

MOST COMMON SHADE USED IN DIRECT VENEER

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Abstract

Introduction: Veneers with direct resins are one of the common treatment options for clinical applications following the developments in adhesive and restorative dentistry in recent years. These restorations are applied on prepared tooth surfaces or even without any preparation, with an adhesive agent and a composite resin material directly in a single visit in the dental clinic. If done properly, the aesthetic outcomes of direct composite veneers are very satisfactory in addition to superior optical and physical properties. In recent history these restorations were thought to be temporary alternatives to indirect ceramic veneers; however, they are no longer named 'day savior fillings' today. These restorations are called minimally invasive, functional and long-lasting 'direct aesthetic restorations' that perfectly emulate natural dental tissues even in anterior area. Discolorations of teeth or restorations, dental malformations or mal-positions, diastemas, crown fractures and abrasive or erosive defects are some examples of up-to-date indications of direct composite veneers. In this study we would evaluate the common shades used in direct veneer restoration.

Materials and methods: The clinical records of all direct veneering cases during the period between 1 January 2020, and 1 January 2021 were. Shade selection was taken into account. Gender and age of the patients were also included in the study.

Results: It can be seen that the majority of the direct veneers were placed in relation to maxillary central incisors and the most commonly used shade was found to be A2. How much color change can be achieved under such thin restorations depends on the thickness, color and opacity level of the veneer and the luting resin. Understanding the parameters that guide the modulation of hue, chroma and value will allow the clinician to modify a set color by mixing different shades in varying proportions until the desired color is finally achieved.

Conclusion: Within the limitations of the study it can be said that most common shade used among both the gender was found to be A2 for direct veneer restoration

Keywords: Ecofriendly, Novel Technique, Innovative Technique, Guide, Shade, Gender

Introduction

Veneers with direct resins are one of the common treatment options for clinical applications following the developments in adhesive and restorative dentistry in recent years. These restorations are applied on prepared tooth surfaces or even without any preparation, with an adhesive agent and a composite resin material directly in a single visit in the dental clinic [1]. If done properly, the aesthetic outcomes of direct composite veneers are very satisfactory in addition to superior optical and physical properties[2]. In recent history these restorations were thought to be temporary alternatives to indirect ceramic veneers; however, they are no longer named 'day savior fillings' today. These restorations are called minimally invasive, functional and long-lasting 'direct aesthetic restorations' that perfectly emulate natural dental tissues even in anterior area [3–6]. Discolorations of teeth or restorations, dental malformations or malpositions, diastemas, crown fractures and abrasive or erosive defects are some examples of up-to-date indications of direct composite veneers. Enamel hypoplasia is a developmental malformation generally resulting in poor aesthetics, tooth sensitivity, malocclusion and predisposition to dental caries. Direct composite veneer restorations where the whole labial surface is covered with resin, are good treatment options in such cases [7]. In recent years direct composite veneers have been compared to indirect ceramic veneers and declared as weak in relation to resistance to fractures and discolorations. However, the fact that everyone misses is whether these direct resin restorations were done correctly or not? Direct composite veneers have indications and contraindications like almost all other dental procedures which can be listed as proper occlusion, lateral and protrusive movements, correct shade analysis, effective isolation, good adhesion, effective polishing, [8–10]. Our team has extensive knowledge and research experience that has translated into high quality publications[11–20],[21–24],[25–29] [30]. The aim of this article is to evaluate the common shades used in direct veneer restoration.

Materials and Methods

The study was done as a retrospective, single centered study. Ethical approval was obtained from the Institutional Ethical Committee (Ethical approval number. SDC/ SIHEC/ 2020/ DIASDATA/ 0619-0320). We reviewed case records of the data of patients who had direct veneers in anterior teeth. Incomplete data were excluded. Age, gender and the site of veneer were collected. These data were cross verified with photographs and radiographs. The collected data were analysed using SPSS statistical software. Descriptive statistics (percentage, mean, SD) and inferential test (Chi-square test) were done appropriately.

