Salud, Ciencia y Tecnología. 2025; 5:2317 doi: 10.56294/saludcyt20252317

SYSTEMATIC REVIEW



Community-Based Nursing Interventions for Older Adults with Chronic Diseases: A PRISMA-Guided Systematic Review of Effects on Quality of Life, Depression, and Patient Activation

Intervenciones de enfermería basadas en la comunidad para adultos mayores con enfermedades crónicas: revisión sistemática guiada por PRISMA sobre sus efectos en la calidad de vida, la depresión y la activación del paciente

Ateya Megahed Ibrahim Donia Elsaid Fathi Zaghamir Donia Elsaid Fathi Zaghamir

¹College of Nursing, Prince Sattam Bin Abdualziz University, Alkarj, Saudi Arabia.

Cite as: Megahed Ibrahim A, Fathi Zaghamir DE. Community-Based Nursing Interventions for Older Adults with Chronic Diseases: A PRISMA-Guided Systematic Review of Effects on Quality of Life, Depression, and Patient Activation. Salud, Ciencia y Tecnología. 2025;5:2317. https://doi.org/10.56294/saludcyt20252317

Submitted: 02-04-2025 Revised: 15-07-2025 Accepted: 09-10-2025 Published: 10-10-2025

Editor: Prof. Dr. William Castillo-González

Corresponding author: Ateya Megahed Ibrahim

ABSTRACT

Introduction: the rapid aging of global populations has intensified challenges in managing chronic diseases, especially in low- and middle-income countries (LMICs). Older adults with diabetes, hypertension, COPD, and related conditions face physical and psychological burdens, including reduced quality of life and increased depression. Community-based nurse-led interventions offer a promising framework for enhancing patient-centered care and self-management, though evidence remains fragmented.

Aim: to systematically synthesize global evidence on the effectiveness of community-based nursing interventions for older adults with chronic diseases, focusing on quality of life, depression, and patient activation/self-efficacy.

Method: following PRISMA 2020 guidelines, five databases (PubMed, Embase, Scopus, CINAHL, and Google Scholar) were searched through September 2025 for studies involving adults aged ≥60 years receiving nurseled community interventions. Eligible designs included randomized controlled trials, quasi-experimental studies, and economic evaluations. Risk of bias was assessed using Cochrane RoB2 and ROBINS-I.

Results: ten studies (n≈3 000) from the USA, Europe, Asia, Africa, and Latin America met inclusion. Interventions included chronic disease self-management, health literacy programs, lifestyle education, multicomponent geriatric care, patient-centered medical homes, and behavioural activation. Seven studies showed improved quality of life, six reduced depressive symptoms, and four enhanced patient activation. Effects were observed in both high-income and LMIC settings. Risk of bias was generally low to moderate, with RCTs providing stronger evidence.

Conclusions: community-based nursing interventions improve quality of life and depression among older adults with chronic diseases, with promising effects on patient activation. Their feasibility in LMICs underscores global applicability. Future research should prioritize standardized outcomes, long-term follow-up, and economic evaluation.

Keywords: Community Nursing; Chronic Disease Management; Older Adults; Quality of Life; Depression; Patient Activation.

RESUMEN

Introducción: el rápido envejecimiento de la población mundial ha intensificado los desafíos en el manejo de enfermedades crónicas, especialmente en los países de ingresos bajos y medios (PIBM). Los adultos mayores

© 2025; Los autores. Este es un artículo en acceso abierto, distribuido bajo los términos de una licencia Creative Commons (https://creativecommons.org/licenses/by/4.0) que permite el uso, distribución y reproducción en cualquier medio siempre que la obra original sea correctamente citada

con condiciones como diabetes, hipertensión y EPOC enfrentan cargas físicas y psicológicas, incluyendo disminución de la calidad de vida y aumento de los síntomas depresivos. Las intervenciones comunitarias dirigidas por enfermería ofrecen un enfoque prometedor para mejorar la atención centrada en el paciente y la autogestión, aunque la evidencia actual es fragmentada.

Objetivo: sintetizar sistemáticamente la evidencia global sobre la efectividad de las intervenciones de enfermería basadas en la comunidad para adultos mayores con enfermedades crónicas, enfocándose en calidad de vida, depresión y activación/autoeeficacia del paciente.

Método: siguiendo las directrices PRISMA 2020, se realizaron búsquedas en cinco bases de datos (PubMed, Embase, Scopus, CINAHL y Google Scholar) hasta septiembre de 2025 para identificar estudios que involucraran adultos ≥60 años que recibieran intervenciones comunitarias dirigidas por enfermería. Los diseños elegibles incluyeron ensayos controlados aleatorizados, estudios cuasi-experimentales y evaluaciones económicas. El riesgo de sesgo se evaluó mediante las herramientas Cochrane RoB 2 y ROBINS-I.

