

ABSTRAK

Penilaian risiko terjadinya *early childhood caries* (ECC) pada anak prasekolah penting dilakukan guna mengendalikan laju tingginya prevalensi ECC pada kelompok anak prasekolah. Upaya ini dilakukan guna menentukan risiko terjadinya ECC. Nutrisi menjadi salah satu faktor penentu terjadinya ECC. Paparan karbohidrat didalam rongga mulut menyebabkan timbulkan proses fermentasi yang selanjutnya menghasilkan asam. Produk asam inilah yang menyebabkan terjadinya ECC. Tujuan umum penelitian ini adalah guna mengembangkan instrumen penilaian risiko terjadinya *early childhood caries* (ECC) berdasarkan analisis nutrisi pada anak prasekolah.

Penelitian ini terdiri dari 3 tahap diantaranya yaitu tahap I melakukan review sistematika dengan tujuan menentukan faktor-faktor nutrisi yang berperan terhadap kejadian ECC. Penelitian tahap II mengembangkan instrumen prediktor karies gigi yaitu dengan menyusun item pertanyaan, uji validitas instrumen dan uji akurasi. Penelitian tahap III melakukan uji coba instrumen pada pihak pengguna. Sampel yang digunakan dalam penelitian ini yaitu anak usia prasekolah 3-6 tahun dan orang tua atau pengasuh siswa prasekolah di Daerah Istimewa Yogyakarta sejumlah 400 subjek.

Hasil penelitian tahap I studi sistematik review dan metaanalisis didapatkan faktor nutrisi yang memberikan dampak terkuat terhadap kejadian karies yaitu praktik pemberian makan (*feeding practice*) OR 3.64 95%CI [2.03, 6.55], asupan gula (*sugar intake*) OR 3.24 95% CI [2.59, 4.03], asupan rendah buah dan sayur (*low fruit and vegetable intake*) OR 2.71 95% [1.47, 5.01]. Tahap II didapatkan hasil uji akurasi instrumen analisis nutrisi nilai AUC 86,2%, dengan kemampuan dalam memprediksi karies gigi antara prediksi dan observasi untuk karies gigi (96,4%) dan bebas karies (22,2%). Tahap III uji pengguna dari 30 pengguna (Kader Posyandu dan Guru TK atau KB) 100% mengatakan bahwa instrumen analisis nutrisi ini mudah digunakan, bahasanya mudah dipahami dan memberikan manfaat.

Kesimpulan penelitian ini yaitu uji akurasi instrumen analisis nutrisi didapatkan nilai AUC 86,2%, dengan kemampuan dalam memprediksi karies gigi antara prediksi dan observasi untuk karies gigi (96,4%) dan bebas karies (22,2%). Instrumen analisis nutrisi dapat dengan mudah diterima dan digunakan oleh pihak pengguna (kader Posyandu dan Guru TK atau KB).

Kata Kunci : Instrumen risiko karies, *early childhood caries* (ECC), analisis nutrisi, anak prasekolah.

ABSTRACT

It is important to assess the risk of early childhood caries (ECC) in toddlers to prevent an increase in the prevalence of ECC. This effort was carried out to determine from the start the risk of dental caries in groups of children so that prevention efforts can be carried out from the start. Nutrition is one of the determining factors in the occurrence of dental caries. Exposure to carbohydrates in the oral cavity causes a fermentation process which then produces acid, this acid product causes cavities. The general aim of this research is to develop a risk assessment instrument for early childhood caries (ECC) based on nutritional analysis in preschool children.

This research consisted of three stages, namely stage I carried out a systematic review to determine the nutritional factors that play a role in the incidence of dental caries. Stage II research developed a dental caries predictor instrument, namely by compiling question items and testing the validity of the instrument. Stage III research conducted instrument trials on the user side. The samples used in this research were preschool children aged 3-6 years and parents or caregivers of preschool students in the Special Region of Yogyakarta.

The results of the stage I systematic review and meta-analysis study showed that nutritional factors had the strongest impact on the incidence of caries, namely feeding practice OR 3.64 95% CI [2.03, 6.55], sugar intake OR 3.24 95% CI [2.59, 4.03], low fruit and vegetable intake OR 2.71 95% [1.47, 5.01]. Stage II showed that the accuracy test results of the nutritional analysis instrument had an AUC value of 86.2%, with the ability to predict dental caries between prediction and observation for dental caries (96.4%) and caries-free (22.2%). Stage III user testing from 30 users (Posyandu cadres and kindergarten teachers) 100% said that this nutritional analysis instrument was easy to use, the language was easy to understand, and provided benefits.

The conclusion of this study is that the accuracy test of the nutritional analysis instrument had an AUC value of 86.2%, with the ability to predict dental caries between prediction and observation for dental caries (96.4%) and caries-free (22.2%). The nutritional analysis instrument can be easily accepted and used by users (Posyandu cadres and Kindergarten or KB teachers).

Keywords: risk assessment caries, nutritional analysis, early childhood caries, toddlers