Results and Discussion

From Figure-1 it can be seen that the majority of the participants were males and were of age group 18-25. Also from Figure 2 and Figure 3 it can be said that the most common shade used was A2. Mazzota et al in his study stated that the majority of shade matching processes done resulted with A2 enamel shade and B2 dentin shade as most preferred. Our study has been in accordance with that. Also Budipramanna et al stated that A2 shade has been widely preferred in anterior aesthetic restorations of any forms. It can be seen that majority of the direct veneers

were placed in relation to maxillary central incisors and the most commonly used shade was found to be A2. The direct–indirect composite veneer technique was introduced in the 1990s as a means to heat-temper composites in partial and full veneers [31–33]. In the direct–indirect technique, using similar shade selection and layering techniques that are used for the direct technique, the clinician applies a light-cured composite material to the tooth, with or without tooth preparation, without any adhesion. The composite is then shaped to a primary anatomic form with slight excess, and then light-cured. After that, the partially polymerized restoration is carefully removed (lifted) from the non-retentive, non-bonded tooth surface, heat-tempered extra-orally chairside, and finished and polished to final macro and micro anatomy. After shade try-in and confirmation of the overall fit and esthetics, the veneer is bonded to the preparation using a resin-based luting agent.

One of the greatest benefits of the direct–indirect technique is that minor color changes can be realized through the use of luting resins of varying shades and degrees of opacity. This is very beneficial especially when trying to match a single veneer to adjacent, untreated teeth, and when doing multiple units and the patient's input is needed to determine the color matching alternative that best pleases her or him. How much color change can be achieved under such thin restorations depends on the thickness, color and opacity level of the veneer and the luting resin [34]. Understanding the parameters that guide the modulation of hue, chroma and value will allow the clinician to modify a set color by mixing different shades in varying proportions until the desired color is finally achieved [35,36]

Conclusion

Within the limitations of the study it can be said that most common shade used among both the gender was found to be A2 for direct veneer restoration

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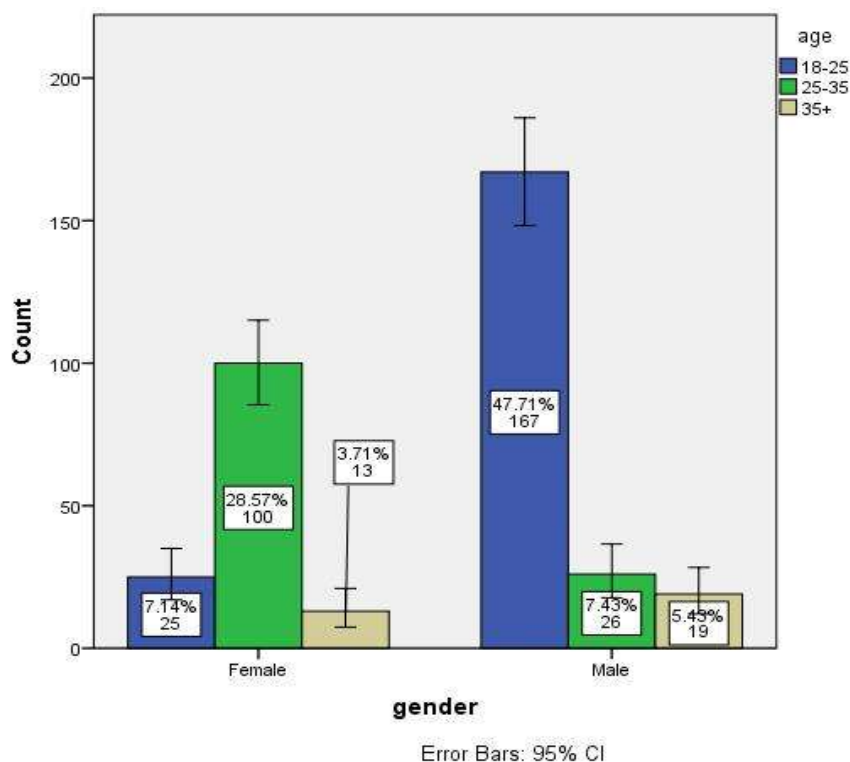


Fig 1: Represents the age and gender of study population. X axis- Gender (Male, Female) ; Y axis- Age group (18-25, 25-35, 35+). Chi square analysis was done and p value was < 0.01 showing statistically significant difference between age and gender of study population.

