

# Adult orthodontic patients' views regarding dentofacial normality: A qualitative study



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**Introduction:** The concept of normality in orthodontic diagnosis and treatment is defined from the clinicians' point of view or derived from concepts developed from observation of "ideal" persons. In-depth appreciation of what a patient views as normal is paramount for effective shared decision making. In this study, we aimed to examine the concept of dentofacial normality in orthodontics from the patient's perspective. **Methods:** This was a qualitative study of adults attending for orthodontic consultations at a teaching hospital. Semistructured interviews were conducted until data saturation occurred ( $n = 15$ ). The data were managed using a framework approach, and recurrent themes were identified. **Results:** Three main themes were identified in the interviews: the components of dentofacial normality, the impact of dentofacial abnormality, and factors influencing patients' conceptualization of dentofacial normality. The components of normal appearance are apparent in the views of potential adult orthodontic patients. These ideas are formed from personal observations in conjunction with the external influences of family, friends, and the commercial media. There was a biopsychosocial impact of dentofacial abnormality with both enacted and felt stigma playing substantial roles. **Conclusions:** A normal dentofacial appearance cannot be solely constructed from measureable biologic variables. Patients view normality in terms of features that are acceptable biologically, psychologically, and socially, and there is significant overlap in these domains. Clinicians should be aware that traditionally held concepts of what they believe to be normal or abnormal might not fully represent patients' beliefs. (Am J Orthod Dentofacial Orthop 2014;145:287-95)

Traditionally, the concept of normality in orthodontics is related to biologic variables that are clinician centered. Measured values are derived from groups of subjects with ideal occlusions and facial proportions to provide reference ranges for comparison with patients from relevant populations.

The seminal work by Andrews<sup>1</sup> examining ideal occlusions is often quoted in the literature with reference to a normal occlusion.<sup>2,3</sup> Other authors examining normal occlusions tend to do so using self-derived categories of normality; these naturally tend to differ among articles.<sup>4-8</sup>

In assessing someone's facial appearance, the classical canons of facial esthetics place considerable emphasis on ideal transverse, coronal, and sagittal proportions. Similarly, there are a considerable number of different methods to measure the soft-tissue profile. Many of these techniques have no firm evidence base.<sup>9</sup> Those who claim an experimental basis tend to use early cephalometric data of clinician-deemed normal subjects or population averages of unrepresentative samples.<sup>10-13</sup>

For hard-tissue skeletal measurements, numerous cephalometric analyses have been developed. An example of this is the Michigan standard values, which are argued to be a suitable representation of normal cephalometric variables in persons with ideal facial and occlusal proportions, although the authors rightly stated that an infinite number of dentoskeletal relationships can result in a balanced outcome in any patient.<sup>14</sup> As such, the argument is often that it is erroneous to treat the lateral cephalogram and not the patient it represents.<sup>15</sup>

It is clear that guidelines for dentofacial norms, although useful, are not prescriptive. Only through careful examination of each patient can suitability for a

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particular treatment be ascertained because there is considerable variation in the ability of people to cope with deviations from the esthetic norm.<sup>16</sup> Knowledge of what each patient perceives as normal is paramount before treatment planning.

However, little research has been carried out to explore our patients' views with regard to normal dentofacial features.

In the dental literature, it has been argued that defining normality from the traditional clinician-based standpoint risks recognizing a patient as "abnormal" or in need of treatment when in fact that person might not think that any treatment is necessary.<sup>17</sup> The converse of this, basing the decision to treat on wholly patient-defined norms, would also be erroneous. The decision to progress to treatment should not be derived from the patient's demand or the clinician's paternalism; instead, shared decision making should be adopted whenever possible.<sup>18</sup>

For shared decision making to be effective, however, both persons need to understand the other's perceptions. Most important in this is that the clinician is aware of and able to understand the concepts of normality that the patient may have formed.

The concept of a perceived "normal" state has been explored in the medical literature using qualitative methodology and was found to be prevalent at a biopsychosocial level in patients suffering from a range of conditions.<sup>19-22</sup> The concept has only recently been explored with patients with oral conditions, specifically those who were receiving dental implants.<sup>23</sup> It was found that these patients had an overriding desire to regain normality through relief of their symptoms: poor masticatory function and poor dental appearance.

Traditional quantitative research methodologies are unsuited to investigating this subject because of their deductive approach that does not favor the emergence of new perspectives.<sup>24</sup> When used improperly, these techniques can lead to the misinterpretation of decontextualized data and the oversimplification of human behavior.<sup>25</sup> Qualitative research aims to develop "an in-depth and interpreted understanding of the social world, by learning about people's social and material circumstances, their experiences, perspectives and histories."<sup>26</sup> To investigate patients' views about normal dentofacial features, qualitative methods are ideal because they are suited to exploring complex phenomena or areas not amenable to quantitative research owing to a lack of previous research on the subject.<sup>27</sup>

In this study, we aimed to examine the concept of dentofacial normality from the orthodontic patient's perspective using qualitative methodology.

## MATERIAL AND METHODS

A favorable ethical opinion was obtained before patient recruitment (United Kingdom Northern and Yorkshire regional ethics committee reference 11/NE/0274). The subjects were recruited from those attending for an orthodontic consultation after a referral regarding a dentofacial abnormality. They had to be English-speaking patients over 18 years of age. Subjects were excluded if they had congenital craniofacial abnormalities (eg, syndromic deformity or clefts of the lip or the palate).

Purposive sampling was used to derive a depth and a breadth of opinions from groups of patients who might be expected to hold differing views of normality. The sampling criteria were defined according to the treatments the patients were willing to undergo. For example, it was assumed that those willing to undergo invasive orthognathic surgery to correct their appearance might have a different opinion of what constitutes a normal dentofacial appearance compared those who required surgery to fully correct their facial abnormality but were unwilling to pursue this and desired treatment involving dentoalveolar camouflage instead. It was considered necessary to include men and women of differing ages since views on normality may differ between the sexes and along the age spectrum.

The sample criteria included patients who (1) wanted to pursue complex interdisciplinary treatment (eg, fixed appliances with orthognathic surgery), (2) wanted to pursue compromise treatment (eg, masking a crowded and skeletal Class II malocclusion with relief of crowding and partial overjet reduction), (3) wanted to pursue routine fixed appliance treatment, or (4) declined treatment on grounds other than finances.

The one-to-one interviews were semistructured and conducted by a trained interviewer (N.D.S.) using a flexible, evolving topic guide. This allowed the discussions to be focused while allowing scope for deviation from the guide if necessary to fully explore each patient's ideas and beliefs. This guide was based on professional opinions, the literature regarding what constitutes a normal occlusion, and the biopsychosocial health benefits that might be gained from resolving an underlying malocclusion. The interviews were digitally recorded, anonymized to protect patient confidentiality, professionally transcribed verbatim, and then checked for accuracy against the original recording.

Analysis broadly followed the principles of the constant comparative method and was concurrent with data collection.<sup>28</sup> Two trained researchers (N.D.S. and J.D.), with differing clinical backgrounds, analyzed and coded the data independently to ensure that any emerging theory was robust and valid<sup>29</sup>; one was a

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