Resultados: diez estudios (n≈3,000) procedentes de Estados Unidos, Europa, Asia, África y América Latina cumplieron los criterios de inclusión. Las intervenciones incluyeron programas de autogestión de enfermedades crónicas, programas de alfabetización en salud, educación sobre estilo de vida, atención geriátrica multicomponente, centros médicos centrados en el paciente y activación conductual. Siete estudios reportaron mejoras en la calidad de vida, seis documentaron reducción de síntomas depresivos y cuatro mostraron aumento de la activación del paciente. Los efectos se observaron tanto en países de altos ingresos como en PIBM. El riesgo de sesgo fue generalmente bajo a moderado, siendo los ensayos aleatorizados los que proporcionaron la evidencia más sólida.

Conclusiones: las intervenciones comunitarias dirigidas por enfermería mejoran la calidad de vida y reducen la depresión en adultos mayores con enfermedades crónicas, mostrando efectos prometedores sobre la activación del paciente. Su factibilidad en PIBM resalta la aplicabilidad global. La investigación futura debería priorizar medidas de resultado estandarizadas, seguimiento a largo plazo y evaluaciones económicas.

Palabras clave: Enfermería Comunitaria; Manejo de Enfermedades Crónicas; Adultos Mayores; Calidad de Vida; Depresión; Activación del Paciente.

INTRODUCTION

The aging of populations worldwide is occurring at an unprecedented pace, with adults aged 60 years and older expected to exceed 20 % of the global population by 2050, particularly within low- and middle-income countries (LMICs). (1,2) This demographic transition presents profound challenges for health systems, which must adapt to a rising burden of chronic disease, functional limitations, and social care demands. (3,4)

Non-communicable diseases (NCDs) such as diabetes, hypertension, cardiovascular disease, and chronic respiratory illnesses remain the leading contributors to morbidity, disability, and mortality among older adults. (5,6,7) In Egypt and across the Arab region, epidemiological data consistently reveal high rates of multi-morbidity and functional disability among older adults, further complicating care delivery. The rising prevalence of such chronic conditions not only affects survival but also reduces independence and quality of life. (8, 9)

Beyond physical illness, chronic disease in older age is strongly associated with psychological and social burdens. Depression, frailty, and social isolation often accompany multi-morbidity, creating a vicious cycle of declining function and escalating care needs. (10,11) Quality of life (QoL) is frequently compromised in older adults with chronic disease, particularly where disability and limited access to supportive care intersect. (12,13) Global analyses highlight the mental health burden in this population, with depression emerging as both a consequence and determinant of poor chronic disease outcomes. (14,15)

Traditional hospital-centered care models have struggled to respond effectively to these complex, longterm challenges. (16) Acute-care approaches are ill-suited to the continuous monitoring, rehabilitation, and psychosocial support required by older adults with multi-morbidity. Health system inefficiencies, combined with a lack of geriatric-specialized resources, have further underscored the limitations of institutional approaches. In LMICs, where resources are particularly constrained, hospital-only models exacerbate inequities in access and outcomes. (17)

Against this backdrop, community-based nursing interventions have gained attention as an adaptable, patient-centered model of care. (18,19) These interventions extend care beyond hospital walls into homes and communities, emphasizing empowerment, cultural sensitivity, and long-term engagement. Nurses in community roles provide not only education but also psychosocial support, symptom monitoring, and facilitation of selfmanagement, thereby bridging the gap between health systems and households. (20,21)

3 Megahed Ibrahim A, et al

Evidence shows that nurse-led community programs can enhance quality of life, reduce depressive symptoms, and foster self-efficacy among older adults. (22,23) Self-efficacy, in turn, is closely tied to patient activation—the ability and willingness of patients to manage their own health—which is critical for successful chronic disease management. (24,25) By cultivating these capacities, community-based nursing approaches directly address psychosocial determinants of health and promote sustainable improvements in well-being.

Despite encouraging findings, the evidence base has been disproportionately concentrated in high-income countries. (26) Studies from the United States, Europe, and East Asia have demonstrated benefits of interventions such as chronic disease self-management programs, health literacy workshops, and multicomponent geriatric care models. However, relatively fewer systematic syntheses have incorporated findings from LMICs, where cultural factors, health system structures, and resource availability significantly shape intervention design and outcomes. (27,28,29)

Emerging evidence from LMICs is particularly relevant. Studies from Nigeria and Brazil, for example, highlight the feasibility and effectiveness of nurse-led education and multidimensional interventions in improving QoL and reducing depression among older adults with chronic diseases. These findings suggest that community-based approaches can be successfully adapted to resource-limited settings, offering models for scaling interventions globally. (30,31)

Theoretical frameworks also reinforce the role of empowerment and self-management in chronic disease care. Bandura's self-efficacy theory⁽³²⁾ and subsequent research emphasize that confidence in managing illness is a key determinant of adherence, health outcomes, and resilience in older adults.^(33,34) Patient activation research further confirms that individuals with higher engagement in their care experience better QoL and health outcomes, highlighting the importance of interventions that build these skills.^(35,36)

Cultural considerations play a vital role in community-based care. In Arab and Muslim communities, for instance, family involvement, cultural preferences, and respect for patient autonomy significantly influence intervention uptake and effectiveness. (21,22) Nurse-led interventions that integrate cultural competence training and family support can therefore achieve greater impact, particularly in LMICs where family remains a primary caregiving unit. (20,37)

Finally, the importance of community-based care must also be viewed within broader demographic and sustainability contexts. Global aging, urbanization, and resource constraints demand care models that are not only clinically effective but also economically viable and socially sustainable. Community-based nursing interventions align with these priorities by offering scalable, cost-effective approaches that reduce reliance on hospitals and empower older adults to maintain independence. (38,39)

Taken together, these perspectives underscore the urgent need to synthesize global evidence on community-based nursing interventions for older adults with chronic diseases. This systematic review therefore aims to systematically synthesize global evidence on the effectiveness of community-based nursing interventions for older adults with chronic diseases, focusing on outcomes of quality of life, depression, and patient activation/self-efficacy.

