Post Surgery Resting Engery Expenditure - STA440 Final Project

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1. Background

Surgery patients often face complex recovery processes, and understanding their metabolic needs is critical for optimizing care through targeted feeding. Indirect calorimetry (IC) is a standard method for measuring energy expenditure via respiration (Rattanachaiwong and Singer, 2019). Resting energy expenditure (REE), measured via IC, plays a key role in guiding nutritional support, which can improve patient outcomes post–operation. However, there are significant gaps in the literature regarding REE in recovering cardiac surgery patients. The goal of the present study was to measure REE and REE/kg in these patients during their stays in the intensive care unit (ICU) and subsequently in the step–down unit (SDU), so that this information can be used to improve post–surgery care. A total of 11 patients (4 obese, 7 non–obese) were included in the study, with 35 indirect REE measurements taken throughout their recoveries to capture different stages of metabolic demand. These measurements were collected repeatedly, allowing for comparison between patients on ventilators versus those who were not, as well as between ICU and step–down unit patients.

2. Data

3. EDA