



The Effectiveness Of Diet Education In Reducing The Incidence Of Nausea In Patients With Gastrointestinal Disorders

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Abstract

Background : Nausea is a common symptoms among patients with gastrointestinal disorders . It May affect food intake , hydration status, daily activities , comfort , and quality of life . Dietary education May help patients identify food triggers and modify eating patterns according to their gastrointestinal condition. Objective : To determine the effectiveness of dietary education in reducing nausea among patients with gastrointestinal disorders. Methods : This study used a quasi-experimental pretest-posttest control group design . A total of 72 patients with gastrointestinal disorders were divided into intervention and control groups , with 36 respondents in each group . The intervention group received dietary education for four weeks , while the control group received routine care . Nausea severity was assessed before and after the intervention using a nausea symptom assessment questionnaire . Data were analyzed using paired and independent t- tests with a significance level of $\alpha=0.05$. Results : The mean nausea score in the intervention group decreased from 6.42 ± 1.51 before education to 3.18 ± 1.27 after intervention . In the control group , the mean score decreased from 6.25 ± 1.47 to 5.42 ± 1.39 . There was a significant difference in nausea score reduction between the intervention and control groups ($p<0.001$). Conclusion : Dietary education was effective in reducing nausea severity among patients with gastrointestinal disorders . Dietary education May be used as a non- pharmacological intervention to supports gastrointestinal symptoms management .

Keywords : Dietary Education , Nausea, Gastrointestinal Disorders , Nutrition , Patients

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1. Introduction

Digestive disorders are a group of conditions that can cause various gastrointestinal symptoms, such as abdominal pain, fullness, bloating, early satiety, nausea, vomiting, diarrhea, and changes in bowel habits. Nausea is one symptom that can disrupt patient comfort and affect the ability to meet nutritional needs (Malagelada et al., 2025; Black et al., 2022).

Persistent nausea can cause patients to reduce their food intake due to concerns about worsening symptoms. If this condition persists, patients may experience inadequate energy and protein intake and may be at risk of nutritional deficiencies. Recent European guidelines on chronic nausea and vomiting emphasize the importance of maintaining adequate nutritional intake and modifying dietary strategies when nutritional deficits occur (Malagelada et al., 2025; NIDDK, 2024).

Diet is one factor that can influence the occurrence of gastrointestinal symptoms. Food type, quantity, portion size, frequency, fat content, and eating habits may affect gastrointestinal tolerance. Therefore, dietary education can play an important role in helping patients modify their eating behaviors and manage gastrointestinal symptoms (Chey et al., 2022; American Gastroenterological Association, 2022).

Dietary education not only provides information about foods to consume or avoid but also helps patients understand the relationship between dietary intake and gastrointestinal symptoms. An individualized approach is important because food tolerance and symptom triggers may differ among patients (American Gastroenterological Association, 2022; Kuźmin et al., 2025).

The American Gastroenterological Association recommends a dietary approach tailored to the patient's condition and symptom response, emphasizing appropriate education and individualized dietary management as important components of dietary interventions (American Gastroenterological Association, 2022; American Gastroenterological Association, 2025).

Systematic research on dietary strategies for nausea and vomiting has shown that dietary care and individualized nutritional approaches may contribute to reducing nausea and vomiting, particularly in specific patient populations. Dietary interventions accompanied by appropriate nutritional support may improve symptom management and nutritional intake (He et al., 2022; Molassiotis et al., 2023).

Systematic reviews of food-based interventions also suggest that dietary counseling and individualized nutritional strategies may be beneficial in managing nausea and vomiting, although the effectiveness of interventions may vary depending on the underlying condition and the specific dietary approach used (Molassiotis et al., 2023; Gleave et al., 2025).





Based on this evidence, dietary education has the potential to serve as a simple and practical intervention that can be integrated into nursing and nutrition services. This study therefore aims to determine the effectiveness of dietary education in reducing nausea levels among patients with digestive disorders..

2. Research Methods

This study employed a quasi-experimental pretest–posttest control group design to evaluate the effect of dietary education on nausea levels among patients with digestive disorders. The study was conducted in the outpatient ward and treatment room of a healthcare facility from February to April 2026. A total of 72 patients were selected using purposive sampling, consisting of 36 respondents in the intervention group and 36 in the control group. Participants were adults aged ≥ 18 years who had digestive disorders, experienced nausea, were able to communicate effectively, willing to participate, and able to complete the dietary education program. Patients with decreased consciousness, emergency conditions, incompatible specialized nutritional interventions, or incomplete final evaluations were excluded. The independent variable was dietary education, while the dependent variable was nausea level, measured using a 0–10 scale, with 0 indicating no nausea and 10 indicating very severe nausea.

The intervention group received face-to-face dietary education for four weeks using leaflets and direct explanations covering appropriate meal schedules and portions, small and frequent meals, avoidance of individual food triggers, adequate fluid, energy and protein intake, selection of well-tolerated foods, and monitoring of food intake and symptoms. The control group received routine healthcare services according to facility standards. Data were collected using respondent characteristic questionnaires, dietary monitoring and adherence sheets, and a nausea-level questionnaire. Univariate analysis was used to describe respondent characteristics and nausea levels, while bivariate analysis was performed to assess pretest–posttest changes and differences between groups. Paired t-test and independent t-test were used for normally distributed data, while Wilcoxon and Mann–Whitney tests were used for non-normally distributed data. Statistical significance was set at $\alpha = 0.05$..





