



A Study To Assess The Effectiveness Of Structured Teaching Programme On Knowledge Regarding Risk Factors And Prevention Of Peptic Ulcer Among Middle-Aged Population In Selected Rural Area At Manendragarh, Chhattisgarh

Mrs. Priyanshu Singh

Ph.D. Nursing Scholar, Malwanchal University, Indore, Madhya Pradesh

Guide: Dr. Manoj Prajapati, Ph.D.

Abstract

Background: Peptic ulcer disease (PUD) remains a significant public health concern, particularly in rural communities where awareness about risk factors and preventive practices is often inadequate. Lifestyle habits, Helicobacter pylori infection, and indiscriminate use of non-steroidal anti-inflammatory drugs (NSAIDs) contribute substantially to disease burden. Health education is a cost-effective strategy to improve knowledge and promote preventive behaviors.

Objectives: (1) To assess the pre-test knowledge regarding risk factors and prevention of peptic ulcer among middle-aged adults; (2) To evaluate the effectiveness of a structured teaching programme (STP) on knowledge; (3) To determine the association between post-test knowledge scores and selected socio-demographic variables.

Methods: A quantitative, quasi-experimental one-group pre-test–post-test design was adopted. The study was conducted in selected rural areas of Manendragarh, Chhattisgarh. A sample of 100 middle-aged adults (40–60 years) was selected using non-probability convenience sampling. Data were collected using a structured knowledge questionnaire. The STP was administered, and post-test knowledge was assessed after seven days. Descriptive and inferential statistics were used for analysis.

Results: The mean pre-test knowledge score was 12.4 ± 4.1 , which increased to 21.8 ± 3.6 in the post-test. The paired t-test showed a statistically significant improvement in knowledge ($t=18.62$, $p<0.001$). Significant associations were found between post-test knowledge and education status and previous exposure to health information.

Conclusion: The structured teaching programme was effective in improving knowledge regarding risk factors and prevention of peptic ulcer among the middle-aged rural population. Regular educational interventions are recommended to reduce preventable risk factors of PUD.

Keywords: Peptic ulcer, structured teaching programme, knowledge, prevention, rural population

Introduction

Peptic ulcer disease (PUD) is a common gastrointestinal disorder characterized by erosion of the mucosal lining of the stomach or duodenum, resulting from an imbalance between aggressive factors such as gastric acid, pepsin, and *Helicobacter pylori* infection, and the protective mechanisms of the gastric mucosa. Despite advances in medical diagnosis and treatment, PUD continues to be a major cause of morbidity worldwide. It significantly affects individuals' quality of life through chronic abdominal pain, dyspepsia, gastrointestinal bleeding, and, in severe cases, life-threatening complications such as perforation and gastric outlet obstruction.

Globally, peptic ulcer disease remains a substantial public health problem, contributing to increased healthcare utilization, economic burden, and loss of work productivity. In developing countries like India, the burden of PUD is disproportionately higher, particularly in rural areas. Factors such as limited access to healthcare services, low health literacy, poverty, and delayed health-seeking behavior contribute to late diagnosis and inadequate management. Rural populations often rely on self-medication, including over-the-counter analgesics and non-steroidal anti-inflammatory drugs (NSAIDs), which further increase the risk of ulcer formation and complications.

The major risk factors associated with peptic ulcer disease include *Helicobacter pylori* infection, prolonged or irrational use of NSAIDs, smoking, alcohol consumption, psychological stress, and unhealthy dietary practices. Many of these risk factors are modifiable through appropriate health education and lifestyle modification. However, lack of awareness regarding the causative factors, early symptoms, and preventive measures often leads to persistence of risky behaviors, especially among middle-aged adults. This age group is particularly vulnerable due to cumulative exposure to occupational stress, long-standing habits such as tobacco and alcohol use, and the increased likelihood of chronic illnesses requiring analgesic medications.