METHOD

Study Design

This review was conducted as a systematic review in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines. Although systematic registration (e.g., in PROSPERO) enhances transparency, the protocol for this review was not registered due to its exploratory nature and the need for a timely synthesis to inform research and practice. Methodological rigor was ensured through a predefined search strategy, eligibility criteria, dual screening, and standardized risk of bias assessment.

Eligibility Criteria

Eligibility was defined using the PICOS framework:

- Population: adults aged ≥60 years with at least one chronic disease (e.g., diabetes, hypertension, COPD, cardiovascular disease).
- Intervention: Nurse-led or nurse-coordinated community-based or home-based programs, including health literacy, chronic disease self-management, lifestyle education, psychosocial support, multicomponent geriatric care models, and patient-centered medical homes.
 - Comparator: Usual care, alternative community interventions, or no intervention.
- Outcomes: QoL, depression, and patient activation/self-efficacy measured by validated instruments (EQ-5D, SF-36, GDS, PAM).
- Study designs: Randomized controlled trials (RCTs), quasi-experimental studies, and economic evaluations.

Exclusion criteria:

- 1. Interventions delivered exclusively in hospitals or without nurse involvement.
- 2. Studies with paediatric or mixed-age samples without separate older adult data.
- 3. Outcomes unrelated to QoL, depression, or patient activation.
- 4. Non-peer-reviewed literature (abstracts, case reports, reviews).

Information Sources and Search Strategy

Searches were conducted across PubMed, Embase, Scopus, CINAHL, and Google Scholar from inception through September 2025. The search strategy combined MeSH and free-text terms related to: *community nursing*, *nurse-led*, *older adults*, *chronic disease*, *quality of life*, *depression*, *patient activation*, *and self-efficacy*. Boolean operators, truncation, and database-specific filters were applied. Additionally, reference lists of included studies and related reviews were screened. Only English-language, peer-reviewed studies were included to maintain consistency in data extraction and quality assessment, and because translation of non-English studies was not feasible within the available resources. From this process, 1 248 records were identified from registers.

Selection Process

All records were imported into EndNote X9, and duplicates were removed (n = 198). No records were removed by automation tools or for other reasons. After deduplication, 1 050 records remained for screening. Two reviewers independently screened titles and abstracts (n = 1 050). Of these, 972 records were excluded as clearly irrelevant. The majority of these exclusions were due to the studies not meeting the core inclusion criteria of the review. The main reasons were: non-community or non-nurse-led interventions, studies targeting the wrong population or age group (<60 years, pediatric, or mixed without subgroup analysis), outcomes not relevant to the review (did not assess quality of life, depression, or patient activation), study design mismatch (e.g., editorials, protocols, or reviews), or language/accessibility issues. A total of 78 full-text reports were retrieved and assessed for eligibility. Of these, 68 reports were excluded for the following reasons:

- Not community-based / not nurse-led: 30
- Wrong population or age group (<60 yrs., pediatric, or mixed without subgroup analysis): 20
- Outcomes not relevant (did not assess QoL, depression, or activation): 18

Finally, 10 studies met inclusion criteria and were included in the synthesis (see PRISMA flow diagram, figure 1).

Data Extraction

Two reviewers independently extracted data into a standardized template. Extracted fields included: study identifiers, country, design, sample size, population, intervention characteristics, comparators, outcomes, and main results. Discrepancies were resolved by discussion.

Risk of Bias Assessment

Risk of bias was assessed using:

- Cochrane RoB 2 for the 2 RCTs. (41,44) Domains included randomization process, deviations from intended interventions, missing data, measurement of outcomes, and selective reporting.
- ROBINS-I for the 7 quasi-experimental studies, focusing on confounding, participant selection, intervention classification, and outcome reporting.
- The economic evaluation⁽⁴⁰⁾ was assessed qualitatively using criteria for cost-effectiveness studies (clarity of assumptions, perspective, and outcome measures). Overall, the RCTs were judged low to moderate risk of bias, while quasi-experimental studies carried a moderate to serious risk, mainly due to lack of randomization and potential confounding.

Data Synthesis

Due to heterogeneity in intervention types, study designs, and outcome measures, a quantitative metaanalysis was not feasible. Instead, a narrative synthesis approach was employed. Findings were organized under three primary outcomes of interest: quality of life, depression, and patient activation/self-efficacy. Studies were further stratified by design type (randomized controlled trials, quasi-experimental, or economic evaluations) and by geographic setting (high-income vs low- and middle-income countries) to explore contextual variations. Risk of bias assessments were considered when interpreting results.

