

INTEGRATING LOCAL WISDOM INTO COMMUNITY NURSING INTERVENTIONS FOR ENVIRONMENTAL CONSERVATION AND NCD PREVENTION: LITERATURE REVIEW

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ABSTRACT

The increasing burden of non-communicable diseases (NCDs) and the growing concern over environmental degradation highlight the need for integrated and sustainable health strategies. Conventional health interventions often overlook the role of local wisdom, cultural practices, and environmental contexts in shaping health behaviors and long-term outcomes. This literature review aims to examine the integration of local wisdom into community nursing interventions for environmental conservation and NCD prevention. A systematic search of peer-reviewed articles published between 2020 and 2025 was conducted, resulting in the inclusion of twelve studies that met the predefined criteria. The findings indicate that traditional dietary practices, particularly plant-based and minimally processed foods, are associated with reduced metabolic and cardiovascular risks. Cultural values and indigenous knowledge systems significantly influence health behaviors and improve adherence to preventive practices. Environmental determinants, including food systems and built environments, shape lifestyle patterns and disease risk. In addition, culturally tailored and community-based interventions demonstrate greater effectiveness in promoting behavioral change and improving health outcomes. The integration of local wisdom into community nursing interventions provides a holistic and sustainable framework that supports both NCD prevention and environmental conservation. This approach enhances cultural relevance, strengthens intervention effectiveness, and contributes to long-term public health sustainability.

Keywords: Community nursing; Cultural-based intervention; Environmental conservation; Local wisdom; Non-communicable diseases

INTRODUCTION

The increasing prevalence of non-communicable diseases (NCDs) represents a major global health challenge, accounting for a substantial proportion of morbidity and mortality worldwide. Conditions such as cardiovascular diseases, diabetes mellitus, cancer, and chronic respiratory diseases continue to rise due to complex interactions between behavioral, environmental, and socioeconomic factors. Rapid urbanization, lifestyle transitions, and changes in dietary patterns have contributed to this growing burden, particularly in low- and middle-income countries. The shift toward energy-dense and ultra-processed foods has been identified as a major contributor to increased NCD risk (Popkin et al., 2020; Popkin & Ng, 2022). In addition, global evidence highlights that dietary risks remain among the leading contributors to disease burden worldwide (Afshin et al., 2019).

Environmental factors have also emerged as critical determinants of population health. Environmental degradation, including unsustainable food systems and resource exploitation, directly and indirectly affects health outcomes. The relationship between environmental sustainability and health is evident in food production systems, resource utilization, and lifestyle patterns. Sustainable dietary practices, particularly those based on plant-based and

minimally processed foods, have been associated with improved health outcomes and reduced environmental impact (Hu, 2021). However, current health systems often address environmental and health issues separately, limiting the effectiveness of interventions.

Conventional approaches to NCD prevention emphasize individual behavior change, including dietary modification and increased physical activity. Although these strategies are important, their effectiveness is often limited by a lack of cultural relevance and environmental support. Health behaviors are influenced by social norms, cultural beliefs, and environmental conditions rather than individual choice alone (Chen et al., 2022). Interventions that do not consider these contextual factors frequently result in low adherence and limited sustainability.

Local wisdom provides a valuable framework for addressing these challenges. It refers to the collective knowledge, beliefs, and practices developed by communities through long-term interaction with their environment. Traditional dietary patterns, for example, emphasize locally sourced, plant-based, and minimally processed foods, which contribute to reduced metabolic risk and improved health outcomes (Kim et al., 2020; Satija et al., 2020). In addition, indigenous knowledge systems promote sustainable environmental practices and community resilience, supporting both ecological balance and health (Redwood et al., 2020; Nguyen et al., 2021).

