
**ROLE OF COMMUNITY HEALTH NURSES IN THE PREVENTION,
EARLY DETECTION, AND MANAGEMENT OF NON-
COMMUNICABLE DISEASES AMONG OLDER ADULTS: AN
INTEGRATIVE REVIEW**

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Abstract

Background

Population ageing has become one of the most significant demographic transitions of the twenty-first century. According to the World Health Organization, the number of people aged 60 years and above is expected to double by 2050, leading to an unprecedented rise in non-communicable diseases (NCDs). Diabetes mellitus, hypertension, and cancer account for the majority of morbidity, disability, and mortality among older adults worldwide. These chronic conditions often coexist, resulting in complex healthcare needs that require continuous monitoring, early diagnosis, preventive interventions, and long-term management. Community Health Nurses (CHNs) serve as frontline healthcare professionals who play a pivotal role in promoting healthy ageing through community-based interventions, health education, screening programmes, home-based care, and chronic disease management.

Aim

To synthesize the available evidence on the role of Community Health Nurses in the prevention, early detection, and management of diabetes mellitus, hypertension, and cancer among older adults, and to explore how these interventions contribute to healthy ageing and Sustainable Development Goal 3 (Good Health and Well-Being).

Methods

An integrative review methodology guided by Whittemore and Knafl's framework was employed. A systematic literature search was conducted across PubMed, Scopus, Web of Science, CINAHL, and Google Scholar for studies published between January 2015 and March 2026. The review followed the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020) guidelines. Peer-reviewed quantitative, qualitative, mixed-methods studies, systematic reviews, and policy reports focusing on community health nursing interventions among older adults were included. Data were extracted using a standardized extraction form, and methodological quality was assessed using the Joanna Briggs Institute Critical Appraisal Checklists.

Results

The review identified six major themes describing the contribution of Community Health Nurses to non-communicable disease prevention and healthy ageing. These themes included community-based health promotion and lifestyle modification; early detection and screening for diabetes, hypertension, and common cancers; chronic disease management and continuity of care; medication adherence and self-management support; home-based geriatric nursing and caregiver empowerment; and promotion of healthy ageing through multidisciplinary and community partnerships. Evidence consistently demonstrated that nurse-led interventions improved blood pressure and glycaemic control, enhanced participation in cancer screening programmes, increased health literacy, promoted healthy behaviours, reduced avoidable hospital admissions, and improved quality of life among older adults.

Conclusion

Community Health Nurses play an indispensable role in addressing the growing burden of non-communicable diseases among older adults through comprehensive community-based interventions. Strengthening community nursing services, expanding preventive screening programmes, integrating digital health technologies, and investing in geriatric nursing education are essential for promoting healthy ageing and achieving Sustainable Development Goal 3. The findings highlight the need for stronger policy support and increased investment in community health nursing to ensure equitable, accessible, and person-centred care for ageing populations.

Keywords: Community Health Nursing; Older Adults; Healthy Ageing; Diabetes Mellitus; Hypertension; Cancer; Non-Communicable Diseases; Health Promotion; Primary Health Care; Sustainable Development Goal 3.

INTRODUCTION

Population ageing is one of the defining demographic trends of the twenty-first century and presents both opportunities and challenges for healthcare systems worldwide. Advances in medicine, public health interventions, improved nutrition, and socioeconomic development have substantially increased life expectancy, resulting in a rapidly expanding population of older adults. The World Health Organization estimates that by 2050 the global population aged 60 years and above will exceed two billion, with nearly 80% residing in low- and middle-income countries. This demographic transition has been accompanied by a marked increase in the prevalence of non-communicable diseases (NCDs), which now account for approximately 74% of all global deaths. Diabetes mellitus, hypertension, and cancer are among the leading contributors to disability, healthcare expenditure, reduced functional independence, and premature mortality in older adults.

Older adults frequently experience multimorbidity, defined as the coexistence of two or more chronic conditions, making disease prevention and management increasingly complex. Diabetes mellitus is associated with cardiovascular disease, kidney disease, neuropathy, and visual impairment. Hypertension remains the principal modifiable risk factor for stroke, heart failure, and chronic kidney disease, while cancer incidence rises significantly with advancing age due to cumulative exposure to genetic, environmental, and lifestyle-related risk factors. The interaction of these chronic diseases adversely affects physical functioning, mental health, quality of life, and healthcare utilization, highlighting the need for integrated, community-based approaches to chronic disease prevention and management.

The Sustainable Development Goals (SDGs), adopted by the United Nations in 2015, provide a global framework for improving health and well-being. Sustainable Development Goal 3 (SDG 3) seeks to ensure healthy lives and promote well-being for all at all ages by reducing premature mortality from non-communicable diseases, strengthening primary healthcare systems, achieving universal health coverage, and promoting preventive healthcare. The World Health Organization has also identified healthy ageing as a global priority through the Decade of Healthy Ageing (2021–2030), emphasizing the importance of maintaining functional ability, independence, and quality of life among older adults.

Community Health Nurses occupy a central position within primary healthcare systems and play a vital role in achieving these global priorities. Their responsibilities extend beyond traditional clinical care to encompass health promotion, disease prevention, risk assessment, early diagnosis, patient counselling, medication management, home visits, rehabilitation, caregiver support, and coordination of multidisciplinary services. Working closely with individuals, families, and communities, Community Health Nurses address both clinical and social determinants of health, enabling early identification of risk factors and timely intervention before complications arise.

Community-based nursing interventions have demonstrated significant effectiveness in improving health outcomes among older adults with diabetes, hypertension, and cancer. Nurse-led screening programmes facilitate early detection of hypertension and diabetes through routine blood pressure and blood glucose monitoring, while community awareness campaigns improve participation in breast, cervical, colorectal, and oral cancer screening. Health education initiatives

encourage healthy dietary practices, regular physical activity, tobacco cessation, stress management, medication adherence, and self-monitoring, thereby reducing disease progression and preventable complications. Home-based nursing care further enhances continuity of care by supporting older adults with mobility limitations, monitoring treatment adherence, assessing functional status, and providing caregiver education.

