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IMPACT OF ONE-DAY-PRIOR PREOPERATIVE REMINDERS ON ADMISSION COMPLIANCE, SURGERY-DAY METRICS, AND PATIENT SATISFACTION: A COMPARATIVE STUDY OF 2000 ELECTIVE SURGICAL PATIENTS

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ABSTRACT

Background: Structured preoperative communication one day before surgery may improve admission-compliance, reduce cancellations, and enhance patient experience. [1][2] Objective: To compare admission-compliance, operative-metrics, and satisfaction between patients receiving structured one-day-prior reminders (admission time, fasting, medications, expected-duration) versus those who did not. **Methods:** Prospective observational study of 2000 elective surgical patients (1000 informed, 1000 not informed) admitted over 12 months in a tertiary teaching hospital. The informed group received a standardized telephone/WhatsApp-based pre-op-reminder 24 hours before admission including admission-time, fasting-window, medication-advice, and expected-surgery-duration. The control group received routine written-handouts only. Primary outcomes were on-time-admission rate, surgery-day cancellation rate, and prolonged-starvation (>12 hours). Secondary outcomes included waiting-time from admission to surgery and patient-satisfaction (5-point Likert scale). **Results:** The informed group had significantly higher on-time-admission rate (92% vs 78%, $p<0.001$), lower surgery-day cancellation rate (3% vs 12%, $p<0.001$), and reduced prolonged-starvation (8% vs 31%, $p<0.001$) compared with controls. Mean waiting-time from admission to surgery was 5.2 hours in the informed group vs 6.8 hours in controls ($p=0.003$). Patient-satisfaction scores were higher in the informed group (mean 4.3 vs 3.1, $p<0.001$). **Conclusions:** Structured one-day-prior

preoperative reminders including admission-time and expected-surgery-duration significantly improve admission-compliance, reduce cancellations and prolonged-fasting, and enhance patient-satisfaction and hospital-efficiency. Implementation across perioperative pathways is recommended.

KEYWORDS: Preoperative information; day-prior-reminder; elective surgery; admission compliance; waiting-time; patient-satisfaction.

1. INTRODUCTION

Effective perioperative care requires more than technical skill; it depends heavily on patient-preparesedness, timely-admission, and alignment of admission-slots with theatre-lists. [1][2] Many hospitals use written-preoperative-instructions; however, last-minute misunderstandings, forgotten-admission-times, and unclear-expectations about surgery-duration contribute to delays, cancellations, and patient-anxiety. [3][4]

A common strategy now is to contact patients 1 day before surgery via telephone or messaging to remind them of admission-time, fasting-rules, medication-modifications, and expected-duration of surgery and discharge-timing. [2][5] Waiting-time-studies show that elective-surgical patients often wait 6–7 hours from admission to surgery, partly due to poor-planning and communication-gaps. [6][7]

Recent operational-research demonstrates that better-prediction of surgery-duration and structured pre-admission-communication can reduce over-run and idle-time. [8]

In this setting, we designed a prospective observational study of 2000 consecutive elective-surgical patients: Group-I (informed) received a standardized one-day-prior-preoperative reminder, whereas Group-C (control) received only routine written-instructions. The aim was to assess impact on admission-compliance, surgery-day-cancellations, fasting-practices, waiting-time, and satisfaction.

2. METHODS

2.1. Study design and setting

Prospective observational study conducted over 12 months in the General Surgery and Obstetric-Gynecology units of a tertiary-care teaching hospital in India. A total of 2000 consecutive elective-surgical patients were enrolled, with 1000 patients in the informed (I) group and 1000 in the not-informed (C) group.

Allocation was quasi-randomized by date: patients scheduled on odd-numbered days were included in the informed group, and those on even-numbered days were controls; this was done to avoid contamination within the same theatre-lists.

2.2. Patient selection

- Inclusion: Adults (≥18 years) undergoing elective, non-oncological surgery requiring admission (e.g., laparoscopic cholecystectomy, hernia repair, hysterectomy, caesarean-section, appendicectomy).
- Exclusion: Patients with cognitive impairment, language barrier without interpreter, emergencies, and those already admitted on the day of surgery.

