Effectiveness of an educational intervention (the Encourage Autonomous Self-Enrichment Program) in patients with chronic kidney disease: A randomized controlled trial

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Abstract

\textit{Background:} Self-management is an important step toward preventing and impeding the progression of chronic kidney disease. However, patients with chronic kidney disease may have few or no subjective symptoms and therefore might consider self-management to be unnecessary. Effective support and encouragement of self-management in patients with chronic kidney disease is therefore required.

\textit{Objectives:} This study tested the effectiveness of the Encourage Autonomous Self-Enrichment patient education program, which supports patient autonomy and intrinsic motivations with the aim of improving self-efficacy and sustaining self-management, on perceived self-efficacy, self-management behaviors, and physiological endpoints (blood pressure and renal function parameters) in patients with chronic kidney disease.

\textit{Design:} This was a randomized, controlled, single-blind trial with one-to-one allocation into two groups.

\textit{Settings:} The study was conducted at 13 Japanese clinics or general hospitals that specialize in internal medicine and urology.

\textit{Participants:} Participants included patients who were diagnosed with chronic kidney disease.
disease and were not receiving dialysis. Patients were recruited from among those attending follow-up visits at participating institutions.

Methods: A total of 65 participants were randomly allocated into the intervention (n=33) and control (n=32) groups. The intervention group followed the Encourage Autonomous Self-Enrichment program action plan for 12 weeks. The control group received standard education provided by nurses who distributed leaflets in accordance with physicians’ instructions, provided auxiliary medical services, and answered patients' questions.

Results: Except for 1 participant who died after 4 weeks, all 33 members of the intervention group continued the Encourage Autonomous Self-Enrichment program for 12 weeks. This program intervention yielded significant improvements in perceived self-efficacy (U = 318.5, p = 0.035, effect size r = 0.27) and self-management behaviors (U = 310.0, p = 0.026, effect size r = 0.29). There were no differences in blood pressure or renal function between the groups; however, serum potassium levels decreased in the intervention group and increased in the control group (t (58) = 1.047, p = 0.299, effect size d = 1.49). No intervention-related adverse events, such as worsening of patients' test results, were observed.

Conclusions: These findings indicate that the Encourage Autonomous Self-Enrichment program yielded improvements in perceived self-efficacy and self-management behaviors in patients with chronic kidney disease not treated with dialysis.

Keywords: chronic kidney disease; patient education; self-efficacy; self-management; randomized controlled trial