression.⁽²⁾

The province is in Central Java, largely among the twin mountains Merbabu and Merapi. The community is rural and retains the traditions and culture of the Java community, which has a stigma about depression. Rural Indonesia is far from health facilities. First-level health facilities provide curative as well as promotive and preventive services. Service is more important and focused on medical services, while promotive and preventive services are carried out through outreach and the installation of posters in clinics. Mental health early detection services have not been implemented optimally. Early detection, especially for the detection of depression in the elderly, needs to be carried out periodically, aiming to improve the quality of life of the elderly, and guidelines are needed for cadres and families to provide support so that the elderly can live independently. Therefore, it is necessary to train cadres. Health cadres are human resources who have the potential to assist health workers in community empowerment to support the realization of a society that has a healthy lifestyle and who are elected from and by the community, willing and able to work together in various community activities voluntarily.⁽⁴⁾ Cadres provide very important and needed support for the elderly, although mental health cadres in Indonesia are unpaid or volunteer.⁽⁵⁾

To help the elderly avoid depression, cadres must be provided with early detection and prevention information. Cadres play an important role in improving the physical and mental health of the public, particularly the elderly. Mental health cadres play an important role in detecting elderly depression; therefore, mental health cadres support is very important.⁽⁶⁾ However, not all cadres are yet capable of knowing how to detect the elderly with depression, especially in rural areas. The management of depression in the elderly requires partnerships with various parties. The role of nurses is substantial as health workers who directly interact with the community and have long been at the forefront of integrating partnerships with the community.⁽⁷⁾ Partnerships with the public can be conducted with health practice cadres to play an active role in preventing psychosocial disturbances or disturbances of the soul in society, especially in the elderly.

This mental health training was initiated to implement the community as a partner concept as introduced by Anderson and McFarlane (2008). This model is a development of the Neuman model, which uses the totality of humans to describe the client's health status as a guide to the nursing process, including assessment, analysis, diagnosis, planning, community implementation, and evaluation. Each client is viewed with five variables, namely physiological, psychological, developmental, sociocultural, and spiritual, interacting synergistically with one another, reciprocally related to the internal and external environment where the client is located.⁽⁷⁾ The role of cadres in general is to carry out service activities and flourish with the community, and plan health service activities at the village level. Mental health cadres are important in assisting nurses in detecting elderly depression. Early detection, especially for the detection of depression in the elderly, should be carried out periodically to improve the quality of life of the elderly.

Depression can cause a lack of coping mechanisms experienced by the elderly. Inability to accept the reality that occurs in old age can be caused by several factors, including lack of affection from family, feelings of being unwanted by family, and not having a family. The characteristic limitation that occurs is a change in the pattern of communication that occurs normally. Depression in the elderly has become a major problem associated with death and suicide. This study aims to determine the effectiveness of mental health training interventions in increasing the early detection of depression among rural elderly. The intervention group was required to participate in the program once a week for a total of 180 minutes for four weeks. This research program included two main activities: 1) Improving knowledge about depression (60 minutes); 2) Skills in building an increase in early detection capabilities (120 minutes). Activities for weeks 2-3 focused on early detection skills assistance. This session was done in small groups, based on their districts. Activities for week 4 focused on the evaluation of early detection skills. This study aimed to examine the effects of a training program for cadres to detect depression in the elderly in rural areas.

