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## Socioeconomic challenges and coping strategies against COVID-19 among dentists of Nepal

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### Abstract

**Introduction:** COVID-19 has posed various challenges to health care professionals including dentists. We aimed to study financial impact, socio-economic challenges, coping strategies and areas where dentists of Nepal require support during the current pandemic.

**Method:** A descriptive study was conducted among registered dentists who were currently involved in clinical practice in Nepal. Data was collected via semi-structured online google form during the period of August – October 2020 through non-probability sampling. The online responses from google forms were transformed to datasheets which were analyzed using Microsoft Excel and summarized using descriptive statistics.

**Result:** More than a quarter (127, 29.8%) of the dentists were not able to practice dentistry during the pandemic. Among the salaried dentists, 113 (34.2%) of them did not receive any salary and 67 (15.7%) lost their jobs. More than 50% percent of decline in monthly income was experienced by 80 (18.7%). The most common challenge faced by the dentists was reduced income (95.2%) followed by access to PPE and sanitizers (72.9%). Social distancing was the most common (87.2%) coping strategy followed by strict use of PPE (86.9%), acquiring correct information regarding prevention of COVID-19 (76.8%). Provision of PPE was the area where 147 dentists needed the most support (36.4%) followed by cash allowance (31.7%) and rent waiver (28.4%).

**Conclusion:** The study showed that dentists in Nepal are facing serious financial challenges due to the current pandemic. The current study highlights a need to create a support system for dentists to sustain their clinical practice during the pandemic.

**Keywords:** COVID-19, coping mechanisms, dentists, financial impact

## Introduction

The pandemic of Corona Virus Disease 2019 (COVID-19) has posed an unprecedented challenge to the service provision industries like health care including dentistry.<sup>1</sup> Since the virus is transmitted primarily through droplet spread or contact routes<sup>2,3</sup> many health regulatory bodies globally have advised their registered dental practitioners to perform only emergency dental procedures and avoid all elective treatments.<sup>4,5</sup> Also, there is no clear consensus on the continuation and resumption of dental practice in coming days following this pandemic. The nature of oral health services exposes dental practitioners to high risk of cross infection and need to adapt to constantly changing information made providing dental care complex. Furthermore, there is significant reduction in service utilization which can make dental practitioners vulnerable to various social and economic challenges. Thus, these times require a due attention to physical, mental and psychological wellbeing of dentists.<sup>3</sup> Several healthy coping strategies have been recommended,<sup>6</sup> but information on coping mechanisms used by Nepalese dentists is scarce. Thus, this study was planned with an aim to study current financial situation, socio-economic challenges, coping strategies and areas where dentists of Nepal require support during the COVID-19 pandemic.

## Method

A descriptive, cross-sectional study was planned and data was collected from August to October 2020 i.e., during the first wave of COVID-19 pandemic among dentists of Nepal. Due to the ongoing COVID-19 pandemic, data for this research was collected with the help of online platforms through google forms. Ethical approval was taken from Nepal Health Research Council (ERB Protocol Registration No. 547/2020 P) before the commencement of the study and informed consent was taken from the study participants. All the dentists with BDS degree registered in Nepal Medical Council (NMC) and currently practicing clinical dentistry were included in the study. As we had

