

N = 2,652) was utilized. One item was used to measure family caregivers' perceived life meaning and purpose and two composite variables were generated to measure depression and anxiety. Physical health was assessed by questions including pain, breathing problems, limited arm/leg strength, low energy, and sleep problems. Weighted logistic regression analyses with covariate adjustments (i.e., caregiver's age, sex, and race/ethnicity) were conducted to examine the association among family caregivers' perceived life meaning and purpose, mental and physical health. Results indicated that family caregivers' perceived life meaning and purpose was associated with a lower probability of having depressive symptoms (OR, .29, 95% Confidence Interval [CI], .15, .57) and anxiety (OR, .43, 95% CI, .23, .79). Furthermore, perceived life meaning and purpose was associated with a lower probability of having breathing problems (OR, .50, 95% CI [.25, .99]). Findings suggest that having a strong sense of life meaning and purpose is linked to better mental health and physical symptoms. Further research is needed to determine the mechanism regarding how life meaning and purpose may improve mental and physical health among family caregivers.

#### PROLONGED MECHANICAL VENTILATION AT HOME VERSUS LONG TERM CARE: CAREGIVER CHARACTERISTICS AND STRAIN

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Although the number of Prolonged Mechanical Ventilation (PMV) patients and their informal caregivers (CGs) is rising both at Home or Long Term Care (LTC), little is known concerning CG characteristics or strain. We enrolled 120 patients and 106 informal CGs: 34/46 and 72CGs/74 PMV patients from Home Hospital and LTC respectively. CGs were married (82%), female (60.4%), mean age 59 ±14 years; spouses (29%) or children (40%) of the PMV patient. The 13-item Modified Caregiver Strain Index (MCSI) (Maximum severity=26) was 13.6± 6.5, similar at Home vs. LTC (14.3±7.5 vs. 13.3±6.0, p=0.9). Most frequent complaints were distress concerning patient's changes (93%) or upsetting behaviours (82%), feeling overwhelmed (82%), sleep disturbance (69%) and emotional adjustments (67%). Home CGs reported significantly more physical and financial burden, confinement, and need for work adjustment, while LTC CGs reported greater emotional disturbance and upsetting patient behaviours. Hierarchical clustering identified three clusters of CG strain: burden (physical/time/financial), emotional (upsetting adjustment/ behaviours/overwhelmed) and disturbance (work/plans/confinement). Emotional strain was most frequent, irrespective of site of care; however CGs at Home vs. LTC experienced significantly higher burden and disturbance vs. higher emotional strain respectively. In multivariate models, after adjusting for numerous patient and CG variables, increasing CG strain was consistently associated with rising patient symptomatology. This relationship was pronounced among CGs of Home PMV patients, with a significant interaction variable of Home\*Patient symptomatology. Our findings identify specific patterns of strain

among caregivers of PMV patients whether at home or LTC, and highlight the importance of addressing their unique needs.

#### SUPPORT NEEDS AS PERCEIVED BY GRANDPARENT-CAREGIVERS: A QUALITATIVE SYSTEMATIC REVIEW

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Caregiving can have adverse mental and physical health outcomes. Older grandparents who are primary caregivers for their grandchildren report multiple health conditions such as depression, anxiety, hypertension, cardiac disease and chronic fatigue, which are caused by or otherwise exacerbated by the caregiving demands. We conducted this qualitative systematic review to identify support needs that contribute to such poor health outcomes and as perceived by grandparent-caregivers for minor grandchildren. We searched relevant databases (PubMed, PsycINFO, CINAHL, and Social Work Abstracts) using terms such as: child rearing, parenting, child custody, grandparents, support needs, and caregiving. Studies were included for review if they were written in the English language; used only qualitative methods; and were published from January 1990 to January 2020. Included studies were critically appraised using the Critical Appraisal Skills Programme checklist. Data were extracted from these studies and synthesized using meta-ethnography. Of the 2828 studies identified, 58 studies from 12 countries met all inclusion criteria for review. Three main themes emerged from the review: 1) grandparent-caregivers' personal needs, and 2) grandchildren needs. Both themes were further divided into subthemes of health (mental & physical), financial, social (interpersonal, cultural and environmental factors and services). Findings from this review have potential to: 1) inform design of comprehensive interventions and screening needed to address perceived support needs; and 2) identify gaps in and barriers to available support resources for older grandparent-caregivers. Further research is needed on comprehensive assessment of support needs and risk for poor health outcomes among grandparent-caregivers.

#### TESTING PREDICTIVE FACTORS OF DEPRESSIVE SYMPTOMS AMONG GRANDPARENTS UNDER THE COVID-19 PANDEMIC

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An estimated 69.5 million Americans are reported to be grandparents. Among them, about 10% are raising grandchildren and the number of grandparents who are raising grandchildren (GRG) is increasing. Previous research on GRG suggests that the unexpected caregiving duties may lead to negative physical and mental health including more depressive symptoms when compared to non-caregiving grandparents (NGRG). Additionally, grandparent-grandchild relationships determined by emotional availability (EA) of the grandparent may be impacted. These factors might further be complicated, especially as it relates to the health and well-being of GRG, as a result of the COVID-19 pandemic. Thus, the overarching goal of this presentation is to use the

biopsychosocial model to present a conceptual framework to test the mental well-being of GRG during the COVID-19 pandemic. In this presentation, we will 1) summarize appropriate literature on GRG; 2) share a COVID-19 health and well-being assessment survey designated for GRG in order to assess their health before and since the COVID pandemic; and 3) propose a conceptual model to investigate and test the protective role of physical activity and GRG's EA in the grandparent-grandchild relationship for the mental health of GRG. In our model, we argue that GRG experience more COVID-19 pandemic-related stress and more depressive symptoms when compared to NGRG. This proposed conceptual model offers one way to test the predictors of depressive symptoms on GRG. Future testing has the potential to shed new light on the development of appropriate intervention programs tailored to maintain the mental health of GRG.