Structured teaching programmes (STPs) are systematic, well-planned educational interventions aimed at improving knowledge, shaping attitudes, and promoting healthy practices. In the field of nursing, STPs are recognized as effective tools for health promotion and disease prevention, especially in community and rural health settings. By providing accurate information about disease processes, risk factors, and preventive strategies, STPs empower individuals to make informed health decisions and adopt healthier lifestyles.

In rural communities, where access to professional healthcare advice is limited, structured teaching programmes delivered by nurses and community health workers play a pivotal role in bridging the knowledge gap. Enhancing awareness regarding risk factors and prevention of peptic ulcer disease among middle-aged adults can contribute significantly to early prevention, reduction of complications, and overall improvement in community health outcomes. Hence, the present study focuses on assessing the effectiveness of a structured teaching programme on knowledge regarding risk factors and prevention of peptic ulcer among the middle-aged population in a selected rural area of Manendragarh, Chhattisgarh.

Need for the Study

Rural populations often lack adequate information regarding gastrointestinal disorders and their prevention. Misconceptions about diet, self-medication with painkillers, and neglect of early symptoms are common. Preventive education targeting middle-aged adults can reduce disease incidence and complications such as bleeding and perforation. Hence, the present study was undertaken to assess the effectiveness of a structured teaching programme on knowledge regarding risk factors and prevention of peptic ulcer.

Objectives

1. To assess the pre-test knowledge regarding risk factors and prevention of peptic ulcer among middle-aged population.
2. To evaluate the effectiveness of a structured teaching programme on knowledge regarding risk factors and prevention of peptic ulcer.
3. To find the association between post-test knowledge scores and selected socio-demographic variables.

Hypotheses

- **H1:** There will be a significant difference between pre-test and post-test knowledge scores regarding risk factors and prevention of peptic ulcer among middle-aged population.
- **H2:** There will be a significant association between post-test knowledge scores and selected socio-demographic variables.

Methodology

Research Approach and Design

A quantitative research approach was adopted for the present study to objectively assess the effectiveness of the structured teaching programme on knowledge regarding risk factors and prevention of peptic ulcer. A quasi-experimental one-group pre-test–post-test research design was used, as it allows comparison of participants' knowledge levels before and after the intervention without the use of a control group. This design was considered appropriate to evaluate the impact of the structured teaching programme in a natural community setting.

Setting of the Study

The study was conducted in selected rural areas of Manendragarh, Chhattisgarh. These areas were chosen based on accessibility, availability of the target population, and the perceived need for health education related to gastrointestinal disorders. The rural setting reflects communities with limited healthcare resources and health awareness.

Population and Sample

The target population comprised middle-aged adults aged 40–60 years residing in the selected rural areas. A sample of 100 participants was selected using non-probability convenience sampling technique. This sampling method was adopted due to feasibility, time constraints, and ease of access to participants who met the inclusion criteria.

Inclusion Criteria

- Adults aged between 40–60 years
- Residents of the selected rural areas of Manendragarh
- Individuals who were willing to participate in the study
- Participants available at the time of data collection

Exclusion Criteria

- Individuals diagnosed with severe gastrointestinal disorders or complications
- Health professionals and individuals with formal medical or nursing education

Tool for Data Collection

Data were collected using a structured knowledge questionnaire developed by the investigator based on review of literature and expert guidance. The tool consisted of two sections:

- **Section A:** Socio-demographic variables such as age, gender, education, occupation, dietary habits, smoking and alcohol use, and previous exposure to health information.
- **Section B:** Knowledge questionnaire related to peptic ulcer disease, including definition, causes, risk factors, signs and symptoms, complications, and preventive measures.

The tool was validated by subject experts and reliability was ensured using appropriate statistical methods.

Intervention: Structured Teaching Programme

The structured teaching programme was designed to enhance knowledge regarding peptic ulcer disease. The content included definition, causes, risk factors, clinical manifestations, complications, preventive measures, dietary modifications, lifestyle changes, and importance of early medical consultation. The programme was delivered using simple language, visual aids, and interactive discussion to ensure better understanding among participants.

