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BRIEF REPORT

Occupational Therapy Programming Facilitates Goal Attainment in a Community Work Rehabilitation Setting

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Abstract An occupational therapy program for participants with mental health challenges, a history of serious mental illness, recovering from substance use disorders, on parole/probation, and/or experiencing homelessness was implemented in a community work rehabilitation setting. The impact of occupational therapy interventions focused on stress and anger management, sleep hygiene, anxiety and depression management, relapse prevention for addiction, vocational and academic skill building, money management, healthy eating, and relationship and leisure skill development. Participant satisfaction and performance scores regarding individual goal setting and attainment was collected and analyzed via retrospective review of pre/post outcome scores ($n = 44$) obtained through the Canadian Occupational Performance Measure (COPM). Results indicated significant differences ($p < .05$) from baseline to end of the program, with high effect sizes ($d = 1.79–1.94$). End of program participant satisfaction and performance scores were highly correlated ($r = .88$, $p < .00$), indicating those who were highly satisfied reported greater performance scores. Post discharge narrative participant responses also support COPM outcomes. Findings suggest community-based occupational therapy may improve individual performance and satisfaction in daily activities while enhancing participation in tasks that are healthy and significant to the person.

Introduction

According to the World Health Organization (WHO), the number of individuals experiencing serious mental illness (SMI) continues to rise, negatively impacting many aspects of social, occupational, and economic functioning world-wide. Treatment and support from available health care and community resources remains inadequate, limiting education and employment opportunities and resulting in decreased quality of life for many individuals diagnosed with conditions such as schizophrenia, bipolar disorder, major depressive disorder, anxiety, trauma, and substance use disorder [1]. In the United States, the National Alliance on Mental Illness (NAMI) reveals that "serious mental illness costs America $193.2 billion in lost earnings per year… and about 13.6 million live with a serious mental illness such as schizophrenia, depression, or bipolar disorder" [2, p. 1]. Additionally, for some Americans experiencing SMI, incarceration

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becomes an unintended consequence of a fragmented and over-burdened health care system ill-equipped to provide necessary services [3, 4]. After serving convictions, individuals with ex-offending histories and SMI are unprepared to navigate the barriers that impact occupational engagement, housing and employment prospects, further limiting opportunities for successful reintegration as productive members of society [5].

The occupational therapy profession, whose origins are intimately rooted in psychiatry, identifies mental health practice as a main area of refocus for the twenty-first century [6]. Occupational therapy's philosophical conviction purports that "engagement in meaningful occupation, with its intrinsic power to maintain, restore, and transform, is fundamental to the health and well-being of all humans," indicating that regular engagement in meaningful activities can uniquely and positively support society's health and wellness needs [7, p. 121] Currently, a small but growing number of occupational therapists practice in acute and outpatient psychiatric facilities, as well as community-based mental health settings to help individuals address barriers to activity engagement and employment needs resulting from SMI. Occupational therapists provide skilled support for cognitive limitations, mental health co-morbidities, and physical deficits, and work with individuals with SMI to develop meaningful habits (i.e., healthy eating and establishing an exercise routine), routines (i.e., adhering to a daily schedule and managing medications), and roles (i.e., obtaining employment, enrolling in higher education courses, acquiring parenting skills) [8]. Occupational therapy treatment aims to improve quality of life with desired daily living tasks while promoting social engagement, community reintegration, and development of normative life roles [9–15].

Individuals experiencing SMI indicate that meaningful employment is necessary to the process of recovery and affords the opportunity to live a normal and fulfilling life [16]. However, unemployment rates of 70 to 80% and inconsistent job engagement often results in financial instability and ongoing economic marginalization [17]. For those experiencing a SMI with a history of incarceration, the time required to locate and obtain gainful employment is further protracted when compared to others with SMI alone [18].

