

Self Monitoring of Dietary and Fluid Intake Using a PDA

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Dates of Support: 2006-2008

Funding Agency: National Institutes of Health

Abstract

Successful treatment of hemodialysis patients depends upon their ability to self-monitor complex and restrictive dietary and fluid regimens. Patients, however, are given few tools to help them track or record their dietary and fluid intake and often are nonadherent. Only a few studies have been conducted to promote adherence to dietary and fluid restrictions in this population and often this research was not theory-based or easily applied to practice. The central aims of the proposed study, based on Bandura's social-cognitive theory, are to develop and pilot test an electronic self-monitoring intervention designed to promote adherence to dietary and fluid restrictions in hemodialysis patients. Once developed, the intervention will be pilot tested for effectiveness and usability by hemodialysis patients in the practice setting. The duration of the proposed study is 2 years. During year 1, we will iteratively develop the computer program and graphical interface using the participatory design approach. During year 2, we will pilot test the effectiveness and assess the usability of the electronic system. During the pilot study, a sample of 20 individuals will electronically self-monitor diet and fluid intake for 6 weeks using a PDA and an incorporated Universal-Product-Code scanner; an additional 20 attention control participants will receive usual care. We will collect dietary and fluid intake data throughout the self-monitoring period. We will collect interdialytic weight gain data for 2 weeks before baseline data collection and continue throughout the study to determine overall effectiveness. Data related to the mediating variables will be collected at baseline, at the end of self-monitoring, and 8 weeks after self-monitoring to determine the influence of self-monitoring on these variables. Parametric statistical methods will be used to analyze data. This study is the first step in the development of an electronic self-monitoring system that has the potential for improving quality of life in these patients and decreasing costs associated with costly emergency room visits or extra dialysis sessions resulting from dietary or fluid nonadherence. Data from this study will be used in developing a large randomized controlled trial to evaluate the intervention's effectiveness.

Performance Site(s)

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