PREVALENSI FLUOROSIS ANAK USIA 11 – 12 TAHUN YANG MENGKONSUMSI AIR SUMUR DI SDN MOJOMALANG 1 KECAMATAN PARENGAN

ABSTRAK

Pendahuluan. Konsumsi air minum yang berasal dari air sumur dengan struktur batuan kapur (Ca^{2+}) memiliki kandungan fluorida (F^-) yang dapat menyebabkan fluorosis. Interaksi ion (Ca^{2+}) dan ion (F^-) menunjukkan kadar fluorida dan kalsium dikendalikan oleh keseimbangan ion kalsium fluorida (CaF_2) pada air minum dan pada masa pembentukan gigi. **Tujuan.** Mengukur kadar fluorida dan kalsium dalam air sumur daerah pegunungan kapur, dan menganalisa prevalensi fluorosis pada konsumsi air sumur tersebut. **Bahan dan Metode.** Anak usia 6–12 (n=165) dikelompokkan berdasarkan asal air minum; air sumur dan PDAM (kontrol), dilakukan pemeriksaan prevalensi dan tingkat fluorosis menurut Thylstrup Fejerkov Indeks (TFI 0–9). **Hasil.** konsumsi air sumur dengan kadar fluorida 0,286 mg/L dan kalsium 91,83 mg/L didapatkan prevalensi fluorosis sebesar 30 anak (36,14%) dan yang tidak fluorosis 53 anak (65,91%). Terdapat perbedaan yang signifikan skor fluorosis pada anak-anak di SDN Mojomalang 1 Kecamatan Parengan dengan konsumsi air sumur.**Kesimpulan**. Didapatkan kadar kalsium 91,83 mg/L dan fluorida 0,286 mg/L dalam air minum yang berasal dari air sumur daerah pegunungan kapur (SDN Mojomalang 1 Kecamatan Parengan). Terdapat prevalensi fluorosis pada anak – anak di SDN Mojomalang 1 Kecamatan Parengan yang mengkonsumsi air sumur dengan kadar fluorida dibawah batas normal.

Kata Kunci : Fluorosis Prevalensi, Kadar Fluorida, Air Sumur, PDAM

FLUOROSIS PREVALENCE OF CHILDREN AGED 11-12 YEARS WHO CONSUME WELL WATER IN SDN MOJOMALANG 1 DISTRICTS PARENGAN

ABSTRACT

Introduction. Well water consumption in limestone structure (Ca2 +) contains fluoride (F-) which can lead to fluorosis. *Calcium (Ca^{2+}) and fluoride (F^-) interaction showed fluoride and calcium levels are controlled by a balance of calcium fluoride (CaF_2) in drinking water and the tooth formation period.* ***Purpose****. To measure levels of fluoride and calcium in the limestone area well water, and analyze the prevalence of fluorosis in the well water consumption.* ***Materials and methods.*** *Children aged 6-12 (n = 165) are grouped by source of drinking water; well water and PDAM (control), then examinated the prevalence and level of fluorosis by Thylstrup Fejerkov Index (TFI 0-9).* ***Results****. The consumption of well water with fluoride levels of 0.286 mg/L and calcium 91.83 mg/L showed prevalence of fluorosis by 30 children (36.14%) and no fluorosis 53 children (65.91%). There are significant differences in the fluorosis score of children in SDN Mojomalang 1 Subdistrict Parengan with well water consumption.* ***Conclusion.***The level of Calcium is 91.83 mg/L and fluoride is 0,286 mg/L in drinking water from well water limestone area (SDN Mojomalang 1 Subdistrict Parengan). There is a prevalence of fluorosis in children in SDN Mojomalang 1 Subdistrict Parengan who consumed well water with fluoride levels below the normal limit.

Keywords*: Fluorosis, Fluoride Levels, Well Water, PDAM*