

Planning the Restorative Dental Treatment at the Time of Coronavirus Pandemic: A Two-arm Strategy

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ABSTRACT

The high risk of infection with coronavirus forced dental practices to decline/limit oral healthcare services to emergency and urgent conditions. Under this policy, the economic burden on dental professionals and their employees was immense. With the prolonged duration of coronavirus health crisis, it was clear that dentists and associated workers and companies cannot bear the cost of longer suspension of regular dental services. At this point, calls have been made for gradual return to regular dental clinical practice. However, dental health professionals around the world realized that oral care services should be tailored to fit the time of COVID-19 pandemic. An important question to be raised here is regarding planning the dental treatment during the time of coronavirus pandemic. Should a dentist plan the dental treatment in a different way to that at a normal time? This paper aims to propose a simple strategy to plan the restorative dental treatment at the time of coronavirus pandemic. The aim of this strategy is to expand the range of oral care services and minimize the risk of infection with this deadly virus. The role of the shortened dental concept and minimum use of aerosol- /droplet-generating procedures have been emphasized.

Keywords: Coronavirus, COVID-19, Dental treatment, Pandemic, Shortened dental arch.

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The economic impact of COVID-19 pandemic has been heavy worldwide.¹ Dramatic recession, mass job loss, project suspension, and unprecedented figures of unemployment were among the economic consequences of this deadly virus. However, after a few months of lockdown, almost all countries across the globe decided to get back to normal life but with extra precautions and practice of social distancing. This decision was pragmatic in its nature as politicians and decision-makers felt that we need to cope with this pandemic and plan a balance between the risk of infection with COVID-19 and the danger of economic collapse. In the dental field, the high risk of infection with coronavirus forced dental practices to decline/limit oral healthcare services to emergency and urgent conditions. Under this policy, the economic burden on dental professionals and their employees was immense.² On the other hand, with the prolonged duration of coronavirus health crisis, it was clear that dentists and associated workers and companies cannot bear the cost of longer suspension of regular dental services.³ At this point, calls have been made for gradual return to regular dental clinical practice. However, dental health professionals around the world realized that oral care services should be tailored to fit the time of COVID-19 pandemic.^{4,5} Quick review of the current recommendations and guidelines on the dental management of patients at the time of coronavirus pandemic shows that the main focus of these recommendations/guidelines is on screening patients, declining dental treatment of confirmed/suspected COVID-19 patients, application of strict infection control procedures, emphasis on personal protective equipment, giving priority for treatment of urgent/emergency dental cases, pharmacological management when possible, and adoption of preventive measures, such as minimum use of aerosol-generating procedures and application of rubber dam.⁶⁻⁸ An important question to be raised here is regarding planning the dental treatment during the time of coronavirus pandemic. Should a dentist plan the dental treatment in a different way to that at a normal time? While planning a dental

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treatment for simple and urgent/emergency cases can almost be one in both times, it might not be so with advanced/complicated dental cases and when full mouth rehabilitation is needed. The authors think that two issues should be considered in planning a comprehensive restorative dental treatment at the time of pandemic. First, dentists should plan to reduce the time needed to perform the dental treatment and hence the required number of visits to the dental clinic for a certain patient. Second, the treatment plan should be designed to decrease the use of aerosol- /droplet-generating procedures (Fig. 1). The chief objective of this two-arm strategy is clearly to minimize the risk of infection with COVID-19 by a reduced exposure to the environment of the dental clinic. Such approach would necessarily mean a choice of simplified treatment options and less complicated dental procedures. However, this