Current literature demonstrates strong efficacy for supported employment programs for individuals with SMI designed around the Individual Placement and Support (IPS) model [19–22]. Principles of IPS include competitive employment, rapid job searching, integration of rehabilitation and mental health treatments, attention to consumer work preferences, continuous and comprehensive assessment, time-unlimited support, benefits counseling, and cultivation of employer/employee relationship [9, 21]. However, evidence suggests the IPS model may not adequately address individual self-care and life skills deficits experienced by those with SMI outside of the workplace setting [9]. Findings demonstrate that using an occupational therapy approach tailoring goals and supports to each individual's direct needs can promote long-term recovery in the areas of self-reliance, responsibility, and independence. The aforementioned skills are particularly important as engaging in a variety of socially-valued and meaningful occupations has been defined as a multi-layered and evolving process by those experiencing SMI [23]. When life skills such as financial management, health maintenance, community mobility, education, and/or leisure engagement are targeted by occupational therapists treating individuals with SMI, independent functioning and community reintegration within and outside of the work environment leads to improved well-being and quality of life [9–11, 24–27]. Stetler and Whisner [28] described an occupational therapy sheltered workshop program for individuals experiencing SMI with ex-offending histories that promoted the necessary skills for community engagement and socialization and development of meaningful life roles post-incarceration. Findings demonstrated increased responsibility and self-efficacy for participants in the areas of independent functioning, technical skills, performance behavior, and social skills.

Outside of the occupational therapy literature, a randomized control trial by Valencia, Rascon, Juarez, and Murow examined the impact of psychosocial skills training in the areas of social skills, budgeting, medication management and relationship building compared to the standard treatment of a monthly medication consultation with a psychiatrist [29]. Findings indicated that the intervention group revealed significant improvement pre/post measurement in the areas of symptom management, occupational, and psychosocial performance and

demonstrated a decrease in relapse and hospital readmission. Bartels et al., also obtained similar results in a nonrandomized control trial with older adult participants with mental health diagnoses who received a combination of health management and skills training compared to those who received only health management training [30]. One-year post-intervention, findings indicated that a combination of both interventions yielded a positive effect size in relation to social, daily living, and health management skills in comparison to those who received health management training only.

The following retrospective data analysis strove to analyze the efficacy of an occupational therapy-based program that enhanced community health and well-being for individuals with mental health challenges, a history of SMI, recovering from substance use, on parole/probation, and/or experiencing homelessness in order to support individuals to participate in life to their fullest potential. Secondary aims included determining the efficacy of occupational therapy services in order to support potential development of programming at additional behavioral health community-based sites.

Methods

In 2013, an occupational therapy program was implemented in a Northeastern U.S. non-profit work rehabilitation organization for individuals typically under-utilized and stigmatized in the traditional workforce, including those with mental health challenges, a history of SMI, recovering from substance use, on parole/probation, and/or experiencing homelessness. The program provided "real-life" minimum wage work experience as a transition step towards competitive and gainful employment for adults who experience difficulties finding jobs. A total of 18 occupational therapy students (nine pairs) and one licensed occupational therapist participated in a collaborative model of programming over a three-year timeframe via a series of three month–long student clinical rotations at the organization's two locations. The length of each occupational therapy clinical student rotation spanned a total of 12 weeks as mandated by occupational therapy education accreditation requirements [31]. Occupational therapy services available to participants within this program

were provided through a collaborative occupational therapist/student fieldwork model for community interventions and within a recovery model approach supported by the Substance Abuse and Mental Health Services Administration (SAMHSA) [32, 33].

Programing included interventions geared toward mental health promotion, well-being, and improvement of an individual's overall quality of life. Occupational therapy services were delivered in a variety of formats depending upon the specific needs identified through the screening process. Services were provided through brief consultative (as needed) sessions, one-to-one 45-minute treatment sessions (2–3 times a week) and/or a 45-min group-based treatment session (1–2 times a week). Participants were not seen in occupational therapy more than 2 to 3 times a week as students alternated their services 5 days a week between both locations.

Participants initiated the occupational therapy process at both locations either by self or administrative referral; all voluntarily agreed to participate. Depending on participants' expressed need, individual interventions ranged from collaborating on the identification and use of positive coping strategies, developing healthy habits and routines, dealing with addiction, anger and stress management strategies, medication management, identification of housing and employment opportunities, GED education access and training, increasing awareness of community support resources, and money and time management. Group topics ranged from personal hygiene, mental and physical health education, return-to-work skills, sleep hygiene, stress and anger management, meal planning on a budget, Spanglish in the community, and effective communication/teamwork at home and in the workplace. Intervention timeframes ranged from 2 to 10 weeks in light of the 12-week student clinical rotation timeline described above. Weeks 1 and 2 consisted of screening, evaluation, treatment planning and goal setting with each participant. Weeks 3 through 10 involved active engagement in occupational therapy intervention services, and weeks 11 and 12 involved formal discharge evaluation and planning for each participant.

