

Role of Nursing in Promoting Lifestyle Modifications to Prevent Stroke Recurrence

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ABSTRACT

Stroke recurrence is a major global health concern that contributes significantly to long-term disability and premature mortality. Nearly 25–30% of stroke survivors experience a recurrent episode within five years. Most recurrences are linked to modifiable risk factors such as hypertension, diabetes, obesity, smoking, sedentary behaviour, and poor diet. Nurses, as frontline healthcare professionals, are uniquely positioned to support patients in adopting lifestyle modifications and adhering to secondary prevention strategies. This manuscript explores the role of nursing in promoting lifestyle changes including diet, exercise, smoking cessation, stress management, and medication adherence. A review of recent studies highlights the effectiveness of nurse-led interventions, motivational interviewing, structured education programs, and community-based follow-ups. The paper emphasizes the importance of integrating nursing roles into multidisciplinary stroke prevention frameworks and provides recommendations for practice, policy, and future research.

Keywords: Stroke recurrence, nursing interventions, lifestyle modification, prevention, secondary care

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1. INTRODUCTION

Stroke is a leading cause of morbidity and mortality, with an estimated 15 million new cases worldwide annually. Approximately 5 million individuals die each year, while another 5 million are left permanently disabled [1]. Although acute stroke management has advanced with the use of thrombolytic therapy, endovascular procedures, and specialized stroke units, secondary prevention remains a critical area of concern. Recurrence of stroke accounts for about one-third of all stroke-related disabilities and deaths [2].

The risk of recurrence is strongly influenced by lifestyle and vascular risk factors including uncontrolled hypertension, hyperlipidaemia, diabetes, atrial fibrillation, smoking, alcohol consumption, obesity, physical inactivity, and poor dietary practices [3]. Nurses, through their clinical and community engagement, provide essential education, counselling, and follow-up that can help stroke survivors modify these behaviours.

The objective of this manuscript is to examine the role of nursing in promoting lifestyle modifications to prevent stroke recurrence and provide evidence-based recommendations.

2. LITERATURE REVIEW

A wide body of literature demonstrates the effectiveness of nursing interventions in secondary stroke prevention.

- **Patient Education & Counselling:** Nurse-led educational programs significantly improve patients' understanding of stroke risk factors and the importance of adherence to treatment [4].
- **Smoking Cessation:** Studies show that motivational interviewing delivered by nurses enhances smoking cessation rates compared to physician-only advice [5].

- **Dietary Modifications:** Nurse-supervised dietary interventions, such as the adoption of the Mediterranean or DASH diet, are associated with reduced risk of stroke recurrence [6].
- **Physical Activity Promotion:** Nurse-supported exercise programs improve mobility, cardiovascular fitness, and long-term compliance [7].
- **Community & Tele-Nursing Approaches:** Community nursing and telephonic follow-ups ensure continuity of care and higher adherence to medication and lifestyle modifications [8].

Collectively, these interventions demonstrate that nurses are central to the implementation and success of secondary prevention programs

3. METHODOLOGY

Study Design

This manuscript is based on a narrative review and synthesis of literature. Both quantitative and qualitative studies published between 2010–2024 were analyzed.

Data Sources

Searches were conducted on PubMed, CINAHL, Scopus, and Google Scholar using keywords: stroke recurrence, nursing role, lifestyle modification, and secondary prevention.

Inclusion Criteria

- Studies published in English
- Focus on stroke survivors aged 40 years and above
- Interventions delivered or facilitated by nurses
- Outcomes related to recurrence, adherence, or lifestyle modification

Exclusion Criteria

- Case reports
- Studies without nursing-specific interventions

Data Extraction & Analysis

Findings were thematically grouped into five domains: patient education, physical activity, diet, smoking cessation, and adherence.

4. RESULTS

The review revealed consistent findings:

1. **Medication Adherence:** Nurse-led clinics improved adherence rates by 30–40% compared to usual care [9].
2. **Physical Activity:** Patients receiving structured exercise guidance from nurses showed a 25% increase in activity adherence [10].
3. **Dietary Interventions:** Nurse-supported nutrition counselling led to higher adoption of low-salt and DASH diets [11].
4. **Smoking Cessation:** Nurse-delivered motivational interviewing increased quit rates significantly compared to physician advice alone [12].
5. **Community-Based Programs:** Community nurse follow-ups demonstrated reduced readmission and recurrence rates [13].

