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Impact of COVID-19 pandemic on healthcare provision in youth with systemic lupus erythematosus

To the editor,

While coronavirus disease 2019 (COVID-19) infection in immunosuppressed children and young people (CYP) aged below 21 years old mirrors the general pediatric population, the pandemic has raised concerns about its impact on healthcare for CYP with chronic conditions, including systemic lupus erythematosus (SLE).[1] The management of SLE in CYP necessitates meticulous evaluation, consistent monitoring, and a tailored approach to immunosuppressive therapy. Thus, CYP with SLE are vulnerable to fluctuations in healthcare policies precipitated by the pandemic, prompting this investigation to assess its impact on healthcare accessibility within this specific cohort.

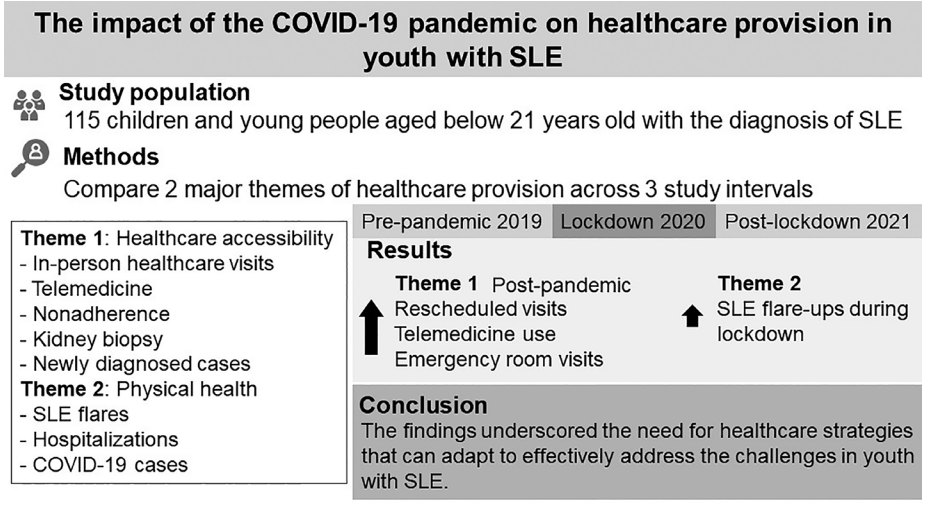
We conducted a retrospective analysis involving 115 CYP under 21 years old with SLE (Supplementary Table 1). The study spanned three one-year intervals: prepandemic (January–December 2019), lockdown (January–December 2020), and postlockdown (January–December 2021), according to the national policies responding to the pandemic.[2] The Thai government responded to the COVID-19 pandemic with robust public health and social measures to mitigate person-to-person viral transmission. These stringent measures included curfews, shelter-in-place, contact tracing, and a 14-day mandatory quarantine for international travelers during lockdown.[2]

Parameters were compared across these intervals focusing on 2 objectives: the impact of the COVID-19 health system policy response on healthcare delivery and access, and the impact of service restrictions on health. For the first objective, study parameters included the numbers of in-person healthcare visits, the use of telemedicine, nonadherence, the number of kidney biopsy, and number of newly diagnosed cases. In this study, nonadherence was defined as self-reported nonadherence to immunosuppressants in the 7 days preceding each clinic visit.

For the second objective, study parameters included the rate of SLE flares, the number of hospitalizations, and the number of COVID-19 cases.

The study was approved by the Institutional Review Board Committee of Faculty of Medicine, Chulalongkorn University (No. 776/65).

Of the 115 patients participated in the study, 14 were transferred to other centers, and 6 were lost to follow-up during the study period. These patients were included in the analysis until the time of their transfer or loss to follow-up. For the first objective, the total in-person visits were similar across the 3 intervals (Fig. 1A). While the frequency of unplanned visits remained consistent throughout the study, there was a significant shift towards choosing emergency room services over urgent care postpandemic (Fig. 1A, inset). Rates of



Graphical abstract. COVID 19, coronavirus disease 2019; SLE, systemic lupus erythematosus.

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rescheduled appointments significantly increased during lockdown and remained elevated during postlockdown (Fig. 1B). No study patients used telemedicine before the pandemic. Postpandemic, telemedicine utilization rose significantly even after the lockdown was lifted (Fig. 1B).

