

Relationship of Health Literacy to Self-Care Behaviors in Patients with Diabetes: Empowerment as a Mediator

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PURPOSE

The purpose of the present study was to examine a simple mediation model of the relationships among health literacy, empowerment, and self-care behaviors while controlling for the covariate of diabetes education.

METHODS

Participants were recruited from three community health centers in South Korea from September 2016 to April 2017 using a convenience sampling method. A total of 136 patients with diabetes aged 60 and above were participated in this study. Health literacy, empowerment, and diabetes self-care activities were assessed using self-reported questionnaires. Data were analyzed using SPSS for Windows (version 23) and PROCESS (version 3) with 95% bias corrected bootstrap confidence interval (95% BC bootstrap CI) with 10,000 bootstrap resamples from the data.

RESULTS

All of the participants had been diagnosed with type 2 diabetes, with a duration of 13.32 ± 10.00 years. Most of them (95.6%) were taking oral hypoglycemia agents, and 14.0% had experienced diabetes complications.

Their HbA1C level was $6.82 \pm 0.91\%$, and 52.2% of them had received education about diabetes. The patients who received diabetes education exhibited significantly higher for empowerment and self-care behaviors than did those who had never received diabetes education.

After controlling for diabetes education, the indirect effects of health literacy to self-care behaviors through empowerment were significant when the self-care behaviors were particularly diet (95% BC bootstrap CI = 0.09-0.91), and physical exercise (95% BC bootstrap CI = 0.17-1.16). Whereas, the indirect effects were not significant when the self-care behaviors were foot care and blood glucose monitoring

CONCLUSION

This study indicates that the patients with higher health literacy were more empowered, and those with higher empowerment more likely to eat healthy foods and exercise. In the light of these findings, a health literacy-tailored empowerment enhancing program may be important targets for interventions promoting diabetes self-care behaviors of diet and physical exercise.

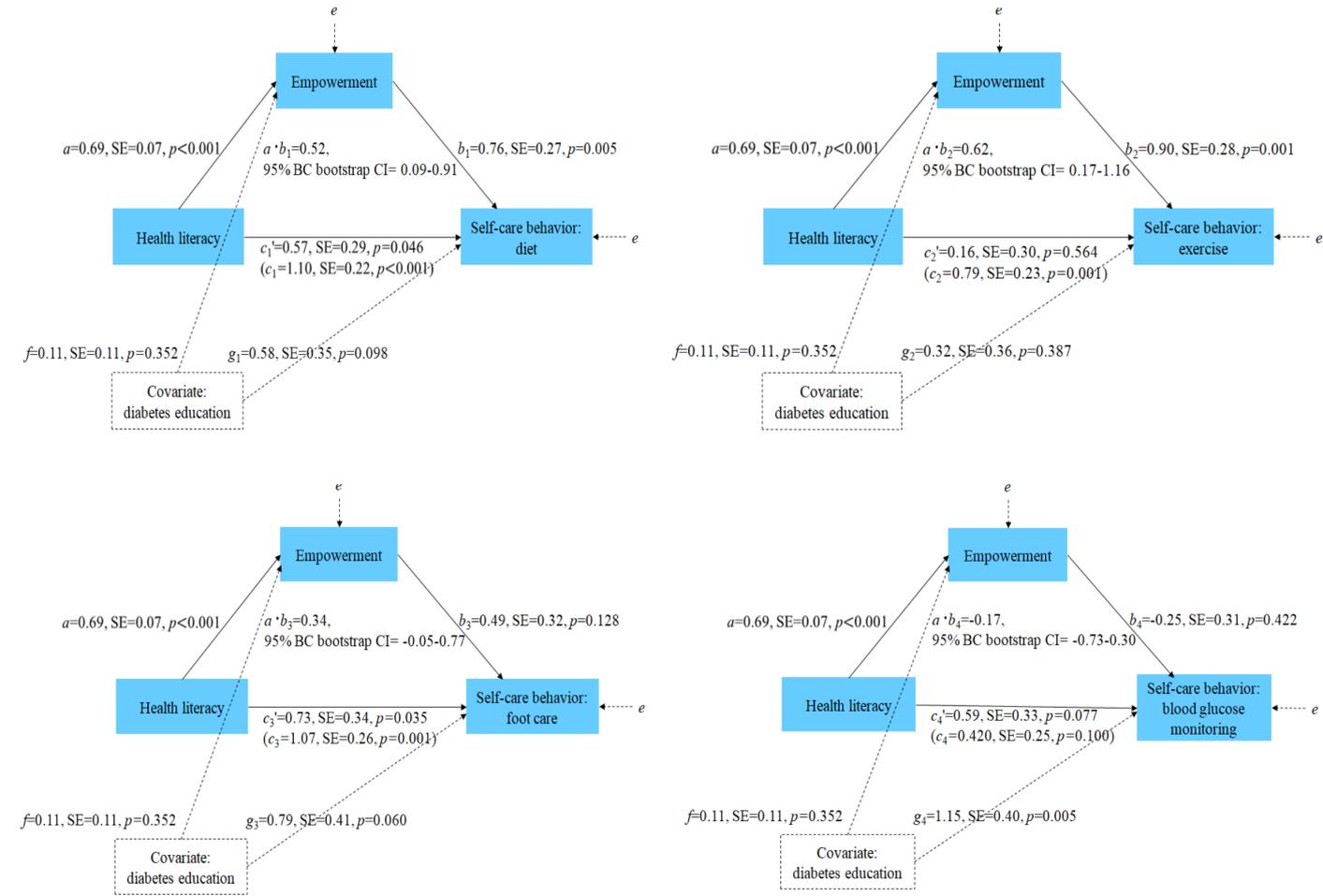


Figure 1. Statistical relationships for simple mediation models among health literacy, empowerment, and each diabetes self-care behavior (diet, physical exercise, foot care, and blood glucose monitoring) while controlling for diabetes education.

a and f: regression coefficients for health literacy in a model predicting empowerment from health literacy and diabetes education; b_k , c_k' , and g_k : regression coefficients in a model predicting self-care behaviors from health literacy, empowerment, and diabetes education; c_k : total effect of health literacy on self-care behaviors while controlling for diabetes education; $a \cdot b_k$: indirect effects of health literacy on self-care behaviors mediated by empowerment while controlling for diabetes education; SE: standard error; 95% BC bootstrap CI: 95% bias-corrected bootstrap confidence interval; e: error