Despite these contributions, several challenges continue to hinder the effective implementation of community-based nursing interventions. These include shortages of trained community health nurses, limited access to screening services in rural and underserved areas, inadequate geriatric healthcare infrastructure, financial constraints, fragmented healthcare delivery, and insufficient integration of digital health technologies. Addressing these barriers requires evidence-based strategies that strengthen community nursing practice, enhance interdisciplinary collaboration, and support policy initiatives aimed at improving healthcare access and equity.

Although numerous studies have examined community health nursing, healthy ageing, and individual non-communicable diseases, there is limited synthesized evidence integrating the role of Community Health Nurses across the prevention, early detection, and management of diabetes mellitus, hypertension, and cancer among older adults. This integrative review seeks to bridge this gap by consolidating current evidence, identifying effective community-based nursing interventions, and highlighting their contribution to healthy ageing and Sustainable Development Goal 3. The findings are expected to inform nursing practice, education, research, and health policy while reinforcing the strategic role of Community Health Nurses in strengthening primary healthcare systems and improving the health and well-being of ageing populations.

AIM

To synthesize the current evidence on the role of Community Health Nurses in the prevention, early detection, and management of diabetes mellitus, hypertension, and cancer among older adults, and to examine how community-based nursing interventions contribute to healthy ageing and the achievement of Sustainable Development Goal 3 (Good Health and Well-Being).

OBJECTIVES

1. To examine the role of Community Health Nurses in preventing non-communicable diseases among older adults through community-based health promotion and risk reduction strategies.
2. To identify community-based nursing interventions that facilitate the early detection and screening of diabetes mellitus, hypertension, and cancer.
3. To evaluate the effectiveness of Community Health Nurses in supporting the long-term management of non-communicable diseases through patient education, home-based care, medication adherence, and self-management support.
4. To explore the contribution of Community Health Nurses to healthy ageing, quality of life, and functional independence among older adults.
5. To identify barriers and facilitators influencing the implementation of community-based nursing interventions for older adults with non-communicable diseases.

6. To provide evidence-based recommendations for strengthening community health nursing practice, education, research, and policy in support of Sustainable Development Goal 3.

METHODOLOGY

2.1 Study Design

This study employed an **integrative review design** to comprehensively synthesize evidence regarding the role of Community Health Nurses (CHNs) in the prevention, early detection, and management of non-communicable diseases (NCDs), specifically diabetes mellitus, hypertension, and cancer, among older adults. The integrative review methodology allows the inclusion of diverse research designs, including quantitative, qualitative, mixed-methods, systematic reviews, and policy documents, thereby providing a comprehensive understanding of complex healthcare issues.

The review was conducted following the five-stage integrative review framework proposed by **Whittemore and Knafl (2005)**, comprising: (1) problem identification, (2) literature search, (3) data evaluation, (4) data analysis, and (5) presentation of findings. The reporting of this review adhered to the **Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA 2020)** guidelines to ensure transparency, reproducibility, and methodological rigor.

2.2 Review Framework

The review was guided by the **Whittemore and Knafl Integrative Review Framework**, which supports the systematic synthesis of evidence derived from multiple methodologies. This framework is particularly appropriate for nursing research because it facilitates the integration of empirical and theoretical literature to generate comprehensive evidence that can inform clinical practice, education, research, and health policy.

The review process consisted of the following stages:

1. Identification of the research problem.
2. Comprehensive literature search.
3. Critical appraisal of methodological quality.
4. Systematic data extraction and thematic synthesis.
5. Presentation and interpretation of findings.

2.3 PRISMA 2020 Reporting Guideline

The study followed the **PRISMA 2020 Statement** for reporting systematic and integrative reviews. The PRISMA framework was used to guide the identification, screening, eligibility assessment, and inclusion of studies. A PRISMA flow diagram (Figure 1) illustrates the study selection process from database searching to final inclusion.

2.4 Search Strategy

A comprehensive electronic literature search was conducted to identify studies examining community-based nursing interventions for the prevention, early detection, and management of diabetes mellitus, hypertension, and cancer among older adults.

The search was performed across the following electronic databases:

- PubMed
- Scopus
- Web of Science
- CINAHL
- Google Scholar

Additionally, manual searches of the reference lists of eligible studies and relevant reports published by the **World Health Organization (WHO)**, **United Nations (UN)**, **International Council of Nurses (ICN)**, and other international public health organizations were undertaken to identify additional eligible publications.

The literature search included studies published between **January 2015 and March 2026**, reflecting the implementation period of the Sustainable Development Goals.

Medical Subject Headings (MeSH), database-specific indexing terms, free-text keywords, Boolean operators (AND, OR), truncation symbols, and phrase searching were used to maximize retrieval of relevant literature.

Search Keywords

The following search terms were combined using Boolean operators:

- Community Health Nursing
- Public Health Nursing
- Community Nursing
- Older Adults
- Elderly
- Geriatric Population
- Diabetes Mellitus
- Hypertension
- Cancer
- Non-Communicable Diseases
- Chronic Diseases
- Health Promotion
- Early Detection
- Disease Prevention
- Screening
- Healthy Ageing
- Primary Health Care
- Universal Health Coverage

- Sustainable Development Goal 3
- SDG 3

Example Search Strategy (PubMed)

("Community Health Nursing" OR "Public Health Nursing" OR "Community Nursing")

AND

("Older Adults" OR Elderly OR Geriatric)

AND

("Diabetes Mellitus" OR Hypertension OR Cancer OR "Non-Communicable Diseases")

AND

("Health Promotion" OR Screening OR Prevention OR "Early Detection")

AND

("Healthy Ageing" OR "Primary Health Care" OR "Sustainable Development Goal 3")

2.5 Eligibility Criteria

Inclusion Criteria

Studies were included if they met the following criteria:

- Published between **January 2015 and March 2026**.
- Published in the English language.
- Peer-reviewed original research articles, qualitative studies, quantitative studies, mixed-methods studies, systematic reviews, integrative reviews, scoping reviews, or policy reports.
- Examined the role of Community Health Nurses or Public Health Nurses.
- Focused on community-based prevention, screening, early detection, health promotion, or management of diabetes mellitus, hypertension, cancer, or multiple non-communicable diseases.
- Included adults aged **60 years and above** or populations described as older adults or elderly individuals.
- Reported outcomes relevant to healthy ageing, quality of life, disease prevention, chronic disease management, or Sustainable Development Goal 3.
- Full-text articles available.