Rates of newly diagnosed cases, patients lost to follow-up, patient transfers, and kidney biopsies were similar across study intervals (Fig. 1C). The percentages of patients receiving angiotensin converting enzyme inhibitors and immunosuppressants were similar during the 3 intervals (Supplementary Fig. 1). The rates of nonadherence remained stable during the study (Fig. 1C).

For the second objective, the percentage of SLE flares peaked during the lockdown but did not significantly differ from the other intervals (Fig. 2A). The daily prednisolone dose which reflected the overall SLE activity remained consistent across the 3 intervals (Fig. 2A, inset). The average number of admissions remained relatively stable across periods (Fig. 2B). SLE flare and newly diagnosed cases were the main cause of unplanned hospitalizations (65.0%).

COVID-19 infection occurred in 31 patients (26.7%) with mild to moderate symptoms and no related hospitalizations. All cases occurred subsequent to the lifting of lockdown measures.

The COVID-19 pandemic has exerted a profound influence on healthcare systems globally, precipitating unique hurdles for individuals grappling with pre-existing health conditions.[3] Among adults diagnosed with SLE, 54%–68% missed their scheduled follow-up appointments during lockdown, while 37% encountered obstacles in undergoing essential investigations.[4,5] There was also a 65% reduction in the hospitalization rates; however, those requiring hospitalization necessitated more intensive treatment owing to the heightened severity of their symptoms.[6] Meanwhile, a moderate-scale study involving 18 children with SLE shows that access to medical care and essential pharmaceuticals remained reasonably sustained during the initial phases of the pandemic.[7]

Our study revealed substantial healthcare disruptions experienced by CYP diagnosed with SLE amidst the COVID-19 crisis. Firstly, there was a marked escalation in the necessity for appointment rescheduling compared to the prepandemic era. Secondly, there was a significant increase of reliance on Emergency Department visits for unplanned healthcare needs postpandemic. This observation aligns with previous reports indicating that children with underlying medical conditions, reliant on specialized care, may disproportionately experience unmet healthcare needs, with time-sensitive healthcare receiving preferential attention over multidisciplinary chronic care.[8]

Thirdly, our investigation highlighted the potential utility of telemedicine as a complementary approach to in-person visits for CYP with SLE. Nevertheless, opinions regarding the efficacy of telemedicine remained polarized.[9,10] A majority of patients and clinicians within the field of rheumatology preferred face-to-face consultations and perceived teleme-

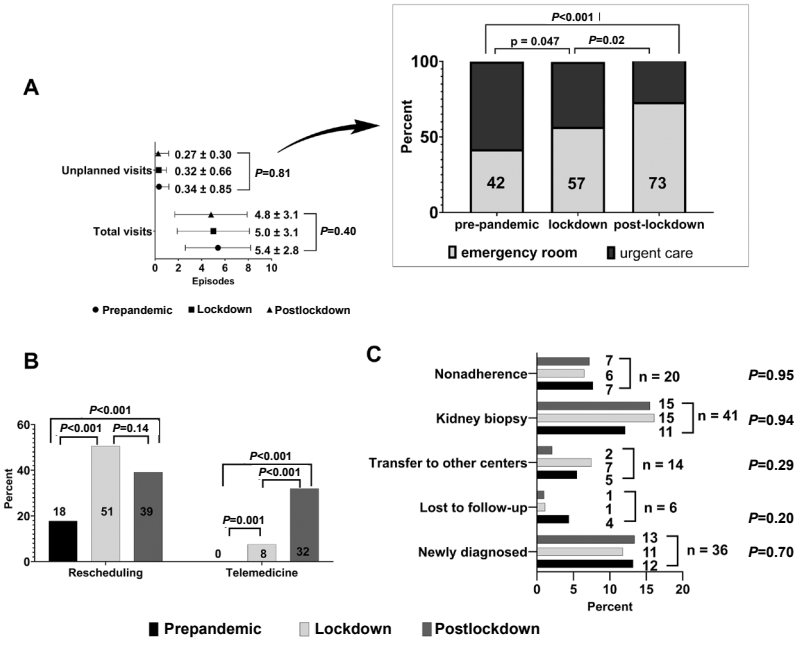

Fig. 1. Objective 1. Healthcare delivery and accessibility after the coronavirus disease 2019 pandemic: (A) in-person healthcare visits and emergency care utilization (inset); (B) rescheduling and telemedicine; (C) rates of patients who were newly diagnosed, were lost to follow-up, were transferred, underwent a kidney biopsy, or were nonadherent to prescribed treatment.

