

Effectiveness of a Structured Educational Intervention on Knowledge Regarding Prevention of Complications Among Newly Diagnosed Hypertensive Patients in a Tertiary Care Hospital

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ABSTRACT

Background: Hypertension continues to be a major public health concern and is strongly associated with cardiovascular, renal, and neurological complications. Insufficient patient awareness contributes significantly to poor disease control and adverse outcomes.

Objective: To determine the impact of a structured educational intervention on improving knowledge related to prevention of complications among newly diagnosed hypertensive patients.

Methods: A quantitative pre-experimental study with a one-group pre-test and post-test design was conducted among 100 recently diagnosed hypertensive patients in a tertiary care hospital in Kanpur. Participants were selected through convenience sampling. Knowledge was assessed using a structured questionnaire before and after the intervention. The educational programme was delivered, and reassessment was done after seven days. Data were analysed using descriptive statistics and paired t-test.

Results: Baseline findings showed that nearly all participants had inadequate knowledge. Following the intervention, a substantial improvement was observed, with the majority attaining adequate knowledge levels. No association was observed between knowledge scores and selected demographic variables.

Conclusion: There was significant positive effect on patient knowledge. Incorporating systematic patient education into routine clinical care can contribute to prevention of hypertension-related complications.

Keywords: Hypertension, Patient Education, Structured Teaching Programme, Knowledge Enhancement, Complication Prevention, Nursing Intervention

INTRODUCTION

Hypertension is a global burden of non-communicable diseases.¹ It is a primary risk factor for major health conditions such as ischemic heart disease, cerebrovascular accidents, and chronic kidney disease². Despite advances in pharmacological management, uncontrolled blood pressure remains a common challenge, largely due to inadequate awareness and poor adherence to recommended lifestyle practices.³

Globally, a large proportion of individuals with hypertension remain either undiagnosed or insufficiently managed.⁴ In developing countries like India, rapid urbanization, dietary transitions, reduced physical activity, and increasing stress levels have further aggravated the prevalence of hypertension.⁵

Patient education plays a pivotal role in disease management. Structured

educational interventions can empower patients by improving their understanding, encouraging behavioural modification, and promoting adherence to treatment regimens⁶. However, evidence regarding such interventions in specific regional settings remains limited. Therefore, the present study was undertaken to evaluate the effectiveness of a structured teaching programme in enhancing knowledge related to prevention of complications among newly diagnosed hypertensive patients.

METHODOLOGY

A quantitative approach was adopted using a pre-experimental one-group pre-test and post-test design. This design enabled comparison of knowledge levels before and after the educational intervention within the same group. It is done in a hospital in Kanpur, Uttar Pradesh, which provides comprehensive healthcare services to both urban and rural populations.

Population and Sample

The study population included patients who were recently diagnosed with hypertension. A total of 100 participants were selected using a non-probability convenience sampling technique based on availability and eligibility.

Inclusion Criteria

- Patients diagnosed with hypertension within one year
- Age ≥ 20 years
- Individuals able to understand and communicate
- Willing to participate

Exclusion Criteria

- Patients with existing severe complications
- Critically ill individuals
- Those unwilling to participate

Variables

- **Independent Variable:** Structured teaching programme
- **Dependent Variable:** Knowledge regarding prevention

Tool Development

A structured questionnaire was developed based on literature review and expert validation.

Tool Components:

- Section A: Basic details
- Section B: Knowledge assessment (28 MCQs; score range: 0–28)

Intervention

A structured teaching programme was designed focusing on:

- Basics of hypertension
- Risk factors and complications
- Lifestyle modifications
- Medication adherence
- Monitoring practices

Teaching strategies included interactive lectures, visual aids, and discussion sessions. Each session lasted approximately 45 minutes.

Data Collection Procedure

Data collection was completed over three weeks:

1. Pre-test assessment
2. Administration of teaching programme
3. Post-test after 7 days

Statistical Analysis

- Descriptive: Frequency, percentage, mean, SD
- Inferential: Paired t-test, Chi-square test
- Significance level: $p < 0.05$

RESULTS

The demographic distribution indicated that most participants belonged to the middle age group, with a predominance of males and a considerable proportion having

limited formal education. Initial assessment revealed a marked deficiency in knowledge regarding prevention of complications. Following the educational intervention, a substantial improvement was observed, with the majority achieving adequate knowledge levels. No statistically significant relationship was found between knowledge improvement and demographic variables.

DISCUSSION

The significant increase in post-test scores indicates that targeted teaching can bridge existing knowledge gaps. The poor baseline knowledge observed among participants reflects a widespread lack of awareness regarding hypertension and its complications. This aligns with existing literature emphasizing the need for enhanced patient education.

The absence of association between demographic variables and knowledge improvement suggests that educational interventions are universally beneficial, regardless of socio-demographic differences.

IMPLICATIONS FOR NURSING PRACTICE

- Nurses play a critical role in patient education and counselling

- Educational interventions should be integrated into routine care
- Improved knowledge can reduce complications and hospital admissions
- Community awareness programmes should be strengthened

LIMITATIONS

- Limited sample size
- Single institutional setting
- Short duration of follow-up

RECOMMENDATIONS

- Conduct multi-centre studies
- Include larger sample sizes
- Evaluate long-term outcomes
- Incorporate digital and technology-based education methods

CONCLUSION

The study clearly demonstrates that structured teaching programmes significantly enhance knowledge among newly diagnosed hypertensive patients. Integrating systematic educational strategies into clinical practice can play a crucial role in preventing complications and improving overall health outcomes.

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