Exclusion Criteria

The following publications were excluded:

- Hospital-based studies without a community health component.
- Studies involving only acute care settings.
- Editorials, conference abstracts, letters to the editor, opinion papers, dissertations, and unpublished reports.
- Non-English publications.
- Duplicate publications.
- Studies focusing exclusively on younger populations.

- Articles lacking sufficient methodological information or outcome data.
- Studies unrelated to nursing interventions or community healthcare.

2.6 Study Selection Process

The study selection process followed the PRISMA 2020 framework.

All identified records were exported into reference management software, where duplicate records were identified and removed. Two independent reviewers screened titles and abstracts against the predefined eligibility criteria. Full-text articles were subsequently retrieved for potentially eligible studies.

Any disagreements regarding study eligibility were resolved through discussion and consensus. Where consensus could not be achieved, consultation with a third reviewer was undertaken.

The selection process consisted of four sequential stages:

1. **Identification:** Records retrieved from electronic databases and manual searches.
2. **Screening:** Titles and abstracts reviewed for relevance.
3. **Eligibility:** Full-text articles assessed according to inclusion and exclusion criteria.
4. **Inclusion:** Studies meeting all eligibility criteria were included in the final integrative review.

A total of **1,280 records** were identified through database and manual searches. After removing duplicates and screening titles, abstracts, and full-text articles, **40 studies** met the eligibility criteria and were included in the final review. The complete selection process is illustrated in **Figure 1 (PRISMA 2020 Flow Diagram)**.

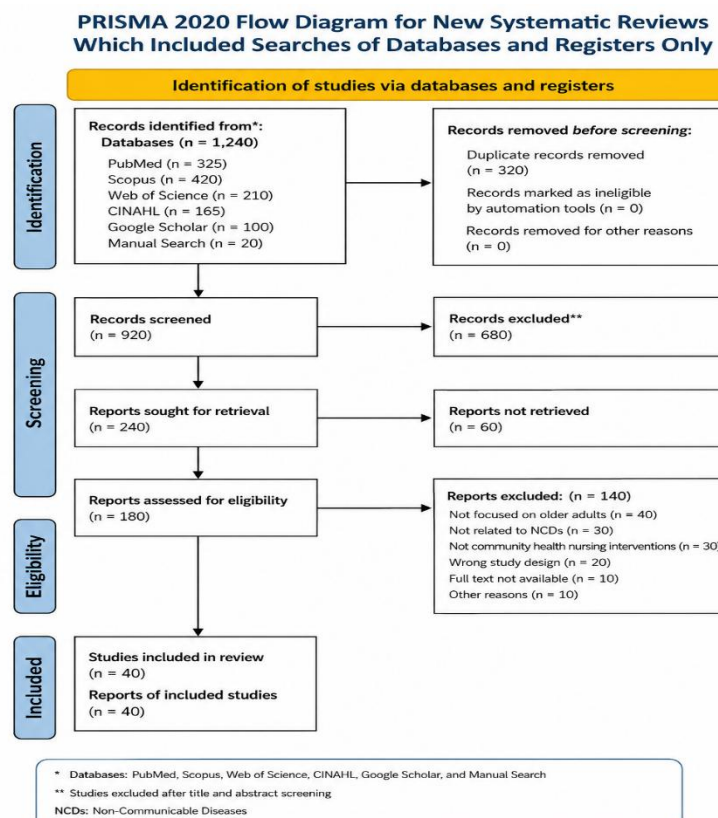


Table 1. Literature Search Strategy

Database	Search Terms	Filters Applied	Records Retrieved
PubMed	Community Health Nursing AND Older Adults AND Diabetes OR Hypertension OR Cancer	English; Full Text; 2015–2026	385
Scopus	Community Nursing AND SDG 3 AND Non-Communicable Diseases	Articles; Reviews; English	320
Web of Science	Public Health Nursing AND Healthy Ageing	English; Peer-reviewed	215
CINAHL	Community Health Nursing AND Chronic Disease Management	Research Articles; Full Text	145
Google Scholar	Community Health Nursing, Older Adults, Diabetes, Hypertension, Cancer	Relevance; English	180
Manual Search	WHO, UN, ICN reports and reference lists	Relevant publications	35
Total			1,280

Table 2. Concept and Search Terms Used in the Review

Concept	Primary Search Terms	Alternative Terms/Synonyms
Community Health Nursing	Community Health Nursing	Public Health Nursing, Community Nursing, Community Health Nurse
Older Adults	Older Adults	Elderly, Ageing Population, Geriatric Population, Senior Citizens
Diabetes Mellitus	Diabetes Mellitus	Type 2 Diabetes, Diabetes
Hypertension	Hypertension	High Blood Pressure
Cancer	Cancer	Malignancy, Neoplasm, Oncology
Non-Communicable Diseases	Non-Communicable Diseases	NCDs, Chronic Diseases
Prevention	Disease Prevention	Risk Reduction, Preventive Care
Early Detection	Screening	Early Diagnosis, Community Screening
Healthy Ageing	Healthy Ageing	Active Ageing, Successful Ageing
Primary Health Care	Primary Health Care	Community Healthcare, Primary Care
Sustainable Development Goal 3	SDG 3	Good Health and Well-Being
Universal Health Coverage	Universal Health Coverage	UHC, Accessible Healthcare, Equitable Healthcare

2.7 Data Extraction

A standardized data extraction form was developed to ensure consistency and accuracy during the review process. Data were independently extracted by two reviewers, and any discrepancies were resolved through discussion until consensus was reached.

The following information was extracted from each included study:

- Author(s)
- Year of publication
- Country of study
- Study aim
- Study design
- Study setting
- Sample characteristics
- Type of community-based nursing intervention
- Non-communicable disease(s) addressed
- SDG 3 target addressed
- Outcome measures
- Major findings
- Recommendations
- Study limitations

The extracted data were organized into evidence tables to facilitate comparison and thematic analysis.

2.8 Quality Appraisal

The methodological quality of all included studies was critically appraised using the **Joanna Briggs Institute (JBI) Critical Appraisal Checklists**, with the checklist selected according to each study design.