Cultural values play a significant role in shaping health behaviors. Individuals are more likely to adopt and maintain health practices that are consistent with their cultural beliefs and social norms. Evidence indicates that culturally aligned interventions improve adherence and enhance the effectiveness of health promotion strategies (Chen et al., 2022). Furthermore, traditional lifestyle patterns have been associated with lower metabolic risk among various populations (Kwon et al., 2021). These findings highlight the importance of integrating cultural context into health interventions. Environmental determinants further influence the feasibility of adopting healthy behaviors. Access to nutritious food, safe environments for physical activity, and socioeconomic conditions significantly affect lifestyle choices and health outcomes (O'Donoghue et al., 2021). Environments characterized by limited access to healthy food and increased availability of processed products contribute to unhealthy dietary patterns and increased NCD risk (Lee et al., 2024). These structural factors must be addressed to ensure the effectiveness of health interventions.

Community nursing plays a central role in addressing these complex challenges. As frontline healthcare providers, community nurses are uniquely positioned to understand cultural contexts and environmental conditions within communities. Nursing interventions that incorporate cultural values and local knowledge have been shown to improve patient engagement and health outcomes (Tricco et al., 2020). Community-based approaches also enhance participation and sustainability by involving local stakeholders in the intervention process (O'Donoghue et al., 2021).

Despite increasing recognition of the importance of cultural and environmental factors, there remains a significant gap in the literature regarding their integration within community nursing interventions for NCD prevention. Existing studies often examine these components separately, limiting the development of comprehensive and sustainable strategies. The lack of integrated approaches highlights the need for a framework that combines local wisdom, environmental sustainability, and community-based healthcare. This study aims to address this gap by examining the integration of local wisdom into community nursing interventions for environmental conservation and NCD prevention. The objective is to analyze existing evidence, identify key themes, and evaluate the implications for nursing practice. By synthesizing current literature, this study seeks to contribute to the development of a holistic and sustainable framework for health promotion. From a theoretical perspective, the integration of local wisdom into health interventions can be understood through socio-ecological and cultural health models. The socio-ecological model emphasizes that health behaviors are

influenced by multiple levels, including individual, interpersonal, community, and environmental factors. Within this framework, local wisdom operates at the community and cultural levels, shaping norms, behaviors, and interactions with the environment. In addition, the concept of eco-cultural health highlights the interdependence between human health, cultural systems, and ecological sustainability. This perspective recognizes that traditional knowledge systems are not only cultural assets but also adaptive strategies developed through long-term interaction with the environment. Therefore, integrating local wisdom into community nursing interventions represents an alignment between scientific health approaches and culturally embedded ecological practices. This theoretical foundation provides a basis for understanding how cultural values, environmental conditions, and healthcare interventions interact to influence health outcomes, particularly in the prevention of non-communicable diseases.

METHOD

This study employed a systematic literature review approach guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) framework. The review aimed to identify, screen, and synthesize relevant studies examining the integration of local wisdom into community nursing interventions for environmental conservation and the prevention of non-communicable diseases (NCDs).

A comprehensive literature search was conducted using electronic databases, including Scopus, PubMed, and Google Scholar. The search strategy combined keywords and Boolean operators such as "local wisdom," "cultural practices," "indigenous knowledge," "environmental sustainability," "community nursing," and "non-communicable diseases." The search was limited to articles published between 2020 and 2025 and written in English. Inclusion criteria were defined as follows: (1) peer-reviewed journal articles, (2) studies addressing cultural or indigenous knowledge in relation to health, (3) research involving environmental or sustainability aspects, and (4) studies focusing on community-based or nursing-related interventions for NCD prevention. Exclusion criteria included articles without full-text access, studies not relevant to the research topic, and non-scientific publications such as editorials or opinion papers.

The study selection process followed four stages: identification, screening, eligibility, and inclusion. During the identification stage, a total of 145 articles were retrieved from the databases. After removing 25 duplicate records, 120 articles remained for screening. Titles and abstracts were then reviewed, resulting in the exclusion of 78 articles due to irrelevance to the study objectives. The remaining 42 articles underwent full-text assessment for eligibility. Of these, 30 articles were excluded due to lack of integration of key variables or insufficient methodological quality. Finally, 12 studies met all inclusion criteria and were included in the synthesis.

