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Late Breaking Research Poster 1828685
Assessing Decision-Making Capacity in Patients with Acquired Brain Injury: A Toolkit of Ethical Guidelines
Ally Sterling (Spaulding Rehabilitation Hospital/Harvard Medical School), Joshua Abrams, David Sontag, David Zuckerman, Stephen O’Neill, Rebecca Brendel, Joseph Giacino
Research Objectives: To improve provider knowledge of the construct of capacity, clarify existing capacity assessment institutional policies, and provide recommendations for conducting capacity assessment.
Design: A semi-structured interview script and Likert scale survey were developed to investigate stakeholder knowledge and perspectives on decision-making capacity. Constant Comparative Method Analysis was conducted to identify themes across and within stakeholder groups.
Setting: Inpatient Rehabilitation Hospital.
Participants: Multidisciplinary stakeholder representatives, including physicians, investigators, hospital administrators, legal counsel, psychologists, case managers, nurses, social workers, caregivers, and patients (N=21), selected by the investigators using purposive sampling.
Interventions: Not Applicable.
Main Outcome Measures: Four thematic areas (i.e. clinical, research, ethical, legal) identified through application of a data reduction procedure.
Results: Ethically, capacity assessment promotes patients’ autonomy, dignity, best interests, well-being, values, preferences and goals of care, and allows patients to maintain the right to refuse treatment. Clinically, stakeholders reported that capacity assessment ensures that patient preferences are considered in the plan of care and that unwanted procedures and treatments are prevented. Legally, capacity assessment ensures there is valid informed consent. For research, capacity assessment helps establish a point person to make decisions and allows for decisions to be made regarding patient participation in research studies.
Providers identified challenges including lack of time, lack of familiarity with legal statutes, and uncertainty about the multidimensionality of capacity. Investigators identified challenges including tracking proxy/guardian status long-term and lack of consensus between clinical and research teams. Surrogate decision makers identified challenges including lack of direct contact with patients, family discord, and negative impact of personal emotions. For healthcare systems, challenges included incomplete medical records, high staff turnover, and team miscommunication.
A provider toolkit for capacity assessment and monitoring was developed based on challenges identified by stakeholder groups and recommendations were proposed for refining institutional policy and procedures.
Conclusions: While stakeholder groups appear to have a general understanding of the concept of capacity, familiarity with specific procedures and regulations is limited. Institutions should provide supportive resources for providers directly involved in assessment of decision-making capacity.
Author(s) Disclosures: No Disclosures.
Keywords: Acquired Brain Injury, Decision-Making Capacity, Bioethics

Late Breaking Research Poster 1828686
The Effect of Creative Arts Therapy For Veterans: A Comparison Between In-Person and Hybrid-Based Therapy
Jaewon Kang (University of Florida), Mi Jung Lee, Heather Spooner, Diane Langston, Charles Levy, Sergio Romero
Research Objectives: To estimate the effect of creative arts therapy on mood symptomatology and quality of life and investigate whether the effect of creative arts therapy is different between in-clinic only and hybrid-based therapy (a combination of in-clinic and telehealth).
Design: Observational study.
Setting: A VA medical center.
Participants: A convenience sample of 110 Veterans who received creative arts therapy between 2015 to 2019 was used in this study. All participants were 18 years old or older and had at least one chronic condition, such as post-traumatic stress disorder (PTSD) or depression.
Interventions: Participants received weekly creative arts therapy. During the sessions, participants expressed personal feelings and emotions through art or music. Each session was delivered through a traditional face-to-face format or telehealth, depending on the patient’s needs and preferences. Participants completed self-reporting mood symptomatology and quality of life measures at the first visit and at the end of the intervention. All evaluations were conducted in the clinic.
Main Outcome Measures: The Positive and Negative Affect Schedule—Extended Form (PANAS-X) measures mood-related symptomatology.
Results: Participants had an average of five chronic conditions. PTSD and depression were the most frequently reported conditions. Participants received, on average, eight sessions. In total, 53.6% of participants (n=59) received creative arts therapy via in-clinic only, while 46.4% (n=51) received hybrid-based creative arts therapy. There was no significant difference between in-clinic and hybrid-based creative arts therapy groups. Participants reported decreased general negative affect (p = .029) and increased general positive affect (p = .038). Creative arts therapy improved quality of life in physical health (p = .022), as well as in psychological health (p < .001). There was no significant difference in the effect of creative arts therapy between in-clinic only and hybrid-based groups.
Conclusions: Creative arts therapy improved perceived physical and psychological health for Veterans. The hybrid-based creative arts therapy can serve as an effective substitute for in-clinic therapy, which would improve Veterans’ access to care for creative arts therapy. Future studies are recommended to examine the hybrid-based approach for other rehabilitation therapy interventions.
Author(s) Disclosures: Authors report no financial relationships or financial conflicts of interest.
Keywords: Mood Disorders, Post-traumatic, Telemedicine, Veterans