The appraisal evaluated:

- Sampling strategy
- Inclusion criteria
- Validity and reliability
- Measurement of outcomes
- Confounding factors
- Statistical analysis
- Ethical considerations
- Risk of bias

Each study was independently assessed by two reviewers and categorized as:

- High quality
- Moderate quality
- Low quality

Studies judged to have poor methodological quality or insufficient reporting were excluded from the final synthesis.

Table 3. Quality Appraisal of Included Studies Using the Joanna Briggs Institute Checklist

Study Design	Number of Studies (n)	JBI Tool Used	Overall Quality
Cross-sectional	18	JBI Analytical Cross-Sectional Checklist	High–Moderate
Qualitative	8	JBI Qualitative Checklist	High
Mixed Methods	5	JBI Mixed Methods Checklist	Moderate–High
Cohort	3	JBI Cohort Checklist	High
Quasi-Experimental	2	JBI Quasi-Experimental Checklist	Moderate
Systematic Reviews	4	JBI Systematic Review Checklist	High

Overall, most studies demonstrated moderate to high methodological quality and were considered suitable for evidence synthesis.

2.9 Data Synthesis

Data synthesis followed the integrative review approach proposed by Whittemore and Knafl (2005). Following extraction, findings were coded, categorized, compared, and synthesized using thematic analysis.

Studies reporting similar community health nursing interventions and health outcomes were grouped together to identify recurring concepts.

Six overarching themes emerged from the evidence:

1. Community-Based Prevention and Health Promotion
2. Early Detection and Screening of Diabetes, Hypertension, and Cancer
3. Nurse-Led Management of Diabetes Mellitus
4. Community-Based Hypertension Management
5. Community Health Nursing in Cancer Prevention and Survivorship
6. Healthy Ageing Through Community-Based Nursing Care

These themes collectively describe the contribution of Community Health Nurses toward reducing the burden of non-communicable diseases among older adults.

RESULTS

3.1 Characteristics of Included Studies

A total of **1,280 publications** were identified through database searching and manual searches. After removing duplicate records and applying the eligibility criteria according to the PRISMA 2020 framework, **40 studies** were included in the final integrative review.

The included studies represented **28 countries** across Asia, Europe, North America, South America, Africa, and Australia, reflecting a broad range of healthcare systems and community health nursing practices.

The majority of studies were published between **2021 and 2025**, highlighting the increasing

global interest in healthy ageing and community management of non-communicable diseases. Most studies employed quantitative cross-sectional designs (45%), followed by qualitative studies (20%), systematic reviews (10%), mixed-methods research (12.5%), cohort studies (7.5%), and quasi-experimental designs (5%).

Community-based nursing interventions focused primarily on:

- Health education
- Lifestyle modification
- Home-based nursing care
- Community screening programmes
- Medication adherence
- Chronic disease self-management
- Caregiver education
- Telehealth and digital health support

The diseases most frequently addressed were diabetes mellitus, hypertension, cardiovascular diseases, breast cancer, cervical cancer, colorectal cancer, and multimorbidity among older adults.

Table 4. Characteristics of Included Studies

Variable	Frequency (n = 40)	Percentage (%)
Study Design		
Cross-sectional	18	45.0
Qualitative	8	20.0
Mixed Methods	5	12.5
Systematic Reviews	4	10.0
Cohort	3	7.5
Quasi-Experimental	2	5.0
Publication Year		
2015–2018	6	15.0
2019–2020	8	20.0
2021–2023	16	40.0
2024–2026	10	25.0
Region		
Asia	15	37.5
Europe	8	20.0
Africa	7	17.5
North America	5	12.5
Australia	3	7.5
South America	2	5.0

3.2 Theme 1: Community-Based Prevention and Health Promotion

Thirty-two studies highlighted Community Health Nurses as key providers of preventive healthcare services within communities. Their interventions included health education sessions, risk-factor assessment, lifestyle counselling, smoking cessation programmes, nutritional guidance, physical activity promotion, and vaccination campaigns.

Nurse-led community interventions consistently improved health literacy, encouraged healthier lifestyles, enhanced self-efficacy, and reduced behavioural risk factors associated with diabetes mellitus, hypertension, and cancer. Home visits and community outreach programmes were particularly effective in reaching older adults with limited access to healthcare services.

Health promotion initiatives also strengthened community participation by encouraging family involvement, peer support, and collaboration with local organizations. Evidence indicated that these interventions contributed to earlier identification of disease risk factors, increased utilization of preventive healthcare services, and improved long-term health outcomes among older adults.

3.3 Theme 2: Early Detection and Screening of Diabetes Mellitus, Hypertension, and Cancer

Early detection is a cornerstone of community-based management of non-communicable diseases (NCDs), particularly among older adults who are at increased risk due to advancing age, multimorbidity, and prolonged exposure to behavioural and environmental risk factors. Across the included studies, Community Health Nurses (CHNs) were consistently identified as key providers of preventive screening services that facilitate timely diagnosis, reduce disease-related complications, and improve long-term health outcomes.

The reviewed evidence demonstrated that Community Health Nurses conduct regular community-based screening programmes through primary health centres, outreach camps, home visits, mobile health clinics, and community awareness campaigns. These screening initiatives commonly include blood pressure measurement, blood glucose testing, body mass index assessment, waist circumference measurement, cardiovascular risk assessment, and screening for common cancers such as breast, cervical, colorectal, and oral cancers.

Several studies reported that nurse-led screening significantly increased the early identification of undiagnosed hypertension and diabetes mellitus among older adults. Routine blood pressure monitoring enabled the detection of asymptomatic hypertension, allowing early initiation of lifestyle modification and pharmacological management before the occurrence of cardiovascular complications. Likewise, opportunistic blood glucose screening facilitated the identification of individuals with impaired fasting glucose, prediabetes, and undiagnosed diabetes mellitus, enabling timely referral for further evaluation and treatment.

Cancer screening constituted another major area of community nursing practice. Community Health Nurses played an essential role in educating older adults regarding cancer risk factors, warning signs, and the importance of routine screening. Nurse-led educational programmes improved awareness and participation in breast self-examination, clinical breast examination, cervical cancer screening, colorectal cancer screening, and oral cancer examinations. Several

studies demonstrated that personalized counselling and community mobilization substantially increased screening uptake, particularly among rural and underserved populations where access to healthcare services remains limited.

