



ORIGINAL RESEARCH PAPER

Dental Science

DENTISTRY IN THE POST QUARANTINED ECONOMY – THE COVID-19 EFFECT

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ABSTRACT

Dentistry is looking at very tough times ahead owing to the ongoing global pandemic of Covid-19. Owing to the proximity with oral cavity (one of the main hub of infection) for dental work, dentistry for sure is going to be the most affected profession and probably the last to get back on track. While the future shape is yet uncertain, the article attempts to summarize the plight of dentists and a brief roadmap of times ahead.

“Things may never be the same again” – Peter Paphides

Current global phenomenon that humanity is witnessing has and continues to affect every living being in ways that were incomprehensible just a few months ago. In the realms of our very settled, sorted and busy lives, who would have thought of staying confined to their home for weeks doing nothing. None had imagined a threat so boundless that would knock down all barriers of continents, nations, religion, caste and economic status. The world stands united today in their efforts to find a cure for this global pandemic. Despite their best efforts, researchers could make this possible at best, sometime next year. Till then it is only prevention and precaution that can sail us through.

Every human being is at risk of contacting the novel corona virus irrespective of his/her place in the global ecosystem. However, the level of risk of getting infected may not be the same for all. Those who are and can continue to remain under lockdown without any contact with the outside world are safest. This may not be a feasible option for many. Those involved in catering to essential services like: healthcare providers, police professionals etc are more vulnerable to getting infected.

We are aware of the risk to health care workers, even from the most initial data that came out of Wuhan, China. Of the initial 44,672 cases, 3,019 (6.75%) were health workers and seven had died. With increasing awareness and the uniform adoption of personal protective equipment, the risk decreased progressively in Hubei. Dental professionals are particularly at risk if working on an infected patient or an asymptomatic carrier because of the close contact with the patient and the risk of blood, saliva and droplet exposure. In Italy, seven dental professionals died of COVID-19 during the initial stages of the pandemic.

More important for the health care fraternity is to fathom how the medical world would function, once the present high tide settles down. Guidelines are being formulated the world over for medical professionals dealing directly at the frontline with Covid-19.

EXISTING DENTAL HEALTH SCENARIO

Dental health has remained one of the most neglected aspects of our overall physical health; more so in the India. Indian health scenario has forever witnessed grave neglect of dentists / dentistry, be it the government or public. Government has never had sufficient job opportunities for dentists as compared to other medical specialties. Public has always neglected their dental health, permitting disease progression and thereafter complaining about expensive dental treatment.

Like every human being and every profession in the world, dentists and dentistry has been immensely affected due to

the Covid-19 pandemic. Dental procedures require working closely with the 'hub of infection centres' in the human body (oral cavity, the nasal cavity and eye fluids). The production of aerosols during most dental procedures further worsens the risk of contacting infection for the dentist and the support staff alike.

PRESENT CHALLENGES FOR THE DENTIST

1. No income due to total shutdown of clinics for months.
2. Continued basic expenses (rent, staff salary, electricity bio medical waste bills etc).
3. Bigger, older setups are managing with reserves, whereas small dental setups are facing fears of near shutdown as they cannot sustain like this for long.
4. Even if some dental emergency case is to be dealt with during lockdown, it is with a very high risk of infection.

Greater probability of contacting infection from a known Covid-19 +ve patient and / or asymptomatic carrier, compared to any other medical specialty, who can maintain distance even while giving treatment. This is not possible in dentistry.

5. Difficulty in procuring expensive PPE.
6. Ambiguity with guidelines for proper protocol of operating in case of dental emergencies as guidelines are still evolving and changing.

FUTURE CHALLENGES FOR THE DENTIST

Addition Of Staff / Infrastructure

By virtue of closely working with the epicentres of the virus infection as mentioned above, there would be the need for incorporation of major modifications to the dental setup. There would be more of requests for online consultation for non-invasive and routine issues thereby requiring fully supported **online services and dedicated staff**.

Addition Of Hardware To The System

Inclusion of hardware for rigorous sanitisation protocols of clinic entry point and internal premises will need to be installed to safe guard the patients. Fumigators will be mandated for clinic sanitation, extraoral suction can significantly reduce the amount of aerosol reaching the operator. Disposable PPE suits, eye gear will be mandatory not only for the dentist but also for the support staff. Such equipment will add to the instruments and the disposable markets that would add up to the market size of the composite Dental Health industry. The customer / patient too will seek for more hygiene related issues.

Use Of Artificial Intelligence And Automation In Dentistry

The social demography will have changed vastly in post corona environment, where we shall witness much less personal contact not only in personal domain but also in professional domain. **'Social distancing'** will be here to stay to become an integral part of our social system. This will

necessitate more computers and AI operated instruments that will enable the practitioner to perform procedures from a safer distance.

Increased Overhead Expenses For The Dental Setup

Multiple factors would account for increased clinic expenses: additional armamentarium and staff, sanitization equipment, personal protective equipment etc.

Impact On COST Of Procedures

With the advent of the '**Social Distancing Era**' and expanded dental armamentarium, the cost of dental procedures will see a substantial increase due to following reasons –

- The waiting lounges will see lower patient density as fewer people will be accommodated in the same set of space. Thus lowering the daily intake of patients, with greater fixed cost, hence the cost per person would increase which will have to be passed on to the patients.
- The cost of automation of the process will surely have the cost jumping northward as the cost of new technology and most sophisticated machines will have to be amortized. In India there is no concept of Dental Insurance (main reason why only affluent class opts for new age procedures like: braces, implants etc). With the cost going up further we may see further filtration of the people opting for such treatments.

