

PENGARUH IMPLEMENTASI PROGRAM EDUKASI BERBASIS APLIKASI *AUGMENTED REALITY* TERHADAP PERILAKU KESEHATAN GIGI ORANG TUA DAN ANAK SERTA STATUS KEBERSIHAN GIGI DAN MULUT ANAK USIA 5-8 TAHUN DI KOTA YOGYAKARTA

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INTISARI

Latar Belakang: Anak pada periode gigi bercampur merupakan kelompok berisiko tinggi terkena karies. Karies gigi dapat dicegah dengan meningkatkan perilaku kebersihan gigi dan mulut. Ibu dan guru memiliki peran penting dalam terselenggaranya perilaku kebersihan gigi anak. **Tujuan:** untuk menilai pengaruh implementasi program edukasi berbasis aplikasi *Augmented Reality* terhadap perilaku orang tua, anak serta status kebersihan gigi dan mulut anak. **Metode:** Jenis penelitian ini adalah *quasi-experimental group pretest and posttest design* dengan populasi 11 TK dan SD di Kota Yogyakarta. Total 129 subjek yang telah memenuhi kriteria inklusi dan eksklusi. Pengukuran perilaku orang tua menggunakan kuesioner *Health Belief Model*, perilaku anak dengan kuesioner *self-reported* dan *dashboard* aplikasi, serta status kebersihan gigi dan mulut anak menggunakan PHP-M. Analisis data menggunakan analisis univariat dan bivariat. **Hasil:** Sebanyak 85,3% anak menyikat gigi ≥ 2 kali sehari dan 26,4% anak tepat dalam waktu menyikat gigi setelah 21 hari intervensi ($p > 0,05$). Namun, terjadi penurunan tren frekuensi dan durasi menyikat gigi berdasarkan *dashboard* aplikasi. Mean skor \pm SD peningkatan perilaku orang tua, konstruk *perceived benefit*, *cues to action*, *perceived severity*, dan *self-efficacy* setelah intervensi 21 hari adalah $60,66 \pm 7,63$; $8,06 \pm 1,499$; $12,05 \pm 1,796$; $15,80 \pm 2,662$; $16,05 \pm 2,399$ dan mean skor \pm SD penurunan skor PHP-M setelah intervensi adalah $3,26 \pm 0,86$ dengan $p < 0,05$. **Kesimpulan:** Perilaku orang tua dan status kebersihan gigi dan mulut anak lebih tinggi setelah implementasi program edukasi berbasis aplikasi AR. Namun, tidak ada perbedaan yang berarti pada perilaku menyikat gigi anak, perlunya evaluasi dan perbaikan sistem lebih lanjut.



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Kata kunci: *Augmented Reality*, kebersihan gigi dan mulut, *Health Belief Model*, PHP-M, perubahan perilaku

THE EFFECT OF AUGMENTED REALITY APP-BASED EDUCATIONAL PROGRAM ON PARENTAL ORAL HEALTH BEHAVIOR, CHILD TOOTH BRUSHING BEHAVIOR, AND ORAL HYGIENE STATUS CHILDREN AGED 5-8 YEARS IN YOGYAKARTA CITY

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ABSTRACT

Background: Children in mixed dentition age is one of the groups at high risk of developing caries. Dental caries can be prevented by improving oral hygiene behavior, mother and teacher play important role. **Objective:** to assess the influence of of Augmented Reality app-based educational program on parental oral behavior, children's tooth brushing behavior and oral hygiene. **Methods:** The type of research is quasy-experimental group pretest and posttest design. The population in this study were 11 kindergartens and elementary schoold in Yogyakarta city with 129 final subjects who met the inclusion and exclusion criteria. Measurement of parental behavior use the Health Belief Model's quistionnaire, child's brushing behavior measured by rself-reported questionnaire, and child's oral hygiene status used Personal Hygiene Performance-Modified (PHP-M). Data analysis was performed by univariate and bivariate analysis. **Result:** A total of 85.3% of children brushed their teeth ≥ 2 times a day ($p>0.05$) and 26.4% of children were on time in brushing their teeth after 21 days of intervention ($p>0.05$). However, there was a decreasing trend in the frequency and duration of tooth brushing based on the app dashboard. The mean \pm SD scores of improvements in parental behavior, perceived benefit, cues to action, perceived severity, and self-efficacy constructs after 21 days of intervention were 60.66 \pm 7.63; 8.06 \pm 1.499; 12.05 \pm 1.796;



15.80±2.662; 16.05±2.399 and the mean±SD score of decrease in PHP-M score after intervention was 3.26±0.86 with $p<0.05$. **Conclusion:** Parents behavior and children oral hygiene status were higher after the implementation of an AR application-based educational program. However, there was no significant difference on children's brushing behavior, need further evaluation and improvement of the system.

Keywords: Augmented Reality, Oral Hygiene, Health Belief Model, PHP-M, Behavioral Change