



## MANAGEMENT OF DENTISTRY DURING COVID-19: AN INDIAN PERSPECTIVE.

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**ABSTRACT** Risk assessment and proper management of dentistry, along with surgical and clinical activities during covid-19, is the burning issue of the world today. This study attempts to underscore the perception of doctors in India during covid-19 outbreak and finds that the health care costs are going to be high enough due to covid-19 screening test as well as sanitization cost. Hence, defining appropriate standards for a patient-centred economic medical examination related to COVID-19 is the biggest challenge for policymakers. The study also suggests that the potential outcome of the pandemic period issues such as 'Government Intervention to Prioritize Public Health,' 'overturning the increase in unemployment,' 'A large monitoring and fiscal stimulus orchestrated globally to support recovery process' and 'International Multilateral Cooperation,' etc.

**KEYWORDS :** COVID-19, India, healthcare expenses, tele-dentistry.

### INTRODUCTION

As saliva can play a pivotal role in human to human transmission, diagnosis of COVID-19 should be mandatory for dentistry for each patient. Recently, COVID-19 is identified in saliva of infected patient. In this point of view, we discuss the impact of COVID-19 to dentistry and Oral care for patient during Covid-19 pandemic. Screening of each patient for COVID-19 in dental professionals should be carried out with the same higher priority as that of medical professionals and health workers. To prevent the spread of Covid-19 virus, protective and preventive steps need to be formulated as the essential protocol.

According to AAE (American Association of Endodontics) President Dr. Keith V. Krell, (as on 7th April, 2020) oral health is related to overall health and may be life-threatening, if a patient has a dental emergency and needs urgent care from a dental professional[3]. There are also guidelines in the blog to screen patients for suspected diseases and procedures to prevent potential infection spread. On 31 March 2020, NHS Greater Glasgow & Clyde Oral Health Directorate Lee Savarrio-Chief of Dentistry is offering an opportunity for tele-dentistry.

Dental and oral surgery procedures including surgery now escalating health care cost and this issue influence Government decision. Defining appropriate guidelines with a patient-centred economic medical examination is of crucial importance to policymakers. The same rule is also applicable for radio-diagnostic examination procedures.

### Discussion about Precautionary Measures

There have been several sanitization initiatives in oral health care in several other countries as well as in India [4] [8]. But the Covid-19 outbreak serves as a pandemic and has a high impact on dentistry. In addition to previous dental hygiene practices, precautionary steps should be taken for doctors as well as healthcare staff. Obligatory use of personal protective equipment (PPE) including goggles, face shields, N-95 mask, gloves, jackets, head-covers and shoe-covers should be used in emergency dental surgery. As the most dental procedures generate significant amounts of droplets and aerosols, routine dentistry has been suspended in several countries including India[10]. Dr. Keith V. Krell opined that by postponing elective procedures and non-emergency appointments, dentists could help prevent infection from spreading and concentrate on patients in need of emergency care. Details guidance has been published by Scottish Dental on 30th March 2020, that "Management of acute dental problem during covid-19 guidance"[9]. Diagnosis of Covid-19[2] and Covid-19 trials from the ICTRP database provide information about clinical trials around the world. The free monitoring app 'COVID-19 Symptom Tracker' has been developed by the health technology company Zoe Global Limited in collaboration with scientists at King's College London, Harvard Medical School, Massachusetts General Hospital and Stanford University[1].

We should be continuously aware of infectious threats which can challenge the current system of infection control in particular in dentistry.

### Dentistry-related expert survey on Indian perspective

Recommendations for health professionals from the Occupational Health and Safety Administration (OSHA), the American Dental Association (ADA) report on COVID-19, and literature on the spread of the disease expected in the upcoming weeks. According to OSHA, dentistry to be a "high-risk" profession and falls under "health-care personnel" in a new document called "COVID-19 Guidance on Workplace Preparedness." [6]

Furthermore, due to high potential of the COVID-19 virus in their droplets, aerosols of affected person, each surface in the clinics must be considered to be a high risk zone, including surfaces, tables, doors etc. that come into contact with patients as well as healthcare professionals must be considered as "potentially infected" as well as allowing a proper periodic exchange of air. Having an alcoholic disinfectant and mask to the patient can be helpful. The entire ventilation system also often needs to be sanitized [5] [7]. A question now arises-who bears the cost? So, the entire healthcare expenses are going high enough as COVID-19 screening test, sanitization of the clinics, etc. Moreover, fear factor plays a crucial role to everyone in this pandemic situation.

We have surveyed the doctors from Jamshedpur region. A sample of 87 doctors who responded was collected randomly. Only the Binary option, i.e. 'zero' for 'no' and 'one' for 'yes', was accepted. After discussing with 87 nos of Doctors (Particularly clinicians), some observations are noted below:

**Table-1 (Descriptive statistics of Survey Questionnaire: Indian perspective)**

Types of Variables		N	Mean	Std. Deviation
Independent variable	Q1 Do you think that the COVID-19 Screening Test is mandatory for each patient?	87	.9540	.21065
Independent variable	Q2 Do you think Government should bear the cost of COVID-19 Screening Test?	87	.9770	.15074
Independent variable	Q3 As a doctor, are you going to ask for a fee for your teledentistry during covid-19?	87	.1954	.39881
Dependant Variable	Q4 Do you think the healthcare expenses are going to get high enough for average people?	87	.8391	.36959
	Q5 Do you think that you have change your profession (carrier option) in future?	87	.0230	.15074

Source : Authors' Own calculation

As the Std. deviation is not more than .39 so we can assume that doctors are indifferent to their views.

