

# Can you afford to smile? The Economic disparities in oral health care provision

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## ABSTRACT

Tooth loss can have a negative impact on a patient's quality of life. However, many patients cannot afford the treatment necessary to restore their dentition optimally. Their final choice may be dictated by what they can afford rather than consideration of the advantages, disadvantages or biological sacrifices associated with proposed options. At the same time, clinicians often express feelings of helplessness and stress when confronted with having to decide on, and provide treatment that is within the patient's financial means, rather than according to what they deem to be "best practice". This paper uses a patient case to illustrate how the four-principle approach proposed by Beauchamps and Childress (1983) can be used during treatment planning, and to justify the final decision making process.

## BACKGROUND

While the loss of teeth may not be considered a life threatening condition, it can certainly have a negative impact on a patient's quality of life in more aspects than just oral function. These include psychosocial perspectives, dietary choices, and even employment opportunities. Related to this is poor self-esteem, a less future-orientated outlook and a more pessimistic view of health matters in general, including reduced interest in maintaining good oral health behaviours.<sup>1,2</sup> Furthermore, in a low income society, people generally place higher priorities on food and medical expenses rather than their dental needs. This paper will present a case of a 36 year old lady who had lost her central incisor in a motor vehicle accident, but had only sought dental treatment five years later when she had managed to find a job. Following an evaluation of the patient's presenting oral condition, her desires and a detailed clinical examination, a number of treatment options were presented

to her. Her final choice, however, was not dictated by her consideration of the advantages, disadvantages or biological sacrifices that had been explained, but rather on what she could afford. This paper will explore the ethical principles and stress that clinicians may be confronted with in the decision-making process towards arriving at a suitable treatment option when the patient's financial status, rather than "best practice" is a limiting factor. It also considers the anxiety that dealing with such disparities in distributive justice can place on a compassionate, morally driven clinician. This actual patient case was selected as it helps illustrate how the four-principle approach proposed by Beauchamps and Childress (1983) can be used during treatment planning, and to justify the final decision making process. The four principles include: respect for patient autonomy; beneficence; non-maleficence and justice.<sup>5,6</sup> When considering beneficence and non-maleficence, it is important to remember that this does not only refer to the "good or damage" associated with the physical treatment, but includes psycho-social benefits, and financial and biological costs.

## CASE PRESENTATION

A 36-year old lady presented to the dental clinic requesting to have her missing central incisor replaced. She reported that during a motor vehicle accident she had sustained trauma to her face five years previously resulting in loss of her front tooth. She had not been able to afford dental treatment, resulting in her having spent the intervening time being very self-conscious of her appearance. She had developed a habit of hiding her smile behind her hands and pursing her lips when speaking in an attempt to conceal her missing anterior tooth. She also reported that she had always been self-conscious about the other front tooth being "skew", and this additional anomaly made her appearance that much worse. She had just managed to find employment and wanted to have her teeth fixed before commencing working. A thorough intra-oral examination revealed the patient to have a full complement of teeth in all four quadrants, apart from the missing 11 (Figure 1). All of her teeth were caries free, periodontally sound, and her oral hygiene status was excellent. All her maxillary teeth were well aligned in a class I occlusal relationship with the exception of the 12, which was in a cross bite. The mandibular incisors showed mild crowding, with slight over-eruption of the 41. There was also evidence of alveolar bone loss apical to the missing central incisor (11). The remaining maxillary incisors (13,12 and 21) were all virgin teeth. The treatment options were presented sequentially based on their associated costs. (There was no consideration or treatment proposals for the mandibular teeth other than minor occlusal adjustment of the 41).

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Figure 1. Anterior view showing missing 11 and 12 in cross bite



Figure 2. Anterior view showing mild crowding of mandibular teeth, over-eruption of 41, missing 11, and 12 in cross bite

#### Treatment options and implications:

The following options were presented to the patient: (there may be various others, which clinicians could debate in a similar manner)

