Analysis of Elective Surgery Cancellations: Rates, Predictors, and Underlying Causes
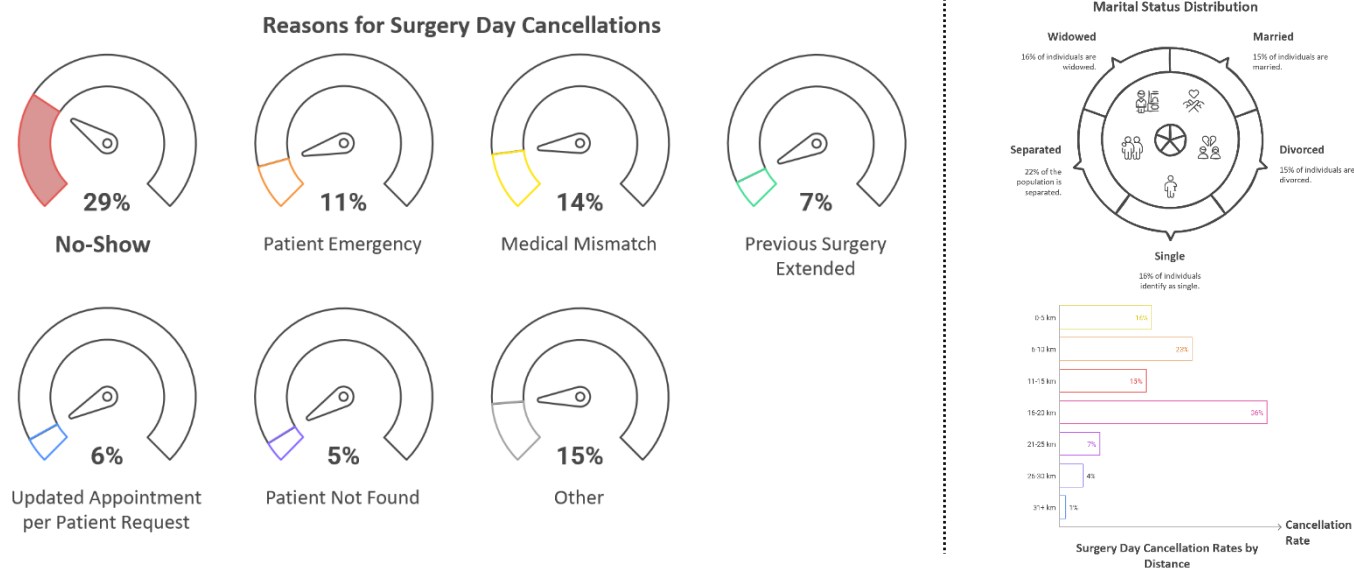
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Background: Elective surgery cancellations, with their significant health and economic implications, are a global concern. The losses incurred, estimated to range from hundreds to thousands of dollars for each canceled surgery. Surgeries are canceled for various reasons, including resource unavailability, patient-related issues, and administrative problems. **The purpose of the study was to analyse the rates of reasons for elective surgery cancellations at Meir Medical Center, with the aim of identifying predictive variables and developing interventions to reduce the cancellation rate.**

Methods: This study is a retrospective analysis based on computerized medical records from Meir Medical Center, including data between June 2022 and June 2024, regarding cancelled surgeries within 24 hours from scheduled elective surgery. Patient's data for demographic information, residential information, medical history, health insurance details, and surgical information was collected. Chi-square test was used to assess the relationship between data collected and surgery status while Cramér's V statistic measured the strength of this relationship.

Results: During the study period 75,564 surgeries were scheduled, of whom 12,459 **(16.48%)** were canceled 24 hours before the surgery. Statistical analysis indicated that **patient no-show** (X^2 = 8073.42, p < .001, Cramér's V = 0.671) was the leading cause for cancellations followed by age group, distance, marital status and type of anesthesia.

Reasons for Surgery Day Cancellations

29% No-Show
11% Patient Emergency
14% Medical Mismatch
7% Previous Surgery Extended
6% Updated Appointment per Patient Request
5% Patient Not Found
15% Other

Marital Status Distribution

Widowed — 16% of individuals are widowed.
Married — 15% of individuals are married.
Separated — 22% of the population is separated.
Divorced — 15% of individuals are divorced.
Single — 18% of individuals identify as single.

Surgery Day Cancellation Rates by Distance

0-5 km — 16%
6-10 km — 23%
11-15 km — 15%
16-20 km — 26%
21-25 km — 7%
26-30 km — 4%
31+ km — 1%

Cancellation Rate

Conclusions: Elective surgical cancellations are a significant clinical and economic challenge. Patient-related no-shows are the leading causes at our center, but demographic and clinical factors also play a role. **Iidentifying high-risk groups enables the development of predictive models and the creation of target interventions that could significantly reduce cancellation rates, optimize resources, and improve patient care.**