

THE EFFECT OF PROBIOTIC-CONTAINING SOLUTION AS MOUTHWASH ON SALIVA *pH* IN ELEMENTARY SCHOOL CHILDREN.

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ABSTRACT

Background: Children under 12 years old, 90% suffer from dental caries. Bacteria present in probiotic solutions can inhibit the growth of harmful bacteria. A reduction in cariogenic bacteria can lead to decreased acid production, thereby it will increase the saliva *pH*.

Objective: To determine the effect of rinsing with a probiotic-containing solution on the increase of saliva *pH* in elementary school students.

Methods: This research is a quasi-experiment design using a pretest-posttest design with a control group. The population of this study were 40 students from grades IV and V of SD Karitas Nandan. Subjects measured salivary pH before and after rinsing with probiotic solution and aquadest using *pH* strips. The results were analyzed using the Wilcoxon and Mann-Whitney tests.

Results: The mean saliva *pH* before rinsing with the probiotic solution was 5.35, and the mean *pH* after rinsing was 6.80 (acidic 35%, neutral 50%, alkaline 15%). The mean saliva *pH* before rinsing with aquadest was 5.60, and the mean *pH* after was 5.70 (acidic 90%, neutral 10%, alkaline 0%). The Wilcoxon test results showed $p=0.000<0.05$, which means there is a significant difference before and after rinsing with the probiotic solution. The Mann-Whitney test results also showed $p=0.000<0.05$, so there is difference between the probiotic solution and aquadest on increasing saliva *pH*.

Conclusion: The probiotic-containing solution as a mouthwash can increase saliva *pH*.

Keywords: Probiotics, mouthwash, Saliva *pH*

PENGARUH LARUTAN YANG MENGANDUNG PROBIOTIK SEBAGAI OBAT KUMUR TERHADAP *pH* SALIVA PADA ANAK SEKOLAH DASAR

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ABSTRAK

Latar Belakang: Anak yang berusia di bawah 12 tahun, 90% menderita karies gigi. Bakteri yang terdapat dalam larutan probiotik mampu menghambat pertumbuhan bakteri. Penurunan jumlah bakteri kariogenik dapat mengakibatkan berkurangnya produksi asam sehingga *pH* saliva meningkat.

Tujuan: Diketuinya pengaruh berkumur larutan yang mengandung probiotik terhadap peningkatan *pH* saliva pada siswa sekolah dasar.

Metode: Penelitian ini adalah *quasi experiment* menggunakan rancangan *pretest - posttest design with control group*. Populasi penelitian ini adalah 40 siswa dari kelas IV dan V SD Karitas Nandan. Subjek diukur *pH* saliva sebelum dan sesudah berkumur larutan probiotik dan *aquadest* dengan menggunakan *pH* strip. Hasil pengukuran *pH* saliva kemudian dianalisis dengan menggunakan uji *Wilcoxon* dan *Mann-Whitney*.

Hasil: Rerata *pH* saliva sebelum berkumur larutan probiotik yaitu 5,35 dan rerata *pH* saliva sesudah berkumur yaitu 6,80 (asam 35%, netral 50%, basa 15%). Rerata *pH* saliva sebelum berkumur *aquadest* yaitu 5,60 dan rerata nilai *pH* sesudah yaitu 5,70 (asam 90%, netral 10%, basa 0%). Hasil uji *Wilcoxon* menunjukkan $p=0,000<0,05$ yang berarti ada perbedaan bermakna antara sebelum dan sesudah berkumur larutan yang mengandung probiotik. Hasil uji *Mann Whitney* menunjukkan $p=0,000<0,05$ sehingga ada perbedaan antara larutan yang mengandung probiotik dengan *aquadest* terhadap peningkatan *pH* saliva.

Kesimpulan: Larutan yang mengandung probiotik sebagai obat kumur dapat meningkatkan *pH* saliva

Kata Kunci: Probiotik, Obat kumur, *pH* Saliva