Prior to the initiation of services, a nine-question Occupational Therapy Preliminary Screening Tool was used to obtain each participant's desired area of focus. This semi-structured interview tool was administered one-on-one by a student on a three-point scale

("yes," "somewhat," or "no") [34]. Screening tool questions were constructed to elicit client profile information related to current and future work and education aspirations, budgeting, leisure participation, sleep hygiene, diet and exercise strategies, stress and anger management techniques, self-efficacy, problem solving strategies, and overall sense of pride. Reliability or validity has not been determined for this screening tool.

Using a client-centered approach, each participant collaborated with the occupational therapist and/or occupational therapy students during screening as to what type of intervention approach was most appropriate (i.e., individual only, group only, or individual and group). Participants that demonstrated and/or identified a need for individual occupational therapy intervention were then evaluated with the Canadian Occupational Performance Measure (COPM). The COPM is a standardized client-centered outcome measure that facilitates goal identification and captures change in set goals during treatment [35]. The semi-structured interview format of the COPM was selected as the instrument of choice, as the tool primarily focuses upon what the participant "wants, needs, or is expected to do" [35, p. 4]. Based on the results of the COPM, a full treatment plan that included measurable goals was then developed, reviewed and approved by the participant. The final step of the occupational therapy process involved participant reassessment via the COPM which occurred just prior to termination of services during weeks 11 and 12. Research indicates the COPM is considered most useful when administered to a participant at the beginning of services and at various points during intervention to measure progress [35]. The COPM demonstrates good divergent and convergent validity [36].

Sample

This retrospective analysis included 44 participants ($n = 44$; 18 males and 26 females) who completed initial and reassessment COPM semi-structured interviews within a 10-week or less timeframe. Demographics and participation in occupational therapy services are described in Table 1. Since this setting is a work rehabilitation setting, individual and specific SMI diagnostic demographic information was not readily available for many of participants in this analysis. Available demographic data was collected through participant record review and through participant self-report. Participant files were de-identified based upon completion of the COPM pre/post occupational therapy services. Participants who had received occupational therapy intervention services but were not reassessed at (post) discharge were not included in this retrospective analysis. This retrospective review was approved by the authors' University Institutional Review Board (IRB) which also required each author to indicate conflicts of interest related to this study. No conflicts were identified and all authors certify responsibility for the content of this study.

Results

The statistical software package SPSS Version 23 (SPSS Inc.) was used for all data analyses. Narrative participant responses captured at discharge from occupational therapy services were also integrated with the descriptive statistics to create a full picture of the programmatic evaluation.

A paired samples t test showed that there was a significant increase in both COPM satisfaction, $t(43) = -11.16$, $p < .05$, $d = 1.94$; and COPM performance $t(43) = -10.32$, $p < .05$, $d = 1.79$, from initial (pre) to reassessment (post). Cohen's d was computed and the effect size for both satisfaction and performance were large ($d = 1.79$–1.94). Findings are shown in Table 2.

Reassessment (post) performance overall score as measured on the COPM was highly correlated with reassessment satisfaction overall score ($r = .88$, $p < .00$) and is shown in Fig. 1.

Results showed that the occupational therapy interventions had a positive impact on participant perceived satisfaction and performance with the identified area of need indicated at the start of services in no more than a 10-week time period that included no more than 2–3 individual sessions a week for 45 min. Length (number of weeks) of intervention did not show a significant relationship for performance or satisfaction. Individuals who reported high satisfaction also reported high performance on the areas identified in the COPM at reassessment. Occupational therapy interventions for participants' identified area of need is provided in Table 3.

Table 1 Demographics and participation in occupational therapy services

Gender	n (%)	Age mean (SD)	Total # of 1:1 Visits mean (SD)	Total duration (time) Attended mean (SD)	Treatment Days mean (SD)
Male	18 (41)	37.95 (18.23)	12.28 (3.92)	7.06 (5.24)	57.00 (8.94)
Female	26 (59)	41.05 (13.16)	13.00 (3.94)	6.12 (5.32)	54.81 (10.97)
Total	44 (100)	39.78 (15.32)	12.70 (3.90)	6.50 (5.25)	55.70 (10.14)

