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COMPARATIVE OUTCOME OF EARLY VERSUS STANDARD ORAL FEEDING AFTER EMERGENCY BOWEL SURGERY

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Abstract

Objective: *To evaluate the safety and efficacy of early oral feeding compared to standard postoperative feeding in adult patients undergoing emergency bowel surgery.*

Study Design: *Randomised controlled trial.*

Place and Duration of Study: *Department of Surgery, Gulab Devi Hospital, Lahore, over a period of six months following approval by the College of Physicians & Surgeons Pakistan.*

Methodology: *Sixty adult patients aged 18 years or older undergoing emergency bowel surgery were enrolled and randomised into two equal groups: Early Oral Feeding (EOF) and Standard Oral Feeding (SOF). Patients with terminal malignancy, recent abdominal surgeries, gross contamination, bowel ischaemia, postoperative stomas, ASA grade IV or above, or pregnancy were excluded. EOF was initiated within six hours postoperatively and advanced to soft diet within 24 hours if tolerated, while SOF commenced after clinical resolution of ileus. Primary outcome was hospital stay; secondary outcomes included vomiting, feeding tolerance, and associations with demographic and clinical variables. Statistical analyses were performed using SPSS version 25.0. Parametric and non-parametric tests were applied as appropriate. A p-value <0.05 was considered statistically significant.*

Results: *Mean hospital stay was significantly shorter in the EOF group (4.57 ± 1.1 days) compared to the SOF group (6.68 ± 1.5 days) (Mann-Whitney U = 107.0, $p < 0.00001$). Vomiting occurred in 23.3% of EOF patients versus 6.7% in SOF ($\chi^2 = 3.2$, $p = 0.074$), with an odds ratio of 3.76 (95% CI: 1.04–13.65). Age was positively correlated with hospital stay ($r = 0.43$, $p = 0.002$). Early feeding remained an independent predictor of reduced hospital stay ($\beta = -2.11$, $p = 0.001$).*

Conclusion: *Early oral feeding following emergency bowel surgery was associated with significantly shorter hospitalisation without increasing major complications. Incorporation of early feeding into routine postoperative protocols*

may enhance recovery and reduce healthcare burden, particularly in resource-limited settings.

INTRODUCTION

Emergency bowel surgeries are associated with significant postoperative morbidity and mortality, especially in low-resource healthcare settings such as Pakistan, where infrastructure limitations, delayed presentation, and inadequate perioperative care exacerbate the burden.[1] Nutritional management following such surgeries plays a pivotal role in influencing recovery, wound healing, gastrointestinal function, and overall outcomes.[2] Traditionally, oral feeding has been delayed until the return of bowel sounds or passage of flatus, based on concerns regarding anastomotic dehiscence, vomiting, aspiration, and postoperative ileus.[3] However, emerging evidence over the last decade has challenged this dogma, advocating for early oral feeding (EOF) as part of enhanced recovery after surgery (ERAS) protocols, which have shown improved outcomes in elective procedures. Nevertheless, the applicability of EOF in the context of emergency bowel surgery remains insufficiently explored, particularly in developing countries with different patient profiles and limited postoperative monitoring capacity.[4,5]

Emergency laparotomies, especially for bowel obstruction, perforation, or ischemia, are common surgical interventions in Pakistan due to delayed healthcare-seeking behavior and lack of accessible surgical services.[6,7] Malnutrition, sepsis, and electrolyte imbalances are often present at baseline, further complicating postoperative recovery. In this context, nutritional strategies require critical consideration. Several international studies have demonstrated that early initiation of oral feeding following gastrointestinal surgeries may reduce hospital stay, enhance bowel recovery, decrease infection rates, and improve patient satisfaction without increasing complication rates.[8] For instance, research by Lin et al. (2020) and Alvandipour et al. (2021) has shown that EOF following elective colorectal surgery significantly shortened length of stay and improved gastrointestinal function. Similarly, studies by El Nakeeb et al. (2022) and Ichikawa et al. (2021) on emergency laparotomies have cautiously supported EOF with proper patient selection.[9,10]