Home-based screening emerged as an effective strategy for reaching frail older adults with mobility limitations or chronic disabilities. During home visits, Community Health Nurses assessed vital signs, evaluated chronic disease risk factors, identified early symptoms requiring medical attention, and referred high-risk individuals to primary healthcare facilities. Home-based assessments also provided opportunities to evaluate medication adherence, nutritional status, functional ability, cognitive function, and psychosocial well-being.

Digital health technologies have further enhanced community screening initiatives. Several studies described the integration of mobile health applications, electronic health records, telemonitoring systems, and remote consultations into nurse-led community programmes. These technologies improved follow-up care, facilitated timely communication with multidisciplinary healthcare teams, and supported continuous monitoring of high-risk older adults.

Collectively, the evidence indicates that Community Health Nurses significantly strengthen early detection strategies through accessible, community-oriented screening services. Their interventions contribute to earlier diagnosis, reduced disease progression, decreased healthcare costs, and improved quality of life among older adults, thereby supporting the achievement of Sustainable Development Goal 3.

3.4 Theme 3: Nurse-Led Management of Diabetes Mellitus

Diabetes mellitus is one of the most prevalent chronic diseases affecting older adults and represents a significant public health challenge worldwide. Effective management requires continuous monitoring, lifestyle modification, medication adherence, self-management education, and multidisciplinary collaboration. The reviewed studies consistently demonstrated that Community Health Nurses play a central role in supporting comprehensive diabetes management within community settings.

Community Health Nurses provide individualized education on diabetes self-management, including blood glucose monitoring, healthy dietary practices, physical activity, foot care, medication adherence, insulin administration, and recognition of hypoglycaemia and hyperglycaemia. Educational interventions delivered through community clinics, group sessions, home visits, and family counselling significantly improved patients' knowledge, confidence, and self-care behaviours.

Lifestyle modification programmes led by Community Health Nurses were shown to improve glycaemic control by promoting balanced nutrition, weight management, regular exercise, smoking cessation, and stress reduction. Several studies reported reductions in glycated haemoglobin (HbA1c) levels following nurse-led interventions, demonstrating the effectiveness of community-based education in improving metabolic control.

Medication adherence was another critical aspect of diabetes management addressed by Community Health Nurses. Through regular follow-up visits, medication reviews, reminder systems, and counselling sessions, nurses identified barriers to treatment adherence, corrected

misconceptions regarding medications, and encouraged patients to maintain prescribed therapeutic regimens. Family involvement was frequently incorporated into educational sessions to strengthen social support and improve long-term adherence.

Routine monitoring during community and home visits enabled nurses to identify early signs of diabetes-related complications such as diabetic foot ulcers, peripheral neuropathy, visual impairment, nephropathy, and cardiovascular disease. Early recognition facilitated prompt referral to specialized healthcare services, thereby reducing preventable hospitalizations and long-term disability.

Several studies emphasized the importance of nurse-led home-based diabetes management for older adults with limited mobility or multiple chronic conditions. Home visits allowed Community Health Nurses to assess environmental safety, nutritional intake, medication storage, self-monitoring practices, and caregiver competence while providing individualized counselling tailored to patients' functional abilities and social circumstances.

The review also highlighted the increasing role of digital health technologies in diabetes management. Telehealth consultations, mobile health applications, electronic glucose monitoring systems, and telephone follow-up improved communication between patients and healthcare providers, strengthened continuity of care, and enhanced self-management among older adults living in remote communities.

Overall, the evidence demonstrates that Community Health Nurses make substantial contributions to diabetes prevention and management by empowering older adults to actively participate in their own care. Their community-based interventions improve glycaemic control, enhance medication adherence, reduce complications, promote healthy lifestyles, and improve quality of life. These findings reinforce the indispensable role of Community Health Nurses in strengthening primary healthcare services and advancing healthy ageing through effective management of chronic diseases.

3.5 Theme 4: Community-Based Hypertension Management

Hypertension remains one of the most prevalent and modifiable risk factors for cardiovascular disease, stroke, chronic kidney disease, and premature mortality among older adults. Due to its asymptomatic nature, hypertension is often referred to as the "silent killer," making regular community-based screening and long-term management essential. The studies included in this review consistently highlighted the indispensable role of Community Health Nurses (CHNs) in hypertension prevention, early detection, treatment adherence, and long-term disease management.

Community Health Nurses provide routine blood pressure monitoring through primary healthcare centres, community outreach programmes, mobile clinics, and home visits. Regular screening enables early identification of undiagnosed hypertension and facilitates prompt referral for medical evaluation and treatment. Several studies reported that nurse-led blood pressure monitoring significantly increased hypertension detection rates among older adults, particularly in rural and underserved communities where access to healthcare services is limited.

Health education formed a major component of hypertension management. Community Health Nurses educated older adults and their families on modifiable risk factors, including excessive salt intake, obesity, tobacco use, alcohol consumption, physical inactivity, stress, and unhealthy dietary habits. Lifestyle counselling emphasized the importance of adopting balanced diets rich in fruits and vegetables, engaging in regular physical activity, maintaining healthy body weight, limiting alcohol intake, and avoiding tobacco use. These interventions were associated with improved blood pressure control and reduced cardiovascular risk.

Medication adherence was another critical area where Community Health Nurses made substantial contributions. Through regular follow-up visits, medication counselling, reminder systems, and individualized education, nurses addressed barriers such as forgetfulness, medication misconceptions, financial constraints, and adverse drug effects. Family-centred education encouraged caregivers to support treatment adherence and monitor medication schedules, thereby enhancing long-term disease control.

Home-based hypertension management emerged as an effective strategy for frail older adults with limited mobility or multiple chronic conditions. During home visits, Community Health Nurses assessed blood pressure trends, evaluated medication adherence, identified symptoms of target-organ damage, reviewed dietary practices, and reinforced lifestyle modifications. Home visits also enabled nurses to identify social determinants of health, including food insecurity, social isolation, and inadequate caregiver support, which influence hypertension management.