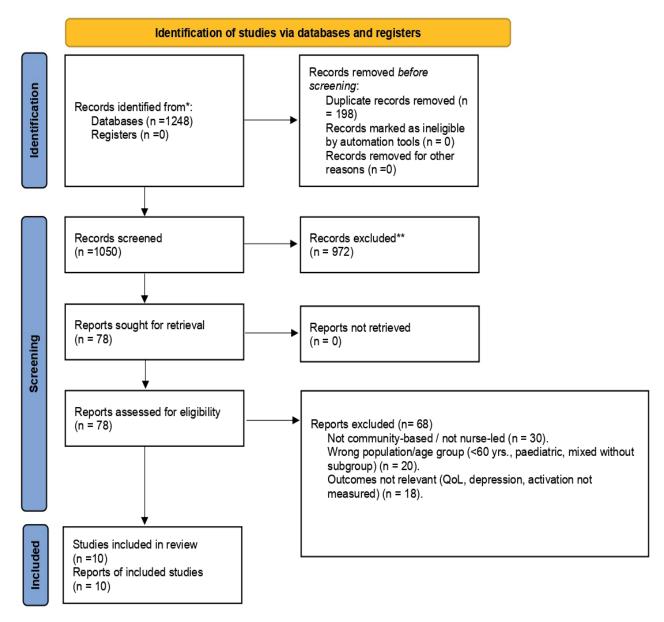


Figure 1. PRISMA 2020 flow diagram for new systematic reviews which included searches of databases and registers only

RESULTS

A total of 1 248 records were retrieved through database searches. After removing 198 duplicates, 1 050 unique records were screened by title and abstract. Of these, 972 were excluded as clearly irrelevant. The main reasons for exclusion were: studies not being community-based or nurse-led, targeting the wrong population or age group (<60 years, pediatric, or mixed without subgroup analysis), reporting outcomes not relevant to quality of life, depression, or patient activation, study design mismatches (e.g., editorials, protocols, or reviews), or language/accessibility issues. The full text of 78 articles was reviewed in detail, and 68 were excluded (30 not nurse-led/community-based, 20 not involving the eligible population, and 18 not reporting relevant outcomes). Finally, 10 studies met the inclusion criteria and were included in the synthesis (figure 1, table 1).

The included 10 studies involved approximately 3 000 participants across multiple regions: USA (n = 2), Europe (n = 2), Asia (n = 4), Africa (n = 1), and Latin America (n = 1). In terms of design, 2 were randomized controlled trials, 7 were quasi-experimental studies, and 1 was an economic evaluation. Sample sizes ranged from 72 to 1 170 participants, and intervention durations ranged from 8 weeks to 12 months. Delivery settings included community centers, primary care clinics, and home visits.

Table 1. Characteristics of Included Studies								
#	Reference	Country	Design	Population	Intervention	Duration	Outcomes	Key Findings
1	Eaglehouse et al. (27)	USA	Quasi-experimental	204 older adults with chronic conditions	Lifestyle-focused community intervention	12 mo	QoL (SF-36)	Significant improvements in HRQoL domains
2	Lin et al. (28)	Taiwan	Quasi-experimental	216 older adults	Health literacy & empowerment program	12 wks	Empowerment, health behaviors	Empowerment \(\gamma\); health behaviors \(\gamma\)
3	Hasemann et al. (29)	Germany	Quasi-experimental	230 frail older adults	Multicomponent geriatric community care	12 mo	QoL, dependency	Dependency ↓; QoL↑
4	Okafor et al. (30)	Nigeria	Quasi-experimental	118 with T2DM	Nurse-led education program	6 mo	HRQoL (SF-36)	Significant HRQoL improvements
5	Dantas et al.(31)	Brazil	Quasi-experimental	180 older adults	Multidimensional nursing intervention in primary care	12 mo	QoL, depression	QoL ↑; depression ↓
6	Basu et al. (40)	USA	Economic evaluation	1 170 adults in CDSMP	Self-management education (CDSMP)	6 mo	QoL, cost- effectiveness	QoL ↑; program cost- effective
7	Karamanakos et al. ⁽⁴¹⁾	Europe (multi- country)	RCT	Adults at risk of T2DM	Community-based diabetes prevention & lifestyle program	12 mo	HRQoL	Improved HRQoL; reduced diabetes incidence
8	Sun et al. (42)	Taiwan	Quasi-experimental	100 older adults	Oral health literacy program	8 wks	Oral health literacy, empowerment	Literacy ↑; empowerment ↑
9	Sum et al. (43)	Singapore	Quasi-experimental	665 older adults with multimorbidity	Patient-centered medical home	12 mo	QoL, Patient Activation (PAM)	QoL↑; PAM↑
10	Xie et al. ⁽⁴⁴⁾	China	RCT	Rural left-behind older adults	Modified behavioral activation treatment	12 wks	Depression, QoL	Depression ↓; QoL ↑ significantly compared with control