#### THE ASSOCIATION BETWEEN CAREGIVER EDUCATION ON ADULT T2DM AND PATIENT'S OUTCOMES IN COMMUNITY: A SYSTEMATIC REVIEW

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**Introduction** Adult type 2 diabetes (T2DM) threatens public health and most patients manage their diabetic condition while in the community. As it is challenging for patients to properly manage diabetes alone, caregiver involvement in T2DM patient care is encouraged. This study aimed to examine the association between caregiver involvement in T2DM education within a community and the patients' diabetes care outcomes (e.g., glycated hemoglobin (HbA1c) level, behavior, or hospitalization). **Methods** The available scientific literature in PubMed, Cochrane, EMBASE, and CINAHL was searched. The methodological quality of bias was assessed using the Cochrane risk of bias tool. **Results** A total of 13 out of 741 published studies were synthesized in this review. There is evidence that caregiver involvement in T2DM education is effective in the reduction of HbA1C and BMI, but not necessarily effective in reducing lipids. **Study results** indicate that caregiver related interventions can significantly improve patient diabetes knowledge, physical activity, and self-efficacy, but results were more mixed regarding medication adherence. **Risk of bias analysis** classified the majority of studies (77%) to be moderate or high quality. **Conclusion** This review aimed to explore the association between caregiver involvement in adult T2DM education in the community and patients' diabetes care outcomes. The findings show an improvement in biological and behavioral self-management outcomes with caregivers involved in T2DM education, though no studies examined the direct association between complications or hospital readmission. **Future research** focused on tailored interventions and longer follow-up of patient outcomes are recommended.

#### THE EXPERIENCES OF FAMILY CAREGIVERS OF COMMUNITY-DWELLING OLDER ADULTS WITH DEMENTIA IN PROVIDING DAILY ORAL CARE

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Individuals with dementia increasingly rely on caregivers for daily oral care over time. This study explored the experience of family caregivers of community-dwelling individuals with dementia in providing oral care and their interest in caregiver oral education using the concepts of Social Cognitive Theory. Twenty-three caregivers ages 19-80 participated in a semi-structured qualitative interview that also included a structured questionnaire. Majority of caregivers were female (83%) with an average age of 56 years; 29% were spouses. Fifty-four percent of care recipients had natural teeth only, 42% had teeth and dentures, and 4% had dentures only. Caregivers were generally knowledgeable about the importance of oral health, but some expressed a lack of knowledge in how to perform oral care for others. Caregivers reported high levels of outcome expectation, agreeing that providing oral care would improve care recipient's oral health. Caregivers expressed mixed levels of self-efficacy; many cited reduced self-efficacy due to resistance or refusal of care. Quantitative data showed that higher confidence in knowledge and oral care skills was associated with greater confidence in providing oral care ( $r=0.726$ ,  $p<0.001$ ). Intent to participate in a caregiver oral health education program was associated with positive outcome expectations ( $r=0.73$ ,  $p=0.007$ ) and desire to learn the signs and symptoms of mouth pain and infection ( $r=0.72$ ,  $p=0.009$ ). Increasing family caregiver's oral health knowledge and skills, outcome expectations, and self-efficacy to provide care may help improve the oral health of persons with dementia. Additional qualitative and quantitative data and implications for practice will be presented.

#### USE OF ACTIGRAPHY ON SLEEP OUTCOMES FOR DEMENTIA FAMILY CAREGIVERS: AN INTEGRATIVE REVIEW

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Sleep difficulties are one of the foremost health problems that affect family caregivers of dementia patients increasing their risk for a host of mental health problems and hastening dementia patients' transitions to long-term care facilities. This integrative review aims to describe the objective measurement of sleep quality parameters of family caregivers using actigraphy and how well they are associated with self-reported subjective measures of sleep outcomes and psychological states. A search was performed using PubMed, CINAHL, and PsycInfo including articles from 2011 to 2020. Twenty studies met the inclusion criteria. Five sleep interventions (2 RCTs and 3 pre-post design) were found, including multi-component interventions (e.g., sleep hygiene, walking, day-time light therapy) that used actigraphy and other self-report measures. Duration of wearing actigraphy (wrist band/watch) varied in studies (3-days to 8-weeks). Most studies reported high accuracy and sensitivity of actigraphy. Sleep parameters measured by actigraphy included 'total sleep time', 'sleep efficiency', 'deep/light sleep', or 'wake time after sleep onset'. In eight studies, sleep parameters measured by actigraphy were significantly associated with sleep outcomes measured by sleep related self-reported scales (Epworth Sleepiness Scale, Pittsburgh Sleep Quality Index,