1. Maintain the dentition in its present state and provide a single tooth removable partial denture replacing the 11. The edentulous space would be restored and the patient's smile greatly improved, however the 12 would still be in cross-bite which she had indicated to be an aesthetic concern. This option was the most beneficial financially and time wise, minimally invasive on her dentition, and would restore her speech and smile adequately. The burdens/disadvantages of this option were associated with discomfort of having to wear a removable prosthesis, with a large amount of mucosal coverage when only one tooth was being replaced, as well as the psychological concerns and possible embarrassment of wearing a denture. From a biological perspective, this may be considered to be the least maleficent option as it would not sacrifice or damage any of her teeth, and is relatively cost effective (the price will vary depending on whether an acrylic resin or chrome cobalt base is used).
2. Extract the 12 and provide a two-toothed partial denture replacing the 12 and the 11. This choice has all of the benefits and burdens of option 1, with the exception that it offers a chance to improve her smile, - at the biological cost of sacrificing a healthy sound tooth. This would also add to the alveolar bone loss in that anterior region.
3. Fabricate a removable Hawley-type appliance incorporating a bite plane posteriorly to open up her bite, a Z-spring behind the 12 to try and procline it out of a cross-bite, and an acrylic resin tooth replacing the 11. This could be replaced with a permanent single-tooth removable partial denture if and when the 12 had been brought into alignment. This option was much like option 1, but prolonged treatment time and had additional financial implications. The latter could be justified in terms of the potential to improve her smile substantially. An additional risk factor was that a removable appliance would be used to execute the planned tooth movement, and could result in loosening of the 12, or bodily tilting leading to loss of the supporting buccal bone. At the same time, the clinician would have to seek advice from a specialist orthodontist before commencing with this plan to mitigate potential iatrogenic harm.
4. This was the same as option 3, but involved first referring the patient to a specialist orthodontist to carry out the planned alignment of the 12. This had almost the same benefits and burdens as option 3, except that it will be more costly and lengthy in time for the patient. It is also a more beneficent route for the clinician to follow especially if they are not confident of their own orthodontics skills and experience.
5. Extract the 12 and construct a three-unit fixed bridge from 13 to 21. This was one of the most invasive and destructive choices in that it involved sacrificing a sound tooth (12) as well as cutting two virgin teeth (13 and 21). It was also more expensive, and involved a degree of pain and discomfort during tooth preparation. This procedure could only be considered if her smile line was low enough to conceal the bony defect in the 11 region. If not, there may be a need for bone augmentation which would add to the time, costs and patient discomfort. The main benefits are psychological in that she will not have to wear a removable prosthesis as well as improved masticatory function and general comfort. Many clinicians would not consider it biologically beneficent to damage two virgin teeth in order to replace one / two missing teeth, especially anteriorly, and in younger patients.
6. Carry out orthodontic alignment of the 12 and then use it as an abutment for a three-unit fixed bridge from 12 to 21. This entails the same considerations as for option 5, but has added time and financial implications associated with the orthodontic procedure. Certain advantages could be bone preservation, a slight cost saving in that the definitive bridge will now be only three units, and the shorter span could make it more stable. However, the 12 is a weaker abutment due to its size in comparison to the 13 (and may lose some alveolar bone support during the alignment process). A further advantage in this plan is that the bridge could act as a retainer and stabilising splint for the 12, helping maintain it in the new position.
7. Either extract or align the 12, then carry out bone augmentation above the 11 (+- 12) followed by placement of 1 (2) implants. This is the most expensive and lengthy option, but will spare the virgin teeth from any potential damage. This could be seen as the most beneficent procedure for the clinician to carry out, and for the patient psychosocially, functionally and biologically. However, it is expensive. In a society where funds are limited, can it be considered distributive justice to provide this service to one patient, when the same amount

of money spent on this treatment cost could be used to address the more basic dental needs of - many more patients?

## DISCUSSION AND CONCLUSION

There has been a steady decline in edentulism in developed countries, yet tooth loss remains high in poorer third world communities.<sup>7</sup> Tooth loss not only leads to functional and aesthetic disabilities, but also has a negative psychosocial impact on patients' lives.<sup>7</sup> Studies have shown that those with less than 20 natural teeth have worse oral health-related quality of life (OHRQoL) scores than those with more. This is further influenced by the number and position of the missing teeth.<sup>7</sup> The oral functional disabilities associated with tooth loss relate to mastication, speech and communication. However, there may be further systemic consequences as tooth loss could lead to altered dietary choices and intake, resulting in malnutrition and subsequent debilitating conditions such as diabetes and cardiovascular diseases.<sup>8</sup> Many countries have developed health models to address the dental care needs of the majority, with a strong emphasis on prevention rather than rehabilitation. To this end, disease prevention is a multi-stage process that must be addressed on three levels: "Primary prevention protects individuals against disease by placing barriers between the agent and the host. Secondary prevention limits the impact of disease so that health can be restored. Tertiary prevention is aimed at rehabilitation after disease has resulted in functional limitation or disability".<sup>3</sup>

This case scenario illustrates the myriad of clinical considerations, ethical dilemmas and treatment decisions a dentist may have to debate on a daily basis. The difficulties are compounded by the need to fully inform patients of the advantages, disadvantages, risks and benefits of each option in order for them to be able to make educated, informed and autonomous decisions about their own bodies. Sadly, even after careful and considered deliberation, the final treatment is too often dictated by cash and not by choice. This is the harsh reality of providing health service in a country where there are large disparities in health care affordability and provision. Clinicians often have to set aside their desire to provide complex treatment for a single patient in order to comply with principles of distributive justice – i.e. the fair distribution of the limited resources to many.<sup>6</sup> In effect, adhering to ethical principles can be stressful to an ethical, caring and dedicated clinician who has to provide medical and dental services in keeping with available finances rather than according to their "ideal" training and clinical reasoning. A recent survey amongst dentists working under conditions where there were limited resources for dental treatment confirmed that some of the major personal stressors arose from their ethical concerns of being faced with working in a "survival culture" where they were compelled to deliver in terms of patient numbers. They perceived this as a lack of control and reduced professional fulfilment especially in situations where they were unable to deliver the quality of care they wanted to provide.<sup>4</sup>

There may be clinicians who feel helpless or defeated when working in an environment where there are limited resources, facilities, staff and time, yet they still have to try serve a large community of needy patients. Some may have almost given up trying to make significant changes believing that their current situation echoes the age-old biblical verse "The poor you will ALWAYS have with you.", (Deut 15:7-11). However, perhaps they can gain new inspiration from a slightly modified

version of the added proviso to this statement. "Harden not your heart or shut your hand against your poor brother, but rather open wide your hand, and do your best to assist the needy and the poor in whatever manner possible, and to the best of your abilities".

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