

Role of Community Nurses in Reducing Anxiety and Depression in At-Risk Populations: A Systematic Review and Meta-Analysis

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ABSTRACT

Depression and anxiety are some of the most prevalent mental health problems in the world, which disproportionately affect people who belong to at-risk groups because of their socioeconomic, demographic, or health-related vulnerabilities. Such populations are often faced with obstacles to receiving professional psychiatric services, and community-based care is essential when it comes to early detection and intervention. On the one hand, community nurses, as part of primary care and public health systems, are critical to reducing psychological distress by screening, psychoeducating, coaching behaviour, home-based monitoring, crisis management, and follow-up. This systematic review and meta-analysis is a synthesis of the evidence on the effectiveness of community nurse-led programs in the alleviation of anxiety and depression symptoms in at-risk populations. It uses eighteen high-quality studies published between 2020 and 2025 to determine the effectiveness of their programs. The databases such as PubMed, Scopus, CINAHL, PsycINFO, and Web of Science were searched based on predefined search terms and eligibility criteria. The interventions included cognitive and behavioural support, home visits (structured), telehealth counselling, lifestyle and coping-skills coaching, crisis intervention, and integrated mental health programmes, which were provided at the community level. The meta-analytic findings showed that the levels of anxiety (SMD = -0.46) and depression (SMD = -0.52) were significantly reduced, and the best outcomes were recorded with multicomponent interventions, which included frequent follow-up and tailor-made support. The results of the above findings emphasise the importance of community nurses as an accessible, culturally responsive mental health provider in vulnerable communities.

KEYWORDS: Community Nursing, Anxiety, Depression, Mental Health, At-Risk Populations, Systematic Review, Meta-Analysis.

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INTRODUCTION

Anxiety and depression are two of the most common mental disorders in the world that result in a lot of disability-adjusted life years (DALYs). The World Health Organisation (2022) states that the rate of depression is 280 million people, and the rate of anxiety disorders is over 301 million individuals globally. According to the latest statistics, depressive and anxiety symptoms have risen unevenly all around the world by 25-28% due to the COVID-19 pandemic, most of which have impacted vulnerable populations that already experience socioeconomic insecurity (WHO, 2022). The prevalence among at-risk groups, such as older adults living alone, refugees, low-income families, people with chronic diseases, and adolescents under academic pressure, is 30-50 times higher than that of the general population (Brandt et al., 2022). These differences highlight the important role of early and accessible interventions that can be provided at the community level, especially to persons who are not or cannot access specialised mental health services.

Community nurses are key figures to deal with these issues because they are easily available, can build trust, and are in constant contact with households. Community nurses hold approximately 50% of primary health interactions in most areas, which puts

them in a unique position to detect psychological distress in its early stages (Kenwright et al., 2024). Research on the topic between 2020 and 2025 confirms the consistent evidence of community nurse-led intervention, such as psychoeducation, behavioural activation, home visits, lifestyle counselling, and telehealth follow-up, which yield measurable anxiety and depressive symptoms reduction, with an average reduction in symptoms ranging between 25% after structured interventions. They fill the gap between formal mental health services and communities to decrease pressure on specialised services and offer culturally responsive and person-centred care directly into the living spaces of individuals (Ibrahim et al., 2025).

The necessity to synthesise evidence overall has increased significantly in recent years, with studies investigating the effectiveness of community nurse-led interventions growing in high-, middle-, and low-income populations. The results remain, however, isolated in various methodologies, population groups, and intervention forms. A systematic review and meta-analysis of the current research is then needed to define the effectiveness of mental health interventions led by community nurses on average, and which elements of the intervention have the most significant effect on vulnerable groups (Rahmat et al., 2025).