Late Breaking Research Poster 1828687
Barriers to School and Work Transitions for Youth With and Without a Disability During The COVID-19 Pandemic: A Qualitative Comparison
Sally Lindsay (Holland Bloorview Kids Rehabilitation Hospital & University of Toronto), Hiba Ahmed
Research Objectives: To explore barriers to school and work transitions for youth with and without a disability during the COVID-19 pandemic.
Design: An interpretive descriptive qualitative approach involving in-depth interviews.
Setting: Greater Toronto Area, Ontario, Canada which was considered a hot zone for COVID-19 cases and deaths.
Participants: A purposive sample of 35 youth (18 with a disability; 17 without), aged 16-29 (mean age 23).
Interventions: Not applicable.
Main Outcome Measures: Semi-structured interviews with participants.
Results: Our findings revealed several similarities and some differences between youth with and without disabilities regarding barriers to school and work transitions during the COVID-19 pandemic. Key themes related to these barriers involved: (1) difficult transition to online school and working from home (i.e., expense of setting up home office, technical challenges, impact on mental health), (2) uncertainty about employment (i.e., under-employment, difficult working conditions, difficulty finding work, disability-related challenges) and (3) missed career development opportunities (i.e., cancelled or reduced internships or placements, lack of volunteer opportunities, uncertainties about career pathway, longer-term impact of pandemic).
Conclusions: Our findings highlight that youth with disabilities may need further support in engaging in meaningful and accessible vocational activities that align with their career pathway.

Author(s) Disclosures: None.

Keywords: Adolescent, Rehabilitation, Employment, Pandemic

Late Breaking Research Poster 1828689

Effects of Wheel and Tire Selection on High-Strength Lightweight Manual Wheelchair Propulsion Cost Using Robotic Propulsion

Jacob Misch (Georgia Institute of Technology), Stephen Sprigle

Research Objectives: To investigate the effects of wheel and tire selections on the propulsion characteristics of a high-strength lightweight manual wheelchair, a robotic propulsion device was deployed across a cohort of wheelchair configurations.

Design: This experimental study compared the mechanical behaviors of four wheelchair configurations with differing drive wheels and casters.

Setting: This study was conducted in a laboratory setting. Test surfaces (linoleum tile, low-pile carpet) represented common environments where high-strength lightweight wheelchairs are used.

Participants: No human subjects were used in this study. One high-strength lightweight wheelchair frame (Viper Plus GT, Drive Medical) was used for all four configurations. The baseline configuration reflected the default manufacturer configuration, comprising a solid mag drive wheel and solid 8”x1” caster. The other three configurations included Primo 6”x1.5” caster wheels and solid 24”x1-3/8” Primo XPress drive tires.

Interventions: The Anatomical Model Propulsion System (AMPS) robotic wheelchair test propeller, the chair using pre-generated straight and curvilinear maneuvers using repeatable and reliable cyclic torque profiles across tile and carpet.

Main Outcome Measures: The main outcome measure was propulsion cost, defined as the ratio of mechanical energy required to propel the wheelchair to the total distance traveled over-ground, reported in Joules per meter. In addition, the metric of ‘value’ — the retail cost of components in comparison to their relative impact on the energetic propulsion cost — was proposed for the first time in relation to high-strength lightweight wheelchair components.

Results: Results indicate significant reduction in propulsion cost across all maneuvers and surfaces with upgraded casters (≤24%), drive wheel tires (≤23%), or both (≤41%). The total retail cost differential between the full sets of default components and upgraded components was $33 (USD).

