

Analisis kemampuan mastikasi yang diukur menggunakan color-changeable chewing gum dan gummy jelly pada pemakaian gigi tiruan lengkap = Analysis of masticatory performance as measured by color-changeable chewing gum and gummy jelly complete denture wearer

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Deskripsi Lengkap: <https://lib.ui.ac.id/detail?id=20497886&lokasi=lokal>

Abstrak

Latar Belakang: Mastikasi terdiri dari proses penghancuran dan pencampuran makanan menjadi bolus yang siap ditelan. Kemampuan mastikasi dapat dievaluasi secara subjektif dan objektif. Evaluasi kemampuan mastikasi secara objektif dapat dilakukan dengan banyak metode, antara lain dengan color-changeable chewing gum dan gummy jelly. Color-changeable chewing gum dapat mengukur kemampuan mastikasi dalam pencampuran makanan. Gummy jelly dapat mengukur kemampuan mastikasi dalam penghancuran makanan. Color-changeable chewing gum dikatakan cocok mengukur kemampuan mastikasi pada semua golongan pasien, sedangkan gummy jelly dikatakan kurang cocok digunakan pada kelompok pasien dengan kemampuan mastikasi yang terkompromis. Penelitian lain mengatakan terdapat korelasi antara pengukuran kemampuan mastikasi dengan kedua bahan tersebut. Kemampuan mastikasi dapat dipengaruhi oleh faktor usia, jenis kelamin, indeks, massa tubuh, laju alir saliva, pH saliva, waktu pengunyahan, dan ambang batas penelanan. Tujuan:

Menganalisis perbandingan kemampuan mastikasi pada pemakai gigi tiruan lengkap dan pasien bergigi lengkap dengan menggunakan color-changeable chewing gum dan gummy jelly serta faktor yang mempengaruhinya.

Metode: Subjek penelitian 40 pasien pemakai gigi tiruan lengkap dan 40 pasien bergigi lengkap, dilakukan pengukuran kemampuan mastikasi dengan color-changeable chewing gum sebanyak 30,45, dan 60 stroke pengunyahan, pengukuran menggunakan gummy jelly sebanyak 10,20, 30 stroke, dan ambang batas penelanan, dan pemeriksaan faktor-faktor yang mempengaruhinya.

Hasil: Kemampuan mastikasi pasien bergigi lengkap lebih tinggi dari pasien pemakai gigi tiruan lengkap ($p < 0,05$) pada pengukuran menggunakan color-changeable chewing gum dan gummy jelly. Terdapat korelasi antara pengukuran kemampuan mastikasi menggunakan kedua bahan tersebut. Tidak terdapat hubungan yang signifikan antara kemampuan mastikasi dengan faktor usia, jenis kelamin, indeks massa tubuh, laju alir saliva, pH saliva, waktu pengunyahan, dan ambang batas penelanan. Kesimpulan: Kemampuan mastikasi pasien pemakai gigi tiruan lengkap lebih rendah dari pasien bergigi lengkap. Terdapat korelasi pengukuran kemampuan mastikasi menggunakan color changeable chewing gum dan gummy jelly.

.....Background: Mastication consists of comminuting and mixing food into a bolus and finally swallowed. Masticatory performance can be measured either subjectively or objectively. Various objective methods for evaluating masticatory function were introduced. Among them are using gummy jelly and color-changeable chewing gum. Color-changeable chewing gum can measure mastication ability in mixing food, while gummy jelly can measure ability in comminuting food. Mixing ability test using color changeable chewing gum was said to be suitable in all variations of dental status, while comminuting ability test was less suitable in group with compromised masticatory performance. In other research, the result showing correlation

between both tests. Masticatory performance can be affected by factors such as age, gender, body mass index, salivary flow rate, saliva pH, chewing time, and swallowing threshold.

Objective: The aim of our study was to analyze masticatory performance as measured with gummy jelly and color-changeable chewing gum between complete denture wearers and dentate patients, and to analyze the correlation between masticatory performance with other factors such as age, gender, body mass index, salivary flow rate, saliva pH, chewing time, and swallowing threshold.

Methods: 40 complete denture wearers and 40 fully dentate subjects participated in this study. Two test foods were used to evaluate masticatory performance: gummy jelly and color-changeable chewing gum. Subjects were instructed to chew on the color-changeable chewing gum in 30, 45, and 60 strokes, and to chew gummy jelly in 10, 20, and 30 strokes. We also measured subjects' swallowing threshold with gummy jelly.

Results: There were significant differences ($p < 0,05$) between masticatory performance as measured with gummy jelly and color-changeable chewing gum in dentate subjects and complete denture wearers, with the first group having a better result. There was correlation between the measurement using both test foods. There was no correlation between masticatory performance with other factors such as age, gender, body mass index, salivary flow rate, saliva pH, chewing time, and swallowing threshold.

Conclusion: Masticatory performance in complete denture wearers is inferior compared to natural dentition subjects. There is correlation between masticatory performance measurement using gummy jelly and color-changeable chewing gum.