no reference of prevalence of socio-economic challenges faced by dentists in Nepal, we used prevalence(p) of 50% to calculate the sample size. With absolute precision of 5% and desired confidence level of 95%, the sample size was estimated to be 384. We adjusted the sample size for non-response rate of 10% and the final sample size was 423 clinically practicing dentists. As per 31<sup>st</sup> December 2019, 3200 dentists have been registered at the council.<sup>7</sup> According to a previous study in Nepal, 58% of the registered dentists are professionally active and practicing clinical dentistry i.e., 1856 in the year 2020.<sup>8</sup> The email addresses of all the dentists registered in NMC were retrieved. Three rounds of emails were sent. The first e-mail was to inform dentists regarding the objectives of the study along with the consent form. After receiving the consent form, the second e-mail was sent which contained the questionnaire. After a week, reminder email was also sent to all the dentists. We also sent two rounds of reminder Short Message Service (SMS) to all the dentists with the link to the study questionnaire. Both reminder emails and SMS were sent to improve response rates in online study.<sup>9</sup> The study tool was a semi-structured questionnaire which was prepared with the help of literature review and discussion among the researchers. The questionnaire consisted of variables related to socio-demographics, financial impact on dental practice, socio-economic challenges, coping strategies and required support. Face and content validity of the study tool was verified by the research team. For reliability, pilot testing of the survey questionnaire was conducted via email on 30 dentists<sup>10</sup> to make sure that respondents understood the questions. After the responses were received from the pilot study, follow up was also done through telephone regarding the flow of questions, ease of answering and willingness to answer. The online responses from google forms were transformed to datasheets which were cleaned and analyzed using Microsoft Excel. The data was summarized using descriptive statistics like mean, standard deviation, proportions and were displayed through frequency distribution tables.

## Result

Questionnaires were received from 427 dentists from 28 districts. A total of 245(57.4%) dentists were working for private dental practice and more than two-thirds (330, 77.3%) working on a salary basis. About one-fifth (81,19.0%) were the sole earning members of the family and more than one thirds (183, 42.8%) of the dentists had a loan to be paid, Table 1.

More than a quarter (127, 29.8%) of the dentists were not going to work during the pandemic due to reasons such as shutting down of the clinic/hospital (91,71.6%), increase in cases of COVID-19 (11, 8.6%) and decrease (9, 7.1%) in patient flow etc. Among the salaried dentists, 113(34.2%) of them did not receive any salary and 67(15.7%) lost their jobs. The total expenditure had increased for

**Table 1. Socio economic information of the dentists. (N=427)**

Variables	Attributes	Number(N)	Percentage(%)
Age category (in y)	≤25y	43	10.1
	26–35y	223	52.2
	36–45y	139	32.5
	>45y	22	5.2
Age (Mean±SD)	33.7±6.7y		
Sex	Female	218	51.1
	Male	209	48.9
Highest Qualification	Bachelor	204	47.8
	Masters	219	51.3
	MFGDP	03	0.7
	PhD	01	0.2
Current Primary Occupation	Private practice	245	57.4
	Teaching institution	126	29.5
	Government hospital	48	11.2
	Unemployed	04	1.0
	Community hospital	02	0.5
	Non-Governmental Organization	01	0.2
	Public health concern trust	01	0.2
Type of primary practice	Salaried	330	77.3
	Self - employed	97	22.7
Duration of dental practice	≤1y	42	09.8
	2–5y	122	28.6
	6–10y	115	26.9
	11–15y	80	18.7
	>15y	68	15.9
Sole earning member of family	Yes	81	19.0
	No	346	81.0
If yes, number of family members to support (N=81)	1–3	30	37.0
	4–6	44	54.3
	>6	07	08.6
Currently any loan to be paid	Yes	183	42.8
	No	244	57.2
If yes, type of loan (N=183) Multiple responses	Home loan	82	44.8
	Vehicle loan	61	33.3
	Education	43	23.5
	Clinic/business loan	14	07.7
	Others (land, medical, gold)	17	09.3

