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Low back pain (LBP) is a prevalent cause of disability, with higher prevalence among older adults. However, the level of LBP disability cannot be explained by either pain intensity or LBP pathology (bone degeneration). We hypothesize that older adults with LBP are susceptible to disability based on the combination of two factors: fear of movement and dynamic inflammatory response to movement (DIR). In this feasibility study, we are measuring these two factors among 30 older adults aged 60-85 with LBP. Participants attend a laboratory session to complete four performance tasks: 30-second chair rises, seated trunk rotation, standing forward reach, and Six-Minute Walk. Fear of movement is tested using the Tampa Scale for Kinesiophobia and Situational Catastrophizing Questionnaire. DIR is tested by drawing blood via a peripheral venous catheter before and after performance tasks, and assessing changes in six inflammatory markers: IL-6,8,10; TNF-alpha, c-reactive protein, and substance P. LBP disability is assessed using the Late-life Functional Disability Instrument (LLFDI) and 7-day ecological momentary assessment (EMA) via smartphone application. Participants have tolerated all laboratory testing procedures and have adequately reported LBP disability in the home and community using EMA. We will test for exploratory associations between fear of movement, DIR, and LBP disability measures using ordinary least squares regression analyses. The overarching goal of this research line is to determine if the combination of fear of movement and DIR are an actionable clinical risk phenotype of downstream LBP disability among older adults.

#### A CRITICAL REVIEW OF PAIN MANAGEMENT TRAINING PROGRAMS FOR FAMILY CAREGIVERS

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Many American family caregivers (FCs) manage hospice and palliative patients' pain at home. However, FCs encounter many barriers to pain management due to inadequate training. Although some studies have designed pain management training programs for caregivers, the content and durations vary greatly. Thus, there is a lack of consistent recommendation on how to educate caregivers on pain management. The purpose of this study is to critically evaluate existing training programs to inform clinical practice and future program design. A literature review was conducted to search available articles published before June 2018 in databases including PubMed, CINAHL, PsycINFO, and Scopus. Search strategies used index and keyword methods. The inclusion criteria were peer-reviewed, research studies published in English that evaluated a pain management education or training for family caregivers. Twenty-seven studies were included. All studies improved either patients' outcomes (e.g. pain intensity, hospital visits) or caregivers' outcomes (e.g. knowledge, quality of life). Most studies (85%) had research

teams provide caregivers with pain management education via multiple face-to-face training sessions and written booklet, while some studies (15%) had practicing nurses used videophones, web-based platforms, and telehealth to enhance the collaboration of care and pain management with caregivers. Providing adequate pain management training can improve patients' and caregivers' outcomes. However, in-person training programs are not practical for busy and overwhelmed caregivers. Researcher-delivered training sessions are not clinically adoptable. Future studies should develop pain management interventions that allow nurses to coach caregivers during routine visits and enhance their communication and collaboration with caregivers.

#### IDENTIFY THE BARRIERS THAT FAMILY CAREGIVERS FACE IN MANAGING PATIENTS' PAIN: A LITERATURE REVIEW

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Most Americans enrolled in palliative and hospice care receive care at home and thus rely on their family caregivers (FCs) to manage their pain. However, FCs encounter many barriers to pain management. Previous studies focused on barriers faced by FCs of cancer patients. However, as palliative and hospice care evolves, the populations and diagnoses become diverse, and more barriers have been identified. Hence, the purpose of this study is to comprehensively investigate FCs' barriers to pain management. A literature review was conducted to search available articles published before June 2018 in databases including PubMed, CINAHL, PsycINFO, and Scopus. Search strategies used index and keyword methods. The inclusion criteria were peer-reviewed, research studies published in English that explored barriers that FCs faced in managing pain. Eighty-six studies were identified: 76% of the studies focused on cancer pain and 6% focused on dementia pain. The identified barriers included: (1) caregivers' limited knowledge in drug/non-drug pain management and verbal/non-verbal pain assessment; (2) caregivers' issues (e.g. function, fear of analgesic, misbeliefs in pain management); (c) caregivers' organizational skills (treatment recording and tracking); (d) patients' issues (e.g. inability to verbalize pain); (e) communication issues with care teams. This is one of the few literature reviews that comprehensively investigate the barriers that family caregivers experience beyond cancer pain management. The results can be used to develop a screening questionnaire for palliative and hospice providers to assess and resolve FCs' barriers to pain management, thereby improving the quality of pain management and patients' and FCs' outcomes.

#### BURDEN OF POTENTIALLY INAPPROPRIATE MEDICATIONS AMONG OLDER VETERANS WITH PAIN AND DEMENTIA

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