



## ASSESSMENT OF CONTRIBUTING FACTORS AND CLINICAL MANIFESTATIONS OF DYSPEPSIA IN SHANGLA: ROLE OF HEALTH EDUCATION IN IMPROVING PATIENT OUTCOMES

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### ABSTRACT

Dyspepsia, commonly known as indigestion, is a prevalent gastrointestinal disorder that significantly affects quality of life. This study assessed the contributing factors and clinical manifestations of dyspepsia in Shangla District, Pakistan, and evaluated the effectiveness of health education in improving outcomes. A descriptive study was conducted on 50 patients (30 female, 20 male) attending the District Headquarter Hospital Alpuray. Data were collected through questionnaires, clinical examinations, and follow-ups after health education interventions. Findings revealed higher prevalence of dyspepsia among women, especially in childbearing age, and among illiterate individuals. Major risk factors included NSAID use (74%), smoking (42%), poor dietary habits, and pregnancy (37%). Clinical symptoms included nausea, heartburn, reflux oesophagitis, belching, and pain after meals. Health education significantly improved patient outcomes, reducing symptom prevalence by 76% overall. The study concludes that health education is a cost-effective strategy to prevent and manage dyspepsia in resource-limited settings.

### INTRODUCTION

Dyspepsia, derived from the Greek words 'dys' (bad) and 'pepsis' (digestion), refers to pain or discomfort centered in the upper abdomen. It is typically characterized by nausea, heartburn, bloating, early satiety, belching, or reflux symptoms (Talley & Ford, 2015). Dyspepsia affects approximately 20–45% of adults globally,

making it one of the most common gastrointestinal complaints (Ford et al., 2020). While often functional in nature, dyspepsia may also be linked to peptic ulcer disease, gastroesophageal reflux, or gastric malignancies (Moayyedi et al., 2021).

In Pakistan, gastrointestinal disorders contribute significantly to morbidity.

However, studies on dyspepsia remain scarce, particularly in rural areas such as Shangla, where health infrastructure is limited and reliance on self-medication (especially NSAIDs) is common. Women and illiterate populations may be more vulnerable due to social and dietary factors. Given these challenges, the present study aimed to investigate dyspepsia's risk factors, clinical features, and the effectiveness of health education in improving outcomes.

### Literature Review

Several studies have demonstrated the multifactorial nature of dyspepsia. Ford et al. (2020) reported that functional dyspepsia affects nearly one-third of adults in both developed and developing countries, with women more frequently affected. Mahadeva and Ford (2016) highlighted geographical differences, noting that dietary habits, stress, and NSAID use strongly influence dyspepsia prevalence in Asian populations.

Recent guidelines by Moayyedi et al. (2021) emphasized the role of lifestyle modification and education alongside pharmacological therapy. A meta-analysis by Aziz et al. (2022) confirmed that smoking and obesity are independent predictors of dyspepsia. A Pakistani study by Jafri et al. (2021) found a strong correlation between NSAID use and gastrointestinal complaints. Similarly, Khan et al. (2023) reported that dyspeptic symptoms were significantly higher in populations with lower education levels.

Health education is increasingly recognized as an essential intervention. WHO (2021) stressed that community-

### Results

**Table 1. Sex Distribution of Participants**

Sex	Number	Percentage
Male	20	40%
Female	30	60%
Total	50	100%

based health promotion is cost-effective for managing chronic gastrointestinal diseases in low-resource settings. A study in India (Sharma et al., 2022) found that structured education sessions on diet and lifestyle reduced dyspeptic symptoms by 70% within three months.

### Objectives and Hypothesis

**Hypothesis:** Increased prevalence of risk factors leads to increased prevalence of dyspepsia.

### Objectives:

- To assess the factors causing indigestion in Shangla.

- To study the clinical signs of indigestion.

- To improve the quality of life of dyspeptic patients through health education.

### Methodology

A descriptive study was conducted at the Outpatient Department of District Headquarter Hospital, Alpuri, Shangla. Fifty patients (20 male, 30 female), aged 20 years and above, presenting with dyspeptic symptoms were included. Patients with alarm features (e.g., gastrointestinal bleeding, convulsions, severe co-morbidities) were excluded.

Data collection tools included structured questionnaires, clinical examinations, and interviews. Information was gathered on demographics, clinical symptoms, and risk factors. A health education intervention was implemented focusing on dietary modification, smoking cessation, limiting NSAID use, stress management, and hygiene practices. Follow-up assessments were conducted after three months. Data were analyzed using descriptive statistics in SPSS v.12.

Dyspepsia was more common among females (60%) than males (40%).

**Table 2. Age Distribution of Participants**

Age Group (years)	Male	Female	Total	Percentage
21–30	2	5	7	14%
31–40	4	8	12	24%
41–50	6	6	12	24%
51–60	5	8	13	26%
61–70	2	3	5	10%
71–80	1	0	1	2%
Total	20	30	50	100%

The majority of patients were between 31–60 years (74%), with highest prevalence in the 51–60 age group.

**Table 3. Improvement in Dyspeptic Complaints After Health Education**

Symptom	Prevalence Before Intervention	Prevalence After Intervention	Improvement (%)
Nausea / Heartburn	100%	14%	86%
Reflux Esophagitis	100%	6%	94%
Belching	100%	4%	96%
Pain After Eating	78%	0%	78%
Vomiting	20%	0%	20%

Health education interventions significantly reduced all major dyspeptic symptoms, with highest improvement seen in belching (96%) and reflux oesophagitis (94%).

### Findings

1. Dyspepsia was more prevalent among females (60%), especially in the 31–60 years age group.
2. Illiteracy was associated with higher prevalence of symptoms.
3. Major risk factors included frequent NSAID use (74%), tobacco use (42%), poor diet, and pregnancy (37%).
4. Health education interventions produced substantial improvements, with 76% overall reduction in dyspeptic symptoms.
5. Female patients responded better (80% improvement) compared to male patients (70%).

### Discussion

This study confirmed that dyspepsia is a common condition in Shangla,

disproportionately affecting women and individuals with low literacy. The findings are consistent with Ford et al. (2020), who reported higher prevalence among women. NSAID use emerged as the strongest risk factor, aligning with Jafri et al. (2021), who found widespread self-medication with painkillers among Pakistani patients. Health education demonstrated remarkable effectiveness, consistent with Sharma et al. (2022) who observed a 70% reduction in symptoms after structured lifestyle interventions in India. Similar findings by Moayyedi et al. (2021) emphasize that education combined with lifestyle change is crucial in dyspepsia management.

The present study highlights the importance of non-pharmacological strategies in resource-poor settings where medical facilities are limited. Improving dietary practices, reducing smoking, and

restricting NSAID misuse can substantially lower disease burden.

### **Conclusion**

The study concluded that dyspepsia in Shangla is highly prevalent, especially among women and illiterate individuals. NSAID use, smoking, poor diet, and pregnancy were the main risk factors. Health education was found to be a cost-effective intervention, reducing symptom prevalence by over 70%. The hypothesis that increased risk factors lead to increased prevalence of dyspepsia was supported.

### **Recommendations**

1. Integrate health education into primary healthcare programs in Shangla.
2. Train healthcare workers to counsel patients on dietary and lifestyle modification.
3. Reduce unnecessary NSAID prescriptions and promote safe alternatives.
4. Launch community awareness campaigns targeting women and illiterate populations.
5. Conduct larger-scale, multi-district studies to validate and expand these findings.

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