METHOD

This study was a pre-experimental with a one-group pre - posttest design. The researcher purposely selected a village using criteria based on the growing number of elderly people and areas prone to volcanic activity. The location was one of the villages in Central Java province. The criteria for selecting representative cadres from the village were: mental health cadres, having completed training, and living in a rural area. The excluded cadres were those who had not completed training. Sampling was performed in several steps. First, several rural districts were considered. Then, one district was randomly selected, and a list of eligible cadres was prepared based on the inclusion criteria. Out of 110 eligible cadres, 99 cadres were selected. The selected cadres were randomly assigned to the intervention following a similar study, taking a 95% confidence interval and a 95% statistical power. After the intervention, 10 cadres were lost during training. We thus selected 89 cadres. Evaluation of the ability of early detection of depression in the elderly was measured using a questionnaire on the ability of early detection developed from a geriatric depression scale questionnaire by Yesavage (1986) ⁽⁸⁾ consisting of 20 items with a dichotomous score. The scores range from 20 to 40. The questionnaire was translated and modified into Bahasa, expert reviewed and tested for reliability by Pearson's r with Cronbach's alpha of 0.755.

Data was collected from October to November 2022. The intervention group was required to participate in the program once a week for a total of 180 minutes for a total of four weeks. After four weeks, the cadres' ability was evaluated, and the questionnaire was completed. The location was one of the villages in Central Java Province. The rural areas of Central Java are 25 kilometers from the city. The village does not have a hospital but has a public health center. This module consists of the concepts of older adults with depression, early detection of depression in older adults, and early treatment of older adults with depression. Module interventions were health education, training, and mentoring. Cadres were treated in three sessions for four weeks, including information sessions, early detection skills assistance, and evaluation on early detection of depression in older adults. The first step in this training was to increase the knowledge and skills about depression in the elderly by lecturing and discussing the signs and symptoms of depression in the elderly, how to manage it, etiology factors, and the skill of early detection of depression. At the end of the session, the cadres' comprehension was ensured through questions and answers. The second step focused on early detection skills, with assistance from a small group. One group consisted of 10 cadres with one facilitator. In this session, cadres were faced with the elderly with their problems and how to detect depression. In addition, the practical methods to detect depression were explained in detail. Then the cadres were asked to practice the skills. In the third step, after four weeks, the cadres were evaluated as to their ability to detect depression in the elderly after intervention by completing the ability of early depression detection in the elderly questionnaire.

Descriptive statistics were used to analyze participant characteristics. The data collected were analyzed by SPSS software (version 22). Data normality was checked using the Kolmogorov-Smirnov

measure. We used Chi-square to analyze the categorical data. A paired t-test was used to analyze the effect of training cadres' ability to detect depression in older adults. The significance level in this study was less than 0.05. This article has received ethical approval from the Health Research Ethics Committee, Faculty of Nursing and Health Science, Universitas Muhammadiyah Semarang, with "Ethical Approval" No. 0140/KEPK/VII/2022 dated 25th October 2022. Furthermore, during the study, the participants were in contact with the researcher by phone to solve possible problems and answer questions. To comply with ethical principles, participants were well-informed about the research.

RESULTS

The findings showed that there were 89 mental health cadres. The location was a village in Central Java Province. Most of the participants were under 35 years old, female, and junior high school educated.

Table 1. Characteristics of respondents

| Characteristic | Frequency | Percentage |
|---------------------|-----------|------------|
| Age | | |
| <35 | 38 | 43 |
| 36-40 | 24 | 27 |
| 41-50 | 24 | 27 |
| >50 | 3 | 4 |
| Gender | | |
| Male | 7 | 7.7 |
| Female | 82 | 90 |
| Education | | |
| Not finished school | 3 | 3.3 |
| Elementary school | 28 | 30.8 |
| Junior high school | 39 | 42.9 |
| Senior high school | 18 | 19.8 |
| Bachelor degree | 1 | 1.1 |

Table 2. Outcome of intervention on the ability of cadres (n=89)

| Cadre ability | Pre Intervention | | Post Intervention | |
|---------------|------------------|------------|-------------------|------------|
| | Frequency | Percentage | Frequency | Percentage |
| Fair | 3 | 3.37 | 2 | 2.24 |
| Good | 86 | 96.63 | 87 | 97.76 |
| | 89 | | 89 | |

Table 2 shows the results of the description ability to detect, and most participants were good. The effect of cadres' ability to detect depression in the elderly by comparing results before and after interventions is given.