Working with PPE that too without air conditioners is bound to be a super challenging task for dentists owing to the fine nature of dental work.

Financial challenges could actually force many small/medium dental setups to shut down even in the long run as patients may not be willing to pay more for dental treatment.

Procurement of necessary permissions from the authorities

This could be a more difficult task even in future for dental setups as compared to other medical specialties.

CHALLENGES FOR THE DENTAL PATIENT

Loss / reduction of income: a situation lurking before every individual is bound to make them rethink their priorities in spending money. Dental health has largely been neglected as public has the notion that dental treatment is expensive and treatment will further take a backseat compared to other basic needs.

More elaborate and time taking protocols will have to be followed even for the simplest of dental visits.

THE ANALYSIS / DISCUSSION

Times are difficult for all. But what will surely get us through is our own will power and patience. May be its time to reboot and restart. Restarting dentistry post the Covid-19 storm is going to be possible only with meticulous planning. IDA and DCI have issued detailed guidelines^{1,2} for required **Protocols Of Disinfection, Sanitization And Protection** in the dental setup, post Covid-19. Minor details of permissions/guidelines may vary from state to state but basic protocols of sanitization / protection are same and must be strictly adhered to.

- Prepare yourself **mentally** for an entirely new form of dentistry.
- Study all issued **guidelines** issued by various dental councils for practice post covid-19 and if possible attend government organized **training sessions** for the same.
- **Strictly adhere to all issued government guidelines for disinfection, sanitization, protection and waste disposal.**
- Detailed **training of staff** to carry out pre-appointment protocols (history of travel, fever, cough, shortness of breath etc, other medical and dental history), thermal screening upon arrival, strict adherence to distancing etc.

- Well **displayed posters about hygiene and social distancing** should be displayed and all **potential fomites** like magazines, newspaper, tv remote etc should **be removed from waiting area.**
- Utmost care should be taken for both **pre and post treatment sanitization** of working area.
- Constant **developments** are taking shape around the world and WHO guidelines are being regularly updated accordingly. It is important to **stay in touch with these new developments** even after starting practice.
- **Stay in touch with patients** via calls / text / e-mail to reassure and let them know that you are working towards a safer setup for them.
- Shift to a **purely appointment based schedule** if not so already so that you and staff are well prepared for each patient.
- As far as possible try to have **separate areas** for consultation and procedures, thereby segregating the areas for required sanitization.
- Can consider doing consultation on plastic chair (easy sanitization) instead of dental chair.
- **Pre-appointment brushing and oral rinse** (chlorhexidene / betadine) just before start of treatment should be mandated.
- Prefer **OPG x-ray** instead of IOPA x-ray where possible.
- Switch to **non-aerosol generating techniques** wherever possible.
- **Limit the number of visits** for each patient by clubbing more work to be done in one appointment, with longer duration of treatment. (E.g., single sitting scaling, single sitting RCTs instead of multiple sittings etc)
- Use **rubber dam** to isolate the working area, free from oral fluids.
- For long duration treatments like orthodontics, promote option of Invisalign instead of regular braces to help reduce number of visits to clinic.

ROLE OF GOVERNMENT TO STIMULATE DENTISTRY POST CORONA

1. Establish standard guidelines for post corona minimum requirement of dental clinic armamentarium and setup.
2. Organize and facilitate training programs for private practitioners to enable them restart practice soon.
3. Ease of accreditation for dental clinics fulfilling all required standard norms.
4. A comprehensive dental and oral health central policy to enhance over all medical health and also as an integral part of the common health program.
5. Comprehensive Insurance charter for general and invasive dental treatment.
6. Providing list of all certified clinics and locations for national and overseas patients in a common domain.
7. Rationalizing the duty structure and providing government subsidies for incorporation of automation hardware at accredited dental clinics, thus easing the cost.
8. Most automated hardware is imported hence costly. Every effort and support should be given from the government to set up manufacturing units in India, thereby facilitating the ease of availability and cost factor.

Dental health or the overall phenomenon of ORAL HEALTH CARE is still at very nascent stage in India where most of the things are confined to higher echelons of the society. Covid-19 pandemic has further worsened the situation for India and the world alike. India however, owing to its excellent work of limiting the extent of the outbreak, definitely has an upper hand compared to most western countries in its potential to '**bounce back**' once this is over.

We have the potency to attain a new global benchmark provided other factors as mentioned above are seamlessly aligned. No one can predict the future. But there is a lot of speculation about what the future holds for dentistry when the pandemic is behind us.

CONCLUSION

The famous proverb ***“This too shall pass”*** seems to be resonating in our ears all over again. Time seems to have come to stand still. We've started distrusting our very own breath. But ***life*** as they say: ***'must go on'***. Nature will give way to life once again as it has done each time it decided to do the 'balancing act'. The ongoing global events are changing not only the way we look at physical health but a greater transformation is shaping up in our awareness towards mental health and more conducive environmental health around us. This time, the universe may have planned an EVOLUTION, primarily in the Human thought process. Human thought process which is largely varied for each stimulus that could have a significant departure from any given set of responses.

The current chain of events being a Global threat, it is bound to leave a far reaching impact on all economies whether developed or developing. All those blessed with better survival skills shall clearly emerge as winners.

“Buckle up, and know that it's going to be a tremendous amount of work, but embrace it” – Tory Burch

REFERENCES

1. <https://ida.org.in/Home/Covid19Alert>
2. [https://www.mohfw.gov.in/pdf/Revised National Clinical Management Guideline for COVID1931032020 .pdf](https://www.mohfw.gov.in/pdf/Revised%20National%20Clinical%20Management%20Guideline%20for%20COVID%2019%202020.pdf)