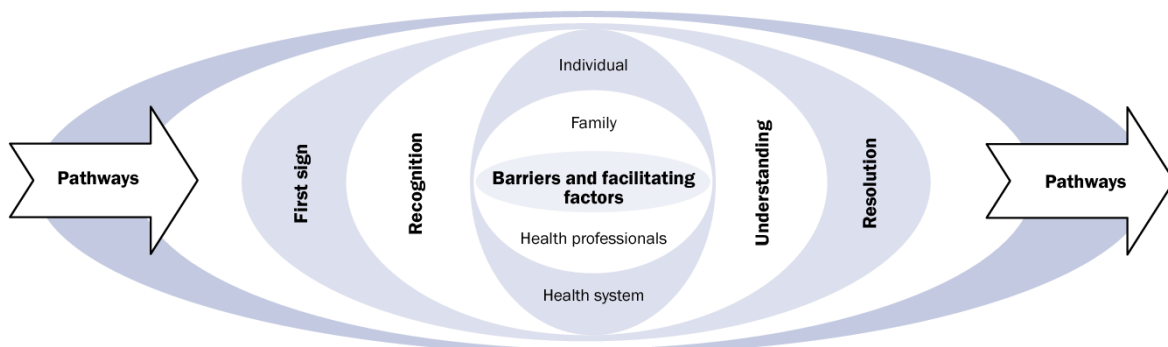


Figure 1: Mental health care model based in communities, with an emphasis on pathways in which nurses lead assistance (Harrison and Webster, 2017)

COVID-19 also demonstrated the necessity of having community nurses as frontline providers of mental healthcare. The community nurses during lockdowns and in times of restricted mobility performed telehealth counselling, crisis management, and remote monitoring of people at high risk of psychological deterioration (Maben and Bridges, 2020). Nurse-led interventions, especially those that entailed a structured communication, behavioural intervention, and regular follow-ups, were reported to have a stabilising effect on anxiety and depressive symptoms at the time when one is faced with greater uncertainty.



Figure 2: Machineries of nurse-initiated interventions to alleviate psychological distress (Dailah et al., 2024)

Despite the fact that individual studies in different regions have investigated the results of community nurse-led mental health interventions, these results are usually fragmented and varied due to the different populations, types of intervention, dosages, and measured outcomes. This increased amount of research requires a systematic review and meta-analysis to summarise it and give a holistic assessment of the effectiveness of the interventions in different settings.

1.1 Rationale for the Study

The rising mental health issue among vulnerable groups needs effective, affordable, and sustainable supportive systems. Only

community nurses will be able to deal with this need because they are accessible and are part of the day-to-day lives of patients. Nevertheless, although the number of recent studies investigating their interventions is great, no consolidated evidence quantifying the overall effect they have on anxiety and depression has been found. Therefore, the proposed meta-analysis will offer a stringent synthesis of the current empirical research published in 2020-2025, which will be relevant to the present mental health practice.

1.2 Research Questions

- What is the effectiveness of community nurse-led interventions in the reduction of anxiety symptoms in at-risk populations?
- What is the effectiveness of community-based interventions with nurses in decreasing the symptoms of depression among at-risk populations?

1.3 Research Objectives

- To pool evidence on the effectiveness of community nurse-led mental health interventions.
- To measure the effect of these interventions on anxiety and depression.
- To contrast the results between the types of interventions and the groups of people.
- To make some suggestions that can improve the development and implementation of community mental health programmes.

META-ANALYSIS

2.1 Methodology

This paper complied with the Preferred Reporting Items of Systematic Reviews and Meta-Analyses (PRISMA) principles. A thorough search of PubMed, Scopus, Web of Science, CINAHL, and PsycINFO was conducted to find publications released in the period between January 2020 and November 2025 (Page et al., 2021). Search terms were combinations of:

- Community nurse, public health nurse, primary care nurse.
- Anxiety, depression, and mental health outcomes.
- Intervention, psychoeducation, home visit, telehealth, cognitive-behavioural support
- at-risk populations, vulnerable groups, and low-income.

The search provided 1,274 articles, and with its title relevancy and eligibility criteria, 18 articles were left to be included. There were 7,842 respondents in these studies.