Data Collection Procedure

After obtaining ethical clearance and informed consent, a pre-test was administered to assess baseline knowledge of the participants using the structured questionnaire. Following the pre-test, the structured teaching programme was implemented. A post-test was conducted after seven days using the same questionnaire to evaluate the effectiveness of the intervention.

Data Analysis

The collected data were organized, coded, and analyzed using descriptive and inferential statistics. Descriptive statistics such as frequency, percentage, mean, and standard deviation were used to describe demographic variables and knowledge scores. Inferential statistics including paired t-test were applied to determine the effectiveness of the structured teach

Results

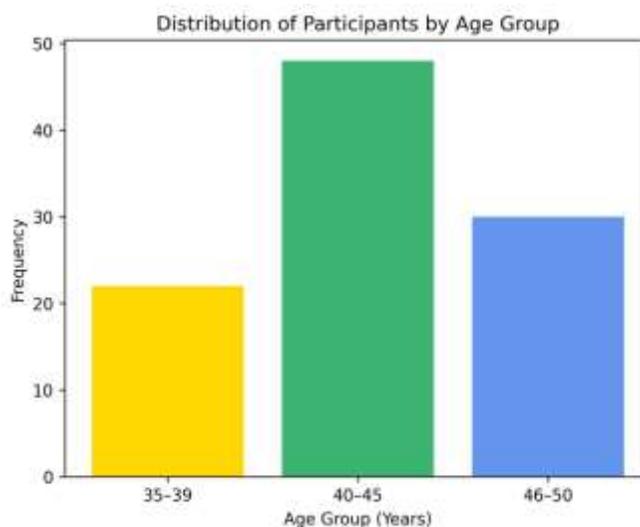
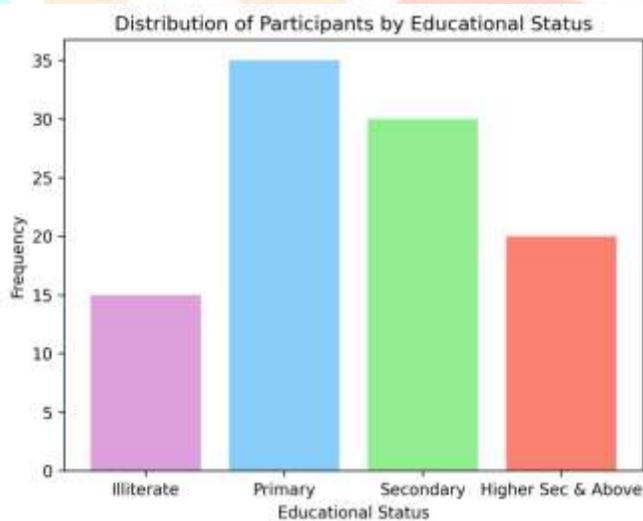
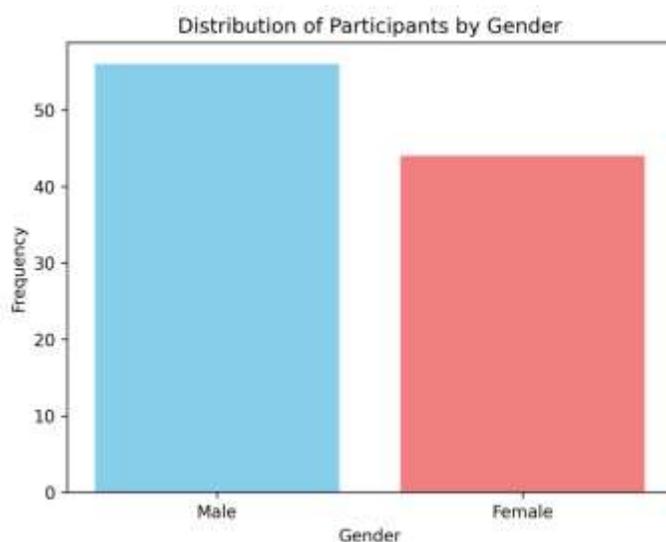
Table 1