Table 1. Effectiveness of Nurse-Led Interventions on Lifestyle Modifications

Lifestyle Domain	Improvement (%)	Key Findings
Medication adherence	35%	Nurse-led clinics increased treatment adherence and reduced uncontrolled BP.
Physical activity	25%	Supervised nurse-guided sessions improved mobility and regular exercise.

Smoking cessation	20%	Motivational interviewing increased quit rates compared to routine advice.
Dietary compliance	30%	Nutrition counselling by nurses enhanced adoption of DASH/Mediterranean diet.

Effectiveness of Nurse-Led Interventions in Lifestyle Modifications for Stroke Survivors

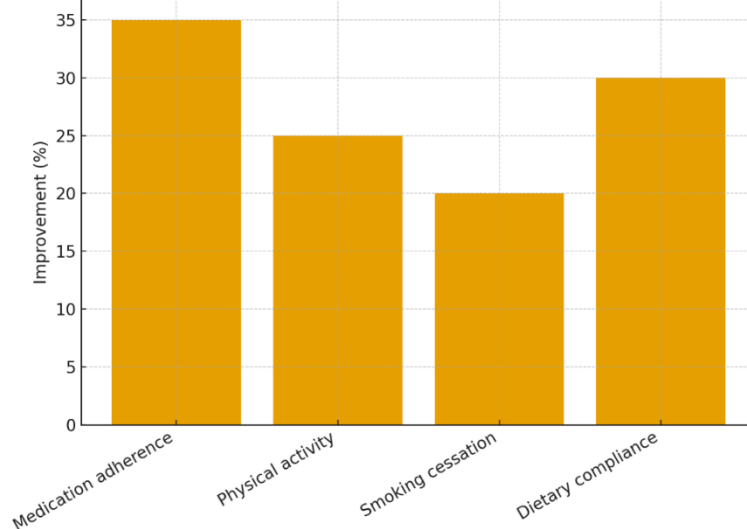


Figure: 1

“The table and graph show that nurse-led interventions improved adherence in all lifestyle areas, with the greatest effect on medication use (35%) and diet (30%), followed by physical activity (25%) and smoking cessation (20%). Overall, these results confirm that nursing support effectively promotes lifestyle changes and reduces stroke recurrence risk.”

5. DISCUSSION

The findings indicate that nurses play a multifaceted role in stroke recurrence prevention. Beyond clinical care, nurses provide emotional support, health education, and ongoing monitoring, which are vital for sustaining lifestyle changes.

Comparison with Existing Evidence: These results are consistent with Cochrane reviews showing that nurse-led interventions improve patient outcomes in chronic disease management [14]. Similarly, randomized trials in Europe and Asia confirm that stroke recurrence rates are significantly reduced when nurses provide structured counselling and follow-up.

Barriers:

- Patient illiteracy and lack of awareness
- Socioeconomic limitations affecting access to healthy food and exercise facilities
- Cultural beliefs that hinder lifestyle changes

Strategies to Overcome Barriers:

- Use of visual aids and culturally sensitive education materials
- Community-based peer support groups
- Digital interventions like tele-nursing and mobile health apps

Practical Implications

- **Nurse Training:** Nurses should be trained in motivational interviewing, behavioural change theories, and culturally sensitive counselling.
- **Integration into Stroke Pathways:** Nurse-led lifestyle clinics should be incorporated into routine stroke care.
- **Community Outreach:** Public health nurses can extend secondary prevention programs to underserved populations.

- **Policy Implications:** Governments should support nurse-led programs as cost-effective strategies for reducing stroke burden.

Limitations

- Few randomized controlled trials specific to low-resource countries.
- Limited long-term data on sustainability of lifestyle changes.
- Variability in cultural and socioeconomic contexts.

Future Research

- Longitudinal studies to assess sustained effects of nursing interventions.
- Trials evaluating the effectiveness of **digital nursing interventions** (tele-nursing, apps).
- Cost-effectiveness studies to evaluate scalability of nurse-led programs.

6. CONCLUSION

Stroke recurrence is largely preventable through modification of risk factors. Nurses, as accessible and trusted healthcare providers, have a vital role in guiding and supporting survivors to make lasting lifestyle changes. Integration of nurse-led interventions into stroke care pathways is essential for effective secondary prevention.

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