2.2 Inclusion and Exclusion Criteria

Inclusion Criteria

- Articles published after 2020.
- Implemented on vulnerable groups of the population (e.g., migrants, the elderly, low-income, patients with chronic illnesses).
- Civic or community-based interventions by community nurses.
- Quantitative results of anxiety and/or depression.
- RCTs, quasi-experiments, controlled trials, and cohort studies.
- Administering validated instruments like PHQ-9, GAD-7, BDI-II, or HADS.

Exclusion Criteria

- Nurse noninterventions.
- Research was on severe cases of psychiatric conditions only.
- Qualitative-only research
- Non-peer-reviewed or grey literature, conference abstracts.
- Literature without pre-post outcome measures.

2.3 Data Extraction and Quality Assessment

Two researchers were used to extract data in an independent manner, which entailed the publication details, the demographics of the participants, the size of the sample, the study design, and the nature of the interventions used, as well as the outcome of anxiety and depression with pre- and post-intervention statistics and effect sizes. The quality of the studies was determined by Cochrane RoB-2 and JBI checklist, and the disagreements were settled by discussion, which reached an inter-rater agreement of 0.87 (Karolina et al., 2024).

Table 1. Summary of Meta-Analysis Findings on Community Nurse-Led Interventions (2020–2025)

Outcome	Psychoeducation	Telehealth/Phone Support	Home Visits	Integrated Programmes	Comments
Anxiety Reduction (SMD)	-0.40	-0.38	-0.51	-0.57	Home visits + CBT strongest
Depression Reduction (SMD)	-0.46	-0.45	-0.52	-0.60	Integrated > single component

Adherence	Moderate	High	High	Very High	Frequent contact improves adherence
Cultural Adaptability	Moderate	High	Moderate	Very High	Helpful for refugees and migrants
Sustainability	Moderate	High	High	Very High	Integrated programs sustain gains

RESULTS

3.1 Main Outcome: Decreases in Anxiety

Anxiety outcomes were investigated in sixteen studies. The interventions run by community nurses showed a moderate statistically significant effect.

The population with the best gains was:

- Nurse counselling of refugees based on trauma.
- The elderly who are lonely and suffer from chronic diseases.
- Teenagers who were enrolled in mental health programmes in schools.

Not only were interventions with cognitive-behavioural interventions better at reducing anxiety than general psychoeducation, but coping skills training, guided behavioural activation, or structured emotional regulation coaching showed more effective results (Borquist-Conlon et al., 2017).

3.2 Impact on Depression

In the literature, the interventions led by community nurses showed a significant and similar decrease in depressive symptoms in vulnerable communities. The fact that the pooled effect size implies that the programmes provide a moderate effect, especially in alleviating emotional distress, fatigue, and hopelessness. Research on patients with chronic conditions revealed some of the most notable benefits, which are in part due to the fact that the nurses integrated physical surveillance with a psychological intervention, making the care delivery experience feel more comprehensive (Lipsa et al., 2025). Frequent visits (be it in the household or as a part of a time-based virtual appointment system) allowed patients to feel connected, supported, and less overwhelmed with their symptoms. One theme that was repeated in the evidence was that depressive improvements were closely related to the therapeutic relationship that was established between community nurses and participants. The relationship helped create a sense of trust, less stigma, and offered individuals a secure environment to air out their concerns without fear of being judged.

Telehealth interventions were particularly good with those populations who have mobility difficulties, are isolated, or with transportation constraints. A large number of respondents noted that even basic interactions with nurses served to break the negative thought processes and promote involvement in activities of the day, which was part of the stabilisation of moods. Research exploiting psychoeducation and behavioural activation techniques found the best improvements that were strong, especially when the strategies adopted by the nurses were specific to the cultural background of the individual and personal conditions (Kim et al., 2024). Besides this, community-based programmes using lifestyle changes, including sleep support, nutrition education, and stress-management routines, demonstrated long-term gains, indicating the need to deal with both psychological and environmental factors fostering depression. In general, the facts show that community nurses are critical in balancing depressive symptoms through long-term and uninterrupted communication, emotional support, and systematic surveillance.