We have seen that Q1 is almost accepted among the 87 physicians, i.e. "COVID-19 Screening Test is obligatory for each patient," so Q1 is not

included in logistical regression because it is perfectly predicts and hence omitted. Similarly Q5 also omitted as everybody is denied to change their profession.

This paper explores whether there is a general direction towards "safety" in terms of sustainability (i.e. health, economy and their quality of life of citizen of India.)

Risk analysis to fit the new experience during the pandemic period, we modelled the risk associated with economic impact as a liner combination of  $X_1$ =Covid\_screening of each patient,  $X_2$ =Macro Financial Package,  $X_3$ =individual economic aspect,  $X_4$ = Healthcare expenses and here, error term

$$Y_i = \beta_0 + \beta_1 Q_1 + \beta_2 Q_2 + \beta_3 Q_3 + \epsilon$$

$Y_i$  = Healthcare\_expenses<sub>i</sub>,  $Q_1$  = Covid\_Screening<sub>i</sub>,  
 $Q_2$  = Macro Financial Package<sub>i</sub>,  
 $Q_3$  = individual\_economic\_aspect<sub>i</sub>, and  $\epsilon$  is error term.

Measuring the Significance of the Model is given below:

**Table-2 (Generalised linear models in STATA software)**

Survey: Generalized linear models

Number of strata	=	1	Number of obs	=	87
Number of PSUs	=	2	Population size	=	87
			Design df	=	1

Yi	Linearized		t	P> t	[95% Conf. Interval]	
	Coef.	Std. Err.				
Q2	0	(omitted)				
Q3	.0117647	.0232526	0.51	0.702	-.2836875	.3072169
_cons	.9882353	.0232526	42.50	0.015	.6927831	1.283688

Source : Authors' Own Calculation

In this study, Generalised linear model has been used as it is based on opinion poll. It is useful framework for computing how several variables affected different continuous variables. The model is fitted via maximum likelihood estimation. Here,  $Y_i$  is assumed to be a dependent variable (in questionnaire it is Q4), i.e. "healthcare expenses are going to be high enough for an ordinary individual", Q2, is omitted due to high collinearity, as all respondents are almost given the same response, (i.e. Government should bear the Covid-Test cost). Q3 i.e teledentistry fees have a p value of more than .05 and hence it is not significant, with healthcare costs. Overall p value is less than 0.05, it can be assumed that in India, doctors concluded that health care costs are going to be high even though the Indian Government should bear/ subsidizes the expense of the COVID-19 Screening test. The greatest challenge for policymakers is thus to define appropriate standards for a patient-centred economic medical examination

**CONCLUSIONS**

We, therefore, conclude that there is a significant limitation of both clinical and surgical activities in the medical and dental sectors and that this has a significant impact on the economy of the sector as well. However, substantial intervention by the Government and the top medical research organization is needed to control the spread of coronavirus and to protect the health of citizens. The strategies and assessment packages implemented by Governments are also communicated to all dental organisations, setting out specific recommendations for avoiding and managing COVID-19 infection during oral diagnosis and in everyday practice before proper treatment is available.

**Suggestions to get rid of**

Once the pandemic abets and containment measures are lifted, there is substantial uncertainty on span to normalise economic activity. The economic consequence of this epidemic shock can be delineated into damage, direct loss and indirect loss. Direct losses include lost income, and output due to death and illness as well as healthcare costs.

**a) Government Intervention to prioritise public health**

Government intervention in public health as well as health insurance is mandatory for COVID-19. However, as projected by the IMF, the second outbreak of the virus is anticipated to begin in 2021 and financial constraints are anticipated to be tightened twice leading to a bigger impact on economic activity.

**b) Scope of Employment**

Uncertainty over contagion can contribute to persistent voluntary social distancing and decreased consumer demand for services. Organizations may begin hiring employees and expanding the payroll to boost employment.

**c) Monetary and Fiscal Stimulus**

A broad monetary and fiscal stimulus coordinated internationally to boost recovery phase. Prepare a strong policy framework and ensuring inflation under control during recovery phase. Supply-chain disruption and shortages will contribute to inflation-inducing price escalation.

**d) Global Multilateral Cooperation**

Reduction of tariff and non-tariff restrictions global supply chain to promote global financial recovery by multilateral aid, including grants and debt relief. Relaxation of global supply chain tariff and non-tariff restrictions to facilitate global financial recovery through multilateral assistance, including grants and debt relief; a multilateral initiative are required to prevent pandemic disease and strengthen health-care infrastructure, such as the provision of vital medicines across borders.

**Scope of Further Research:**

Government intervention in public health as well as health insurance is mandatory for COVID-19. However, as projected by the IMF, the second outbreak of the virus is anticipated to begin in 2021 and financial constraints are anticipated to be tightened twice leading to a bigger impact on economic activity.

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