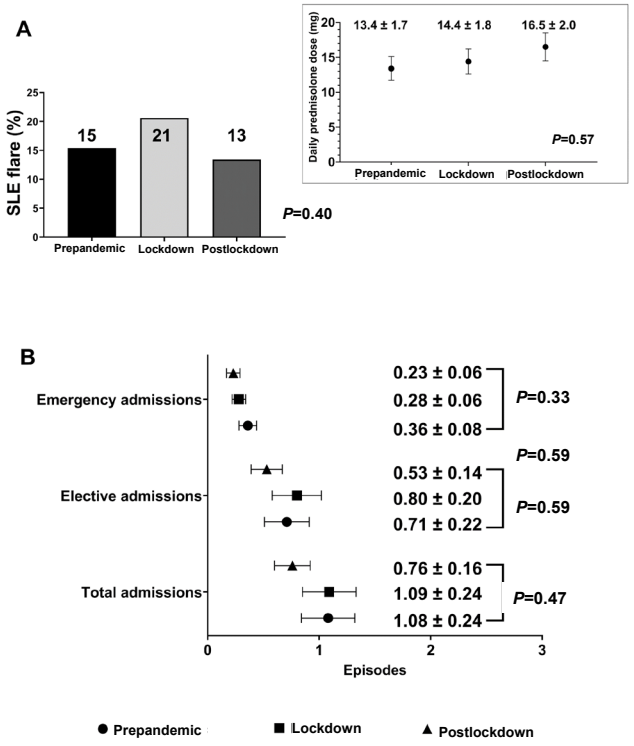

Fig. 2. Objective 2. Impact of service restrictions on patient health and well-being: (A) rates of systemic lupus erythematosus flares and daily prednisolone doses (inset); and (B) number of hospitalizations. SLE, systemic lupus erythematosus.

dicine as inferior in terms of fostering therapeutic relationships and assessing patient conditions.[11] Additional research is needed to assess the effectiveness of telemedicine in managing CYP with SLE with particular attention to avoiding the oversight of critical medical conditions.

A notable previous investigation involving adults diagnosed with SLE by Chuah et al.[6] where the average patient age was 38.3 years old revealed that no kidney biopsies were performed during the lockdown. The possible reasons for variance in healthcare provision for patients with SLE between CYP and adults include the timing of the studies, the varying workloads experienced by healthcare personnel due to surging COVID-19 caseloads between pediatricians and internists, the differing severity of COVID-19-related risks, and the presence of underlying health conditions and comorbidities in the younger and older age groups.

Several limitations warrant consideration. The retrospective design introduces inherent biases due to the possibility of incomplete data collection and inaccuracies in documenting certain variables, notably medication adherence. Although our study documented heightened SLE flare rates particularly during lockdown periods, statistical significance was not attained when comparing these rates with prepandemic periods. The limited sample size and the multifaceted nature of disease flares are plausible contributors to the lack of statistical significance. The widespread reduction in physical interactions, precipitated by school closures and restrictions on public gatherings, likely played a role in curbing the transmission of infectious diseases, which are recognized triggers for SLE flares.[12]

In conclusion, the COVID-19 pandemic has precipitated significant impediments to medical care provision for CYP diagnosed with SLE, notably impacting scheduled appointments and healthcare accessibility. Telemedicine emerged as a pivotal tool in maintaining care continuity, underscoring its potential role in shaping future healthcare delivery paradigms. The postpandemic shift towards emergency room visits and telemedicine utilization highlights the need for adaptive healthcare strategies in navigating unprecedented challenges faced by this vulnerable population.

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Footnotes

Supplementary material: Supplementary Table and Fig. 1 can be found via https://doi.org/10.3345/cep.2024.00689.

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