Distribution of Sample According to Demographic Variables (N = 100)

| Demographic Variable | Category | Frequency (f) | Percentage (%) |
|---------------------------------|--------------------------|---------------|----------------|
| Gender | Male | 56 | 56.0 |
| | Female | 44 | 44.0 |
| Age (Years) | 35–39 | 22 | 22.0 |
| | 40–45 | 48 | 48.0 |
| | 46–50 | 30 | 30.0 |
| Educational Status | Illiterate | 15 | 15.0 |
| | Primary education | 35 | 35.0 |
| | Secondary education | 30 | 30.0 |
| | Higher secondary & above | 20 | 20.0 |
| Habits (Smoking/Alcohol) | Present | 60 | 60.0 |
| | Absent | 40 | 40.0 |

Description:

Table 1 depicts the demographic characteristics of the participants. Among the 100 middle-aged adults, 56% were males and 44% were females. Nearly half of the participants (48%) belonged to the age group of 40–45 years. Regarding educational status, 35% had completed primary education, while 15% were illiterate. A majority of the participants (60%) reported habits such as smoking or alcohol consumption.



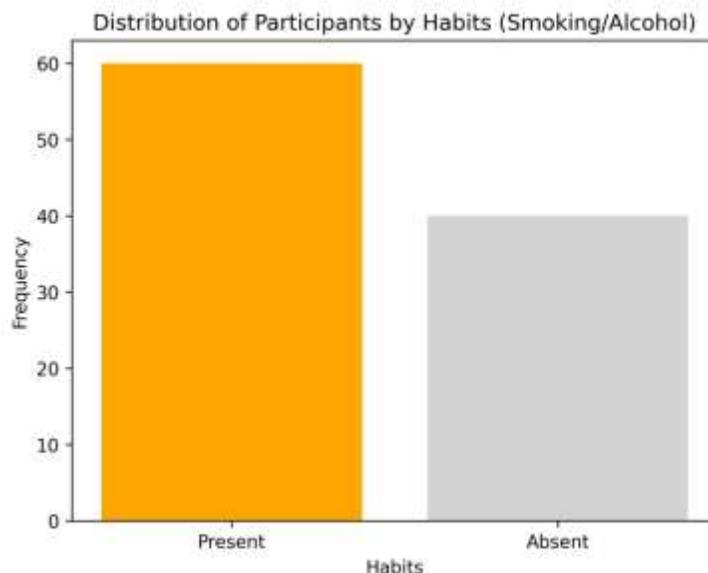


Table 2

Comparison of Pre-test and Post-test Knowledge Scores on Peptic Ulcer (N = 100)

| Knowledge Test | Mean | Standard Deviation | Mean Difference | t-value | p-value |
|----------------|------|--------------------|-----------------|---------|---------|
| Pre-test | 12.4 | ±4.1 | | | |
| Post-test | 21.8 | ±3.6 | 9.4 | 18.62 | <0.001* |

*Significant at $p < 0.001$

Description:

Table 2 reveals the effectiveness of the Structured Teaching Programme (STP). The mean knowledge score increased from 12.4 ± 4.1 in the pre-test to 21.8 ± 3.6 in the post-test. The calculated paired t value (18.62) was highly significant at $p < 0.001$, indicating that the STP was effective in improving knowledge regarding risk factors and prevention of peptic ulcer among the participants.

