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The specialty-variation effect on the utilization of outpatient service at the COVID-contained hospitals in Taiwan

To the Editor

Previous studies reported that the COVID-19 pandemic had modified patient care and changed medical behavior in certain medical specialties.^{1–3} However, the evidence regarding the effect of the COVID-19 on the outpatient visits in different specialties was still limited. This study aimed to investigate the utilization of outpatient care according to the specialties in Taiwan during and after the COVID-19 pandemic.

The National Health Insurance (NHI) database of the COVID-contained hospitals from the Taipei Division of the NHI Administration, Taiwan from January 2019 to September 2020 was obtained retrospectively and analyzed by restricted cubic spline analysis. This study was approved by the institutional review board of the National Taiwan University Hospital (202006225RINA) and registered at ClinicalTrials.gov (NCT04497467).

During the study period, there were 31,805,726 outpatient visits at the 32 COVID-contained hospitals. Disparities existed in the utilization of outpatient services between specialties. Three patterns were identified. The first pattern was an initially rising trend, which subsequently declined with a maximal dip in Mar–Apr 2020, and rebounded occurring in pediatrics, dermatology, otolaryngology, rehabilitation, and plastic surgery. The second pattern was a concave trend in neurosurgery and orthopedics with the bottom from Oct 2019 to Jan 2020 (Fig. 1). The third was a straight line that sloped down in pulmonary medicine, family medicine, ophthalmology, and gastroenterology, and sloped up or flat in psychiatry, rheumatology, hematology, neurology, obstetrics & gynecology, urology, cardiology, nephrology, infectious diseases, endocrinology, and general surgery (supplementary files).

The COVID-19 pandemic represents a disruptive challenge in all aspects of health systems. Our results provide

evidence regarding the varying effects of the COVID-19 in outpatient service in specialties in Taiwan. Not all of the specialties were influenced by the COVID-19. To the best of our knowledge, this is the first study to investigate the impact of the COVID-19 on cross-specialty outpatient utilization.

We found the outpatient services in specialties in the first pattern were influenced by the COVID-19. The rebound occurred robustly in pediatrics, otolaryngology, and plastic surgery that the numbers were more increasing even than those during the pre-COVID period. Effective health policies such as border control, case containment, wearing masks in early February,⁴ keeping social distancing, and information transparency to the public⁵ had contributions to the rebound. By contrast, the variation of the visits in other specialties in the COVID-contained hospitals seemed to be unrelated to the COVID. It was possibly explained that the COVID-contained hospitals were at least regional hospitals with accreditations, having capacities and professionalism that patients with urgent needs would visit. Also, patients with COVID-19 were isolated in certain admission wards, far from the outpatient clinics of the COVID-contained hospitals, then causing less impact on outpatient visits. This experience during the first wave of the COVID-19 pandemic will be instructive to health policymakers during potential future waves. Future economic compensation for the patient declines in different specialties during the COVID-19 pandemic would be reconsidered by the health authorities.

Declaration of competing interest

The authors have no conflicts of interest relevant to this article.

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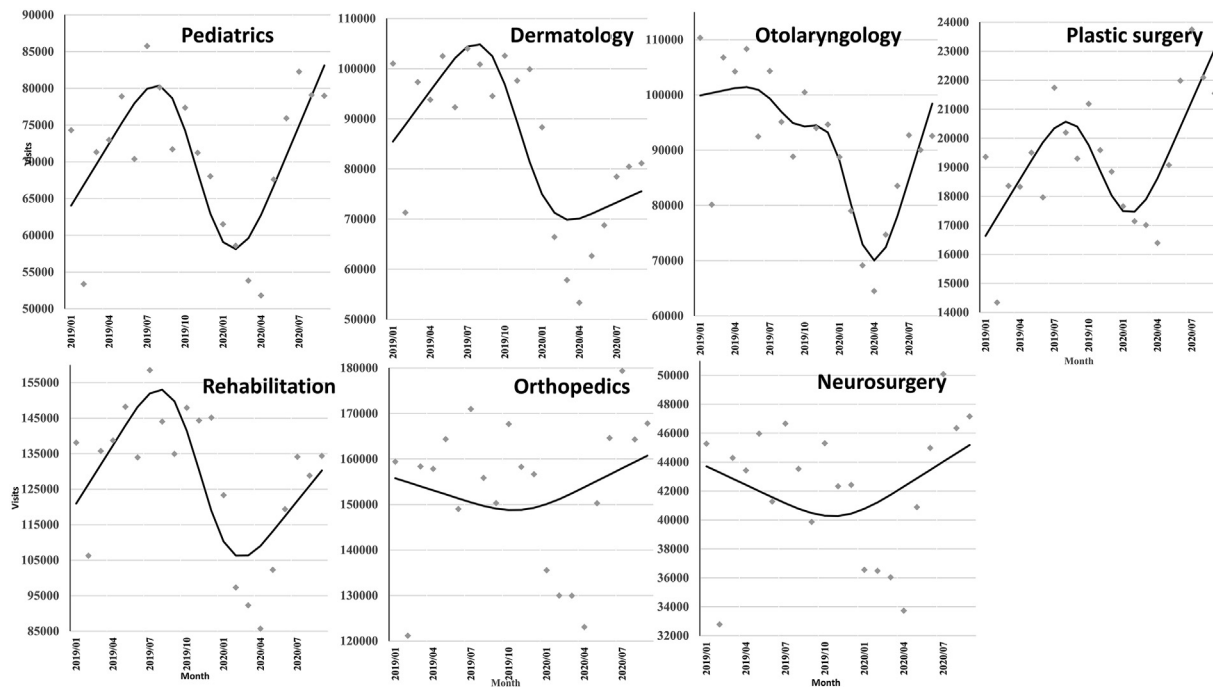


Figure 1 The outpatient services using restricted cubic spline analysis. The first pattern was an initially rising trend, which declined and then rebounded occurring in pediatrics, dermatology, otolaryngology, rehabilitation, and plastic surgery. The second pattern was a concave trend in neurosurgery and orthopedics. The dip in Feb 2019 was related with the Chinese New Year. All of the hospitals closed the outpatient services during the Chinese New Year.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.jfma.2021.04.015>.

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