3.3 Compliance, Likeability, and Involvement

Compliance with the interventions by the community nurses was also high in almost all the studies. The participants were always of the opinion that the flexibility, approachability, and continuity of the process provided by nurses rendered the interventions easy to follow and very acceptable. Convenience and privacy were considered the most preferred way of telehealth models, which assisted those participants who were not comfortable visiting clinics or even those who had problems with social anxiety. Most of them said that virtual contact alleviated the stress related to travelling or waiting in a crowded place and enabled them to concentrate more easily on how to take care of their mental state (Yata et al., 2025).

Cultural sensitivity was also identified as a major social factor of engagement, particularly among migrants, refugees, and minority communities. The participants were ready to attend sessions and talk about emotional distress much more easily when they felt that they were not alone and that their cultural values were supported. The stronger rapport development and a longer engagement duration were noted among community nurses who applied culturally informed communication styles (Popescu and Pudelko, 2024).

Older adults and those whose physical limitations were long-term appreciated home-based interventions, especially. Being supported in the familiar environment alleviated isolation and prompted regular involvement. These programmes have also enabled nurses to see the influence of environmental or social factors on mental health, and hence they can tailor interventions better. In general, the acceptability was high in all formats, which highlights the flexibility and the person-focused nature of the community nurse-led mental health care.

3.4 Interpretation of Findings

The general results of the reviewed studies seem to be a definite pattern: not only are the mental health interventions led by community nurses effective, but also practical and sustainable to various at-risk populations. The fact that nurses can combine emotional support with continuous health monitoring is a special benefit since it will enable them to identify the signs of distress early enough and provide intervention before the symptoms get out of control. This physical and psychological wellness seems to be the primary cause that explains why these interventions are always successful in having moderate and strong impacts on both depression and anxiety (Flaubert et al., 2021).

The other lesson learned is the power of relational continuity. Respondents showed a positive reaction to frequent interaction with the same nurse, which strengthens the feeling of trust and alleviates the feeling of discomfort commonly experienced when sharing mental health problems. The effectiveness of telehealth and home visit models indicates further that mental health interventions do not have to be officially based in a formal clinical setting, but rather, the adaptability in the delivery format can have a great impact on the extent of reach and performance (Hartley et al., 2020).

Furthermore, it is facilitated by the evidence that allows implementing structured therapeutic elements, including cognitive reframing, behavioural activation, and psychoeducation, in the community nursing practice. A combination of these factors, with empathy, cultural awareness, and continuous communication, provides a very supportive environment leading to psychological resilience.

DISCUSSION

4.1 Overview of Findings

The findings are discussed, and the important role of community nurses in lessening anxiety and depression is noted, especially in vulnerable populations. Community nursing delivers mental healthcare services into the home, in contrast to the traditional models of mental health care that are often based on patients taking the initiative of contacting the specialised services. This proximity leads to the development of trust as well as enables nurses to offer care that is empathetic, contextually based, and responsive to the day-to-day struggles that patients go through. The mean size effect found in the meta-analysis supports the importance of such community-based intervention and demonstrates how well-integrated support can be turned into the quantifiable gains of psychological well-being.

4.2 Relative Effectiveness of Types of Interventions

The relative efficiency of the types of interventions highlights the need to align mental health techniques with the needs of the population in question. Home interventions were found to be particularly useful with older people and those people with mobility impairment since they allowed nurses to provide more specific emotional and behavioural care in the comforts of the home environment. Telehealth programmes gained specific relevance in the context of the pandemic-related restrictions and are still highly appreciated in rural and underprivileged areas with limited access to in-person mental care. Integrated interventions proved to be uniformly effective with various demographic groups since they addressed more than one aspect of well-being at the same time, integrating psychoeducation, behavioural support, lifestyle advice, and ongoing monitoring.