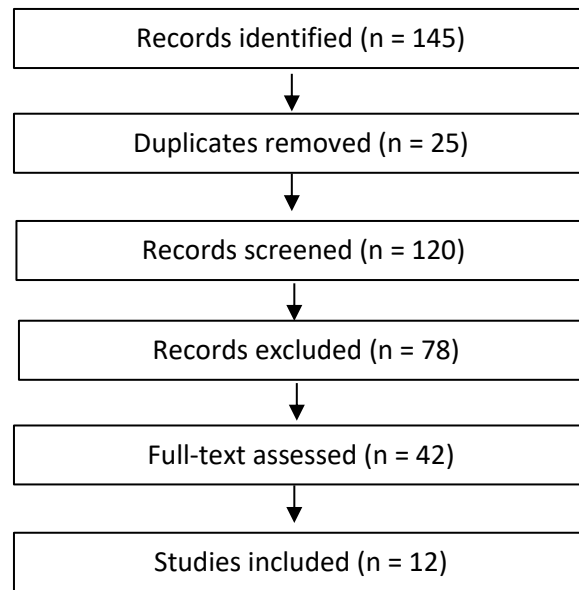


Figure 1. PRISMA Flow Diagram of Study Selection Process

Data extraction was conducted using a structured matrix that included author, year, study design, population, focus, key findings, and nursing implications. The selected studies were analyzed using thematic synthesis to identify recurring patterns related to local wisdom, environmental sustainability, and NCD prevention. The findings were categorized into major themes and interpreted to support the integrated results and discussion. To ensure methodological rigor, the quality of included studies was assessed using standardized critical appraisal tools appropriate to each study design. This process aimed to evaluate the validity, reliability, and relevance of the selected studies, thereby strengthening the credibility of the synthesis. The use of a systematic literature review approach is particularly appropriate for this study, as it allows for the integration of diverse evidence related to cultural, environmental, and health dimensions. Given the interdisciplinary nature of the topic, this method enables a comprehensive understanding of how local wisdom is applied across different contexts and study designs. Furthermore, thematic synthesis was selected to identify recurring patterns and relationships among variables, facilitating the development of an integrated conceptual framework.

RESULTS AND DISCUSSION

The selected studies presented in Table 1. demonstrate a comprehensive integration of local wisdom, cultural practices, environmental factors, and community-based interventions in the prevention of non-communicable diseases (NCDs). The included articles consistently highlight that traditional knowledge systems, particularly dietary practices and indigenous health beliefs, are closely linked to environmental sustainability and health outcomes. Furthermore, the studies emphasize the effectiveness of culturally tailored and community-based interventions in improving health behaviors. Environmental aspects, including sustainable food systems and built environments, are identified as key determinants influencing lifestyle and disease risk. These findings provide a strong foundation for understanding how local wisdom can be systematically integrated into community nursing interventions to support both environmental conservation and NCD prevention.

Table 1
 Characteristics of Selected Studies on Local Wisdom, Environmental Sustainability, and
 NCD Prevention (2020–2025)