Effects on Quality of Life (QoL)

QoL was the most consistently reported outcome across studies, with measures such as EQ-5D and SF-36 being most commonly used. Seven studies (27,29,30,31,40,41,43) demonstrated significant improvements in QoL domains. For instance, Eaglehouse et al. (27) reported improvements in physical and mental health dimensions of the SF-36 following a lifestyle-focused community program in the USA, while Hasemann et al. (29) found that a multicomponent geriatric care program in Germany reduced dependency and enhanced daily functioning. In Nigeria, Okafor et al. (30) documented meaningful increases in SF-36 scores after a 6-month nurse-led diabetes education program, confirming the feasibility of such interventions in LMICs. The RCT by Karamanakos et al. (41) showed improved HRQoL and reduced diabetes incidence in a multi-country European prevention program, while Xie et al. (44) reported significant QoL improvements in rural Chinese elders receiving behavioral activation therapy. Collectively, these results demonstrate that nurse-led community interventions positively impact QoL across diverse settings and populations.

Effects on Depression

Two studies^(31,44) directly assessed depression, using tools such as the Geriatric Depression Scale (GDS). In Brazil, Dantas et al.⁽³¹⁾ showed that a multidimensional primary care nursing intervention over 12 months led to significant reductions in depressive symptoms, suggesting that integrated psychosocial support within chronic disease management can improve mental health. Similarly, Xie et al.⁽⁴⁴⁾ found that a modified behavioural activation program tailored for socially isolated, rural older adults in China produced clinically meaningful reductions in depressive symptoms compared to usual care. These findings highlight the importance of culturally adapted, nurse-led strategies in tackling geriatric depression, particularly in vulnerable populations.

Effects on Patient Activation and Empowerment

Three studies evaluated outcomes related to patient activation, empowerment, or health literacy. (28,42,43) In Taiwan, Lin et al. (28) demonstrated that a 12-week nurse-led empowerment program improved both health behaviors and participants' confidence in managing chronic conditions. Sun et al. (42) showed that simplified, easy-to-read health education materials significantly improved oral health literacy and empowerment in older adults attending rural community centers. Meanwhile, Sum et al. (43) in Singapore reported significant increases in PAM scores and QoL outcomes within a patient-centered medical home model designed for older adults with multimorbidity. Together, these studies provide strong evidence that nurse-led interventions can enhance activation and autonomy, which are crucial for sustaining long-term self-management.

Overall Findings

Across the 10 studies, consistent evidence emerged showing that community-based, nurse-led interventions improve QoL, reduce depression, and enhance empowerment or patient activation among older adults with chronic diseases. Benefits were observed in both high-income and low-resource settings, underscoring the adaptability of these interventions. While intervention types varied—from self-management programs to behavioural activation therapies—the unifying feature was the central role of nurses as educators, coordinators, and facilitators of patient-centered care.

DISCUSSION

This systematic review synthesized evidence from 10 studies evaluating the effectiveness of community-based, nurse-led interventions for older adults with chronic diseases. Across diverse settings and study designs, consistent benefits were observed for quality of life, depressive symptoms, and patient activation or empowerment. These findings highlight the central role of nurses in delivering community-level interventions that address both physical and psychosocial aspects of chronic disease management.

One of the most robust findings was the improvement in QoL across most included studies. Nurse-led programs that integrated self-management education, lifestyle modification, and multicomponent geriatric care consistently produced measurable gains in physical functioning, vitality, and general health. This aligns with prior research showing that structured nurse-led interventions can improve outcomes beyond medical symptom control by fostering self-care skills, continuity of care, and social support. Notably, these improvements were evident across both high-income contexts (e.g., USA, Germany, Singapore) and low- and middle-income countries (e.g., Nigeria, Brazil, China), suggesting the adaptability of such interventions across healthcare systems and resource levels. (1,18)

The review also found positive effects on depression, although only two studies directly measured this outcome. In Brazil, a multidimensional nursing program led to significant reductions in GDS scores, while in China, a modified behavioural activation therapy improved both depressive symptoms and QoL among socially isolated older adults. These results are consistent with evidence that nurse-led psychosocial interventions can reduce depression in older adults by enhancing coping strategies, social engagement, and structured daily

routines Importantly, the cultural tailoring of interventions appears to play a critical role in effectiveness, particularly in LMIC settings where stigma and limited access to psychiatric services may otherwise hinder mental health outcomes. (10, 11)

In addition, patient activation and empowerment emerged as important benefits of nurse-led interventions. Studies in Taiwan and Singapore demonstrated significant improvements in health literacy, self-management confidence, and PAM scores, reflecting increased patient engagement and autonomy. This is consistent with prior research showing that empowered patients are more likely to adhere to treatment regimens, engage in preventive behaviours, and experience better health outcomes. (22,26) These findings underscore the importance of designing interventions that not only provide knowledge but also build self-efficacy and confidence in managing chronic conditions.