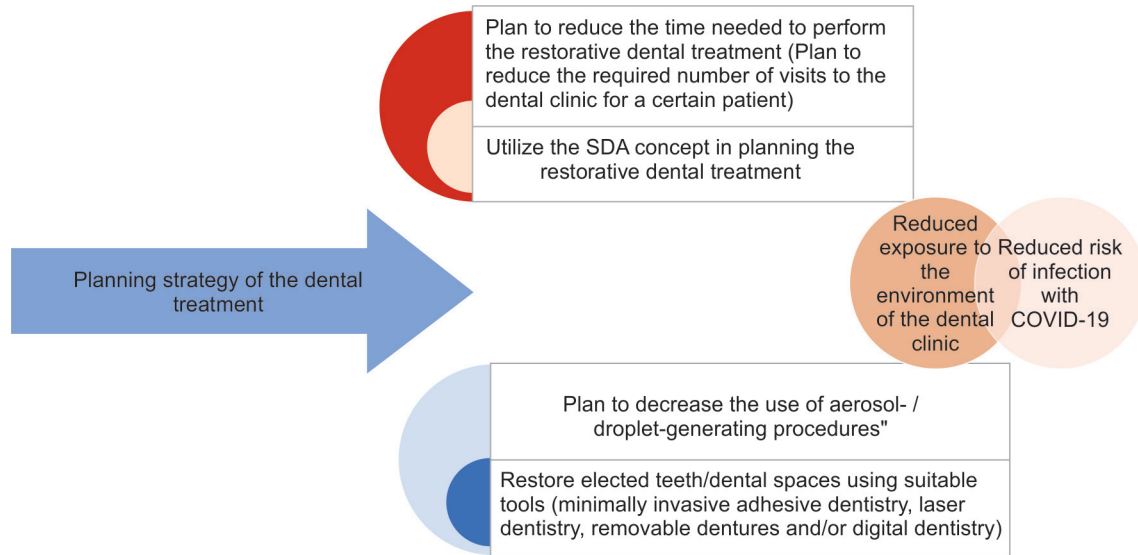


Fig. 1: Planning the restorative dental treatment at the time of coronavirus pandemic

Table 1: Advantages and disadvantages of the SDA concept

| Advantages | Disadvantages |
|--|--|
| <ul style="list-style-type: none"> Reduction in the amount of restorative dental care. Simplification of restorative dental procedures. Simplification of oral hygiene maintenance. A good level of oral health-related quality of life (OHQoL) is maintained. Cost-effective treatment approach. More clinic time is gained. Consequently, there is a chance to improve the quality of dental care and to treat a greater number of patients. | <ul style="list-style-type: none"> Reduced patient's satisfaction. Chewing function and oral comfort may be negatively affected. It could overload the remaining teeth and the temporomandibular joints. It could lead to a resorption in the posterior alveolar bone as a consequence of extracting the molar teeth and not restoring the posterior dental space. |

should not be at the expense of the patient and quality of oral care. To apply the first arm of the former strategy, we can recall the concept of the shortened dental arch (SDA).⁹ The SDA concept is well-established and aims to reduce the size of restorative dental care in selected cases without detracting from the quality of the treatment.¹⁰ It mainly aims to provide a functional rather than complete dentition. This is through concentrating treatment/restorative efforts at maintaining the anterior and premolar teeth and avoiding extensive restorative treatment in the molar sites. It can be argued that the time of coronavirus pandemic is a barrier for extensive oral care and this justifies the utilization of the SDA concept in planning the restorative dental treatment in this era of health crisis. The pros and cons of treatment according to the SDA concept are illustrated in Table 1.⁹⁻¹⁴ Once a decision has been made about which teeth to restore/replace, many tools/methods

can be implemented to restore the elected teeth and dental spaces using minimum levels of aerosol-/droplet-generating procedures, and this may include minimally invasive adhesive dentistry, laser dentistry, removable dentures, and/or digital dentistry.¹⁵⁻¹⁷ Any further dental/restorative care can be postponed till the resolution of the pandemic. The authors believe that the proposed two-arm strategy in planning the restorative dental treatment at the time of pandemic provides a simple and cost-effective approach that reduces the risk of infection and threat of economic breakdown. It also offers a zone of balance between the extremes of complete lockdown of the dental practice, provision of emergency dental care only or provision of regular dental services at such exceptional time. Dental professionals and researchers are invited to examine the validity and feasibility of the proposed strategy.

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