

# The Impact of Technology-Based Interventions on Informal Caregivers of Persons with Dementia: A Systematic Review

## Introduction

Poised to revolutionise healthcare, 'telemedicine' is the new buzzword disrupting the global healthcare industry. Increasingly, telehealth services are being integrated into our everyday care. Yet, there is a lack of consensus regarding the efficacy of telehealth interventions in improving the wellbeing of caregivers of patients with dementia (PwD).

## Objective

To systematically review current literature on the efficacy of telehealth interventions in improving caregiver well-being and (2) explore possible interventions that would improve its efficacy.

## Method

The review was conducted in accordance with the PRISMA guidelines. All studies that reported on the outcomes of telemedicine interventions targeted at the informal caregivers of PwD were included.

## Result

A total of 4176 participants across 32 RCTs were included in our analysis, with 2243 participants in the intervention arm. Overall, a statistically significant improvement in caregiver self-efficacy and caregiver gain was observed together with a

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significant reduction in anxiety. Telemedicine was also noted to have modest but non-significant effects on improving caregiver stress, QoL, and social support. No consensus was reached with respect to caregiver burden and depression. Additionally, telehealth interventions were not found to have an effect on emotional well-being and psychosocial distress.

### **Conclusion**

Telehealth is not a panacea for the concerns of caregivers. A non-specific, 'one-size-fits-all' approach is neither sustainable nor effective in improving caregiver well-being. Given how the efficacy of telehealth interventions, as well as the recommended approach, remains unclear, further large-scale longitudinal studies involving novel telehealth interventions are recommended to delineate the most effective intervention or combination of interventions that promote caregiver well-being.

### **Key Words**

*Telemedicine, wearable*