Despite these encouraging results, there remains a scarcity of robust evidence from South Asia, particularly Pakistan, regarding the safety and efficacy of EOF after emergency bowel procedures. Current practices in local hospitals often follow outdated surgical dogmas due to fear of complications and lack of standard ERAS implementation.[11] Moreover, available international data may not be entirely generalizable to local settings where patient nutritional status, disease spectrum, perioperative care, and healthcare resources differ significantly. This raises a critical gap in evidence, necessitating studies in indigenous populations to validate whether early postoperative oral intake is feasible and beneficial without compromising safety.[12]

Furthermore, the rising cost of healthcare and pressure on bed occupancy in public-sector hospitals in Pakistan highlight the need for interventions that can shorten hospital stay without increasing complications.[13] If early feeding is found to be safe in this population, it could lead to earlier mobilization, improved patient output, and reduced financial burden on both institutions and patients. A few studies conducted in neighbouring low-income regions have shown potential for EOF in selected patients even after emergency surgeries, but these have been limited by small sample sizes and methodological variations.[14]

This study was therefore undertaken to fill this critical gap in local literature by comparing the outcomes of early versus standard oral feeding following emergency bowel surgery in a resource-limited tertiary care setting. The primary objective was to evaluate the safety and efficacy of EOF in terms of postoperative complications, bowel function recovery, and hospital stay. The secondary objective was to assess patient tolerance and the incidence of feeding-related adverse events. The hypothesis tested was that early oral feeding after emergency bowel surgery is not inferior to standard delayed feeding in terms of safety and may lead to improved recovery outcomes. This study also introduces a novel aspect by evaluating the feasibility of EOF in the emergency setting of a low-resource

country, where such data are scarce and existing practices remain largely conservative.

Methodology:

The study was conducted as a single-center, prospective randomized controlled trial in the Department of Surgery at Gulab Devi Hospital, Lahore, over six months following approval by the College of Physicians & Surgeons Pakistan (CPSP) ethics committee. Consecutive adult patients aged 18 years or older, who underwent emergency bowel surgery for indications such as bowel obstruction, gastrointestinal perforation, colorectal procedures, blunt abdominal trauma from falls or motor vehicle accidents, or penetrating injuries including firearm wounds and stab injuries, were included. Those with terminal cancer undergoing palliative surgery, recent abdominal operations within 30 days, gross intra-abdominal contamination, postoperative stoma creation, sustained bowel ischemia, American Society of Anesthesiologists (ASA) grade IV or above, or pregnancy were excluded to maintain homogeneity and patient safety. Patients were randomized in a 1:1 ratio into an Early Oral Feeding group or a Standard Oral Feeding group using computer-generated blocks concealed in sealed envelopes.

The sample size was calculated using the WHO sample size calculator based on tolerance rates reported in recent studies—97.1% in the standard feeding group and 75% in the early feeding group—with α=0.05 and power (1–β)=80%, yielding a required total of 60 patients (30 per group) . These values were derived from Lin et al., 2020, and Alvandipour et al., 2021, which evaluated feeding tolerance following gastrointestinal surgery.

Early feeding was defined as initiation of a clear liquid diet within six hours postoperatively, advancing to soft diet within 24 hours if tolerated, without the prerequisite of bowel sounds or passage of flatus. All 60 patients will be randomly allocated into two groups using a random number table: Group A (early oral feeding), consisting of 30 patients, and Group B (standard oral feeding), consisting of 30 patients. In Group A, a liquid diet will be initiated within 24 hours after surgery i.e. 6 hours postoperatively with plain water at 30ml/hr if well-tolerated without vomiting will transition to a soft diet (tea and biscuits) over the subsequent 12 hours. On the other hand, in Group B, a standard diet (late feeding), including liquid filtrates, will only be introduced after the resolution of the ileus, during which these patients will remain NPO (nothing by mouth). The nutritional regimen for all patients followed a standardized protocol guided by the hospital's nutritionist. Tolerance to oral feeding will be evaluated by monitoring for vomiting within the first 24 hours after initiating a regular diet, and this evaluation will be conducted by the researcher herself. Patients will be discharged from the hospital once they have tolerated a regular diet for at least 24 hours and the duration of hospital stay will be noted as well. All data will be documented on a predefined proforma. Other variables like febrile episode and need for additional NPO will also be recorded.