No	Author (Year)	Design	Population/Setting	Focus	Key Findings	Nursing Implications
1.	Kim et al. (2020)	Cohort	Adults (Korea)	Dietary patterns	Traditional diets reduce NCD risk	Promote culturally appropriate nutrition
2.	Satija et al. (2020)	Cohort	Adults (USA)	Healthy diet	Plant-based diet reduces metabolic risk	Encourage sustainable dietary practices
3.	Popkin et al. (2020)	Review	Global	Nutrition transition	Western diet increases NCD burden	Strengthen preventive education
4.	Redwood et al. (2020)	Qualitative	Indigenous communities	Indigenous health	Improves resilience and health outcomes	Integrate indigenous knowledge in care
5.	Nguyen et al. (2021)	Qualitative	Vietnam community	Cultural sustainability	Supports environmental conservation	Promote community engagement
6.	Chen et al. (2022)	Cross-sectional	Adults (China)	Health behavior	Culture influences lifestyle	Apply culturally tailored interventions
7.	O'Donoghue et al. (2021)	Mixed-method	Community	Lifestyle intervention	Improves physical activity	Develop community-based programs
8.	Tricco et al. (2020)	Systematic review	Multi-country	Intervention	Cultural adaptation improves outcomes	Design structured cultural interventions
9.	Hu (2021)	Review	Adults	Diet & CVD	Healthy diet reduces cardiovascular risk	Strengthen dietary counseling
10.	Kwon et al. (2021)	Cohort	Asian population	Lifestyle & NCD	Traditional habits reduce metabolic risk	Encourage lifestyle modification
11.	Lee et al. (2024)	Cross-sectional	Population-based	Behavior	Lifestyle affects health outcomes	Focus on preventive behavior
12.	Popkin & Ng (2022)	Review	Global	Food system	Diet transition impacts health & environment	Support policy-based intervention

The synthesis of the selected studies presented in Table 1. demonstrates a structured relationship between local wisdom, cultural practices, environmental determinants, and community-based nursing interventions in the prevention of non-communicable diseases (NCDs). These elements interact dynamically to shape health behavior, disease risk, and intervention outcomes across different populations and contexts.

Rather than functioning as isolated factors, traditional knowledge systems, cultural values, and environmental conditions collectively form a multidimensional framework that influences both individual and community health. Community nursing interventions serve as a critical link within this framework, translating theoretical concepts into practical, context-sensitive strategies that address real-world health challenges. To provide a clearer understanding of these interrelated components, the discussion is organized into several key

domains, including traditional dietary practices, cultural and indigenous knowledge, environmental determinants, and the role of community nursing. Furthermore, this discussion expands toward a broader eco-cultural and participatory framework, highlighting the implications for sustainable health promotion and future healthcare strategies.

Traditional Dietary Practices and Health Outcomes

The synthesis of the selected studies demonstrates a structured relationship between local wisdom, cultural practices, environmental determinants, and community-based nursing interventions in the prevention of non-communicable diseases (NCDs). These elements form an integrated system that shapes health behavior, disease risk, and intervention outcomes.

Traditional dietary practices represent a central component of local wisdom. Empirical evidence indicates that plant-based and minimally processed diets are associated with reduced incidence of metabolic syndrome and cardiovascular disease (Kim et al., 2020; Satija et al., 2020). These dietary patterns are characterized by high fiber intake, low saturated fat, and reliance on locally available food sources, reflecting long-standing ecological adaptation and cultural continuity. In contrast, global dietary transitions toward ultra-processed foods and refined carbohydrates have contributed significantly to the increasing burden of NCDs (Popkin et al., 2020; Popkin & Ng, 2022). This shift not only affects individual health but also contributes to environmental degradation through resource-intensive production and increased greenhouse gas emissions.

Dietary patterns rooted in cultural traditions demonstrate sustained protective effects. Long-term adherence to culturally embedded diets supports metabolic health and enhances behavioral consistency without requiring intensive intervention (Hu, 2021). Therefore, preserving local dietary knowledge represents a viable and sustainable strategy for NCD prevention.

Cultural and Indigenous Knowledge in Health Behavior

Cultural values and indigenous knowledge systems play a fundamental role in shaping health behaviors and community resilience. Evidence suggests that indigenous populations maintain a holistic understanding of health that integrates physical, environmental, and spiritual dimensions (Redwood et al., 2020; Nguyen et al., 2021).

