

## **Statistical analysis plan**

Demographic data were analyzed by chi-square test (categorical variables), independent sample nonparametric test (non-normally distributed data), and independent sample t-test (normally distributed data). All outcomes were tested for normality using the Shapiro-Wilk test. The pre-test data were analyzed by independent sample t-test and independent sample nonparametric test. In the post-test data, a paired-sample t-test was used for the intra-group analysis of data that did not conform to normal distribution. Two-way repeated measures Analysis of Variance (ANOVA) was used to analyze the main effects of group and time and interaction effect of time x group on data that conform to a normal distribution, and the interaction of time x group was further tested by simple effects. SPSS 26.0 was used for all analyses. Mean (standard deviation) (MSD) was used to report normally distributed data and median (interquartile range) was used to report non-normally distributed data.