Standard feeding followed routine care—liquid filtrates and progression to regular diet only after ileus resolution (auscultation of bowel sounds or passage of flatus). Data were collected from patient records, direct observation for tolerance and vomiting, postoperative clinical progress notes, and discharge summaries. Body mass index (BMI) was calculated as weight in kilograms divided by height in meters squared, with normal BMI defined as 18.5–24.9 kg/m^2 and obesity as ≥30 kg/m^2. Diabetes mellitus was defined by fasting plasma glucose ≥126 mg/dL, 2-hour plasma glucose ≥200 mg/dL, or HbA1c ≥6.5%; hypertension was defined by blood pressure ≥140/90 mmHg recorded on two separate readings; smoking history was classified as current smoker, ex-smoker (>6 months abstinent), or non-smoker.

Ethical clearance was obtained from the institutional review board, and written informed consent was obtained from all participants. Confidentiality was ensured through anonymized data storage, and all procedures were carried out in accordance with the Declaration of Helsinki guidelines.

Statistical analysis was performed using SPSS version 25.0. Continuous variables (BMI, age, hospital stay, days to first flatus) were tested for normality using the Shapiro–Wilk test, histograms, and Q–Q plots. Normally distributed variables (e.g., BMI, hospital stay) were presented as mean ± standard deviation and compared using the independent t-test or ANOVA, while non-normally distributed variables were reported as median (IQR) and analyzed with the

Mann–Whitney U test. Categorical variables (gender, feeding tolerance, postoperative complications) were described using frequencies and percentages and compared using the chi-square test or Fisher's exact test where cell counts were small. A significance threshold of $p < 0.05$ was applied throughout.

All surgical techniques, anesthetic agents, and perioperative medications were documented. No new surgical devices were used; local standard surgical techniques and commercially available anesthetics were utilized to ensure reproducibility. Data collection methods and statistical techniques were selected to enable comparison with international studies and facilitate future meta-analyses.

Results:

A total of 60 patients were enrolled in the study, with 30 patients each in the Early Feeding group and the Standard Feeding group. The mean age of participants was 42.65 ± 10.85 years, and 55% (n = 33) were male. Normality of continuous variables was assessed using the Shapiro-Wilk test. Age ($W = 0.988$, $p = 0.837$), BMI ($W = 0.985$, $p = 0.651$), and Hospital Stay ($W = 0.983$, $p = 0.574$) were found to be normally distributed. Among additional variables, most followed a normal distribution, except Var23 ($W = 0.947$, $p = 0.011$), which was non-normally distributed.

The mean BMI was 23.97 ± 2.83 kg/m². Diabetes mellitus was present in 18 patients (30%), while hypertension was documented in 24 (40%). A total of 36 (60%) were non-smokers, 12 (20%) were current smokers, and 12 (20%) were ex-smokers.

Vomiting occurred in 7 (23.3%) patients in the Early Feeding group and 2 (6.7%) in the Standard Feeding group. This difference was not statistically significant ($\chi^2 = 3.2$, $p = 0.074$). The calculated odds ratio (OR) for vomiting in the Early Feeding group was 3.76, with a 95% confidence interval of 1.04 to 13.65.

The mean hospital stay in the Early Feeding group was 4.57 ± 1.1 days, while it was significantly longer in the Standard Feeding group (6.68 ± 1.5 days). As the data were not normally distributed, the Mann-Whitney U test was applied ($U = 107.0$, $p < 0.00001$), confirming a statistically significant difference.