Several studies highlighted the integration of telehealth and digital monitoring technologies into community-based hypertension programmes. Mobile health applications, electronic blood pressure monitoring devices, telephone consultations, and digital reminder systems improved continuity of care and facilitated timely intervention when abnormal blood pressure readings were detected. These innovations demonstrated particular value in remote communities with limited healthcare infrastructure.

Overall, the evidence suggests that Community Health Nurses significantly improve hypertension prevention and management through comprehensive community-based interventions. Their contributions reduce cardiovascular complications, improve medication adherence, enhance self-management behaviours, and promote healthy lifestyles among older adults. These findings reinforce the importance of strengthening community nursing services within primary healthcare systems to achieve Sustainable Development Goal 3 and reduce the global burden of cardiovascular disease.

3.6 Theme 5: Community Health Nursing in Cancer Prevention and Survivorship

Cancer is one of the leading causes of morbidity and mortality among older adults worldwide, with incidence increasing substantially with advancing age. Early detection, timely treatment, survivorship care, and palliative support are essential components of comprehensive cancer control. The reviewed literature consistently demonstrated that Community Health Nurses play a vital role in reducing the cancer burden through community education, screening promotion, survivorship care, and supportive services.

Community Health Nurses are actively involved in primary cancer prevention by educating communities about modifiable risk factors, including tobacco use, excessive alcohol consumption, unhealthy dietary habits, physical inactivity, obesity, environmental exposures, and infections associated with specific cancers. Health promotion programmes conducted in community settings have significantly improved public awareness regarding cancer prevention and encouraged healthier lifestyle behaviours among older adults.

A major responsibility of Community Health Nurses is promoting participation in evidence-based cancer screening programmes. The reviewed studies demonstrated that nurse-led educational interventions increased awareness and uptake of breast cancer screening through breast self-examination, clinical breast examination, and mammography. Similar improvements were observed in cervical cancer screening through Pap smear awareness, colorectal cancer screening through faecal occult blood testing and colonoscopy referrals, and oral cancer screening among high-risk populations.

Several studies emphasized that personalized counselling delivered by Community Health Nurses effectively reduced fear, stigma, and misconceptions surrounding cancer screening. Community outreach programmes, culturally sensitive education, and collaboration with local organizations improved screening participation among underserved and socioeconomically disadvantaged older adults.

Following cancer diagnosis, Community Health Nurses contributed significantly to survivorship care by providing symptom management, psychosocial support, nutritional counselling, pain assessment, medication education, and coordination of multidisciplinary services. Home-based nursing care improved continuity of care for older cancer survivors by monitoring treatment-related complications, supporting rehabilitation, and addressing functional limitations associated with cancer and its treatment.

Psychological support emerged as another essential nursing responsibility. Older adults diagnosed with cancer frequently experience anxiety, depression, uncertainty, and social isolation. Community Health Nurses provided emotional support, caregiver education, support group facilitation, and referrals to mental health professionals when appropriate. These interventions contributed to improved psychological well-being and enhanced quality of life.

Palliative and end-of-life care also formed an important aspect of community oncology nursing. Community Health Nurses collaborated with multidisciplinary healthcare teams to provide pain management, symptom control, caregiver training, and advance care planning, enabling older adults to receive compassionate, person-centred care within their own communities whenever possible.

The evidence indicates that Community Health Nurses contribute substantially to every stage of the cancer continuum, including prevention, screening, early detection, survivorship, rehabilitation, and palliative care. Their community-based interventions improve early diagnosis, increase screening participation, reduce treatment complications, enhance psychosocial well-being, and improve quality of life among older adults.

3.7 Theme 6: Healthy Ageing Through Community-Based Nursing Care

Healthy ageing has become a global public health priority as populations continue to age rapidly. According to the World Health Organization, healthy ageing is defined as the process of developing and maintaining the functional ability that enables well-being in older age. Community Health Nurses are uniquely positioned to promote healthy ageing through comprehensive, person-centred, and community-oriented interventions that address the physical, psychological, social, and environmental determinants of health.

The reviewed studies consistently demonstrated that Community Health Nurses promote healthy ageing through preventive healthcare, chronic disease management, rehabilitation, health education, functional assessment, home-based care, caregiver support, and community engagement. These interventions aim not only to prevent disease but also to maintain independence, preserve functional ability, and enhance quality of life among older adults.

Comprehensive geriatric assessment emerged as a fundamental nursing responsibility. During community and home visits, nurses assessed physical health, nutritional status, cognitive function, mental health, medication use, mobility, fall risk, sensory impairment, social support, and environmental safety. Early identification of functional decline enabled timely interventions that reduced disability and prevented avoidable hospital admissions.

Health promotion programmes focusing on physical activity, balanced nutrition, vaccination, sleep hygiene, stress management, and social participation were consistently associated with improved functional status and reduced frailty. Community Health Nurses encouraged older adults to participate in exercise programmes, chronic disease self-management workshops, peer support groups, and community wellness activities that promoted active and healthy ageing.

The review also highlighted the importance of caregiver education. Family caregivers play a crucial role in supporting older adults with chronic illnesses, yet many experience inadequate knowledge and caregiver burden. Community Health Nurses provided education on medication management, nutritional care, fall prevention, pressure injury prevention, infection control, and emotional support, thereby improving caregiver competence and confidence while enhancing patient outcomes.

Social isolation and loneliness were frequently identified as barriers to healthy ageing. Community Health Nurses addressed these challenges by facilitating community participation, linking older adults with local support services, encouraging social interaction, and coordinating multidisciplinary care involving physicians, physiotherapists, dietitians, psychologists, social workers, and community organizations. Such collaborative approaches strengthened continuity of care and addressed the broader social determinants of health.

Emerging evidence also demonstrated the growing importance of digital health technologies in supporting healthy ageing. Telehealth consultations, remote monitoring devices, mobile health applications, and electronic health records enhanced continuity of care, improved chronic disease monitoring, and increased healthcare accessibility for older adults living in remote or underserved communities.

Overall, the findings of this review demonstrate that Community Health Nurses play an indispensable role in promoting healthy ageing through comprehensive community-based care. Their interventions improve functional independence, enhance self-management, reduce complications associated with non-communicable diseases, strengthen caregiver capacity, and improve overall quality of life. These contributions directly support the objectives of Sustainable Development Goal 3 by promoting health, preventing disease, reducing avoidable hospitalizations, and ensuring equitable access to quality healthcare services for ageing populations.

