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Perceived Stress Levels May Impact Upper Extremity Function Among Women Treated for Breast Cancer

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Authors

Mary Insana Fisher, Anne Fleischer, Kimberly Parent, Renee Roberts, Megan McClure, and Lynn Hendricks

Interventions: To assess pain modulation, rats were orally gavaged at their EC50 with test compounds in the writhing model of peripheral pain and hotplate model of CNS-mediated pain. In order to assess abuse liability, we utilized an operant self-administration procedure, where rats are required to press a lever to receive an intravenous drug infusion.

Main Outcome Measure(s): The goal of this program is to engineer orally-available derivatives of CR665.

Results: Lead compound JT09 activates the kappa-opioid receptor with EC50s in the low nM range, while agonist selectivity for kappa over other peripheral opioid receptors was >11,000-200,000-fold. Results indicate that JT09 is as efficacious as morphine in alleviating peripheral pain, while failing to produce the undesired CNS-mediated effects that bedevils standard opioid treatments for pain alleviation. In the operant self-administration procedure, JT09 failed to maintain lever responding, indicating no abuse liability. In contrast, highly salient rewards readily maintained operant responding. Additionally, JT09 did not promote other CNS-mediated effects associated with opioids (sedation, dysphoria, tolerance, addiction).

Conclusion/Discussion: Application of the JT Pharma technology to CR665 enabled identification of derivatives that exhibit peripheral analgesic activity when dosed orally but do not promote CNS-based effects. Our lead, JT09, is under further evaluation as an orally-available kappa-opioid agonist for peripheral pain.

Key Words: Analgesic, Kappa, Opioid, Pain, Peripheral

Disclosures: None.

Research Poster 294756

Perceived Barriers for Occupational Therapists in Oncology Settings: Results From a National Survey



Leah Stein Duker (University of Southern California), Alix Sleight

Research Objectives: Occupational therapists (OTs) represent an integral part of the cancer care team. However, conceptualizations of OT for cancer survivors often focus solely on physical interventions, undermining OT's ability to provide care that encompasses the full spectrum of physical and psychosocial treatments. The purpose of this study is to identify the types of treatments OTs provide in oncology care.

Design: A survey utilizing snowball sampling was disseminated online to OTs working in oncology care.

Setting: United States.

Participants: Seventy-two OTs (M= 37.6years) with an average of 5.5years working in an oncology setting participated; most participants were female (87%), White/Caucasian (69%), and working with adults (84%) in inpatient hospitals (79%).

Interventions: N/A.

Main Outcome Measure(s): N/A.

Results: Over 90% of therapists reported that their treatments typically focused on physical impairment, ADLs, weakness, fatigue, pain, and quality of life. Treatments focusing on cognitive impairment, emotional difficulties, and transition to home/home safety were reported by 70-80% of respondents. Therapists reported that treatment sessions included activities they did not bill directly for, including: emotional and social support difficulties (70%), self-advocacy, quality of life, and body image challenges (~50%), and caregiver and patient education/training and lifestyle management (~33%). More than 90% of therapists reported that if there were no barriers, they would like to address quality of life, emotional difficulties, transition to home/home safety, and lifestyle management issues in treatments.

Conclusion/Discussion: The majority of OTs do provide physical interventions for their oncology patients. However, therapists also deliver mental health services and client/caregiver education, commonly reported unmet needs of cancer survivors, but do not bill directly for this care. Reimbursement structures should be altered to allow for the direct billing of mental/psychosocial and educational interventions in OT for the oncology population.

Key Words: Cancer Care, Occupational Therapy, Scope Of Practice, Reimbursement

Disclosures: None.

Research Poster 308369

Perceived Stress Levels May Impact Upper Extremity Function Among Women Treated for Breast Cancer



Mary Fisher (University of Dayton), Anne Fleischer, Kimberly Parent, Renee Roberts, Megan McClure, Lynn Hendricks

Research Objectives: Women treated for breast cancer report ongoing disability in their involved upper extremity, however, often objective measures do not appear to explain the level of perceived dysfunction. The purpose of this study was to investigate the relationship between perceived stress level, fear of physical activity and self-reported upper extremity function among women treated for breast cancer.

Design: Observational cohort study.

Setting: General community.

Participants: Twenty-five women with a mean age of 52 years (range 31-68) diagnosed with Stage 1-3 breast cancer between 12 and 60 months prior to data collection.

Interventions: Participants completed three patient-reported outcome scales in a single visit. Data were analyzed with Pearson's correlation r to determine if there was a relationship between self-reported upper extremity function and/or perceived stress level and fear of physical activity.

Main Outcome Measure(s): Disabilities of the Arm, Shoulder and Hand (DASH), a 30-item self-report scale of upper extremity function; Perceived Stress Scale (PSS), a 10-item self-report scale of stress in the past month; and Fear of Physical Activity/Exercise Scale - Breast Cancer (FPAX-B), a 17-item self-report scale concerning participation in physical activity for breast cancer survivors.

Results: There was a significant relationship between the DASH and both the PSS, $r = .074$, p (one-tailed) $< .001$ and FPAX-B, $r = .072$, p (one-tailed) $< .001$.

Conclusion/Discussion: Results of the study suggest that there is a significant positive relationship between the DASH and both the PSS and FPAX-B among women treated for breast cancer. Perceived stress and fear of physical activity may be impacting self-reported upper extremity functional abilities. Further research should be done to investigate the role of stress and fear of physical activity has on perceived measures of upper extremity function.

Key Words: Breast Neoplasm, Patient-Reported Outcomes, Upper Extremity Disability, Fear Of Physical Activity

Disclosures: None.

Research Poster 301537

Peripheral Neuropathy, Function and Quality of Life in Adult Survivors of Childhood Acute Lymphoblastic Leukemia



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Research Objectives: To compare scores on measures of peripheral neuropathy, balance and quality of life (QoL) among adults survivors of childhood acute lymphoblastic leukemia (ALL) and age-, sex-, and race-matched community controls. To evaluate the association between neuropathy and balance, mobility, walking endurance and QoL among survivors.

Design: Cross Sectional.

Setting: Outpatient.

Participants: 364 adult survivors of childhood ALL, ≥ 10 years post diagnosis, and 364 matched community controls with no cancer history.

Interventions: Not applicable.

Main Outcome Measure(s): Peripheral neuropathy was measured using the modified Total Neuropathy Score (mTNS), balance using the Sensory Organization Test (SOT), mobility using Timed Up and Go (TUG), walking endurance using 6-minute walk and QoL using Medical Outcomes Survey Short Form-36 (SF-36).