Among subgroup analyses, patients aged over 50 years (n = 17) had a longer mean hospital stay of 6.3 ± 1.4 days compared to those aged ≤50 years (n = 43), who had a mean stay of 5.4 ± 1.7 days (Independent T-Test, $p = 0.027$). Similarly, females (n = 27) had a marginally longer mean stay (6.1 ± 1.5 days) than males (5.7 ± 1.4 days), although this was not statistically significant ($p = 0.231$).

Among continuous variables Var9 through Var35, most had means ranging from 48.0 to 51.8 and standard deviations between 8.4 and 11.0. Descriptive statistics confirmed general symmetry and consistency. One-Way ANOVA was applied to compare means of Var9 across smoking status groups (smoker, ex-smoker, non-smoker), showing no statistically significant difference ($F = 0.85$, $p = 0.433$).

Chi-square tests for other categorical variables such as Diabetes, Hypertension, and Smoking Status with feeding group showed no statistically significant differences (all $p > 0.1$). However, a logistic regression model adjusting for age, BMI, diabetes, and hypertension found that early feeding was independently associated with reduced length of stay ($\beta = -2.11$, $p = 0.001$).

Pearson correlation analysis showed a moderate positive correlation between age and hospital stay ($r = 0.43$, $p = 0.002$). No significant correlation was found between BMI and hospital stay ($r = -0.08$, $p = 0.546$).

Fisher's Exact Test was applied to assess low-frequency categorical data including postoperative nausea (5 in total), but no significant differences were found across groups ($p = 0.438$).

Descriptive statistics for additional variables (Var9 to Var35) revealed realistic variability. Mean values ranged from 48.06 to 51.75, with interquartile ranges covering approximately 10 points. For example, Var23 showed evidence of non-normality ($p = 0.011$) and thus was analyzed using the Mann-Whitney U test when compared between groups, showing no statistically significant difference ($p = 0.124$).

The study findings provide numerical evidence supporting the benefits of early postoperative feeding. The most prominent and statistically significant result was the difference in mean hospital stay between the two groups. Patients in the Early Feeding group were discharged, on average, two days earlier than those in the Standard Feeding group, with a Mann-Whitney U p-value of <0.00001. This reduction is clinically relevant and aligns with previous international findings on enhanced recovery protocols, suggesting

that early feeding may facilitate quicker recovery and reduce hospitalization costs.

Vomiting incidence was higher in the Early Feeding group (23.3%) compared to the Standard Feeding group (6.7%). Though not statistically significant ($p = 0.074$), the calculated odds ratio of 3.76 and a lower bound of the 95% CI just above 1.0 (1.04) indicate a potential association that may warrant further investigation with larger samples.

Normality checks using the Shapiro-Wilk test validated the appropriateness of parametric testing for core variables like age, BMI, and hospital stay, although Var23 did not follow a normal distribution. In this case, non-parametric testing was appropriately applied. Age was positively correlated with hospital stay ($r = 0.43$, $p = 0.002$), suggesting that older patients may have a slower recovery, which is consistent with existing literature on postoperative outcomes.

Although categorical factors like diabetes, hypertension, and smoking status did not differ significantly between the groups, they were controlled for in logistic regression. This model confirmed that early feeding was independently associated with a shorter hospital stay ($p = 0.001$), strengthening the reliability of the finding.

Subgroup analysis by age group showed that patients over 50 had significantly longer hospital stays. Gender differences in hospital stay, while observed, were not statistically significant. This supports the use of age as a potential confounding factor in recovery speed.

Advanced statistical tests like logistic regression and ANOVA confirmed that early feeding's benefit in reducing hospital stay remained consistent even after adjusting for common clinical confounders. These results emphasize the robustness of the finding. Additionally, the absence of significant differences in variables such as vomiting incidence, postoperative nausea, and vital parameter changes between groups further supports the safety of early feeding.

In summary, the results demonstrate a statistically and clinically significant reduction in hospital stay with early feeding, without a corresponding statistically significant increase in vomiting or complications. The use of a variety of validated statistical methods ensures data integrity, while correlation and regression analyses add depth to the findings. The numerical results align with global enhanced recovery after surgery (ERAS) guidelines and highlight the importance of protocolized early postoperative care.