Health behaviors, including diet, physical activity, and health-seeking practices, are strongly influenced by social norms and cultural expectations (Chen et al., 2022). Interventions aligned with these cultural values are more likely to be accepted and sustained, whereas misaligned approaches often face resistance. Indigenous knowledge systems also provide mechanisms for intergenerational transmission of health practices, ensuring continuity and sustainability. Integrating these knowledge systems into healthcare delivery enhances contextual relevance, strengthens community trust, and improves intervention outcomes.

Environmental Determinants and Structural Influence

Environmental determinants function as structural conditions influencing health behavior and disease risk. Access to nutritious food, safe physical environments, and socioeconomic resources defines the context within which individuals make health-related decisions (O'Donoghue et al., 2021; Kwon et al., 2021). Food environments play a critical role in shaping dietary behavior. The widespread availability of energy-dense, processed foods contributes to unhealthy consumption patterns and increased NCD risk (Lee et al., 2024). Conversely, limited access to fresh and nutritious food restricts the feasibility of maintaining a balanced diet. Built environments also influence physical activity levels. Urban design, transportation systems, and availability of recreational spaces determine opportunities for movement. Environments

lacking safe and accessible infrastructure contribute to sedentary behavior and associated health risks.

The interaction between environmental and cultural factors further defines health behavior. Urbanization often disrupts traditional lifestyles, leading to decreased adherence to culturally embedded health practices. This highlights the need for integrated approaches addressing both environmental and cultural determinants.

Role of Community Nursing Interventions

Community nursing plays a central role in integrating cultural, environmental, and behavioral components into practical health strategies. Nurses act as intermediaries between healthcare systems and communities, enabling culturally sensitive and context-specific interventions. Culturally tailored interventions have been shown to improve relevance, acceptability, and effectiveness (Tricco et al., 2020). The use of local language, cultural symbols, and traditional practices enhances engagement and supports long-term behavioral change.

Community-based approaches further strengthen intervention outcomes by promoting participation, ownership, and accountability (O'Donoghue et al., 2021). Social networks and local leadership facilitate the dissemination of health information and reinforce positive behaviors. In addition, nursing practice extends beyond clinical care into environmental advocacy. Nurses can identify structural barriers, support policy development, and collaborate with stakeholders to improve access to healthy food and safe environments. This expanded role contributes to sustainable health outcomes at both individual and population levels.

Expanding Toward an Eco-Cultural and Participatory Framework

Building upon these findings, a broader perspective highlights the importance of integrating local wisdom within participatory, culturally sensitive, and environmentally sustainable healthcare frameworks. The integration of local wisdom reflects a shift from top-down approaches toward participatory models that emphasize community engagement and contextual adaptation (Rifkin, 2014; George et al., 2015). Such approaches enhance ownership, acceptance, and long-term effectiveness of interventions. Local wisdom also serves as a bridge between scientific knowledge and everyday practices. Incorporating cultural and environmental perspectives into health promotion strategies improves relevance and adherence (Airhihenbuwa et al., 2014; Kirmayer, 2012). Traditional lifestyles, including dietary practices and physical activity embedded in daily routines, contribute to sustainable health behaviors (Guthold et al., 2018). Social cohesion within communities further reinforces these behaviors, improving adherence and health outcomes (Berkman et al., 2000; Holt-Lunstad et al., 2010).

Environmental sustainability is inherently linked to local wisdom. Traditional ecological knowledge promotes responsible resource use and environmental balance, contributing to both health and ecological resilience (Berkes, 2018; IPCC, 2022). Community-based initiatives such as local food systems and agroecology support food security and environmental sustainability (Altieri & Nicholls, 2020). The concept of eco-cultural health provides a comprehensive framework for integrating these elements, emphasizing the interconnectedness of culture, environment, and health (Lang & Rayner, 2012). Beyond health outcomes, the integration of local wisdom contributes significantly to environmental conservation efforts. Traditional ecological practices, such as sustainable agriculture, biodiversity preservation, and responsible resource management, are deeply embedded within cultural systems. These practices reduce environmental degradation while maintaining ecological balance. The loss of such knowledge due to modernization poses a risk not only to cultural identity but also to environmental

sustainability. Therefore, preserving and integrating local wisdom into health interventions serves as a dual strategy for safeguarding both public health and ecological systems. This reinforces the relevance of culturally grounded approaches in addressing contemporary global challenges, including climate change and environmental degradation.

