

## SHORT COMMUNICATION

# Experience on reopen dental services of Hospital of Stomatology Wuhan University in COVID-19 crisis

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In January 2020, the School and Hospital of Stomatology, Wuhan University, was at the epicenter of the COVID-19 pandemic in Wuhan, China. During the early stage of the pandemic, routine dental practice was suspended and only emergency dental cases were treated (Meng et al., 2020). The patient inflow dropped dramatically to 0–24.9% of that from 23 February to 19 April last year, and the use of high-speed handpieces, ultrasonic scaling, and a tray setup for impacted teeth extraction, was avoided as much as possible.

With the control of the COVID-19 pandemic in China, the outpatient service of our hospital was resumed in April 2020. We addressed the psychological issues among the oral healthcare professionals, which may have occurred as a result of the stress caused by the outbreak (Meng et al., 2020). The mental health status of our 1010 staff was assessed with the support of the Department of Psychiatry, Renmin Hospital of Wuhan University (Lai et al., 2020). The result showed symptoms of depression [468 (46.3%)], anxiety [262 (25.9%)], insomnia [144 (14.3%)], and distress [625 (61.9%)], indicating the psychological burden of our staff. Thereafter, we organized lectures on mental health, set up specialized areas for amusement and relaxation after work, and established an online platform for psychological relief. In the clinic, we executed the principles of “three zones and two passages” similar to the Department of Infectious Diseases and set up two isolated areas for doffing of personal protective equipment (PPE). During the transitional stage, an online booking system was developed on the WeChat app, and patients who successfully made the booking and passed the pre-check triage would receive dental treatment. These measures helped to eliminate the panic among oral professionals and patients. Besides, we adjusted the payment to increase the income of dental professionals returning to work. The patient inflow

increased gradually from April 2020 to August 2020 (Table 1). In the early stage, although the patient inflow had increased, the use of dental equipment producing droplets and aerosols was still low. For example, in the first two weeks (weeks 17 and 18) since the resumption, only 70 in over 1899 patient visits (3.69%) were treated with such equipment, compared with 6219 in 11,451 (54.31%) in the same period last year, reflecting psychological burden in our staff. With all the measures taken by our hospital, dental professionals were more willing to use these dental instruments to treat patients. It was in September when all the students and dental residents were allowed to resume work at our school and hospital. The prevention and control measures for COVID-19 were followed consistently while we designed reusable gowns to decrease the expense on PPE. The clinical work of our hospital has been fully resumed to normal service.

In the early August 2021, several locally transmitted COVID-19 cases were reported in Wuhan. Control and prevention measures had been reactivated in the city since August 3. The patient visits reduced in the following two weeks (5758/4200). By the third week, patient visits (6208) had climbed up with the control of COVID-19 (Table 1). During the period, the outpatient service of our hospital was not suspended and the ratio of the number of used dental instruments to patient visits was stably around 35%. It reflected those effective strategies in our hospital improved mental health of our staff, which enabled our staff willing to perform routine dental operation even under the emergence of another new COVID-19 cases.

The road to reopen routine dental services safely requires attention on psychological health of dental professionals once the crisis of the pandemic has resolved. We hope that our experience helps

**TABLE 1** Patient visits from four departments of cariology and endodontics, periodontology, oral surgery, and orthodontics, and disinfection of dental instruments used in these departments, including high-speed handpieces, ultrasonic scalers, and trays setup for impacted teeth extraction from January to December in 2019 and 2020, and from July 26 to August 22 in 2021 in School and Hospital of Stomatology, Wuhan University (WHUSS)