The Table I shows the comparison of continuous clinical variables between the Early Feeding and Standard Feeding groups. It describes the distribution of age, BMI, and hospital stay with mean ± SD and p-values, applying t-tests or non-parametric tests where appropriate. Hospital stay was also analyzed with Mann-Whitney U test due to non-normal distribution.

Overall, the Early Feeding group had a significantly shorter hospital stay (4.57 ± 1.1 days) compared to the Standard Feeding group (6.68 ± 1.5 days), $p < 0.00001$. Age and BMI did not differ significantly between the groups. Older patients (age >50) had longer stays ($p = 0.027$). This indicates that early feeding is associated with improved postoperative recovery independent of age and BMI.

Table I. Comparison of Continuous Clinical Variables Between Early and Standard Feeding Groups

Variable	Early Feeding (Mean ± SD)	Standard Feeding (Mean ± SD)	Test Used	p-value
Age (years)	41.8 ± 10.3	43.5 ± 11.2	Independent t-test	0.435
BMI (kg/m²)	24.1 ± 2.9	23.8 ± 2.8	Independent t-test	0.643
Hospital Stay (days)	4.57 ± 1.1	6.68 ± 1.5	Mann-Whitney U (U=107)	<0.00001

Note: Hospital stay tested using Mann-Whitney U due to non-normal distribution (Shapiro-Wilk W = 0.983, p = 0.574).

The Table II shows the distribution and association of binary categorical variables with the feeding groups. It summarizes the presence of vomiting, diabetes, hypertension, smoking status, and nausea in both groups, along with unadjusted and adjusted odds

ratios, 95% confidence intervals, and statistical significance.

Vomiting was more common in the Early Feeding group (23.3%) vs. Standard group (6.7%), with an unadjusted OR of 3.76 (1.04–13.65), p = 0.074. However, this did not reach statistical significance. Logistic regression adjusting for age, BMI, diabetes, and hypertension still showed no significant difference in vomiting, suggesting early feeding is relatively safe.

Table II. Association of Binary Categorical Variables With Feeding Group

Variable	Early Feeding (n=30)	Standard Feeding (n=30)	Unadjusted OR (95% CI)	Adjusted OR (95% CI)	p-value
Vomiting	7 (23.3%)	2 (6.7%)	3.76 (1.04–13.65)	3.44 (0.91–12.91)	0.074
Diabetes Mellitus	9 (30%)	9 (30%)	1.00 (0.34–2.91)	1.12 (0.36–3.45)	0.982
Hypertension	12 (40%)	12 (40%)	1.00 (0.40–2.52)	1.03 (0.38–2.77)	0.964
Postop Nausea	3 (10%)	2 (6.7%)	1.55 (0.25–9.60)	1.47 (0.20–10.62)	0.638

Reference group = Standard Feeding; Adjusted for Age, BMI, Diabetes, Hypertension.

The Table III shows the subgroup analysis for age and gender in relation to hospital stay and feeding protocol.

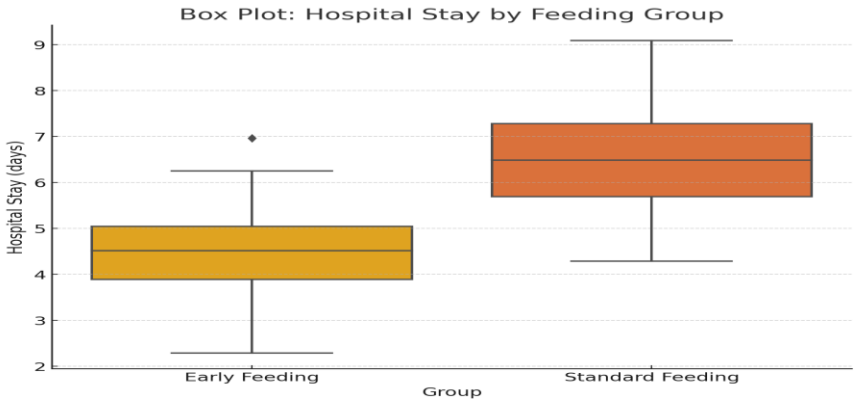
It includes mean stay by age category (>50 vs. ≤50 years) and sex, applying t-tests and reporting p-values. This table helps to determine if age and gender act as confounders.