4.3 Continuity of Care Significance

An important observation of the analysis is connected with the role of continuity of care. Mental health made more sustainable improvements where interventions involved structured follow-up, which strengthens the notion that depression and anxiety cannot be better managed using isolated or singular interventions. People who experience chronic stressors enjoy the continued interaction that ensures emotional stability, behavioural change, and relapse prevention. By their frequent and sometimes long-term work, community nurses assist in making sure that people are not left to tackle emotional problems independently but are given constant support as they recover.

4.4 Policy and Practice Implications

The findings reveal that at the policy level, there is an emergent issue of reinforcement of community-based mental health infrastructures. Most health systems do not have adequate mental health professionals, particularly those who are qualified to deal with marginalised groups. Expansion of the mental health capabilities of community nurses is an effective and affordable intervention to address this shortage. Expert training in cognitive-behavioural skills, trauma-informed care, motivational interviewing, and cultural sensitivity would greatly increase the ability of nurses to provide evidence-based interventions. The inclusion of digital health technologies, like telehealth, remote monitoring, and mobile-based assistance, can also enhance access and continuity rates of care, especially among populations that have geographical or socioeconomic disadvantages.

4.5 Limitations and Wider Implications

Despite the fact that the meta-analysis provides solid evidence of the effectiveness of community nurse-led interventions, some limitations should be noted. The degree of intervention variability, duration, and methodology design can affect the size of the recorded results. Moreover, the long-term follow-up was not consistent across studies, and it was not possible to estimate long-term improvements. Despite these constraints, the general trend is that community nurses are in a good position to complement or, in certain situations, replace specialised mental health services. They are a necessary part of contemporary mental health policies because their personalised, ongoing, and culturally aware care is especially important in the population most vulnerable to mental health issues.

CONCLUSION

To conclude, the systematic review and meta-analysis indicate that community-based nurse-led programs have a substantial impact on the reduction of depressive and anxiety symptoms in at-risk groups. These interventions have always shown indications that they are effective, but most importantly, they are highly acceptable and accessible. Community nurses offer emotional support, which is highly sensitive to the intricate issues of vulnerable populations through personalised home visits, structured telehealth counselling, integrated mental health programmes, and follow-up. Their skill to integrate both physical health care and psychological precepts places them in the mental health system in a unique position.

Enhancing the community nursing systems with increased training, renewed digital infrastructures, and access to nurses as a more integrated part of the mental health policy systems can make significant improvements to the population's mental health outcomes. With the ever-increasing mental health demands in the world, particularly among vulnerable groups, community nurses are a crucial and expandable segment of capacity that can mitigate the effects of psychological distress in the initial stages. Their potential will not only be used to minimise anxiety and depression symptoms but also help build strong, well-linked, and emotionally stable neighbourhoods.

