



A Comparative Clinical Study To Evaluate The Effectiveness Of Early Enteral Nutrition Versus Delayed Enteral Nutrition In Post-Operative Gastrectomy Among Stomach Cancer Patients At Kidwai Memorial Institute Of Oncology, Bengaluru

Author:

Mr. Puttaraju T. M.¹ Lecturer, Kidwai College of Nursing, Bengaluru

Dr. Ananda² Assistant Professor, Dept of Medical Surgical Nursing, DC TRC and RGICD College of Nursing Bengaluru

Dr. Mala MG³ Assistant Professor, Dept. Of Community Health Nursing, Kidwai College of Nursing, Bengaluru

Abstract

Stomach cancer and esophagogastric malignancies significantly affect the nutritional status of patients due to reduced oral intake, cancer cachexia, and post-operative physiological stress. Nutritional deterioration after gastrectomy is associated with impaired recovery, increased complications and prolonged hospitalization. Early enteral nutrition has been recommended to maintain gut integrity, improve postoperative metabolism, and prevent weight loss.

The present study evaluates the effectiveness of the **introduction of early enteral feeding** compared to delayed enteral feeding among post-operative gastrectomy patients in a selected oncology hospital. Weight measurements were taken on the 1st, 3rd, 14th and 30th postoperative days. The study adopted a quasi-experimental comparative design.

Results show that the experimental group receiving early enteral feeding demonstrated **significant weight improvement** with a mean gain of **2.4 kg**, whereas the control group showed only **0.04 kg** improvement, which was not statistically significant. The findings indicate that **early enteral feeding is effective in improving postoperative nutritional status and weight restoration** among gastrectomy patients.

Keywords: Early enteral feeding, stomach cancer, gastrectomy, nutritional therapy, postoperative recovery, comparative study.

1. Introduction

Stomach cancer remains a major global health concern, contributing significantly to morbidity, weight loss and cancer-related cachexia. Patients undergoing gastrectomy experience further nutritional stress due to altered gastrointestinal structure, reduced food intake, and postoperative metabolic changes. Cachexia characterized by loss of body weight, anorexia, and muscle wasting is common and leads to delayed recovery.

Studies have established that **early postoperative enteral nutrition** supports gastrointestinal function, promotes wound healing, maintains immune competence, and prevents complications. In contrast, delayed feeding may worsen malnutrition, prolong hospital stay and reduce treatment tolerance.

Therefore, this study focuses on evaluating the impact of early enteral feeding on weight improvement in postoperative stomach cancer patients.

2. Need for the Study

Post-operative nutritional deterioration is a major challenge in gastrectomy patients. Malnutrition increases susceptibility to infection, delays mobilization, and adversely affects survival. The prevalence of malnutrition among patients with esophageal and gastric malignancies is documented in existing literature. Timely nutritional intervention is essential for maintaining metabolic balance and improving clinical outcomes.

Despite existing evidence, clinical practices often delay enteral feeding due to misconceptions about gastrointestinal recovery. This study provides evidence to support early enteral nutrition in a regional oncology setting.

3. Objectives of the Study

1. To measure the postoperative weight of stomach cancer patients in the **control group** receiving delayed enteral feeding.
2. To measure the postoperative weight of stomach cancer patients in the **experimental group** receiving early enteral feeding.
3. To compare postoperative weight between both groups to determine the **effectiveness of early enteral feeding**.

4. Research Hypothesis

- **H1:** The mean postoperative weight of patients in the experimental group receiving early enteral feeding will be significantly higher than the mean postoperative weight of patients in the control group receiving delayed feeding.

5. Research Methodology

5.1 Research Approach

A comparative quasi-experimental approach was used to evaluate the effectiveness of early enteral feeding among postoperative stomach cancer patients.

5.2 Research Design

Quasi-experimental non-randomized control group design.

5.3 Setting of the Study

Kidwai Memorial Institute of Oncology, Bengaluru.

5.4 Participants

Post-operative gastrectomy patients meeting inclusion criteria.

5.5 Sampling Technique

Purposive sampling.

5.6 Sample Size

60 participants (30 in control group, 30 in experimental group).

5.7 Variables

- **Independent variable:** Early enteral feeding.
- **Dependent variable:** Postoperative weight.

5.8 Tools and Data Collection

A structured weight assessment record was used to document patient weight on:

- 1st postoperative day
- 3rd postoperative day
- 14th postoperative day
- 30th postoperative day

5.9 Statistical Analysis

- Descriptive statistics: Mean, mean percentage, standard deviation.
- Inferential statistics: Paired 't' test for within-group comparisons; independent 't' test for between-group comparison.

6. Results

6.1 Demographic Characteristics

- Majority of patients belonged to 50–70 years age group.
- 66.6% male and 33.3% female.
- Baseline weight ranged from 40–60 kg in majority of patients.

6.2 Weight Comparison in Control Group

- Mean weight on 3rd postoperative day: **56.59 kg**
- Mean weight on 14th postoperative day: **56.63 kg**
- Improvement: **0.04 kg**
- t-value = **0.967** (not significant)

6.3 Weight Comparison in Experimental Group

- Mean improvement: **2.4 kg** over 14 days
- Statistically significant improvement observed

6.4 Comparative Analysis

The experimental group demonstrated **substantial weight gain**, whereas the control group showed minimal improvement. This confirms that **early enteral feeding is more effective**.

7. Discussion

The findings of this study align with existing literature that early enteral feeding enhances nutritional outcomes in postoperative upper gastrointestinal surgeries. Early feeding maintains gut integrity, stimulates peristalsis, and improves absorption.

Delayed feeding may contribute to further weight loss and malnutrition, delaying recovery. The improved weight gain in the experimental group reflects better metabolic adaptation and enhanced recovery capacity.

These findings reinforce that **early enteral nutrition should become standard postoperative care** for gastrectomy patients.

8. Conclusion

The study concludes that **early introduction of enteral feeding** significantly improves postoperative weight in gastrectomy patients compared to delayed feeding. Early feeding is safe, effective, and beneficial for enhancing nutritional recovery in stomach cancer patients.

9. Limitations

- Study limited to a single institution in Bengaluru.
- Sample size limited to 60 patients.
- Only weight was assessed; biochemical markers were not included.
- Duration limited to 4 weeks.

10. Recommendations

1. Expand study to include biochemical nutritional markers (albumin, pre-albumin).
2. Conduct multi-center studies for broader generalization.
3. Integrate early enteral feeding protocols into standard postoperative nursing care.
4. Assess long-term outcomes, including quality of life and functional recovery.

11. References

1. Health: Gastric Cancer (Esophageal Cancer). Available from: http://www.medicinet.com/adults_health/article.htm
2. Gastric Disease and Surgical Trauma. Wikipedia: The Free Encyclopedia. Available from: <http://www.merc.com/mmhe/sec18/ch203c.html>
3. David SL. Nutritional therapy in advanced postoperative cancer patients. *Gut*. 1967; 8:361–372.