Table 3. The influence of the cadres' ability to detect depression in the elderly

| Variable | T statistics | p-value |
|--|--------------|---------|
| Cadres ability to detect depression on elderly | -2.852 | 0.005 |

Table 3 shows that the cadres' ability to detect depression groups increased with a p-value <0.05. It was indicated that there were differences in the ability of cadres to detect depression.

DISCUSSION

The result of the study showed that mental health training interventions improved the ability of cadres to detect depression. The cadres' ability to detect depression consists of the signs and symptoms of depression. This intervention focused on training the cadres to detect depression. Instrumental training to provide knowledge and understanding of the elderly in conducting is necessary to be able to use screening tools appropriately, properly, and competently interpret screening results.⁽⁹⁾ Screening is feasible because of the high prevalence of mental health problem in disaster prone. Screening may have been a critically important component accounting for the impressive outcomes in the primary care.⁽¹⁰⁾

Previous research has shown that cadres who volunteer or engage in unpaid work to benefit others can have a powerful influence. Cadres are selected from the local community. However, they must have time to organize and run elderly activities.⁽¹¹⁾ Observational studies show that volunteers are positively correlated with the mental health community.⁽⁹⁾ The research locations are far from health services and limited access to facilities with mental health services, where many elderly people live, so cadres are given training. Most elderly people live with their families. Family is an important source of support for the elderly.⁽¹²⁾ Rural elders usually live with their children in the same village. Children, especially daughters, are easier to communicate with than the elderly.⁽¹³⁾ The empowerment of cadres through training not only improves their ability to detect depression but also fosters greater independence and confidence in their roles. This is crucial in rural settings where healthcare resources are limited, and cadres often serve as the first point of contact for the elderly. Training primary and community health workers in the identification and treatment of mental health disorders can lead to significant improvements in knowledge and to the effective delivery of mental health care, through community based program.⁽¹⁴⁾

Training interventions are given to cadres through stages of activity: health education sessions, training sessions, and mentoring sessions. The health education stage provides information for cadres to detect depression, the concept of the elderly, and early management of depression in the elderly. Considering the important role of the cadre, the knowledge and experience of the cadres are beneficial for developing and empowering the cadre.^{(11),(15)} Similarly, a systematic review focusing on South and South-East Asia found that educational and training interventions for healthcare workers led to improved detection and management of mental health conditions. The review emphasized that structured training, incorporating both theoretical knowledge and practical skills, is crucial for enhancing the competencies of healthcare workers in mental health care.⁽¹⁶⁾ This study concluded that the integrative training model effectively prepared Indonesian cadres to recognize and respond to mental health care needs. Cadres can be more competence with some form of secondary education and subsequent formal training lasting a

few months to more than a year.⁽¹⁷⁾ A similar research in Indonesia found that community health cadres significantly improved their screening accuracy after targeted training on depression. Cadres were trained using practical modules, including the use of validated tools like the Geriatric Depression Scale (GDS) and enabling them to recognize and act on early signs of depression among the elderly. The outcomes of that study closely mirror our findings and reinforce the effectiveness of practical, locally adapted training methods.⁽¹⁸⁾ Future researchers can use some training approaches, such as remote training program, mhGAP module (mental health Gap Action Program) to strengthened mental health awareness and self-confidence among the cadre.^{(19),(20)}

The ability of cadres to detect depression in the elderly influenced the level of independence among cadres. Cadres have an important role in addressing the problem of depression in the elderly, as experienced by the elderly and their families. In the context of rural settings where professional mental health resources are scarce, cadres serve as critical frontline actors.⁽²¹⁾ Previous study emphasized the importance of non-specialist health workers are trained to take on roles traditionally held by professionals. Their systematic review showed that this approach is not only feasible but also effective in detecting and addressing mental health concerns in low-resource settings.⁽²²⁾ Cadre's training significantly enhances residents' well-being and mental health, offering a meaningful solution.⁽²³⁾

