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## Dental caries prevalence based on DMF-T Index in two Indonesian communities with different radon levels

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**Introduction:** Caries is a multifactorial disease contracted from the environments, one of which is radiation. Radon is an unstable natural radioactive gas that emits highly ionizing alpha-radiation. Radon can accumulate within the teeth and may cause dental caries.

**Objectives:** To obtain data on the dental caries prevalence based on DMF-T index in two radon areas, namely  $16.6 \pm 24$  Bq/m<sup>3</sup> Cipatat village and  $24.8 \pm 29$  Bq/ m<sup>3</sup> Gunung Masigit village, Padalarang district, West Java.

**Materials and methods:** This research was observational in nature employing a cross-sectional approach. The method of sample collection was consecutive sampling with the total of 100 population, including 50 inhabitants of Cipatat village and 50 inhabitants of Gunung Masigit village who have settled for more than 10 years in the areas, are non-smoking with no record of systemic diseases, and do not consume salivary-flow-decreasing drugs. The research procedure was applied to each tooth using a mouth mirror and a WHO probe.

**Results:** DMF-T index and dental caries prevalence in Cipatat village are 4.38 and 86%, whereas the percentages in Gunung Masigit village are 5.94 and 94%, respectively. The dental caries prevalence between two villages was not statistically significant difference (P-value = 0.057).

**Conclusions:** Dental caries prevalence based on DMF-T index in Cipatat village ( $16.6 \pm 24$  Bq/m<sup>3</sup>) is categorized as average, whereas the prevalence in Gunung Masigit village ( $24.8 \pm 29$  Bq/ m<sup>3</sup>) is high according to WHO.

**Keywords:** Radon, DMF-T index, Dental caries prevalence