

Impact of Social Distancing Due to Coronavirus Disease 2019 on the Changes in Glycosylated Hemoglobin Level in People with Type 2 Diabetes Mellitus (*Diabetes Metab J* 2021;45:109-14)

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We would like to thank Dr. Noh for your interest in and comments regarding our study, entitled “Impact of social distancing due to coronavirus disease 2019 on the changes in glycosylated hemoglobin level in people with type 2 diabetes mellitus,” which was published in *Diabetes & Metabolism Journal* [1].

At the beginning of the coronavirus disease 2019 (COVID-19) outbreak in Daegu, the number of patients contracting COVID-19 has been skyrocketing [2], and strict social distancing, which is currently level-3 [3], was implemented to prevent transmission of infection [4]. Social distancing affects peoples’ health service use behavior [5], and the number of patients who attended the hospital during the COVID-19 outbreak was inevitably small compared to previous years. However, our study enrolled patients who had their glycosylated hemoglobin (HbA1c) levels measured during both Periods 1 (November 18 to February 17) and 2 (February 18 to May 17). Newly diagnosed patients with diabetes during Period 1 were diagnosed before COVID-19 outbreak, and newly diagnosed diabetic patients during Period 2 were not included in all cohorts (COVID-19 cohort and non-COVID-19 cohorts). Therefore, the number of newly diagnosed patients with diabetes was not influenced by the COVID-19 outbreak among co-

horts and we believe it did not affect our research.

Nevertheless, your opinion is important and should be considered; a rapid decrease of HbA1c in newly diagnosed patients with diabetes might have affected the results of our study. HbA1c levels were markedly reduced in groups with baseline above 9.0%, which was consistent in all cohorts of our study. Peoples with newly diagnosed diabetes, especially those who visit tertiary hospitals, tend to show higher HbA1c levels; considering this, we agree with your opinion that the rapid decrease of HbA1c might be a consequence of enrollment of newly diagnosed patients with diabetes. However, we found that glycemic control worsened in patients with HbA1c <7% for all cohorts, and the increment of HbA1c levels was significantly higher in the COVID-19 cohort than in the non-COVID-19 cohorts. We believe that lifestyle changes due to social distancing might have caused this distinct increase in HbA1c levels in the COVID-19 cohort. We would like to thank Dr. Noh again for your comprehensive review and advice on our findings. The limitation of our study that you pointed out will be identified through follow-up researches to be conducted later.

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CONFLICTS OF INTEREST

No potential conflict of interest relevant to this article was reported.

REFERENCES

1. Park SD, Kim SW, Moon JS, Lee YY, Cho NH, Lee JH, et al. Impact of social distancing due to coronavirus disease 2019 on the changes in glycosylated hemoglobin level in people with type 2 diabetes mellitus. *Diabetes Metab J* 2021;45:109-14.
2. Korean Society of Infectious Diseases; Korean Society of Pediatric Infectious Diseases; Korean Society of Epidemiology; Korean Society for Antimicrobial Therapy; Korean Society for Healthcare-associated Infection Control and Prevention; Korea Centers for Disease Control and Prevention. Report on the epidemiological features of coronavirus disease 2019 (COVID-19) outbreak in the Republic of Korea from January 19 to March 2, 2020. *J Korean Med Sci* 2020;35:e112.
3. Thu TPB, Ngoc PNH, Hai NM, Tuan LA. Effect of the social distancing measures on the spread of COVID-19 in 10 highly infected countries. *Sci Total Environ* 2020;742:140430.
4. Park SW, Sun K, Viboud C, Grenfell BT, Dushoff J. Potential role of social distancing in mitigating spread of coronavirus disease, South Korea. *Emerg Infect Dis* 2020;26:2697-700.
5. Mehrotra A, Chernew M, Linetsky D, Hatch H, Cutler D: The impact of the COVID-19 pandemic on outpatient visits: a rebound emerges. Available from: <https://doi.org/10.26099/ds9e-jm36> (updated 2020 May 19).