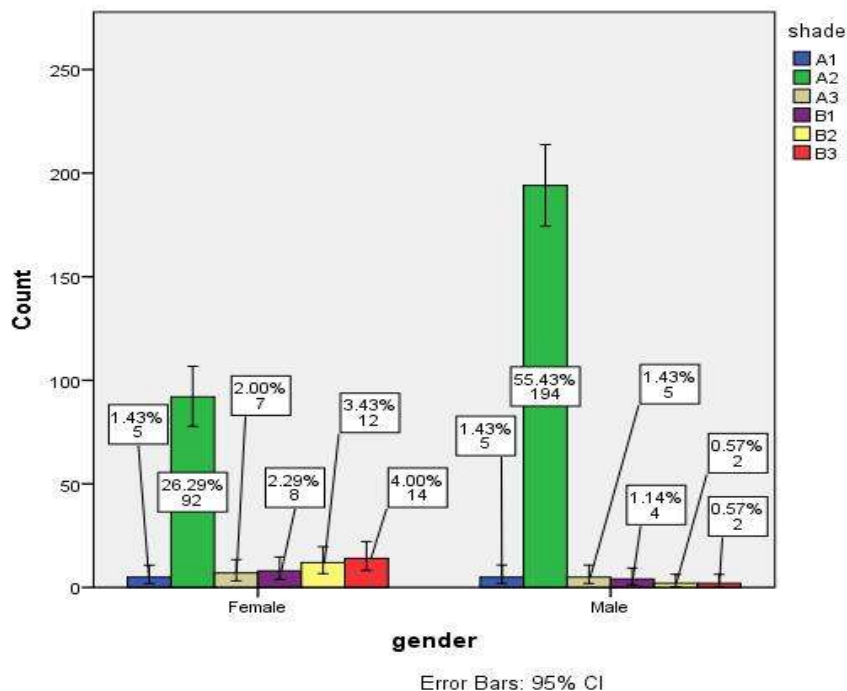


Fig 2: Represents the gender and shade of study population. X axis- Gender (Male, Female) ; Y axis- shade used (Blue- A1, Green-A2, Sandal - A3, Purple- B1, Yellow-B2, Red-B3). Chi

square analysis was done and p value was < 0.01 showing statistically significant difference between gender and shade used.

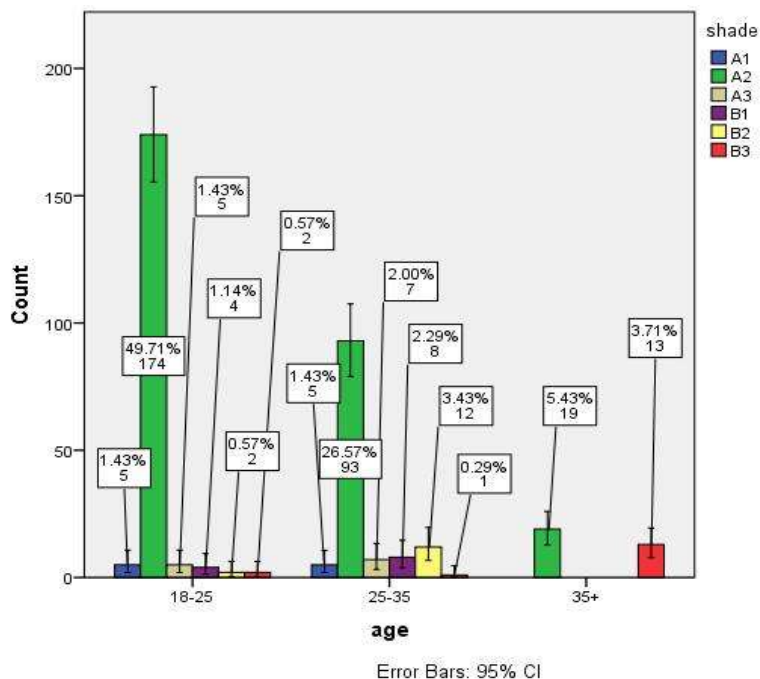


Fig 3: Represents the age and shade of study population. X axis- age group(18-25,25-35,35+) ; Y axis- shade used (Blue- A1, Green-A2, Sandal - A3, Purple- B1,Yellow-B2,Red-B3). Chi square analysis was done and p value was < 0.01 showing statistically significant difference between age group and shade used.