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Mendelian Randomization Analysis Reveals Causal Factors Related to Kidney Function

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Mendelian randomization analysis is a useful method to investigate causal estimates from modifiable risk factors on various health-related outcomes. The method has recently been introduced to the nephrology field, and revealed important causal factors towards the risk of kidney function impairment. We performed Mendelian randomization analysis, thanks to the KSN Young Investigator Research Fund, revealing the causal estimates from body selenium concentration or genetically-proxied LDL lowering on kidney function. The studies reported causal estimates that were successfully replicated in population-scale genetic databases, supporting the clinical significance of body selenium or kidney effects from LDL-lowering agents. Also, we studied the causal estimates from interleukin and various cytokines on the kidney function effect, supporting the importance of IL-1 related pathway in regards to the risk of kidney function impairment. Therefore, Mendelian randomization successfully revealed notable risk factors related to kidney function through this project. Additional clinical study is warranted to expand our knowledge for the modifiable factors to prevent the progression of kidney function impairment.