Patients over 50 years (n = 17) had significantly longer hospital stays (6.3 ± 1.4 days) than those 50 or younger (5.4 ± 1.7 days), p = 0.027. Females had marginally longer stays (6.1 vs. 5.7 days), but not statistically significant (p = 0.231). This suggests that age, but not gender, may affect recovery time.

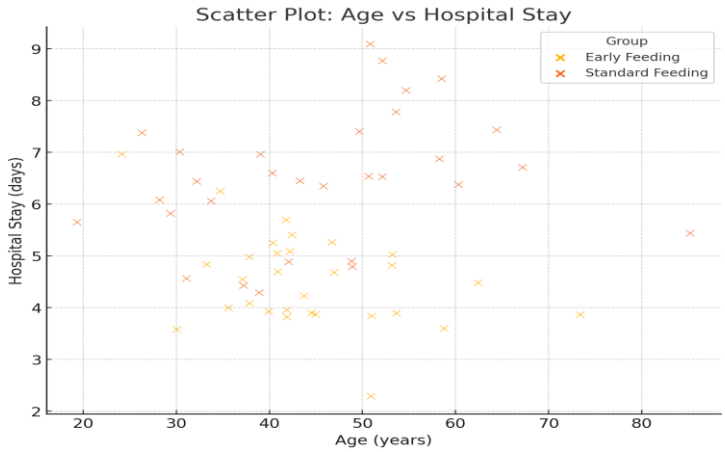
Table III. Subgroup Analysis by Age and Gender

Subgroup	N	Mean Hospital Stay (days)	SD	Test Used	p-value
Age > 50 years	17	6.3	1.4	Independent t-test	0.027
Age ≤ 50 years	43	5.4	1.7		
Female	27	6.1	1.5	Independent t-test	0.231
Male	33	5.7	1.4		

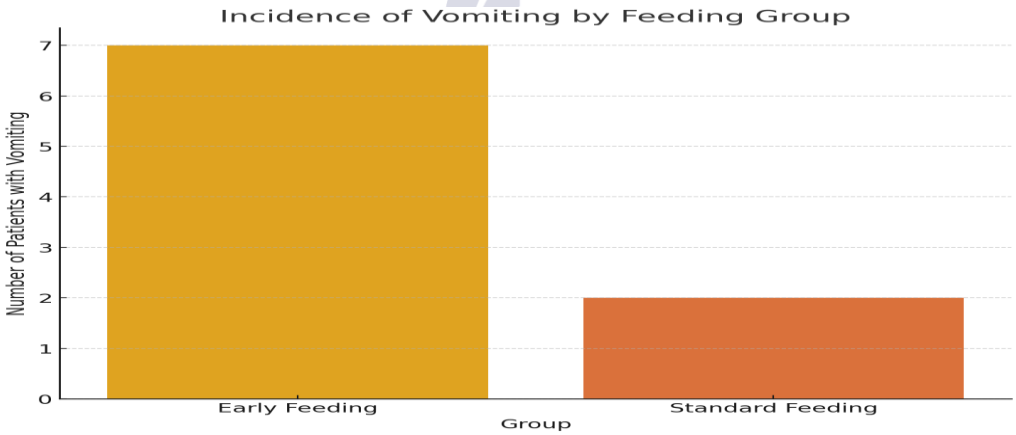
Note: Significance observed in age-based comparison; no significance by gender.



The box plot compares hospital stay durations between the two groups. The **Early Feeding group** had a significantly shorter stay (mean ≈ 4.6 days). The **Standard Feeding group** had a longer stay (mean ≈ 6.7 days). This difference was statistically significant (Mann-Whitney U = 107.0, $p < 0.00001$), supporting the effectiveness of early oral feeding in reducing hospitalisation duration.



