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Conference Abstract

Assessing the impact of mobile health apps on family caregiver burden levels and the factors predicting mobile health app use

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Abstract

Introduction: Family Caregivers play a significant role in healthcare by providing supplemental uncompensated care that delays or prevents the need for more expensive institutionalized care. Caregiver burden and stress is high as caregiving takes a physical and mental toll on the health and well-being of the caregiver. As family members and patients search for ways to help them better manage their healthcare, they are turning to mobile health (mHealth) applications. The VA created a suite of Mobile Health Apps designed to support Family Caregivers in their caregiving role. The objective of this research was twofold: First to assess the effectiveness of the Family Caregiver mHealth apps in reducing Caregiver burden levels and second to determine the characteristics of Family Caregivers and their care recipients that predict the use of these Apps.

Methods: The effectiveness of the mobile health apps in reducing Caregiver burden was investigated using a quasi-experimental pre-posttest study design with a nonrandom control group. The intervention consisted of Mobile Health Apps created by the VA that were loaded on an iPad and distributed to 881 Family Caregivers in the VA's Family Caregiver Program who volunteered to participate in the mobile health pilot. Family Caregivers enrolled in the program but who did not volunteer to participate in the mobile health pilot formed the control group (3620). The outcome variable assessed was the change in Pre and Post Zarit burden scores in the treatment group compared with the control after adjusting for the Pre Zarit burden score and other covariates. Pre and Posttest Zarit Burden scores were extracted from VA electronic notes and analyzed using a General Linear Model. The follow-up rate for the treatment group and control groups were 70% and 65% respectively. Predictor variables were extracted from VA operational databases.

The characteristics of the Caregiver/Patient dyads that predict use of the mobile apps was studied in the treatment group receiving the iPads (881) and in a subset of the treatment participants (570) who completed a Caregiver characteristic survey. The outcome variable measured was the number of times the mobile health apps were used by the Caregiver/Patient dyads over a three-month time period ending September 18, 2013. Predictor variables were extracted from VA operational databases and the Caregiver characteristic survey. Logistic and Negative Binomial regression models were constructed to predict outcomes.

Results: A statistically significant difference was not found between the treatment and control groups in the mean change of their Zarit Burden scores. Statistically significant predictors of App Use varied by individual App but included: the relationship of Caregiver to care recipient, urban/rural living location, polytrauma care, diagnosis, age and the IADL – "Assistance Arranging Services".

Conclusion: This study has contributed to the mHealth evidence base by identifying user characteristics that predict the use of specific types of mobile health apps.

Keywords

mHealth; mobile health; telehealth; family caregivers