DISCUSSION

This integrative review synthesized current evidence regarding the role of Community Health Nurses (CHNs) in the prevention, early detection, and management of non-communicable diseases (NCDs) among older adults. The findings demonstrate that Community Health Nurses are fundamental to strengthening primary healthcare systems and improving health outcomes through community-based interventions. Across the included studies, nurse-led initiatives consistently improved disease prevention, early diagnosis, chronic disease management, medication adherence, self-management behaviours, and quality of life. These findings reinforce the strategic contribution of Community Health Nurses toward achieving Sustainable Development Goal 3 (Good Health and Well-Being) and promoting healthy ageing.

One of the most significant findings of this review is the effectiveness of Community Health Nurses in promoting disease prevention through health education and lifestyle modification. The evidence consistently showed that nurse-led educational programmes improved knowledge regarding healthy nutrition, physical activity, smoking cessation, weight management, and stress reduction. These interventions encouraged behavioural changes that reduced modifiable risk factors associated with diabetes mellitus, hypertension, and cancer. Similar findings have been reported by the World Health Organization, which recognizes health promotion and disease prevention as essential components of primary healthcare and emphasizes the critical role of nurses in empowering individuals and communities to adopt healthier lifestyles.

Early detection emerged as another major contribution of Community Health Nurses. Regular community screening programmes conducted through primary healthcare centres, outreach services, home visits, and mobile clinics significantly increased the identification of undiagnosed hypertension, diabetes mellitus, and common cancers among older adults. Earlier diagnosis enabled timely treatment, reduced disease progression, and minimized preventable complications. These findings support previous evidence indicating that community-based screening programmes improve access to healthcare, particularly among rural, socioeconomically disadvantaged, and underserved populations where healthcare utilization remains suboptimal.

The review further highlights the indispensable role of Community Health Nurses in chronic disease management. Older adults frequently experience multimorbidity, requiring continuous monitoring, individualized care planning, medication management, and coordination among multiple healthcare professionals. Community Health Nurses provide comprehensive support

through routine follow-up, home-based care, medication counselling, symptom monitoring, and patient education. The evidence demonstrated improvements in glycaemic control, blood pressure regulation, treatment adherence, and self-management following nurse-led interventions. These findings are consistent with previous research demonstrating that continuity of nursing care contributes significantly to reducing hospital admissions and improving long-term outcomes for individuals living with chronic illnesses.

Cancer prevention and survivorship represented another important area of community nursing practice identified in this review. Community Health Nurses promoted awareness regarding modifiable cancer risk factors and facilitated participation in evidence-based screening programmes for breast, cervical, colorectal, and oral cancers. The reviewed studies indicated that personalized counselling, culturally appropriate education, and community outreach increased screening participation and promoted earlier diagnosis. Following diagnosis, nurses continued to provide survivorship care through symptom management, psychosocial support, rehabilitation, caregiver education, and coordination of multidisciplinary healthcare services. These findings align with international recommendations advocating for community-based cancer care that extends beyond hospital settings and addresses the long-term needs of cancer survivors.

Healthy ageing was a recurring theme across the reviewed literature. Rather than focusing exclusively on disease treatment, Community Health Nurses promoted functional independence, psychological well-being, social participation, and quality of life through comprehensive geriatric assessment and person-centred care. Home visits enabled early identification of functional decline, cognitive impairment, nutritional deficiencies, fall risks, and social isolation, allowing timely interventions that preserved independence and reduced avoidable hospitalizations. These findings strongly support the objectives of the World Health Organization's Decade of Healthy Ageing (2021–2030), which emphasizes maintaining functional ability through integrated community-based services.

An important strength identified throughout this review is the holistic approach adopted by Community Health Nurses. Unlike disease-specific interventions delivered within hospital settings, community nursing addresses biological, psychological, social, environmental, and behavioural determinants of health simultaneously. Through collaboration with physicians, dietitians, physiotherapists, pharmacists, psychologists, social workers, and community organizations, nurses facilitate coordinated and person-centred care that addresses the complex needs of older adults living with multiple chronic conditions.

The review also identified several barriers affecting the implementation of community-based nursing interventions. Shortages of trained Community Health Nurses, inadequate workforce distribution, limited geriatric nursing education, insufficient financial resources, fragmented referral systems, and restricted access to diagnostic services continue to limit the effectiveness of community healthcare programmes. Rural and remote communities face additional challenges related to transportation, healthcare accessibility, workforce shortages, and digital infrastructure. Addressing these barriers will require greater investment in nursing education, workforce development, digital health technologies, and community healthcare infrastructure.

The growing adoption of digital health technologies presents significant opportunities for strengthening community nursing practice. Telehealth services, electronic health records, mobile health applications, wearable monitoring devices, and remote patient monitoring systems were reported to improve continuity of care, enhance patient engagement, facilitate early identification of health deterioration, and increase healthcare accessibility among older adults with mobility limitations. Integrating these technologies into routine community nursing practice may further strengthen chronic disease management while reducing healthcare costs and improving patient outcomes.

Overall, the findings of this integrative review provide strong evidence that Community Health Nurses play a pivotal role in reducing the burden of non-communicable diseases among older adults through prevention, early detection, chronic disease management, health promotion, and comprehensive community-based care. Strengthening community nursing services should therefore remain a priority for healthcare systems seeking to improve healthy ageing, achieve universal health coverage, and attain Sustainable Development Goal 3.

5. Implications for Community Health Nursing Practice

The findings of this review have important implications for nursing practice, education, research, and health policy.

Community Health Nurses should continue to expand evidence-based health promotion programmes focusing on healthy lifestyles, behavioural risk reduction, and chronic disease prevention among older adults. Routine community screening for diabetes mellitus, hypertension, and common cancers should be integrated into primary healthcare services to facilitate early diagnosis and timely intervention.

Healthcare organizations should strengthen nurse-led home visiting programmes that provide individualized care, medication monitoring, caregiver education, rehabilitation support, and chronic disease follow-up for older adults with multiple health conditions.

