Role of Teledentistry During the COVID-19 Pandemic: A Rapid Systematic Review

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Background

- The pandemic COVID-19 is a respiratory disease caused by coronavirus. The transmission of COVID-19 is through direct close contact and it can spread through sneeze, cough, and inhalation.
- Dentists are at risk of getting exposed to COVID-19 because oral fluids can be a source of spread or vector for the virus (Sabinho-Silva et al., 2020). Routine dental procedures involve using rotary dental and surgical instruments and these instruments can cause aerosol infection (CDC, 2020).
- During the pandemic, access to oral health care was limited especially for the elderly and other vulnerable populations (Brian, 2020). Teledentistry is a good source for remote dental screening, consultation, and treatment planning. Teledentistry is possible with a smartphone, iPad, or laptop.

Methods

- Rapid systematic review
- PubMed and Cochrane library electronic database
- Primary search individual or MeSH terms
- Inclusion criteria
  - Peer reviewed articles related to tele dentistry, COVID-19, and impact on oral healthcare delivery
  - Articles published from Jan 2020 to Jan 2021.
- Exclusion criteria
  - Implant therapy, elective procedures like esthetics and orthodontics articles not related to COVID-19
- Date extraction and management
  - PRISMA protocol

PRISMA Diagram

**Identification**
- Records identified through database searching (n = 186) (PubMed = 138; Cochrane Library = 27)
- Additional records identified through other sources (n = 6)

**Screening**
- Records after duplicates removed (n = 185)
- Records excluded (n = 162)

**Eligibility**
- Full-text articles assessed for eligibility (n = 23)
- Excluded articles with reasons (n = 17)

**Included**
- Studies included in final review (n = 6)

Results

<table>
<thead>
<tr>
<th>Authors, year &amp; country</th>
<th>Interventions</th>
<th>Key findings</th>
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</thead>
<tbody>
<tr>
<td>Blackhall et al., 2020, UK</td>
<td>Multi-center study</td>
<td>1) Many injury related consultations can be managed by remote consultations (67%)</td>
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<tr>
<td>Giudice et al., 2020, Italy</td>
<td>Pilot study</td>
<td>Oncology surgical and nonsurgical follow ups done with photo collection 1) 32.7% post-operative follow-up 2) 46.2% oral pathology follow-up 3) 21.1% first dental evaluation</td>
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<tr>
<td>Barca et al., 2020, Italy</td>
<td>Observational study</td>
<td>Oncology consultation 1) 78% easy to participate 2) 80% preferred video consultation 3) 97% doctors are satisfied</td>
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<tr>
<td>Sutur, N. 2020, USA</td>
<td>Practice brief</td>
<td>1) Teledentistry allows for adaptability for patients and dental team</td>
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<tr>
<td>Rahman et al., 2020, UK</td>
<td>Survey</td>
<td>1) 91% patient happy with the ease of use 2) 97% satisfied with teledentistry over telephone clinic 3) 97% agreed to increased access</td>
</tr>
<tr>
<td>Yang et al., 2020, China</td>
<td>Observational study</td>
<td>1) 99% adapted teledentistry in public tertiary dental hospitals</td>
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</table>

Discussion

The rapid review shows that teledentistry was useful in
- Increasing patient access
- Triageing patient and assess who needs dental procedures to be done
- Benefited the oncology surgery follow-up patient
- Patient satisfaction
- Risk free environment
- Preferred video consultation over telephonic
- Patient privacy and confidentially maintained
- Provider acceptance
- Easy to participate
- Able to assess patient cases with photos and test results

Conclusion

- Teledentistry can be used routinely in dental practice and hospitals
- Access in remote areas can be increased
- Waiting time, travel time and cost can be reduced.
- Older and vulnerable population can benefit

Acknowledgement

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