

Visual vs. Spectrophotometric Methods for Shade Selection

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ABSTRACT

The differences in tooth colour are important factors in the esthetic dentistry. The aim of this study was to determine the tooth colour using visual methods under natural light and »Easy Shade« device. Five hundred patients of Dental Clinic Graz Austria were selected for this study. The results of this study showed that the shade matching using »Easy Shade« device were not better than shade matching with visual methods under natural light.

No difference was found between visual and digital methods in the selection of a tooth shade.

Key words: Easy Shade, tooth colour, natural light

Introduction

The tooth colour determination is a very important point during restorative dentistry procedures. Its clinical relevance need to be considered before any treatment procedures in the esthetic dentistry. The visual matching shade method is a common used method in esthetic dentistry. The traditional visual matching shade methods might be negatively influenced by several factors: type and quality of light¹, gender⁴ and experience of the evaluators⁵. For exact shade matching different devices are developed. One of these is the Easy shade spectrophotometer method (Vita Bad Säcningen, Germany). The Easy shade is a self-contained, portable, digital shade matching device, simple in use and gives efficient accurate shade.

Many studies have investigated the shade matching with different methods and reported the different results¹⁻³. The aim of this study was to analyse the reliability of an »Easy Shade« device in shade selection compared to visual shade-matching method.

Materials and Methods

This study was based on the examination of five hundred patients of Dental Clinic Graz Austria. The shade matching was observed in the following teeth:

- in the right central maxillary incisor (11),
- in the right second maxillary incisor (12) and
- in the right maxillary caninus (13)

By all teeth the reliability of visual method under natural light on a sunny day with a Vita shade key (Vita Bad Säcningen Germany) and spectrophotometric method for match shades were analysed.

The data obtained for both experimental groups were analyzed using the ANOVA test. The level of significance was set at 5%.

Results

No statistically significant difference was found in the ANOVA test between visual method and »Easy Shade« device shade determination ($p > 0.05$). The visual method is comfortable und quick compared to spectrophotometric method for match shades were analysed.

Discussion

The investigation methods used in the present study was the visual and digital methods.

It has been suggested that Vita Easy shade spectrophotometer was more likely to match the shade compared to visual method². In another study of Wee et al.³ were found that ShadeEye-EX does not produce colour match better than the conventional visual porcelain shade-matching system. In the present study no difference was found between visual and spectrophotometric methods in the determination of a tooth shade.

Conclusion

Based on these clinical findings we can conclude that: both, the visual and digital tested methods were similar accurate in the shade determination.

Both methods in combination provide a good performance in determining the colour of tooth.

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RAZLIKA IZMEĐU VIZUALNAUALNE I SPEKTROFOTOMETRIJSKE METODE KOD ODABIRA NIJANSI

SAŽETAK

Razlike u boji zuba su važni čimbenici u estetskoj stomatologiji. Cilj ovog istraživanja bio je utvrditi boju zuba pomoću vizualnih metode pod prirodnim svjetlom i »Easy shade« uređaju. Petsto pacijenata stomatološke klinike u Grazu je izabrano za ovu studiju. Rezultati ovog istraživanja su pokazali da podudaranja nijansi pomoću »Easy shade« uređaja nisu bila bolja od podudaranja nijansi s vizualnim metodama pod prirodnim svjetlom. Nije pronađena razlika između vizualne i digitalne metode u odabiru nijansi zuba.