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Development of a dietary mobile application (KELA) for hemodialysis patients: UAE experience

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Purpose: The aim of this study is to develop a mobile health application to help Arabic speaking hemodialysis patients achieve better dietary self-management.

Relevance: Hemodialysis patients face many challenges in adhering to phosphorus restricted diets; access to accurate information has traditionally involved in-person counselling sessions along with paper-based educational materials. We propose a mobile application as a more accessible educational tool.

Participants: Emirati patients on hemodialysis; able to read and write, with stable mental status, able to manipulate a smart phone and ready to participate in in-depth interviews. A total of 8 patients (4 Female, 4 Male), from a hemodialysis unit in UAE.

Methods: The mobile application was developed in 3 cycles: Relevance- Design- Rigor (RDR). 1) Relevance: In-depth interviews were used to evaluate the end user's environment, learning requirements, perceptions and preferred learning modes and features regarding nutritional information. 2) Design: Patients' feedback on design was collected to assure optimal acceptability, comprehension and reach by end users. 3) Rigor: Amendments were made based on feedback. In-app educational material were changed to videos, audios and daily notifications to fit in the Mobile App. All in-app education was developed with integration of constructs from the trans theoretical model and the Reasoned Action Approach.

Results: The developed app provided 1) 21 modified traditional Arabic recipes to fit the restrictions of the renal diet and appeal to Emirati patients, 2) 3 educational videos custom made for Emirati patients educating them about nutritional management, 3) stage-based daily notifications to remind patients to comply to the daily diet, medication and therapy for hemodialysis, 4) 24 stage based educational audios that will help the patient understand why and how to comply to the diet therapy and, 5) self-evaluation tools for diet and blood tests that give feedback patient goal achievement.

Biography

Mirey Karavetian earned her PhD in "Health Promotion" from Maastricht University, Netherlands; and her dietetics degree from American University of Beirut, Lebanon. She has extensive experience in nutrition management of the chronically and critically ill patients; she shares her experience in conferences and workshops locally and regionally in the aim of training health care professionals for better health care. She also is trained and specialized in health care quality (setting policies and procedures and training staff on the new set of rules in health care settings). Her research is focused on finding effective strategies to change dietary behavior in chronically ill patients. Her publications focus on dietary management of hemodialysis patients and finding the optimal dietitian-to-patient ratio needed in the hemodialysis unit in the Arab world for optimal clinical outcomes. She has shared her experience in national and international conferences. She currently is an Assistant Professor in the department of Natural Sciences in Public Health, College of Sustainable Sciences and Humanities, Zayed University, Dubai.

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