

Statistical Analysis Plan

Study Title: RSV Antibiotic Drivers and Resource-use (RADAR)

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1. Objectives

- To identify clinical, laboratory, and radiologic factors associated with antibiotic use in RSV-positive pediatric patients.
- To evaluate the impact of antibiotic use on hospital stay duration and treatment cost.

2. Study Design

This is a retrospective, single-center, observational comparative study conducted at Dr. Behçet Uz Children's Hospital between April 2017 and April 2021. Children aged 1 to 24 months with laboratory-confirmed RSV-positive acute lower respiratory tract infections were included.

3. Study Population and Variables

- Population: RSV-positive children aged 1 to 24 months.
- Primary Variables: CRP, WBC, chest radiograph findings, presence of fever.

- Antibiotic-related Variables: Class/type of antibiotic used, timing of initiation, duration.
- Outcome Variables: Length of hospital stay, total cost of hospitalization.

4. Statistical Methods

- Statistical analyses were performed using SPSS Statistics v24.0.
- Categorical variables were compared using Pearson's Chi-square test or Fisher's exact test when appropriate.
- Continuous variables were analyzed using the Mann-Whitney U test or t-test based on normality assumptions.
- Multivariate logistic regression was used to identify independent predictors of antibiotic continuation.
- A p-value less than 0.05 was considered statistically significant.

5. Handling of Missing Data

Patients with incomplete clinical, laboratory, or radiologic data were excluded from the study and not included in the final analysis.

6. Cost Analysis

A micro-costing method was used based on hospital billing records. Costs were calculated in Turkish Lira (TRY) and then converted to U.S. Dollars (USD) using the average exchange rate between 2020 and 2022: 1 USD = 7.7784 TRY.

7. Ethical Considerations

The study was approved by the Ethics Committee of Dr. Behçet Uz Children's Hospital (Approval No: 2021-634). All data were anonymized and handled in compliance with institutional and international ethical standards.

8. Document Control

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