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Behavioral changes and risk perception among chronic kidney disease patients after COVID-19 pandemic

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Objectives: To prevent COVID-19 infection, it is important to understand individuals' risk perception and aversion behavior. The objective of this study is to investigate how behavioral characteristics of social distancing, hygiene management, and exercise changed in patients with CKD during the COVID-19 pandemic, and identify the behavioral factors associated with risk perception and clinical outcomes.

Methods: We analyzed the data from a study with a prospective cohort of patient with CKD, namely the Study on Kidney Disease and EnviromenTal Chemicals (SKETCH, Clinical Trial. No NCT04679168). This cohort included patients with CKD who visited the participating hospitals for the first time between June and October 2020 and followed up to December 2021. Demographic data, socioeconomic details, and behavioral characteristics, which are practicing social distancing, hygienic behavior, and physical activity, were collected through a questionnaire survey.

Results: Total 277 participants (33.2% females) were included in the analysis. Among them, nine out of twelve behaviors were reinforced at the first visit, and five out of nine reinforced behaviors were weakened at the second visit. Patients' high-risk perception of COVID-19 infection was not associated with the tendency of overall behavioral reinforcement or to maintain behaviors in an enhanced state at the second visit. Strong behavioral changes at patients' first visit to the hospital were associated with a tendency of strengthening or maintaining reinforced overall behaviors at the second visit (adjusted odds ratio 1.99, 95% confidence interval 1.19 to 3.37, $P = .009$). Even if the initial COVID-19 risk perception is high, behavioral changes worsen over time.

Conclusions: People who showed more active behavioral changes at the beginning of COVID-19 showed a tendency to maintain reinforced behavior over time. Continuous education and monitoring are needed to maintain changed behaviors, especially in patients who have a high initial COVID-19 risk perception.