Official Title of the study:

# The Impact of Different Methods of Oral Hygiene on Incidence of Ventilator Associated Pneumonia in PICU

Unique Protocol Id

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**Objectives:**

Primary objective:

To determine incidence of VAP in patients who will be admitted to PICU with routine oral hygiene in comparison to those using brushing and chlorhexidine.

Secondary objective:

To detect the impact of different methods of oral hygiene on mechanically ventilated patients regarding duration of mechanical ventilation, length of PICU stay and mortality rate.

**Arms:**

Arm 1: Toothbrushing + Chlorhexidine

Arm 2: Routine Oral Care + Chlorhexidine

**Outcomes:**

**Primary Outcome:**

- **Measure:** Incidence of ventilator-associated pneumonia (VAP)
- **Time Frame:** Until first occurrence of VAP during mechanical ventilation
- **Description:** VAP will be diagnosed according to standard clinical and microbiological criteria.

**Secondary Outcomes:**

1. **Measure:** Duration of mechanical ventilation
    - **Time Frame:** During PICU stay
    - **Description:** Number of days each patient remains on mechanical ventilation.
2. **Measure:** Length of PICU stay
    - **Time Frame:** During PICU stay
    - **Description:** Total days from PICU admission to discharge.
3. **Measure:** Mortality rate
    - **Time Frame:** During PICU stay
    - **Description:** Number of deaths among enrolled patients during the PICU stay.

**Statistical analysis:**

Statistical analysis is performed by SPSS in general (version 20), while Microsoft office Excel is used for data handling and graphical presentation. Quantitative variables is described by

the Mean, Standard Deviation (SD), the Range (Minimum – Maximum), Standard Error (SE) ,95% confidence interval of the mean, Coefficient of Variation (CV), Median and Inter Quartile Range (IQR).

***The tests used :***

1. **Chi-square test**

For categorical variables, to compare between different groups.

2. **Mann Whitney test**

For abnormally distributed quantitative variables, to compare between two studied groups.

3. **Two sample T-test**

A two-sample t-test is a statistical test used to determine whether the means of two independent groups are significantly different from each other. It is often used in scientific research to compare the means of two groups of data.

4. **p-values**

Indicate the statistical significance of the relationship. A p-value less than 0.05 is considered statistically significant, indicating that the relationship is unlikely to be due to chance.

**Handling missing data:**

Using complete data analysis until VAP occurrence.