Statistical Analysis Plan

Data analysis will be conduct using the Statistical Package for the Social Sciences (SPSS) version 29.0, employing univariate, bivariate, and multivariate statistical methods.

Univariate analysis included descriptive statistics, such as mean, standard deviation (S.D.), standard errors (S.E.), and 95% confidence intervals (CI) for continuous variables such as age and plaque scores. Frequencies and percentages used to describe categorical variables such as demographic, knowledge, attitudes, and practices (KAP). Additionally, the Shapiro-Wilk test applied to assess data normality

Bivariate analysis will be use for comparisons of baseline oral hygiene status between the conventional and non-conventional education groups performed either using an independent t-test (for normally distributed data) or the Mann-Whitney U test (for non-normally distributed data). Within each group, changes in oral hygiene status and KAP scores from pre- to post-intervention will be analyze using paired t-tests or Wilcoxon Signed-Rank Tests, depending on data normality. To compare the effectiveness of conventional versus non-conventional education, post-intervention differences between groups will be evaluate using an independent t-test or Mann-Whitney U test.

Multivariate statistical techniques will be employe to assess the relationships between multiple independent variables and key outcome measures. Multiple linear regression analyses will be conducted to find the influence of demographic predictors, and well as caregivers' knowledge, attitude, and practice (KAP) scores, on children's pre and post intervention plaque scores. Binary logistic regression will be used to identify demographic predictors on caregivers' oral health knowledge, attitude, and practice. Logistic regression will be used to identify the influence of demographic predictors on post-intervention improvement in children's oral health knowledge and behavior within the non-conventional group. To evaluate the effectiveness of the oral health education program over time and between groups, a repeated measures analysis of variance (ANOVA) and a general linear model (GLM) will be applied. These tests examined the main effect of time, group differences, and the interaction effect of group and time on children's plaque scores.

Study variables
Independent variable

➢ Type of Oral Health Education (Conventional vs. Non-conventional).

Independent variables possible confounding factors

➢ Demographic variables such as parental/caregiver age, child's order among siblings, parental education level, household (monthly) income, place of residency, gender (of caregiver and/or child), marital status and parental employment status.

➢ Caregivers' Baseline Knowledge, Attitude, and Practice (KAP) Scores

Dependent variable "Outcome"

➢   The primary outcome measure was change in mean score of children's oral hygiene status.

➢ The secondary outcome measures were mothers/children knowledge and behavioral improvement regarding oral health after 3 months of intervention.