The highest risk factors for depression were lack of social engagement, low family support, chronic disease, and disturbed sleep. Training intervention for elderly cadres related to depression instruments is important for elderly support, the success of cadres' roles, maintenance and improvement of the elderly's health, and reduction of a variety of disorders and psychological factors such as stress, depression, and others.⁽²⁴⁾ When cadres are able to use depression instruments correctly, screening for depression problems can be implemented earlier, reducing the severity or complexity of potential problem conditions.⁽²⁵⁾ The ability of community health workers needs to be evaluated periodically through advanced training and supervision.⁽¹⁰⁾

This study has many strengths, including elderly detection of depression by cadres, and some limitations. We study depression only in a rural setting; other locations may have distinct patterns. The location's unique place is disaster prone, like volcanic eruption, so there may be strong cohort effects.

CONCLUSIONS AND RECOMMENDATIONS

This study showed that interventions to improve cadres' abilities are effective. The module was developed based on community partners. It can be a guideline for a cadre to detect depression. This study provides new insights about the early detection of depression in the elderly by cadres. We provide evidence to help direct public health interventions and policy around mental health specifically and also identify new hypotheses to consider in future research.

ACKNOWLEDGEMENT

We would like to thank all cadres and LPPM Universitas Muhammadiyah Semarang for the grant support for our research.

REFERENCES

1. Badan Pusat Statistik Jawa Tengah. Profil Lansia Jateng Jawa Tengah. Vol. 1, Sinta. 2019. 74 p.
2. Zenebe Y, Akele B, W/Selassie M, Necho M. Prevalence and determinants of depression among old age: a systematic review and meta-analysis. *Ann Gen Psychiatry*. 2021;20(1):1–19.
3. Wu YT, Kralj C, Acosta D, Guerra M, Huang Y, Jotheeswaran AT, et al. The association between, depression, anxiety, and mortality in older people across eight low- and middle-income countries: Results from the 10/66 cohort study. *Int J Geriatr Psychiatry*. 2020;35(1):29–36.
4. RI K. Peraturan menteri kesehatan RI no 8 tahun 2019. *Progress in Retinal and Eye Research 2019*.
5. Azari A, Zururi M. Faktor-Faktor Yang Berhubungan Dengan Depresi Pada Lansia. *Med J Al Qodiri*. 2021;6(2):66–72.
6. Woldie M, Feyissa GT, Admasu B, Hassen K, Mitchell K, Mayhew S, et al. Community health volunteers could help improve access to and use of essential health services by communities in LMICs: An umbrella review. *Health Policy Plan*. 2018;33(10):1128–43.
7. Anderson ET, McFarlan J. *Community As Parter Theory and Practice in Nursing*. Sixth Edit. Lippincott Williams; 2011.
8. Sultana N, Nguyen TTP, Hossain A, Asaduzzaman M, Nguyen MH, Jahan I, et al. Psychometric Properties of the Short-Form Geriatric Depression Scale (GDS-SF) and Its Associated Factors among the Elderly in Bangladesh. *Int J Environ Res Public Health*. 2022;19(13):1–14.
9. Yulianti Y. Effect of Age on Cadre Ability in Early Detection of High Domestic Violence. *PLACENTUM J Ilm Kesehat dan Apl*. 2021;9(3):7.
10. Singla DR, Kohrt BA, Murray LK, Anand A, Chorpita BF, Patel V. *Psychological Treatments for the World : Lessons from Low- and Middle-Income Countries*.
11. Primanda Y, Fatah DI. Knowledge and experience of community health volunteer (Cadre) on type 2 diabetes mellitus management in Yogyakarta. *Open Access Maced J Med Sci*. 2021;9(T4):240–4.
12. Zeng D, Yang C, Chien WT. Effects of a family dyadic partnership program for people with hypertension in a rural community: A pilot randomised controlled trial. *Aust J Rural Health*. 2021;29(3):435–48.
13. Bai Y, Bian F, Zhang L, Cao Y. The Impact of Social Support on the Health of the Rural Elderly in China. *Int J Environ Res Public Health*. 2020;17(6).
14. Koly KN, Baskin C, Lata I, Rao M, Rasheed S, Law G, et al. Educational and training interventions aimed at healthcare workers in the detection and management of people with mental health conditions in South and Southeast Asia: Systematic review protocol. *BMJ Open*. 2021;11(7):1–5.
15. Mendenhall E, De Silva MJ, Hanlon C, Petersen I, Shidhaye R, Jordans M, et al. Acceptability and feasibility of using non-specialist health workers to deliver mental health care: Stakeholder perceptions from the PRIME district sites in Ethiopia, India, Nepal, South Africa, and Uganda. *Soc Sci Med [Internet]*. 2014;118(C):33–42. Available from: <http://dx.doi.org/10.1016/j.socscimed.2014.07.057>
16. Koly KN, Baskin C, Khanam I, Rao M, Rasheed S, Law GR, et al. Educational and Training Interventions Aimed at Healthcare Workers in the Detection and Management of People With Mental Health Conditions in South and South-East Asia: A Systematic Review. *Front Psychiatry*. 2021;12(October).
17. Olaniran A, Smith H, Unkels R, Bar-Zeev S, van den Broek N. Who is a community health worker? - A systematic review of definitions. *Glob Health Action*. 2017;10(1).
18. Anugrahanti WW, Imam CW, Rahayu RP. Pelatihan Dan Pemberdayaan Kader Kesehatan Tentang Screening Kejadian Depresi Sebagai Salah Satu Upaya Identifikasi Kondisi Kesehatan Lansia. *SELAPARANG J Pengabdian Masy Berkemajuan*. 2021;5(1):101.
19. Willems A, Iyamuremye JD, Misage CN, Smith-Swintosky V, Kayiteshonga Y. Co-creation and