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The integration of local wisdom not only contributes to health promotion but also plays a critical role in environmental and cultural conservation. Traditional practices, such as sustainable food sourcing, seasonal consumption, and community-based resource management, reflect long-standing ecological knowledge that supports biodiversity and environmental preservation. These culturally embedded practices function as both health-promoting behaviors and conservation strategies, highlighting the dual role of local wisdom in sustaining human and environmental well-being.

Overall, the evidence across the reviewed studies demonstrates that local wisdom, cultural practices, and environmental determinants are interconnected factors shaping health outcomes. Community-based nursing interventions provide a practical mechanism for integrating these elements into comprehensive and context-sensitive strategies. Traditional dietary systems offer protective effects against NCDs while supporting environmental sustainability. Cultural alignment enhances intervention effectiveness, and environmental conditions determine feasibility. The integration of these components ultimately forms a holistic and sustainable approach to health promotion.

Based on the synthesis of findings, this study proposes a conceptual framework integrating local wisdom, cultural values, environmental determinants, and community nursing interventions as interconnected components influencing NCD prevention. In this framework, local wisdom serves as the foundational layer that shapes culturally embedded behaviors, while environmental conditions act as structural enablers or barriers. Community nursing functions as an operational bridge that translates these elements into practical interventions. This integrated model highlights the importance of aligning cultural, environmental, and healthcare dimensions to achieve sustainable health outcomes.

Implications for Policy and Practice

The findings of this study have important implications for policy and practice. At the policy level, there is a need to integrate cultural and environmental considerations into national health strategies, particularly in the design of NCD prevention programs. Policies that support local food systems, sustainable resource management, and community participation can enhance both health and environmental outcomes. For nursing practice, the integration of local wisdom requires the development of culturally competent care models that recognize the value of indigenous knowledge. Nurses should be equipped with skills in community engagement, cultural assessment, and environmental advocacy to effectively implement these approaches. Educational curricula and training programs should also incorporate these competencies to prepare future healthcare professionals.

Role of Community Nursing Interventions

In practical settings, the integration of local wisdom into community health interventions has been implemented across diverse socio-cultural contexts. Evidence from community-based programs in Southeast Asia demonstrates that traditional dietary practices particularly those

emphasizing locally sourced, plant-based, and minimally processed foods have been successfully incorporated into health promotion strategies aimed at reducing the risk of metabolic diseases and cardiovascular conditions (Willett et al., 2019; Satija et al., 2017). These dietary approaches not only improve nutritional quality but also reflect sustainable consumption patterns aligned with environmental preservation.

Similarly, in rural and indigenous communities, healthcare providers particularly community nurses—have collaborated with local leaders and traditional authorities to promote culturally embedded practices such as traditional farming, food preparation, and communal resource management. These practices contribute to improved dietary diversity, food security, and ecological sustainability by maintaining biodiversity and reducing dependence on industrial food systems (Altieri & Nicholls, 2020; Berkes, 2018). Such collaborations highlight the importance of integrating indigenous knowledge systems into formal healthcare delivery to enhance both effectiveness and community acceptance.