Another key contribution of this review is its global perspective, spanning studies conducted in high-, middle-, and low-income countries. While resource constraints were more prominent in LMIC settings, nurseled interventions were still shown to be feasible and effective, highlighting their potential to fill critical gaps in primary care. For instance, the Nigerian diabetes education program demonstrated that relatively low-cost, community-delivered nursing initiatives can substantially improve QoL, supporting arguments for scaling up such models in under-resourced health systems. (2,37)

Collectively, the findings emphasize that nurse-led, community-based interventions provide a holistic and culturally adaptable approach to chronic disease management in older adults. By improving QoL, reducing depression, and enhancing empowerment, these interventions address multiple dimensions of health and wellbeing simultaneously. They also align with global health priorities calling for stronger community-based care models to respond to aging populations and the rising burden of chronic diseases. (3,4)

Based on the findings of this review, practice, policy, and research efforts should prioritize the integration of nurse-led, community-based interventions into primary care for older adults with chronic diseases. Nurses should receive training in health literacy, empowerment strategies, and culturally sensitive care, with interventions incorporating family engagement and community support. At the policy level, funding should be allocated to scale up such interventions across diverse settings, standardized evaluation frameworks should be adopted to enable benchmarking, and task-shifting policies should expand the role of nurses, particularly in resource-limited contexts. Future research should focus on large-scale, multi-country randomized controlled trials, include cost-effectiveness analyses, evaluate long-term outcomes beyond 12 months, and explore digital or hybrid delivery models to enhance reach and sustainability.

Limitations

Several limitations should be considered when interpreting the findings of this review. First, the number of studies directly assessing depression and patient activation/self-efficacy was relatively small, which limits the generalizability of conclusions regarding these outcomes. Only two studies measured depressive symptoms, and three studies assessed patient activation or empowerment, meaning that the evidence for mental health and self-management outcomes is less robust compared with quality of life. Second, the heterogeneity of interventions, study designs, outcome measures, and follow-up durations prevented quantitative synthesis and meta-analysis, which limits the ability to provide pooled effect estimates. Third, most included studies were quasi-experimental and carried moderate to serious risk of bias, primarily due to lack of randomization and potential confounding, which may have influenced reported effects. Fourth, only English-language studies were included, which may have introduced language bias and excluded potentially relevant evidence from non-English-speaking regions. Finally, variations in healthcare systems, cultural contexts, and resource availability across included studies may affect the transferability of findings to other settings. Despite these limitations, the review provides valuable insights into the effectiveness of nurse-led, community-based interventions in improving quality of life, reducing depression, and enhancing patient activation/self-efficacy among older adults with chronic conditions.

CONCLUSION

This systematic review provides strong evidence that community-based, nurse-led interventions can significantly improve the health and well-being of older adults with chronic diseases. Across diverse global settings, these interventions consistently enhanced quality of life, reduced depressive symptoms, and improved patient activation or empowerment. The observed benefits were evident in both high-income and low- and middle-income countries, highlighting the adaptability and scalability of nurse-led models of care. By integrating education, psychosocial support, lifestyle coaching, and empowerment strategies, nurses serve as essential facilitators bridging healthcare systems and community needs. These findings support the implementation of nurse-led interventions within primary care and community health programs, especially in resource-limited contexts where hospital-centered approaches may be insufficient for managing aging populations. Future research should focus on conducting larger, high-quality randomized controlled trials in low- and middle-

9 Megahed Ibrahim A, et al

income settings, using standardized outcome measures, and evaluating the long-term sustainability and cost-effectiveness of these interventions. Generating such evidence is crucial to guide policy decisions, strengthen community health systems, and promote healthy aging worldwide.