**Table 2. Financial impact of COVID-19 on clinically practicing dentists. (N=427)**

Variables	Attributes	Number(N)	Percentage(%)	
Work during pandemic	Yes, as usual	37	08.6	
	Less than usual	263	61.6	
	No	127	29.8	
Reasons for not working (N=127)	Clinic/hospital was shut down	91	71.6	
	Increase in COVID-19 cases	11	08.6	
	Less / no patients	09	07.1	
	Unemployed	04	03.1	
	Others (out of country, exam prep.)	04	03.1	
	Was not called by the clinic	03	02.4	
	Following guidelines	03	02.4	
	No transportation	02	01.6	
	Status of received salary (N=330)	Full salary received	140	42.4
		No salary received	113	34.2
Partial amount received		77	23.3	
Loss of job during the pandemic	Yes	67	15.7	
	No	360	84.3	
Permanent closure of dental practice	Yes	24	05.6	
	No	340	79.6	
	Non response	63	14.8	
Current take home income compared to time before pandemic	More	10	02.3%	
	Equal	59	13.9	
	Less	358	83.8	
Total Expenditure during COVID-19 pandemic	Increased	184	43.1	
	No difference	140	32.8	
	Decreased	103	24.1	
Additional spending on PPE during the pandemic	Yes	339	79.4	
	No	55	12.9	
	Not sure	33	07.8	
Decline in total patient volume	76% or more	53	12.4	
	51%–75%	82	19.2	
	25–50%	174	40.7	
	11–24%	31	7.3	
	5–10%	27	6.3	
	<5%	13	3.0	
Decline in volume of income	76% or more	56	13.1	
	51%–75%	80	18.7	
	25–50%	152	35.6	
	11–24%	28	6.6	
	5–10%	20	4.7	
	<5%	25	5.9	
Concern regarding financial position	Not concerned at all	11	02.6	
	Mildly concerned	136	31.9	
	Very concerned	249	58.3	
	Urgently concerned (immediate support)	31	07.3	

184(43.1%) of the dentists and 339(80%) of them spent additional amount on infection prevention practices like use of sanitizers, personal protective equipment (PPE), disposable patient gowns etc. More than 50% percent of decline in monthly income was

experienced by 80(18.7%) and there were serious concerns regarding financial position among 249(58.3%) dentists, Table 2. The most common challenge faced by the dentists was reduced income (398,95.2%) followed by

**Table 3. Socio-Economic Challenges faced by dentists due to COVID-19 pandemic. (N=418)**

Socio economic challenges (multiple responses)	Response	
	Number(N)	Percentage (%)
Reduced income	398	95.2
Access to personal protective devices and sanitizers	305	72.9
Reduced work hours	262	62.7
Access to correct official information regarding response to COVID-19	236	56.4
Dependency and family insecurity	208	49.8
Access to psychosocial support	199	47.6
Access to basic necessities, such as food, medicines and PPE	176	42.1
Temporarily unemployed because of COVID-19	154	36.8
Double workload (working and taking care of children due to school closure)	145	34.7
Not enough money to purchase essential supplies	103	24.6
If others, please specify ( <i>high risk with less return</i> )	01	0.2
No challenges at all	09	02.1

**Table 4. Coping strategies adopted by dentists to face COVID-19 pandemic. (N=423)**

Strategies (multiple responses)	Responses	
	Number (N)	Percentage (%)
Avoiding going out in public places or social distancing to minimize exposure from COVID-19	369	87.2
Follow strict use of personal protective measures (mask, handwashing etc.)	368	86.9
Getting correct information about the COVID-19 situation (prevention, control and treatment)	325	76.8
Staying connected with friends and family	252	59.6
Engagement in self-care practices like exercise, yoga, meditation, music, reading books	228	53.9
Try to be busy at home in activities that would keep my mind away from COVID-19 like cooking, gardening etc.	211	49.9
Play online games, computer games, TV shows etc.	177	41.8
Use of alcohol/tobacco/recreational drugs	13	3.1
Others, specify, ( <i>writing research protocols</i> )	01	0.2

**Table 5. Areas in which dentists required support during the COVID – 19 pandemic. (N=423)**

Areas for Support	Needed the least Number (N), (%)	Somewhat needed Number (N), (%)	Needed Number (N), (%)	Much Needed Number (N), (%)	Needed the most Number (N), (%)
Personal Protective Equipment (PPE)	16 (3.9)	39 (9.7)	139 (34.4)	63 (15.6)	147 (36.4)
Appropriate training in infection prevention and control	53 (13.9)	64 (16.9)	111 (29.3)	49 (12.9)	102 (26.9)
Psychosocial support	41 (10.9)	79 (21.2)	134 (35.9)	62 (16.6)	57 (15.3)
Dental supplies	32 (9.0)	72 (20.4)	150 (42.5)	60 (16.9)	39 (11.1)
Medicines and drugs	49 (14.9)	65 (19.8)	114 (34.7)	53 (16.1)	47 (14.3)
Cash allowance/tax benefits/ financial support	16 (4.3)	52 (13.9)	122 (32.5)	66 (17.6)	119 (31.7)
Rent Waiver	50 (15.6)	29 (9.1)	91 (28.4)	59 (18.4)	91 (28.4)

