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Longitudinal Influence of Falls Prevention Behaviors by Family Caregiver – Person Living with Dementia Dyads on Falls

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We previously reported (GSA'21) the successful use of a computerized behavioral intervention by family caregivers of persons living with dementia (PLWD) and examined the number of falls prevention behaviors (FPBs) reported during the 4-6 week intervention by the Caregiver. In order to understand the long-term influence of FPBs on PLWD falls, we recruited a varied group of dyads (Caregiver+PLWD), delivered the intervention and followed dyads for up to one year. Mixed methods are reported in this recently completed case series.

Methods
Eleven caregivers (6 female; 3 child, 8 spouse; age 35-83 mean 65.6(12.8)) delivered the FallScape-D computer-tailored multimedia intervention, consisting of daily exposure to brief (<90s.) individually-relevant stories to the PLWD (5 female; 4 Alzheimers, 2 Vascular, 3 Lewy body/PDD, 2 Fronto-temporal/PSP dementia; age 67-84 mean 78.2(5.3); MMSE12-29). Caregivers utilized an on-line daily log to report falls, near falls/losses of balance, FPBs, events and issues for at least 3 months. Regression models expressed the relationship between FPBs and falls, and survival curves demonstrated the temporal characteristics of their activities.

Results
Caregivers logged 372 weeks (12-52) of daily reporting, yielding 497 FPBs (13-106) and 14 significant falls. Annualized fall rates ranged from 0-0.154/week. Survival curves showed immediate response measured by FPBs, which diminished over time in 4 caregivers. Proportion of variance explained (R^2) for falls by FPBs (R^2=.002-.686) inadequately represented this important relationship, which is best visualized. Losses of balance/near falls also resulted in FPBs (R^2=.009-.761).

Conclusions
Family caregivers demonstrated enthusiasm for generating falls prevention ideas and encouraging PLWD to take falls prevention measures. Visual representations of these unique dyads' falls prevention experiences are presented to further elaborate the relationships between FPBs and falls or losses of balance.