2019		2020		2021	
Week	Usage of dental instruments/patient visits	Week	Usage of dental instruments/patient visits	Week	Usage of dental instruments/patient visits
1	52.84% (2373/4491)	1	57.85% (2991/5170)		
2	52.87% (3418/6465)	2	45.76% (3349/7319)		
3	49.61% (3605/7267)	3	42.54% (3445/8098)		
4	48.76% (3648/7482)	4 <sup>a,e</sup>	43.23% (805/1862)		
5	50.93% (2880/5655)	5 <sup>e</sup>	0.00% (0/128)		
6 <sup>e</sup>	0.00% (0/346)	6	0.00% (0/45)		
7	50.21% (3404/6779)	7	0.00% (0/17)		
8	48.18% (3610/7492)	8	0.00% (0/15)		
9	50.07% (3646/7282)	9	-(0/0)		
10	52.17% (3820/7322)	10	0.00% (0/46)		
11	52.89% (3929/7428)	11	0.00% (0/203)		
12	55.34% (3661/6615)	12 <sup>b</sup>	0.00% (0/188)		
13	54.71% (3744/6843)	13	0.56% (2/360)		
14	57.80% (3244/5612)	14	1.15% (6/524)		
15	52.29% (3752/7176)	15 <sup>c</sup>	2.91% (16/550)		
16	53.96% (3852/7138)	16	0.16% (1/629)		
17	52.21% (3724/7133)	17 <sup>d</sup>	3.34% (31/927)		
18	57.78% (2495/4318)	18	4.01% (39/972)		
19	54.79% (3721/6791)	19	9.29% (218/2347)		
20	52.72% (3621/6868)	20	25.11% (883/3516)		
21	54.54% (3838/7037)	21	33.22% (1213/3651)		
22	53.59% (3674/6856)	22	41.12% (1769/4302)		
23	54.48% (3004/5514)	23	43.74% (2044/4673)		
24	54.30% (3492/6431)	24	44.46% (2208/4966)		
25	53.14% (3122/5875)	25	44.44% (2204/4960)		
26	47.91% (3516/7339)	26	46.99% (1788/3805)		
27	47.19% (3964/8400)	27	47.17% (2383/5052)		
28	46.82% (3604/7698)	28	44.72% (2460/5501)		
29	48.56% (3739/7699)	29	48.03% (2351/4895)		
30	49.90% (3704/7423)	30	47.28% (2843/6013)		
31	48.53% (3528/7269)	31	46.34% (2724/5878)	31	35.36% (2873/8125)
32	47.57% (3732/7846)	32	47.17% (2924/6199)	32	35.12% (2022/5758)
33	52.36% (3888/7425)	33	46.66% (2777/5952)	33	37.71% (1584/4200)
34	47.68% (3759/7884)	34	46.14% (2811/6092)	34	35.04% (2175/6208)
35	46.17% (3400/7364)	35	45.36% (2832/6243)		
36	53.79% (3762/6994)	36	56.61% (2822/4985)		
37	49.42% (2908/5884)	37	50.03% (3350/6696)		
38	49.99% (3553/7108)	38	51.04% (3443/6746)		
39	62.69% (3760/5998)	39	49.76% (3663/7361)		
40 <sup>f</sup>	36.34% (471/1296)	40 <sup>f</sup>	50.54% (1557/3081)		
41	54.51% (3533/6481)	41 <sup>f</sup>	59.64% (2327/3902)		

(Continues)

TABLE 1 (Continued)

2019		2020		2021	
Week	Usage of dental instruments/patient visits	Week	Usage of dental instruments/patient visits	Week	Usage of dental instruments/patient visits
42	50.33% (3466/6887)	42	49.47% (3589/7255)		
43	51.66% (3770/7298)	43	51.08% (3535/6920)		
44	50.46%(3644/7222)	44	50.86% (3529/6938)		
45	53.10% (3877/7302)	45	50.61% (3624/7161)		
46	51.72% (3690/7135)	46	52.96% (3092/5838)		
47	53.47% (3718/6954)	47	55.23% (3996/7235)		
48	51.35% (3530/6874)	48	51.32% (3622/7058)		
49	56.62% (3711/6554)	49	52.70% (3342/6341)		
50	50.48% (3656/7242)	50	56.91% (3890/6835)		
51	53.35% (3698/6932)	51	55.27% (3637/6581)		
52	54.31% (3563/6560)	52	55.56% (3725/6705)		

<sup>a</sup>Lockdown of the Wuhan city on January 23, 2020.

<sup>b</sup>Wuhan reports zero increase in COVID-19 cases on March 19, 2020.

<sup>c</sup>Lift the lockdown of the Wuhan city on April 8, 2020.

<sup>d</sup>Outpatient service rehabilitated of WHUSS on April 20, 2020.

<sup>e</sup>Chinese New Year (February 4 to February 10, 2019; January 24 to February 2, 2020).

<sup>f</sup>National Day (October 1 to October 7, 2019; October 1 to October 8, 2020).

healthcare organizations and dental professionals in the other regions to safely reopen routine medical and dental services.

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#### CONFLICTS OF INTEREST

We declare no competing interests.

#### AUTHOR CONTRIBUTIONS

**Weiwei Qiao:** Data curation; Formal analysis; Writing-original draft.

**Zhuan Bian:** Funding acquisition; Supervision; Writing-review & editing. **Liu-yan Meng:** Funding acquisition; Methodology; Supervision;

Writing-review & editing.

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#### REFERENCES

- Lai, J., Ma, S., Wang, Y., Cai, Z., Hu, J., Wei, N., Wu, J., Du, H., Chen, T., Li, R., Tan, H., Kang, L., Yao, L., Huang, M., Wang, H., Wang, G., Liu, Z., & Hu, S. (2020). Factors associated with mental health outcomes among health care workers exposed to coronavirus disease 2019. *JAMA Netw Open*, 3(3), e203976. <https://doi.org/10.1001/jamanetworkopen.2020.3976>
- Meng, L., Hua, F., & Bian, Z. (2020). Coronavirus Disease 2019 (COVID-19): Emerging and future challenges for dental and oral medicine. *Journal of Dental Research*, 99(5), 481-487. <https://doi.org/10.1177/0022034520914246>
- Meng, L., Ma, B., Cheng, Y., & Bian, Z. (2020). Epidemiological investigation of OHCWs with COVID-19. *Journal of Dental Research*, 99(13), 1444-1452. <https://doi.org/10.1177/0022034520962087>

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