REFERENCES

- 1. Hussein S, Ismail M. Ageing and elderly care in the Arab region: policy challenges and opportunities. Ageing Int. 2017;42(3):274-89. doi:10.1007/s12126-016-9244-8.
- 2. Abyad A, Hammami SO. Geriatric medicine in the Arab world. In: Handbook of healthcare in the Arab world. Springer; 2021. p.2149-76. doi:10.1007/978-3-030-74066-6_116.
- 3. Thinley S. Health and care of an ageing population: alignment of health and social systems to address the need. J Health Manag. 2021;23(1):109-18.
- 4. Padeiro M, Santana P, Grant M. Global aging and health determinants in a changing world. In: Aging. Academic Press; 2023. p.3-30.
- 5. Zhao C, Wong L, Zhu Q, Yang H. Prevalence and correlates of chronic diseases in an elderly population: a community-based survey in Haikou. PLoS One. 2018;13(6):e0199006. doi:10.1371/journal.pone.0199006.
- 6. Mohamed RA, Abdel-Salam DM, Mohamed SF. Functional disability and their associated chronic diseases among elderly patients attending an Egyptian family practice clinic. Egypt J Community Med. 2021;39(4):1-7. doi:10.21608/ejcm.2021.208035.
- 7. Abdalla AG, El-Hady A, Said F, Sedky S, Mohammed NA. Health indicators among elderly people with chronic diseases in Beni-Suef. Niles J Geriatr Gerontol. 2022;5(1):126-50.
- 8. Abdel-Rahman S, Khater E, Fattah MNA, Hussein WA. Social determinants of chronic diseases reporting among slum dwellers in Egypt. J Biosoc Sci. 2024;56(3):590-608.
- 9. Moustafa SA, Boersch-Supan A, Salama M. Aging in an Arab country: knowledge gaps in Egypt. Nat Aging. 2023;3(9):1042-4.
- 10. Birk JL, Kronish IM, Moise N, Falzon L, Yoon S, Davidson KW. Depression and multimorbidity: considering temporal characteristics of the associations between depression and multiple chronic diseases. Health Psychol. 2019;38(9):802-11. doi:10.1037/hea0000729.
- 11. Reynolds CF, Jeste DV, Sachdev PS, Blazer DG. Mental health care for older adults: recent advances and new directions in clinical practice and research. World Psychiatry. 2022;21(3):336-63. doi:10.1002/wps.21093.
- 12. Yeung P, Breheny M. Quality of life among older people with a disability: the role of purpose in life and capabilities. Disabil Rehabil. 2021;43(2):181-91. doi:10.1080/09638288.2019.1620875.
- 13. Maresova P, Javanmardi E, Barakovic S, Barakovic Husic J, Tomsone S, Krejcar O, et al. Consequences of chronic diseases and other limitations associated with old age a scoping review. BMC Public Health. 2019;19(1):1431. doi:10.1186/s12889-019-7762-5.
- 14. Safiri S, Asghari KM, Sullman MJ. The global burden of diseases and injuries among older adults. Science. 2023;20(21).
- 15. Duncan BB, Schmidt MI, GBD 2019 Collaborators. Global, regional, and national burden of diseases and injuries for adults 70 years and older: systematic analysis for the Global Burden of Disease 2019 Study. BMJ. 2022;376:e068208.
- 16. Atella V, Piano Mortari A, Kopinska J, Belotti F, Lapi F, Cricelli C, et al. Trends in age-related disease burden and healthcare utilization. Aging Cell. 2019;18(1):e12861.
- 17. Flaherty E, Bartels SJ. Addressing the community-based geriatric healthcare workforce shortage by leveraging the potential of interprofessional teams. J Am Geriatr Soc. 2019;67(S2):S400-8.

- 18. Rankin M, Hoffman JR. Formal community-based care. In: Care of older persons: emerging international perspectives. Springer; 2024.
- 19. Subiyanto P, Susilo CB. The role of community nurses in improving public health: strategies and implementation of educational programs. Oshada. 2024;1(4):29-44.
- 20. Kaihlanen AM, Hietapakka L, Heponiemi T. Increasing cultural awareness: qualitative study of nurses' perceptions about cultural competence training. BMC Nurs. 2019;18(1):38. doi:10.1186/s12912-019-0363-x.
- 21. Sajber K, Khaleefah SC. Culturally competent respect for the autonomy of Muslim patients: fostering patient agency by respecting justice. Theor Med Bioeth. 2024;45(2):133-49.
- 22. Hibbard JH, Greene J. What the evidence shows about patient activation: better health outcomes and care experiences; fewer data on costs. Health Aff (Millwood). 2013;32(2):207-14. doi:10.1377/hlthaff.2012.1061.
- 23. Lorig KR, Holman HR. Self-management education: history, definition, outcomes, and mechanisms. Ann Behav Med. 2003;26(1):1-7. doi:10.1207/S15324796ABM2601_01.
- 24. Boyd CT, Spangler JG, Strickland CG, Roper JE, Kirk JK. Impact of group medical visits on patient engagement and quality of life. Expert Rev Endocrinol Metab. 2023;18(6):549-54.
- 25. Zeidalkilani JM, Milhem YA, Shorafa RN, Taha S, Koni AA, Al-Jabi SW, Zyoud SEH. Factors associated with patient activation among patients with diabetes on hemodialysis: a multicenter cross-sectional study from a developing country. BMC Nephrol. 2024;25:232.
- 26. Hosseinzadeh H, Downie S, Shnaigat M. Effectiveness of health literacy- and patient activation-targeted interventions on chronic disease self-management outcomes in outpatient settings: a systematic review. Aust J Prim Health. 2022;28(2):83-96. doi:10.1071/PY21175.
- 27. Eaglehouse YL, Schafer GL, Arena VC, Kramer MK, Miller RG, Kriska AM. Impact of a community-based lifestyle intervention program on health-related quality of life. Qual Life Res. 2016;25(8):1903-12. doi:10.1007/s11136-016-1233-1.
- 28. Lin SC, Chen IJ, Yu WR, Lee SYD, Tsai TI. Effect of a community-based participatory health literacy program on health behaviors and health empowerment among community-dwelling older adults: a quasi-experimental study. Geriatr Nurs. 2019;40(5):494-501. doi:10.1016/j.gerinurse.2019.03.010.
- 29. Hasemann L, Lampe D, Nebling T, Thiem U, von Renteln-Kruse W, Greiner W. Effectiveness of a multi-component community-based care approach for older people at risk of care dependency results of a prospective quasi-experimental study. BMC Geriatr. 2022;22:348. doi:10.1186/s12877-022-03002-3.
- 30. Okafor CN, Akosile CO, Nkechi CE, Okonkwo UP, Nwankwo CM, Okoronkwo IL, et al. Effect of educational intervention programme on the health-related quality of life (HRQOL) of individuals with type 2 diabetes mellitus in South-East, Nigeria. BMC Endocr Disord. 2023;23:75. doi:10.1186/s12902-023-01300-3.
- 31. Dantas BAD, de Miranda JM, Cavalcante AC, Toscano GAS, Torres LS, Rossignolo SCDO, Torres GDV. Impact of multidimensional interventions on quality of life and depression among older adults in a primary care setting in Brazil: a quasi-experimental study. Braz J Psychiatry. 2019;42(2):201-8. doi:10.1590/1516-4446-2018-0007.
 - 32. Bandura A. Self-efficacy: the exercise of control. New York: Freeman; 1997.
- 33. Whitehall L, Rush R, Górska S, Forsyth K. The general self-efficacy of older adults receiving care: a systematic review and meta-analysis. Gerontologist. 2021;61(6):e302-17.
- 34. Hladek MD, Gill J, Bandeen-Roche K, Walston J, Allen J, Hinkle JL, et al. High coping self-efficacy associated with lower odds of pre-frailty/frailty in older adults with chronic disease. Aging Ment Health. 2020;24(12):1956-62.
 - 35. Hibbard JH, Greene J. What the evidence shows about patient activation: better health outcomes and