3. Results And Discussion

a. Research result

Tabel 1. Respondent Characteristics

Characteristics	Intervention n (%)	Control n (%)
Age 18–29 years	9 (25.0)	11 (30.6)
Age 30–44 years	17 (47.2)	15 (41.7)
Age ≥ 45 years	10 (27.8)	10 (27.7)
Man	15 (41.7)	16 (44.4)
Woman	21 (58.3)	20 (55.6)
Primary/secondary education	23 (63.9)	21 (58.3)
Higher education	13 (36.1)	15 (41.7)

The characteristics of both groups were relatively balanced based on age, gender, and education level.

Tabel 2. Nausea Levels Before and After Intervention

Group	Before Mean $\pm$ SD	After Mean $\pm$ SD	Decline
Intervention	6.42 $\pm$ 1.51	3.18 $\pm$ 1.27	3.24
Control	6.25 $\pm$ 1.47	5.42 $\pm$ 1.39	0.83

The average nausea score of the intervention group decreased by 3.24 points, while the control group only decreased by 0.83 points.

Tabel 3. Distribution of Nausea Levels

Level of nausea	Intervention before	Post intervention	Control before	Control after
Light	7 (19.4%)	24 (66.7%)	8 (22.2%)	12 (33.3%)
Currently	20 (55.6%)	11 (30.5%)	19 (52.8%)	18 (50.0%)
Heavy	9 (25.0%)	1 (2.8%)	9 (25.0%)	6 (16.7%)

After dietary education, the proportion of patients with mild nausea in the intervention group increased from 19.4% to 66.7%. Conversely, the proportion with severe nausea decreased from 25.0% to 2.8%.

The results of the *paired t-test* showed a significant decrease in nausea levels in the intervention group with a p value <0.001 . In the control group, a decrease in nausea scores was also found, but the change was smaller. Comparison of changes in scores between the intervention group and the control group showed a p value <0.001 , so there was a significant difference in effectiveness between the two groups.

b. Discussion





The study results showed that dietary education effectively reduced nausea levels in patients with digestive disorders. The greater reduction in nausea scores in the intervention group suggests that providing structured information can help patients make dietary changes appropriate to their gastrointestinal condition.

Diet education can help patients understand that dietary management involves more than just the type of food, but also the quantity, frequency, timing, and method of consumption. Patients who previously consumed large amounts of food can be guided to eat smaller portions and more frequently, as tolerated.

This approach can also help patients identify foods that exacerbate symptoms. Recording food and symptoms allows patients to identify the connection between consuming certain foods and the onset of nausea. An individualized approach is important because not all patients have the same food triggers.

These results are consistent with a systematic review that found that specific nutrition education and healthcare support with personalized meal plans had the strongest evidence for reducing nausea severity in the studied population.

In this study, education also emphasized adequate energy, protein, and fluid intake. This is important because patients with nausea may reduce food intake due to fear of worsening symptoms. Recent clinical guidelines for chronic nausea and vomiting emphasize the importance of maintaining adequate nutrition and modifying the diet when nutritional deficits occur.

The study results also support an individualized dietary approach for patients with gastrointestinal disorders. American Gastroenterological The Association emphasizes that dietary education needs to take into account the patient's symptoms, ability to implement dietary changes, and, if necessary, involve dietetic professionals .

Dietary education should not be considered a substitute for medical examination and therapy. Nausea can be caused by a variety of gastrointestinal and non-gastrointestinal conditions. Recent European guidelines emphasize that chronic nausea and vomiting require systematic evaluation to determine possible structural, metabolic, motility , or impaired gut-brain interaction causes.

Diet education is most appropriate as a complementary intervention, tailored to the patient's clinical condition. Patients with severe nausea, repeated vomiting, dehydration, weight loss, gastrointestinal bleeding, severe pain, or other alarming symptoms require further medical evaluation.

This study had several limitations. The intervention duration was relatively short, and nausea levels were partly assessed based on subjective patient reports. Patient adherence to dietary recommendations could not be completely controlled, while





variations in the types of digestive disorders among participants may have influenced the results. In addition, other factors, including medication use, stress, anxiety, and comorbidities, may have affected patients' nausea levels and could not be fully controlled during the study.

4. Conclusion

Dietary education is effective in reducing nausea levels among patients with digestive disorders, as demonstrated by a greater reduction in nausea scores in the intervention group compared with the group receiving routine care. Therefore, dietary education can be considered an easily implemented non-pharmacological intervention to support the management of gastrointestinal symptoms and maintain nutritional adequacy. Healthcare workers are encouraged to provide individualized dietary education according to patients' conditions and food tolerance, while patients are advised to record their food intake and symptoms to identify factors that may aggravate nausea. Healthcare facilities can integrate dietary education into nursing and nutrition services, and families can support patients by providing appropriate foods to improve adherence. Further research should consider larger sample sizes, longer intervention periods, and grouping participants according to specific digestive disorder diagnoses.

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