Abstract #: 1527
Effect of a text-messaging intervention on oral self-care practices in antenatal women in Delhi, India

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Objective: to determine the effect of a mHealth (text-message) intervention compared with a structured health educational session on the oral care and hygiene practices of pregnant women.

Methods: We conducted a pilot Randomized Control Trial parallel design superiority trial with a 1:1 allocation ratio. A total of 76 pregnant women up-to 20 weeks of gestational age and capable of reading mobile phone text-messages were recruited during August-October’ 2020 from the antenatal clinic of a primary health centre in a low-income urban agglomeration in Delhi, India. The mHealth intervention arm participants were sent a daily text-message for 30 days while all participants were provided a face-face, brief didactic structured educational sessions towards oral health promotion.

Results: The baseline characteristics of both groups were comparable in terms of age-structure, education, parity, and oral hygiene but differed in terms of oral health problems. Post-intervention, although, the twice-brushing frequency increased in both arms, only the mHealth arm revealed a statistically significant reduction in the incidence of missed twice daily brushing episodes (p = 0.016). The absolute effect size for the primary outcome signifying the difference in the proportion of participants reporting twice daily brushing frequency habit between the mHealth and comparison arms’ was 0.090, the Cohen’s H was 0.182, and the odds of twice brushing habit in the mHealth arm was 1.44 times higher than in the comparison arm.

Conclusions: A mHealth based daily text-message intervention for one month was not superior to a one-time brief didactic structured educational intervention for oral health promotion in antenatal women.

Keywords: mHealth; Dental health promotion; Dental health education; Antenatal care