care experiences; fewer data on costs. Health Aff (Millwood). 2013;32(2):207-14.

- 36. Rivera E, Corte C, Steffen A, DeVon HA, Collins EG, McCabe PJ. Illness representation and self-care ability in older adults with chronic disease. Geriatrics. 2018;3(3):45.
- 37. Ibrahim FH, Gaber SD, Adel HS, Ahmed HS. Facilitators and barriers of active aging among Egyptians: a community-based study in Cairo governorate, Egypt. Al-Azhar Med J. 2020;49(1):103-16.
- 38. Jarzebski MP, Elmqvist T, Gasparatos A, Fukushi K, Eckersten S, Haase D, et al. Ageing and population shrinking: implications for sustainability in the urban century. NPJ Urban Sustain. 2021;1:17.
- 39. Ferreira ML, De Luca K, Haile LM, Steinmetz JD, Culbreth GT, Cross M, et al. Global, regional, and national burden of low back pain, 1990-2020, its attributable risk factors, and projections to 2050: a systematic analysis of the Global Burden of Disease Study 2021. Lancet Rheumatol. 2023;5(6):e316-29.
- 40. Basu R, Ory MG, Towne SD Jr, Smith ML, Hochhalter AK, Ahn S. Cost-effectiveness of the chronic disease self-management program: implications for community-based organizations. Front Public Health. 2015;3:27. doi:10.3389/fpubh.2015.00027.
- 41. Karamanakos G, Costa-Pinel B, Gilis-Januszewska A, Velickiene D, Barrio-Torrell F, Cos-Claramunt X, et al. The effectiveness of a community-based, type 2 diabetes prevention programme on health-related quality of life. PLoS One. 2019;14(10):e0221467. doi:10.1371/journal.pone.0221467.
- 42. Sun KT, Shieh TM, Hsia SM, Ningrum V, Lin XY, Shih YH. Easy to read health education material improves oral health literacy of older adults in rural community-based care centers: a quasi-experimental study. Healthcare (Basel). 2021;9(11):1465.
- 43. Sum G, Ho SH, Lim ZZB, Chay J, Ginting ML, Tsao MA, Wong CH. Impact of a patient-centered medical home demonstration on quality of life and patient activation for older adults with complex needs in Singapore. BMC Geriatr. 2021;21:1-11.
- 44. Xie J, He G, Ding S, Pan C, Zhang X, Zhou J, Iennaco JD. A randomized study on the effect of modified behavioral activation treatment for depressive symptoms in rural left-behind elderly. Psychother Res. 2019;29(3):372-82.

FINANCING

Project number (PSAU/ 2025/03/33901).

ACKNOWLEDGMENT

The authors extend their appreciation to Prince Sattam bin Abdulaziz University for funding this research.

CONFLICT OF INTEREST

Authors declare that no conflicts of interest.

AUTHORSHIP CONTRIBUTION

Conceptualization: Ateya Megahed Ibrahim, Donia Elsaid Fathi Zaghamir.

Data curation: Ateya Megahed Ibrahim, Donia Elsaid Fathi Zaghamir.

Formal analysis: Ateya Megahed Ibrahim, Donia Elsaid Fathi Zaghamir.

Research: Ateya Megahed Ibrahim, Donia Elsaid Fathi Zaghamir.

Methodology: Ateya Megahed Ibrahim, Donia Elsaid Fathi Zaghamir.

Project management: Ateya Megahed Ibrahim, Donia Elsaid Fathi Zaghamir.

Resources: Ateya Megahed Ibrahim, Donia Elsaid Fathi Zaghamir.

Software: Ateya Megahed Ibrahim, Donia Elsaid Fathi Zaghamir.

Supervision: Ateya Megahed Ibrahim, Donia Elsaid Fathi Zaghamir.