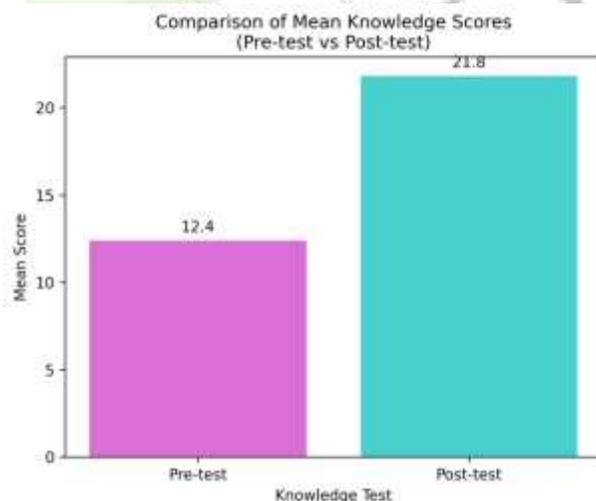


Table 3

Association Between Post-test Knowledge Scores and Selected Demographic Variables (N = 100)

| Demographic Variable | χ^2 value | df | p-value | Significance |
|-----------------------------|----------------|----|---------|-----------------|
| Educational Status | 9.84 | 3 | 0.02 | Significant |
| Previous Health Information | 6.72 | 1 | 0.01 | Significant |
| Age | 3.10 | 2 | 0.21 | Not Significant |
| Gender | 1.45 | 1 | 0.23 | Not Significant |
| Habits | 2.08 | 1 | 0.14 | Not Significant |

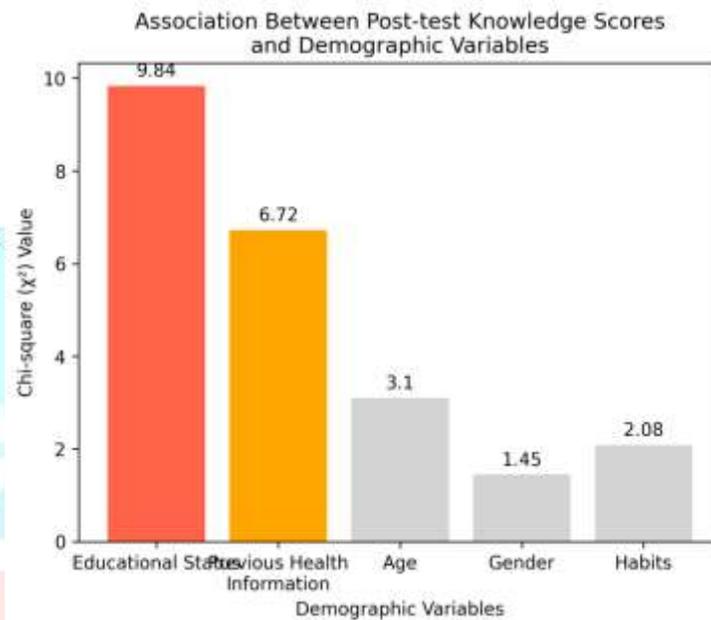
**Description:**

Table 3 shows the association between post-test knowledge scores and selected demographic variables. A statistically significant association was found between post-test knowledge scores and educational status as well as previous exposure to health-related information ($p < 0.05$). However, no significant association was observed with age, gender, or habits such as smoking and alcohol use.

Discussion

The findings demonstrate a significant improvement in knowledge following the structured teaching programme. Similar results have been reported in previous studies emphasizing the effectiveness of educational interventions in preventing gastrointestinal disorders. Improved knowledge can lead to healthier lifestyle choices and reduced risk factor exposure.

Conclusion

The structured teaching programme was effective in enhancing knowledge regarding risk factors and prevention of peptic ulcer among the middle-aged rural population. Nurses and community health workers should incorporate regular health education sessions to prevent peptic ulcer disease.

Recommendations

- Replication of the study with a control group
- Larger sample size for generalization
- Long-term follow-up to assess behavioral changes

Ethical Considerations

Ethical approval was obtained from the institutional ethics committee. Informed consent was taken from all participants.

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