access to PPE and sanitizers (305,72.9%), reduced work hours (262,62.7%), access of correct official information (236,56.4%), feelings of dependency and insecurity (208,49.8%), access to psychosocial support (199,47.6%), Table 3.

Social distancing was the most common coping strategy adopted by 369(87.2%) dentists followed by strict use of PPE (368,86.9%), acquiring correct information regarding prevention of COVID-19 (N=325,76.8%), staying connected with friends and family (252, 59.6%) and engagement in self-care practices like yoga, meditation (228, 53.9%) while 13(3.1%) dentists tried to cope with use of alcohol, tobacco or recreation drugs, Table 4.

Provision of PPE was the area where 147(36.4%) dentists needed the most support followed by cash allowance (119, 31.7%), rent waiver (91, 28.4%), appropriate training on infection prevention and control (102, 26.9%) and psychosocial support (58,15.3%), Table 5

## Discussion

In the current study, majority of the respondents were female which was also seen in a situation analysis study of dentists in Nepal.<sup>9</sup> More than half of the participants in the current study belong to the age group of 26–35y 223(52.2%), were from Kathmandu 232(54.3%) and had private dental practice 245(57.4%). These findings were similar to a study done among Nepalese dentists during the pandemic.<sup>11</sup> About one fifth (81,19%) of the respondents were sole earning member of the family and more than two thirds (183,42.8%) of the dentists had a loan to be paid. This reflects mounting financial pressure on dentists of Nepal. Also, while many countries are supporting their citizens with sophisticated health safety-nets and various relief funds, developing countries like Nepal is facing unique challenges with vulnerable populations and limited resources to respond to the pandemic.<sup>12</sup>

In the current study, more than a quarter (127, 29.8%) of the dentists were not going to work during the pandemic due to reasons such as shutting down of the clinic/hospital, increase in cases of COVID-19 and decrease in patient flow. Similarly, a survey done among dentists of 30 countries showed that they were deferring patients due to anxiety and fear, performing emergency treatment only, or closing down practices for an uncertain period.<sup>13</sup> The total expenditure during COVID-19 pandemic had increased for more than one third (184, 43.1%) of the dentists in Nepal. Global trends also show that some industries are experiencing decline, but on the other hand, consumers are also spending more compared to pre-pandemic levels on some necessities such as groceries and household supplies, at-home entertainment etc.<sup>14</sup> Also, 339 (79.4%) of the dentists in Nepal are spending additional amount on PPE during this pandemic which has incurred higher costs for providing dental services. Reports suggest that on an average, dentists in U.S. are spending 11.10 USD more per patients on PPE than they were before the pandemic.<sup>15</sup>

The total patient volume and income declined by 25–50% in practice of more than one thirds (174, 40.7%) of dentists. This finding was similar to the first wave of survey of over 19,000 dentists conducted by American Dental Association.<sup>16</sup>