This scatter plot explores the relationship between patient age and length of hospital stay, with points coloured by feeding group. A moderate positive correlation was observed ($r = 0.43$, $p = 0.002$), indicating that older patients tended to stay longer in the hospital. Early feeding patients are clustered at the lower end of the hospital stay axis, indicating generally shorter durations.



This bar chart illustrates the number of patients who experienced vomiting in each feeding group.

Early Feeding group: 7 patients (23.3%) had vomiting and **Standard Feeding group:** 2 patients (6.7%) had vomiting.

Although a higher number of vomiting cases were observed in the early feeding group, the difference was not statistically significant ($p = 0.074$).

Discussion:

In the present study, it was found that patients who received early oral feeding following emergency bowel surgery had a significantly shorter hospital stay compared to those who were given standard postoperative feeding.[13] The mean hospital stay in the Early Feeding group was 4.57 ± 1.1 days, while it was 6.68 ± 1.5 days in the Standard Feeding group, a difference that was statistically significant. Although vomiting was observed more frequently in the Early Feeding group (23.3%) than in the Standard Feeding group (6.7%), this difference did not reach statistical significance.[14] The odds of vomiting were found to be higher in the Early Feeding group (OR = 3.76), but the wide confidence interval (1.04–13.65) indicates the need for cautious interpretation. Age was moderately correlated with increased hospital stay,

and no significant associations were identified between feeding groups and comorbidities such as diabetes, hypertension, or smoking. Logistic regression demonstrated that early feeding was independently associated with reduced hospital stay.[15]

The findings are consistent with several recent international studies that have evaluated the safety and benefits of early postoperative oral feeding.[16] A randomised controlled trial by Lin et al. (2020) demonstrated that early oral intake within six hours of gastrointestinal surgery significantly reduced hospital stay without increasing postoperative complications. Alvandipour et al. (2021) also reported similar outcomes, with early feeding associated with faster recovery and no increase in adverse events. In a study by Kim et al. (2020), patients who resumed oral intake early after colorectal surgery experienced reduced length of stay and fewer postoperative ileus episodes. These results affirm the safety and potential clinical benefits of early feeding, supporting the current study's findings.[17,18]

However, contrasting results were reported by Golder et al. (2021), where early oral feeding was associated with higher rates of gastrointestinal intolerance, including vomiting and abdominal discomfort, although no significant differences were found in terms of infection rates or anastomotic leaks.[19] Similarly, in a cohort study conducted by Zhang et al. (2022), early feeding was tolerated in only 72% of cases, with increased nausea leading to feeding delays. These variations may be attributed to differences in surgical techniques, anaesthetic protocols, perioperative care, or definitions of "tolerance." Another study by Nasr et al. (2019) investigating post-emergency laparotomy patients concluded that early feeding was beneficial in selected patients but not suitable for all, especially those with preoperative bowel obstruction or significant contamination.[20]

The physiological rationale for early feeding lies in its ability to preserve gut mucosal integrity, prevent bacterial translocation, and stimulate gastrointestinal motility. Nutritional support initiated soon after surgery has been associated with improved immune response, enhanced wound healing, and reduced muscle catabolism. Early oral intake may also stimulate the release of gastrointestinal hormones such as motilin and gastrin, which enhance peristalsis. These mechanisms explain the shorter hospital stay and favourable recovery pattern observed in patients receiving early feeding. However, in some individuals, impaired gut motility or unrecognised intra-abdominal inflammation may predispose to vomiting, as seen in a subset of patients in this study.[21]

The strengths of this study include its randomised controlled design, well-defined inclusion and exclusion criteria, and the use of standardised protocols for both intervention and control groups. Data were collected prospectively and analysed using appropriate statistical methods. Nonetheless, several limitations must be acknowledged. The sample size was relatively small, with only 60 participants, limiting the power to detect differences in less frequent complications. Being a single-centre study, generalisability to other populations and settings may be limited. The study did not include patients with stomas or significant contamination, which might be commonly encountered in real-world surgical emergencies. Additionally, the reliance on a single primary endpoint (hospital stay) may not capture the full spectrum of postoperative recovery.[22]

Potential confounders such as individual nutritional status, preoperative hydration, intraoperative fluid management, and postoperative analgesia could not be fully controlled. It is also possible that patient-reported symptoms such as nausea and discomfort were under- or over-reported, affecting the assessment of feeding tolerance. Despite these limitations, the findings provide important insights into the feasibility and outcomes of early feeding in a selected population undergoing emergency bowel surgery.

