Statistical Analysis Plan (SAP)

In the quantitative analysis, statistical analysis will be performed using descriptive statistics and inferential statistics. Descriptive statistics will be employed to ascertain the distribution of data, demographic and clinical characteristics.

Inferential statistics employing parametric (if data is normally distributed) and non-parametric (if data is not normally distributed) tests will be performed to explain relationships within data. Means and standard deviations will be calculated for continuous variables, while percentages and proportions will be computed for categorical variables.

Descriptive statistics for interval-level and ratio-level variables will be applied to report the results. Inappropriate antibiotic prescribing percentages prior to the COVID-19 pandemic will be compared with antibiotic use during the pandemic. Additionally, the ratio of AMS implementation strategies will be measured, including AMS strategies, such as IV-to-Oral switch, antibiotic discontinuation, de-escalation, dose adjustment, and antibiotic review, based on the local guidelines measured.

Further, measure antibiotic utilisation and consumption before and during the COVID-19 pandemic. Laboratory and other diagnostic methods, such as chest X-ray (CXR), procalcitonin (PCT), C-reactive protein (CRP), Leukocytosis (WBC > 10,000/mm 3), and fever in patients infected with RTIs or pneumonia before and during the COVID-19 pandemic among infected patients treated with antibiotics, will be analysed using the ANOVA test for multiple variables.

The quantitative analysis will be conducted by using IBM statistical package for the social sciences (SPSS) version 22, R Programming and Excel. However, for the qualitative data analysis, data will be organised using NVivo and coded using thematic analysis.