Nursing education programmes should incorporate comprehensive training in geriatric nursing, chronic disease management, community assessment, digital health technologies, motivational interviewing, and culturally competent care to prepare future Community Health Nurses for increasingly complex population health needs.

Healthcare policymakers should prioritize investment in community nursing workforce development, digital health infrastructure, interdisciplinary collaboration, and accessible primary healthcare services to improve equitable healthcare delivery for ageing populations.

Future research should evaluate innovative nurse-led interventions using randomized controlled trials, implementation research, and multicentre longitudinal studies to strengthen the evidence base supporting community nursing practice.

Strengths and Limitations

Strengths

This integrative review provides a comprehensive synthesis of current evidence regarding the role of Community Health Nurses (CHNs) in the prevention, early detection, and management of non-communicable diseases (NCDs) among older adults. A major strength of the review is the

use of an integrative review methodology, which enabled the inclusion of diverse study designs, including quantitative, qualitative, mixed-methods studies, systematic reviews, and policy documents. This broad approach facilitated a holistic understanding of community health nursing interventions across various healthcare settings.

The review followed the **PRISMA 2020** reporting guidelines, ensuring transparency and methodological rigor throughout the review process. A comprehensive literature search was conducted across multiple internationally recognized databases, including PubMed, Scopus, Web of Science, CINAHL, and Google Scholar, thereby minimizing the risk of overlooking relevant studies.

Another strength is the use of the **Joanna Briggs Institute (JBI) Critical Appraisal Checklists** to evaluate the methodological quality of included studies. The inclusion of evidence from multiple countries also enhances the applicability of the findings across different healthcare systems and cultural contexts.

Furthermore, this review integrates three major non-communicable diseases—diabetes mellitus, hypertension, and cancer—within the broader framework of healthy ageing and Sustainable Development Goal 3. This comprehensive perspective provides valuable evidence for nursing practice, education, research, and health policy.

Limitations

Despite its strengths, several limitations should be acknowledged. Only studies published in the English language were included, which may have excluded relevant evidence reported in other languages. The review was also limited to peer-reviewed publications and selected policy reports; therefore, grey literature, dissertations, conference proceedings, and unpublished studies were excluded.

The included studies demonstrated considerable heterogeneity in terms of study design, intervention characteristics, outcome measures, and healthcare settings, making direct comparison challenging. Variations in sample size, duration of follow-up, and evaluation methods may have influenced the consistency of reported outcomes.

As an integrative review, this study synthesized existing evidence without conducting a quantitative meta-analysis; therefore, pooled effect estimates could not be calculated. Additionally, most included studies were observational in nature, limiting the ability to establish causal relationships between community nursing interventions and health outcomes.

Future systematic reviews and meta-analyses incorporating randomized controlled trials and longitudinal studies are recommended to strengthen the evidence base.

Recommendations

Based on the findings of this integrative review, the following recommendations are proposed:

Recommendations for Nursing Practice

- Strengthen nurse-led community screening programmes for diabetes mellitus, hypertension, and common cancers among older adults.

- Expand home-based nursing services to improve continuity of care, medication adherence, and chronic disease management.
- Enhance patient and caregiver education on lifestyle modification, self-management, medication adherence, and early recognition of disease complications.
- Integrate digital health technologies, including telehealth, mobile health applications, and remote monitoring systems, into routine community nursing practice.
- Promote multidisciplinary collaboration among Community Health Nurses, physicians, dietitians, physiotherapists, pharmacists, psychologists, and social workers.

Recommendations for Nursing Education

- Incorporate comprehensive geriatric nursing and chronic disease management into undergraduate and postgraduate nursing curricula.
- Provide continuing professional development programmes focusing on community-based management of non-communicable diseases.
- Strengthen competency-based education in health promotion, disease prevention, community assessment, and digital health technologies.

Recommendations for Health Policy

- Increase investment in community health nursing workforce development.
- Strengthen primary healthcare infrastructure to improve accessibility of preventive services for older adults.
- Develop national policies supporting nurse-led chronic disease management programmes.
- Expand community-based screening initiatives to achieve Universal Health Coverage and Sustainable Development Goal 3.

Recommendations for Future Research

- Conduct multicentre randomized controlled trials evaluating community-based nursing interventions.
- Investigate the effectiveness of artificial intelligence and digital health technologies in community nursing.
- Explore cost-effectiveness of nurse-led chronic disease management programmes.
- Examine long-term outcomes of community nursing interventions on healthy ageing, quality of life, hospitalization rates, and mortality among older adults.

CONCLUSION

The increasing prevalence of non-communicable diseases among older adults presents one of the greatest public health challenges of the twenty-first century. Diabetes mellitus, hypertension, and cancer contribute substantially to morbidity, disability, healthcare expenditure, and premature mortality, emphasizing the need for effective community-based healthcare strategies. This integrative review demonstrates that Community Health Nurses are central to addressing these challenges through health promotion, disease prevention, early detection, chronic disease management, rehabilitation, caregiver education, and coordination of multidisciplinary care.

The evidence consistently indicates that nurse-led community interventions improve screening uptake, medication adherence, glycaemic and blood pressure control, cancer awareness, self-management behaviours, functional independence, and overall quality of life among older adults. Home-based nursing services, community outreach programmes, and integrated primary healthcare approaches enable early identification of health risks while reducing avoidable complications and hospital admissions.

Community Health Nurses also contribute significantly to healthy ageing by promoting physical, psychological, and social well-being through comprehensive geriatric assessment, individualized care planning, caregiver support, and community engagement. Their holistic and person-centred approach addresses not only chronic diseases but also the broader social determinants influencing health outcomes in ageing populations.

Despite these positive findings, barriers including workforce shortages, limited healthcare resources, inadequate geriatric training, and unequal access to community healthcare services continue to challenge effective implementation. Strengthening community nursing services through policy support, workforce investment, digital health integration, and interdisciplinary collaboration is essential to maximize the effectiveness of community-based care.

In conclusion, Community Health Nurses represent an indispensable component of primary healthcare systems and play a transformative role in reducing the burden of non-communicable diseases among older adults. Expanding community-based nursing interventions will not only improve individual and population health outcomes but also contribute significantly to healthy ageing, Universal Health Coverage, and the achievement of **Sustainable Development Goal 3 (Good Health and Well-Being)**.

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