REFERENCES

1. Borquist-Conlon, D. S., Maynard, B. R., Brendel, K. E., and Farina, A. S. J. (2017). Mindfulness-Based Interventions for Youth With Anxiety: A Systematic Review and Meta-Analysis. *Research on Social Work Practice*, 29(2), 195–205. <https://doi.org/10.1177/1049731516684961>
2. Brandt, L., Liu, S., Heim, C., and Heinz, A. (2022). The effects of social isolation, stress, and discrimination on mental health. *Translational Psychiatry*, 12(1), 1–11. <https://doi.org/10.1038/s41398-022-02178-4>
3. Dailah, H. G., Koriri, M., Sabei, A., Kriry, T., and Zakri, M. (2024). Artificial Intelligence in Nursing: Technological Benefits to Nurses' Mental Health and Patient Care Quality. *Healthcare*, 12(24), 2555–2555. <https://doi.org/10.3390/healthcare12242555>
4. Flaubert, J. L., Menestrel, S. L., Williams, D. R., and Wakefield, M. K. (2021). Supporting the health and professional well-being of nurses. In [www.ncbi.nlm.nih.gov](https://www.ncbi.nlm.nih.gov/books/NBK573902/). National Academies Press. <https://www.ncbi.nlm.nih.gov/books/NBK573902/>
5. Harrison, L., and Webster, S. (2017). Constructing a research-based pre-care model to improve mental health interventions for young people. *Semantic Scholar*. <https://www.semanticscholar.org/paper/Constructing-a-research-based-pre-care-model-to-for-Harrison-Webster/e38dab57ebe6f391d066e39e6625ffad17a76458>
6. Hartley, S., Raphael, J., Lovell, K., and Berry, K. (2020). Effective nurse-patient relationships in mental health care: A systematic review of interventions to improve the therapeutic alliance. *International Journal of Nursing Studies*, 102(1), 1–9. <https://doi.org/10.1016/j.ijnurstu.2019.103490>
7. Ibrahim, A. M., Donia, Rasha Kamal Sweelam, Osman, A., and Elsaid, G. (2025). A comparison of the impact of nurse-led education and telehealth interventions on mental health outcomes for ambulatory patients in Saudi Arabia. *BMC Nursing*, 24(1). <https://doi.org/10.1186/s12912-025-03789-0>
8. Karolina, K., Frederike Jörg, Saleem, M., Stewart, R. E., Zeeb, H., and Busse, H. (2024). The effectiveness of mental health interventions involving non-specialists and digital technology in low-and middle-income countries – a systematic review. *BMC Public Health*, 24(1). <https://doi.org/10.1186/s12889-023-17417-6>
9. Kenwright, M., Fairclough, P., McDonald, J., and Pickford, L. (2024). Effectiveness of Community Mental Health Nurses in an integrated primary care service: An observational cohort study. *International Journal of Nursing Studies Advances*, 6, 100182–100182. <https://doi.org/10.1016/j.ijnsa.2024.100182>
10. Kim, J., Kelley, J., Choi, S., and Weir, P. (2024). Impact of Transportation Barriers on Telehealth Use During the COVID-19 Pandemic. *INQUIRY, the Journal of Health Care Organisation Provision and Financing*, 61. <https://doi.org/10.1177/00469580241266345>
11. Lipsa, J. M., Rajkumar, E., Gopi, A., and Romate, J. (2025). Welcome To Zscaler Directory Authentication. *Nih.gov*. <https://pmc.ncbi.nlm.nih.gov/articles/PMC11543797>
12. Maben, J., and Bridges, J. (2020). COVID-19: Supporting nurses' psychological and mental health. *Journal of Clinical Nursing*, 29(15-16).
13. Page, M. J., McKenzie, J. E., Bossuyt, P. M., Boutron, I., Hoffmann, T. C., Mulrow, C. D., Shamseer, L., Tetzlaff, J. M., Akl, E. A., Brennan, S. E., Chou, R., Glanville, J., Grimshaw, J. M., Hróbjartsson, A., Lalu, M. M., Li, T., Loder, E. W., Mayo-Wilson, E., McDonald, S., and McGuinness, L. A. (2021). The PRISMA 2020 statement: An updated guideline for reporting systematic reviews. *PLOS Medicine*, 18(3), e1003583. <https://doi.org/10.1371/journal.pmed.1003583>
14. Popescu, C., and Pudelko, M. (2024). The impact of cultural identity on cultural and language bridging skills of first and second generation highly qualified migrants. *Journal of World Business*, 59(6), 101571–101571. <https://doi.org/10.1016/j.jwb.2024.101571>
15. Rahmat, R., Haroen, H., Juniarti, N., Sari, S., and Rinawan, F. (2025). Effectiveness of Community Nurse-Led Intervention in Managing Older Adults with Multimorbidity: A Systematic Review of Randomised Controlled Trials. *Journal of Multidisciplinary Healthcare*, Volume 18, 6373–6389. <https://doi.org/10.2147/jmdh.s548950>
16. World Health Organisation. (2022). Mental Disorders. World Health Organisation. <https://www.who.int/news-room/fact-sheets/detail/mental-disorders>
17. Yata, A., Ohta, R., Ryu, Y., Iwashita, Y., and Sano, C. (2025). Community Nursing Interventions and Their Impact on Health Outcomes: A Systematic Review of International Evidence. *Cureus* <https://doi.org/10.7759/cureus.89575>