-
- Evaluation of Nationwide Remote Training Service for Mental Health Education of Community Health Workers in Rwanda. *Front Public Heal.* 2021;9(August):1–8.
20. Yani NF, Marchira CR, Istiono W. Effectiveness of Mental Health Training Module Gap Action Programme (mhGAP) in Increasing Knowledge and Skills of Primary Care Physicians in Diagnosing Depression Disorders in the Gunungkidul District. *Rev Prim Care Pract Educ (Kajian Prakt dan Pendidik Layanan Prim.* 2018;1(2):69.
 21. Javadi D, Feldhaus I, Mancuso A, Ghaffar A. Applying systems thinking to task shifting for mental health using lay providers: a review of the evidence. *Glob Ment Heal.* 2017;4.
 22. Ruzek JI, Yeager CM. Internet and mobile technologies: addressing the mental health of trauma survivors in less resourced communities. *Glob Ment Heal.* 2017;4.
 23. Yudani AF, Pratiti B, DW S, Probosuseno P, Purwanta P. Empowerment of Posyandu Lansia cadres in overcoming depression and violence among elderly women after the Covid-19 pandemic in Dukuh Panggungan. *J Community Empower Heal.* 2024;7(2):87.
 24. Handajani YS, Schröder-Butterfill E, Hogervorst E, Turana Y, Hengky A. Depression among Older Adults in Indonesia: Prevalence, Role of Chronic Conditions and Other Associated Factors. *Clin Pract Epidemiol Ment Heal.* 2022;18(1):1–10.
 25. Nurhayati E, Nurulaini R, Khotimah H, Nofiana I, Radjiman Wediodiningrat Lawang R. Meningkatkan Kemampuan Kader Lansia Melalui Pelatihan Nursing News. *Nurs News J Ilm Keperawatan.* 2021;5(3):111–6.