

Golden proportion and facial esthetic, the harmony and surgical considerations: A review

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Abstract

Beauty is achieved when using the concept of balance. Several authors have suggested that delicate facial appearance has optimized proportions correlated with the golden proportion. Some authors recommended the application of the golden ratio theory to correlate the successive wideness of the anterior teeth, as observed from the labial angle. It was also revealed that the central incisor width must be in golden proportion to the wideness of the lateral incisor and that the lateral incisor must be in golden proportion to the wideness of the canine whenever examined from the front. Various studies have supported the application of divine proportion in dentistry. The primary objective of this mini-review is to outline the relationship between facial esthetic and divine proportion and highlight the use of rhinoplasty for facial esthetics.

Keywords: Golden proportion; Facial esthetic; Cosmetic surgery; Rhinoplasty

1. Introduction

Delicacy is the aspect of encountering satisfaction through the concept of balance [1]. Facial appearance is an important and noteworthy issue. It performs a significant role in an individual's self-image, self-assurance and well-being. Everyone appreciates beauty and its outstanding balance in the universe. Several individuals declare that this concept and balance of delicacy is ascribed to the 'golden ratio' in other words, a proportion that grants particular things their delicacy. The golden ratio is considered an outcome ahead of the arithmetical imagination; however, it is more associated with the laws of equilibrium [2, 3].

The arithmetic value of the golden mean is about 1-1.618. This phenomenon is regarded as a law of equilibrium in existence which represents a correlation between calculation and delicacy to achieve balance and an image of perfection together [4]. The 'Golden mean' is a distinct term utilized to determine the line division. For instance, the proportion of the minor segment to the bigger one is equivalent to that of the bigger segment to the sum, to be contemplated as amusing to the viewer [5].

As claimed by Jefferson, a universal standard is present for the delicacy of the face irrespective of ethnicity, sex life-span, and other factors labelled the golden ratio [6]. According to Amoric, the golden mean can be noted in various intrinsic aspects, geometric propositions, and man-made architectures [7].

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As declared by the Decker golden mean develops out of the helix aspect of a linear DNA molecule to Leonardo's description of facial ratios. In addition, Panagopoulos and Danika considered the golden ratio the most esthetically satisfying to the eyes since numerous human body ratios are in golden proportion [9]. Nonetheless, according to Baker, pleasant faces may not display ratios in the golden mean. [10] It was suggested by some authors that the golden mean issues direction for the optimized measurements of teeth [11, 12]. The golden mean additionally relates to various facial measurements in the coordinate system of an adult American lady [13].

According to Ricketts, the golden ratio prevailed within a great number of frontal as well as lateral cephalometric X-rays and certain pictures that were regarded as ideal. Hence, he supported the utilization of golden mean ratios as an ideal lead during orthognathic surgery arrangements [14].

Moreover, a delicacy mask based was developed by Marquardt on the golden mean; he also stated that despite an individual's ethnicity, if it abides by the delicacy mask, every single being is regarded as attractive. [15] Various authors also concluded that the outcomes obtained in delicate appearances are assumably imprecise, the golden mean [16].

The most critical phenomenon of elective dentistry is making arithmetic ratios to correlate the consecutive wideness of anterior teeth. These theories established in this discipline are divine proportion, RED ratio and golden percentage. Initially, Lombardi suggested golden proportion use in dental medicine and considered this proportion to be excessively resolute for application in establishing tooth dimensions. He also describes the use of a repeated proportion within the esthetic zone. It is entailed that a perfect dental and maxillo-mandibular formation of the lateral to central incisor wideness and the canine to lateral incisor wideness are replicated in ratio. The application of the golden mean was recommended by Levin to correlate the successive wideness of the front teeth, as observed from the labial angle. He revealed that the central incisor width must be in golden proportion to the wideness of the lateral incisor and that the lateral incisor must be in golden mean to the wideness of the canine whenever examined from the front. Furthermore, he developed a grid with the slots in golden proportion and supported the application of the grid to determine and evolve a balanced mean of teeth [17, 18, 19].

Nonetheless, in the latest study, it was proclaimed that the golden mean was not present between the widths of the esthetic-zone teeth in people who have a delicate smile. Ward recommended the RED proportion. He concluded his recommendation in the outcomes of his trial in which he determined the RED proportion to be the proportion of the successive width of the constant proportion of remaining teeth when proceeding proximally from the midline. Snow regarded a bilateral investigation of apparent tooth width as a percentage of the sum of the apparent width of the six anterior teeth. He recommended the golden mean and suggested the golden proportional width of each tooth: (canine 10%, lateral 15%, central 25%, lateral 15%, and canine 10%) to obtain an esthetically attractive smile [20 -22].

2. Esthetics through Rhinoplasty

Rhinoplasty is considered one of the most frequent esthetic facial invasive methods executed in the United States. Numerous researches have indicated that elective rhinoplasty is helpful in improving perceived enchantment, reducing facial asymmetry, and reducing perceived age. In addition, it was reported that the individuals who have gone through rhinoplasty also showed enhanced overall well-being related to their surgery.

In many countries, the demand for cosmetic rhinoplasty has remarkably increased in the past years due to increased self-esteem, media availability, and flourishing surgical manoeuvres. As a result, both young males and females have adopted this trend.

This technique is considered one of the most professionally demanding cosmetic surgery techniques. The surgeon should recognize the fundamental anatomy and also have the capability to accomplish a nasofacial examination to conclude the operative plan and perform procedures that influence bone, cartilage, and soft tissue. An aesthetic eye supplements these procedures in order to generate an outcome that combines pleasantly with the rest of the face. One of the major goals of this method is to enhance the individual's appearance and eventually release the patient's social anxiety and oppression complex.

The individual's pleasure differs according to sex, age, education level, background, ethnicity, and, foremost, the individual's extent of expectations. The major focus of preoperative analysis is investigating different factors enhancing the individual's satisfaction. The rate post-rhinoplasty is very low because of the assortment of this technique and the trouble in illustrating patient expectations. The selection of patients is extremely important in rhinoplasty, as excellent surgical outcomes may not happily inspire many patients [23, 24].

3. Conclusion

The outcomes of this study indicated that the values obtained in delicate faces are assumably approximate the Divine Proportion. Furthermore, the importance of rhinoplasty has significantly increased with an increased change in attractiveness. Rhinoplasty is an effective technique, but some complications such as patient satisfaction remain.

Compliance with ethical standards

Disclosure of conflict of interest

There is no conflict of interest.

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