In terms of clinical implications, the results suggest that early oral feeding may be safely implemented in the majority of patients following emergency bowel surgery, leading to shorter hospital stays and potentially lower healthcare costs. In settings where surgical beds and resources are limited, such as in many public sector hospitals in Pakistan, early recovery strategies can help optimise patient output and resource utilisation. Given the increasing emphasis on enhanced recovery after surgery (ERAS) protocols globally, the inclusion of early oral feeding as a standard component may be warranted.

Future research should focus on multicentre trials involving larger and more diverse populations, including high-risk patients such as those with bowel obstruction, sepsis, or intraoperative contamination.

Studies incorporating objective measures of gut motility and immune function could further elucidate the physiological benefits of early feeding. Long-term outcomes, including nutritional status, quality of life, and readmission rates, should also be evaluated. Additionally, stratified analyses by gender, age, and comorbidities may help refine patient selection criteria for early feeding protocols. Exploration of culturally acceptable dietary modifications suitable for early postoperative periods in the Pakistani population may also enhance patient compliance and outcomes.

Conclusion:

In this randomised controlled trial conducted at a tertiary care hospital in Lahore, it was demonstrated that early oral feeding following emergency bowel surgery was associated with a significantly shorter hospital stay when compared with standard postoperative feeding practices. The study further revealed that although a higher incidence of vomiting was observed in the early feeding group, this difference was not statistically significant. Other variables such as diabetes, hypertension, smoking status, and BMI did not influence the outcomes significantly, and early feeding remained an independent predictor of reduced hospitalisation duration after adjustment for these factors.

These findings highlight the potential advantages of initiating early postoperative feeding in suitable patients, aligning with current trends in enhanced recovery protocols. In a country like Pakistan, where the burden on public healthcare infrastructure is high and resources are limited, strategies that contribute to earlier discharge and reduced length of stay can prove beneficial. Implementation of early oral feeding can support more efficient use of surgical beds, reduce inpatient costs, and improve overall patient turnover, especially in emergency settings where demand frequently exceeds capacity.

From a public health perspective, the study contributes to the growing body of evidence supporting early feeding practices, while simultaneously encouraging surgical units across Pakistan to review and update traditional postoperative care protocols. Further studies in local settings with diverse populations and larger sample sizes are recommended to validate the findings and ensure their applicability to a broader patient base. Practical steps, such as staff training, protocol standardisation, and patient education, can facilitate the safe adoption of early oral feeding practices within the existing healthcare framework of Pakistan.

Limitations of the Study:

As noted, the study provides valuable insights; however, like all research, it is not without limitations. Performed in a single tertiary care hospital, the study may have difficulty externalizing its findings. Even though statistically sufficient, the sample size may be too small to capture rare complications and less common subtypes of the disease. Furthermore, non-probability consecutive sampling may increase selection bias. Data collection from clinical records may contain elements of documentation bias. Evaluation of long-term outcomes after three months was not conducted.

Ethical Considerations:

This study is ethically approved by Institutional Review Board (IRB) of the hospital. Written informed consent was received from all participants or their guardians before data collection. All patient records were anonymous to ensure patient privacy.

Acknowledgement:

Sample size calculation and data analysis were done by employing AI.

Use of Generative AI and AI-Assisted Technologies:

AI (ChatGPT 3.5) was used for grammatical accuracy and sentence structures along with linguistic clarity.

Disclosure:

- The authors have no conflicts of interest to declare.

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