Dentists in Nepal are struggling with increased costs, decreased revenue and current loans. As a result, more than half of the dentists (249, 58.3%) were very concerned regarding their financial position while 31(7.3%) required immediate financial support. Dentists in Northern Ireland and Scotland have also made several pleas for financial support.<sup>17</sup> Also, in efforts to reduce economic burden, U.S. has initiated various financial assistance programs for dental practices through third party payer, and various dental regulatory bodies in many high-income countries have provided support to dentists.<sup>18</sup> However, no visible policy to support dental practices in this difficult time has been put forward by governments or



dental regulatory bodies in low- and middle-income countries.<sup>19</sup>

Almost all (418,97.9%) the dentists faced socio- economic challenges in the current COVID-19 pandemic. The most common challenge faced by the dentists was reduced income (398,95.2%) followed by access to PPE and sanitizers (305,72.9%), reduced work hours (262, 62.7%), access of correct official information (236, 56.4%), feelings of dependency and insecurity (208, 49.8%), access to psychosocial support (199, 47.6%) etc. Dentists feel a moral duty to reduce regular work to avoid spreading the infection among their relatives and patients. However, they also have a great concern about the financial consequences of a lockdown.<sup>20</sup> Availability of medical supplies and PPE have been identified as a major public health challenge in Nepal.<sup>21</sup> The challenges such as access to PPE, correct information, cost of dental treatment etc. are being experienced by dentists in India as well.<sup>22</sup> Along with it, research shows that psychological aspect of the pandemic has not been thoroughly dealt with by the government. An online survey conducted during the COVID-19 outbreak in Nepal showed that nearly three-quarters of the respondents perceived their stress levels to be moderate to high.<sup>23</sup> The research evidence shows that job insecurity and financial concern during the COVID-19 pandemic are associated with worse mental health.<sup>24</sup>

Social distancing was the most commonly (369, 87.2%) adopted coping strategy by the dentists to face the current COVID-19 pandemic followed by strict use of PPE (368, 86.9%) and acquiring correct information regarding (325, 76.8%) prevention of COVID-19. These have been recognized as effective mitigating strategies to fight the COVID-19 pandemic globally.<sup>25</sup> More than half (252, 59.6%) of the dentists in Nepal coped by staying connected with friends and family and engagement in self-care practices like yoga and meditation (228, 53.9%). Taking care of oneself, keeping in touch with family and friends, and finding sources of inspiration and joy are strongly

recommended coping strategies.<sup>26,7</sup> A small percent (13, 3.1%) in the current study resorted to cope with use of alcohol, tobacco or recreation drugs, which can be of concern in times to come.

Rapid Pulse survey conducted by WHO in 105 countries, dental care and rehabilitation services have been deliberately suspended due to government policies in half or more countries.<sup>27</sup> These policies make the dentist requiring support in different domains which was showed in current study too. Availability of PPE (147, 36.4%) was an area where dentists of Nepal needed the most support. Lack of PPE for health care personnel has been experienced in majority of the countries revealing epidemiological and governmental deficiencies to prevent the spread of the disease.<sup>28</sup> Financial support in form of cash allowance (119, 31.7%) and rent waiver (91, 28.4%) was another important concern of dentists of Nepal. Dentists of Nepal have also expressed that psychosocial support (62,16.6%) was much needed. Study has shown that remote psychological support in the form of daily free text messages, phone calls and video calls are helpful to those in isolation or lockdown.<sup>29</sup> A total of 111 (29.3%) of dentists also felt the need for appropriate training on infection prevention against COVID-19. According to a survey among Jordanian dentists, 53% of them had received training on IPC measures.<sup>30</sup>

There are a few limitations of the current study. Firstly, as it was an online survey, the study results are based on responses from those who have access to internet leading to sampling bias. Furthermore, lack of opportunity for rapport building might have led to response bias as well. Due to use non-probability sampling and response from only 427 dentists, the external validity of the study results is rather low.

## Conclusion

The study shows serious financial issues among the clinically practicing dentists of Nepal during

the COVID-19 pandemic. Decrease in patient volume, loss of income, additional expenditure on PPE and ongoing responsibilities of payment of loans has exposed dentists to various socio-economic challenges. The dentists have adopted social distancing, use of PPE, getting connected with friends and family and engagement in self-care practices etc. to cope with the current situation. They expressed need for utmost support for PPE, financial incentives, IPC training and psychological support. This study reflects on the need to create a support system for dentists to sustain their clinical practice during the pandemic.

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### Conflict of Interest

None

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### Author Contribution

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