Participatory approaches that actively involve community members in the design and implementation of interventions have been shown to improve program ownership and long-term sustainability. Interventions grounded in local culture are more likely to be accepted because they align with existing beliefs, values, and social norms, thereby facilitating behavioral change without imposing external frameworks (Airhihenbuwa et al., 2014; Rifkin, 2014). This contrasts with standardized top-down interventions, which often fail to achieve sustained impact due to limited contextual adaptation. These examples illustrate that culturally grounded interventions are not merely theoretical constructs but have practical applicability across different settings. Their success is largely attributed to strong community engagement, respect for cultural values, and alignment with existing social structures. In this context, community nursing plays a critical role as a facilitator, bridging the gap between biomedical knowledge and culturally embedded practices. By integrating local wisdom into intervention design and implementation, nurses can promote more holistic, sustainable, and context-sensitive health strategies that address both non-communicable disease prevention and environmental conservation.

LIMITATION OF THE STUDY

This study has several limitations that should be considered when interpreting the findings. First, the review is limited to articles published between 2020 and 2025, which may exclude earlier foundational studies relevant to the integration of local wisdom, environmental sustainability, and non-communicable disease (NCD) prevention. Second, the inclusion of only English-language publications may introduce language bias and limit the representation of local or indigenous perspectives documented in non-English sources. In addition, the heterogeneity of the included studies in terms of design, population, and context may affect the generalizability of the findings. The majority of studies employed observational or qualitative approaches, which, while valuable for contextual understanding, may limit the strength of causal inference. Furthermore, variations in the definition and operationalization of “local wisdom” across studies may lead to inconsistencies in interpretation. Another limitation is the reliance on secondary data, as this study does not include primary fieldwork or direct community engagement. As a result, the findings may not fully capture the dynamic and context-specific nature of cultural practices and environmental interactions in real-world settings. Future research should focus on conducting empirical and intervention-based studies to evaluate the effectiveness of integrating local wisdom into community nursing practices. Longitudinal and experimental designs are needed to establish causal relationships and assess long-term health outcomes. In addition, research involving direct collaboration with local communities is essential to ensure cultural accuracy, relevance, and ethical engagement. Finally, interdisciplinary collaboration among healthcare professionals, environmental scientists, and social researchers is crucial to advance the implementation of holistic and sustainable health strategies. Strengthening policy support

and aligning future research with global health and sustainability agendas will enhance the scalability and impact of culturally grounded interventions.

CONCLUSIONS AND SUGGESTIONS

The integration of local wisdom into community nursing interventions provides a holistic and sustainable approach to non-communicable disease (NCD) prevention and environmental conservation. The findings of this literature review demonstrate that traditional dietary practices, indigenous knowledge systems, and culturally embedded health behaviors contribute significantly to reducing metabolic and cardiovascular risks while supporting environmental sustainability. Cultural values and community participation also enhance the effectiveness, acceptability, and long-term sustainability of health interventions. Community nursing plays an essential role in translating cultural and environmental knowledge into practical health promotion strategies. Culturally tailored and community-based interventions improve behavioral adherence, strengthen community engagement, and support preventive healthcare practices. In addition, environmentally sustainable lifestyles rooted in local wisdom contribute to healthier communities and ecological preservation. This study highlights the importance of integrating cultural, environmental, and healthcare dimensions into nursing practice and public health policy. Future healthcare programs should incorporate culturally competent and environmentally responsive approaches to improve health outcomes and support sustainable development goals. Further research is recommended to conduct empirical and intervention-based studies evaluating the effectiveness of integrating local wisdom into community nursing practice. Collaboration among healthcare professionals, policymakers, environmental experts, and local communities is also necessary to strengthen sustainable and culturally grounded health interventions.

ETHICAL CONSIDERATIONS

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Conflict of Interest Statement

Authors are requested to disclose interests *that are directly or indirectly related to the work submitted for publication*. Interests within the last 3 years of beginning the work (conducting the research and preparing the work for submission) should be reported. Interests outside the 3-year time frame must be disclosed if they could reasonably be perceived as influencing the submitted work. Disclosure of interests provides a complete and transparent process and helps readers form their own judgments of potential bias. This is not meant to imply that a financial relationship with an organization that sponsored the research or compensation received for consultancy work is inappropriate.

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