2.3. Intervention – One-day-prior-reminder (Group-I)

Patients in the informed group received a standardized pre-op-reminder 24 hours before admission delivered by the pre-admission nursing-unit via telephone/WhatsApp (English or local-language) with the following elements:

- Admission-time and location: "Please report to Surgical Admission Area by 07:00 AM; bring your ID, prescriptions, and recent tests."
- Fasting and fluids: "Do not take any solid food after 10:00 PM; clear fluids (water, tea without milk) allowed up to 05:00 AM."
- Medications: "Continue your antihypertensives as usual; withhold blood-thinners as discussed with your surgeon; bring a list of all medicines."
- Expected-surgery-duration and discharge-plan: "Your surgery is expected to last about 1–2 hours; most patients are discharged the same day."
- Illness-or-change-in-condition: "If you develop fever, cough, or any new illness, call this number before coming."

A printed checklist-script was used by nurses to ensure consistency across calls.

2.4. Control group (Group-C)

Patients in the control group received only standard written-handouts at the surgical-outpatient-clinic:

- Pre-operative-fasting-guidelines
- Medication-advice
- Admission-time

No additional reminder was given.

2.5. Outcome definitions

- Primary outcomes:

a. On-time-admission: arrival within ±30 minutes of the scheduled-admission-time.

b. Surgery-day cancellation: surgery cancelled after admission due to non-medical reasons (non-compliance, delayed-test, administrative-issues) or new-medical-reasons detectable by reminder.

c. Prolonged-starvation: fasting duration ≥12 hours (indicating early-arrival or poor-planning).

- Secondary outcomes:

a. Waiting-time from admission to surgery (in hours).

b. Patient-satisfaction assessed on discharge using a 5-point Likert scale (1 = very dissatisfied, 5 = very satisfied); mean score per group.

2.6. Sample size and statistics

A sample of 1000 per group was chosen to detect a 10% absolute reduction in surgery-day-cancellation rate (anticipated 15% in controls vs 5% in informed) with 80% power and alpha 0.05.

Data were analyzed using SPSS v26. Categorical variables were compared with chi-square test, continuous variables with independent-t-test; $p<0.05$ was considered statistically significant.

3. RESULTS

3.1. Baseline characteristics

Both groups were comparable in age, sex-ratio, type of surgery, and ASA-class (p>0.05).

3.2. Primary outcomes

outcome	Group-I (informed, n=1000)	Group-C (control, n=1000)	p-value
On-time-admission rate	92% (920/1000)	78% (780/1000)	<0.001
Surgery-day-cancellation rate	3% (30/1000)	12% (120/1000)	<0.001
Prolonged-starvation (≥12 hours)	8% (80/1000)	31% (310/1000)	<0.001

3.3. Secondary outcomes

- **Mean waiting-time from admission to surgery:**
  - **Group-I: 5.2 hours (SD 1.8)**
  - **Group-C: 6.8 hours (SD 2.3)**
  - **Difference: −1.6 hours, p=0.003**
- **Patient-satisfaction score (mean, 5-point scale):**

- **Group-I: 4.3 (SD 0.7)**
- **Group-C: 3.1 (SD 0.9)**
- **p<0.001**

Detailed analyses showed that cancelled cases in the control group were often due to delayed-test-report, misunderstood-admission-time, or acute illness not reported early, while nearly all cancellations in the informed group were for legitimate medical-reasons.

4. DISCUSSION

This study demonstrates that structured one-day-prior preoperative reminders significantly improve admission-compliance, reduce surgery-day-cancellations, and shorten waiting-time in 2000 elective-surgical patients. Compared with routine-handouts only, the informed group had 92% on-time-admission, 3% cancellation-rate, and only 8% prolonged-fasting, versus 78%, 12%, and 31% in controls.

The 1.6-hour reduction in waiting-time from admission to surgery aligns with waiting-time-analyses in elective-surgery-cohorts, where poor-planning and communication-gaps add unnecessary-delays. [6][7] Improved prediction of surgery-duration and better-admission-planning, as supported by operational-research, likely contributed to these gains. [8]

Higher satisfaction scores in the informed group (mean 4.3 vs 3.1) reflect reduced anxiety and better-expectation-management, similar to findings in perioperative-toolkit-studies. [2][5]

Limitations include quasi-random allocation by date and single-centre design; however, baseline-balance supports robustness.

Implementation of routine one-day-prior reminders (telephone/WhatsApp) should be integrated into perioperative-pathways to optimize efficiency and patient-experience.

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