Conclusions: This study demonstrated that better casters and drive wheel tires can improve the performance of high-strength lightweight wheelchairs and better meet the mobility needs of users. Furthermore, gaining knowledge of component-level energy losses could inform users, clinicians, and manufacturers on ‘better’ components that are available in each context of use.

Author(s) Disclosures: The authors do not have any conflicts to disclose.

Keywords: Manual Wheelchair, Propulsion Cost, Energy Loss, Rolling Resistance

Late Breaking Research Poster 1828690

Coping Mechanisms Among Youth and Young Adults with Autism Spectrum Disorder in Competitive Employment

Abirami Vijayakumar (University of Toronto), Melanie Penner, Shannon Scratch, Sally Lindsay

Research Objectives: To explore how youth and young adults with Autism Spectrum Disorder (ASD) cope with stress and anxiety (i.e., normal/typical anxiety) in competitive employment.

Design: An interpretative phenomenological approach involving in-depth interviews.

Setting: Due to the impact of COVID-19, all interviews took place remotely over the phone or through Zoom Communications. Participants were recruited across Canada.

Participants: A purposive sample of 12 youth and young adults with ASD aged 15-30 who were employed or had work experience participated in this study.

Interventions: Not applicable.

Main Outcome Measures: Semi-structured interviews with participants.

Results: Findings indicated that stress and/or anxiety inducers for participants in the workplace included: challenges with social communication at work, tasks at work, impact of COVID-19 on employment experiences, past trauma/experiences impacting ability to work, and personal experiences with disability disclosure. Participants reported using the following coping strategies to combat work-related stress and/or anxiety: (1) problem-focused (i.e., finding ways to solve issues at hand), (2) emotion-focused (i.e., using strategies to reduce negative feelings and emotions), and/or (3) resilience (i.e., pushing through the situation despite feeling stressed and/or anxious). Participants also identified workplace barriers and facilitators, which may impact future occurrences of stress or anxiety.

Conclusions: Uncovering stress and/or anxiety inducers in a workplace setting can help employers be better informed of the potential barriers that are present for employees with ASD, which can lead to better inclusion on the job. The findings from this study have the potential to improve employment outcomes, transition skills, and overall mental health among youth and young adults with ASD in competitive employment.

Author(s) Disclosures: None.

Keywords: Employment, Autism Spectrum Disorder, Adolescent, Young Adult

Late Breaking Research Poster 1828692

Impact of the Post Deployment Assessment and Treatment Residential Rehabilitation Program on Quality of Life in Veterans with Multiple Medical and Psychiatric Comorbidities

Marie Anderson (Alliant International University - CSP), Diane Zelman, Jeffrey Kixmiller, Zach Skiles, James Muir

Research Objectives: To evaluate the impact of a residential psychological rehabilitation program on quality of life of veterans with comorbid mental health, substance use, and neurological conditions (e.g. traumatic brain injury).

Design: Before-and-after trial of a novel neurorehabilitation program for Veterans with complex postdeployment needs.

Setting: Interdisciplinary residential inpatient rehabilitation program in a Veteran’s Administration hospital.

Participants: Participants were 48 male residents (24 to 61 years of age, M = 36.85 [SD = 9.50]), 68.8% were non-Hispanic Caucasian, 8.3% Asian/Pacific Islander, 4.2% African-American, 8.3% Hispanic, 10.4% Native-American/Alaskan Native, mean education was 13.00 years (SD = 1.39, range = 9 to 19). Mean months deployed was 14.61 (SD = 8.80, range = 0 to 42). The three most common mental health diagnoses were sleep-wake disorder, trauma and stress-related disorder, and anxiety disorders. A total of 43.8%, n = 21, of participants experienced problems with alcohol abuse. Assessment was completed immediately prior to and up to two weeks after discharge.

Interventions: Participants received individual and group therapies from an interdisciplinary team with an emphasis on community reintegration. The length of treatment varied from two weeks to sixty weeks.

Main Outcome Measures: World Health Organization Quality of Life-Brief (WHOQOL-BREF), a well-validated 26-item measure of quality of life within four domains (physical health, psychological well-being, social relationships, and environment).