Table 2 COPM performance and satisfaction scores pre-post assessment

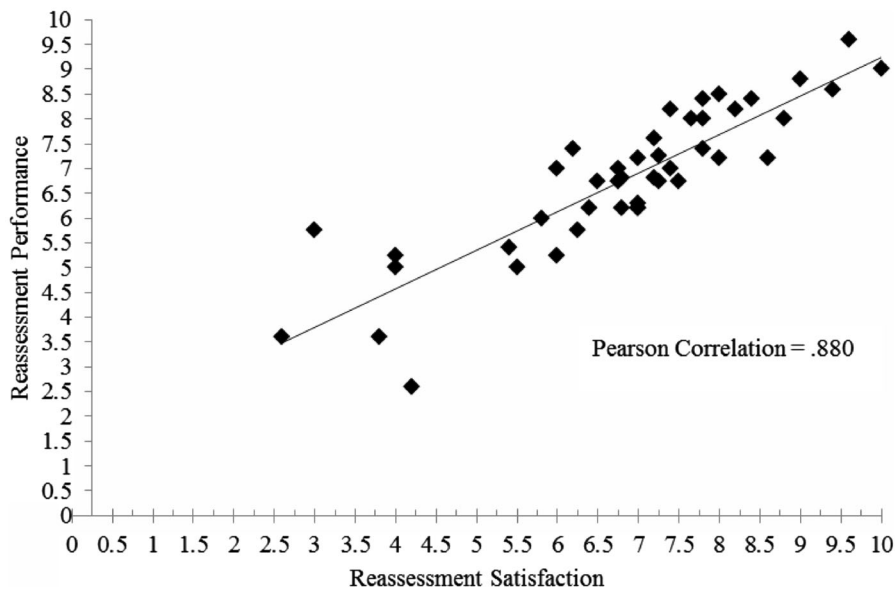| COPM categories	Pre mean (SD)	Post mean (SD)	Mean change	t (df)	sig	Effect size
Satisfaction (n = 44)	3.36		3.51	–		1.94
	(1.91)	6.84 (1.67)		11.16 (43)	.000	
Performance (n = 44)	4.14		2.65	–		1.79
	(1.48)	6.79 (1.48)		10.32 (43)	.000	

Fig. 1 COPM post satisfaction and performance correlation reassessment (post) performance overall score as measured on the COPM was highly correlated with reassessment satisfaction overall score ($r = .88$, $p < .00$) and is shown in Fig. 1

Participants provided narrative responses to the impact of occupational therapy intervention at the time of discharge. Direct quote responses relate to the most highly-identified occupation areas related to the COPM domains of self-care, leisure, and productivity. One participant stated, "Before I came to occupational therapy, I was in the storm. Occupational therapy is like my umbrella. Even though it is still raining, I am able to walk through it;" another participant communicated that through occupational therapy, "I learned to motivate myself…and to believe in myself…" and that "my money management skills have improved and that I am independently managing weekly paychecks." Another participant noted, "Occupational therapy has helped me with self-motivation… and has motivated me to sign-up for classes." At

Table 3 Occupational therapy intervention for participant identified area of need

COPM domain	OT intervention	Prevalence of area of need*
Productivity	*Work*	38 (19%)
	Exploring and pursuing realistic employment, resume writing, interviewing (mock interviews & feedback), computer skill training, effective worksite communication and general literacy assessment/intervention	
	Education	27 (14%)
	Obtaining funding for GED test preparation, registering for night classes, improving math, writing, reading, and computer skills, applying to college, referrals for tutoring and community academic support services	
	Productivity (general)	12 (7%)
	Obtaining expungement, workspace and environmental adaptations (seating, lighting, desk organization), improving attention, using visual/verbal cueing aids, coping strategies for stress and/or money management, cooking on a budget	
Leisure	*Psychological Management*	31 (16%)
	DSM-V diagnosis education and medication management, referral to counseling, addiction/trigger identification, relapse prevention, WRAP (wellness recovery action planning), self-talk and visualization strategies, coping with auditory hallucinations, strategies to manage anger, stress, depression, grief, and anxiety	
	Leisure Exploration and Participation	14 (7%)
	Development of healthy leisure activities, restorative hobbies (joining a ceramics group, swimming, journaling, book club participation, use of pedometer via a walking club)	
	Social Participation	12 (6%)
	Reconnecting with friends and family, planning healthy social activities, developing new friendships post incarceration, handling holiday stress	
	Leisure (Miscellaneous)	12 (6%)
	Development of new activities (exercise, baking, volunteering), accessing social media, finding a place of worship, and obtaining a cell phone	
	Health Maintenance and Management	8 (4%)
	Sleeping, exercising, healthy eating, life balance, setting boundaries, crisis management, suicide ideation management and prevention education	
Self-care	*Financial Management*	19 (10%)
	Budgeting, paying bills, filing taxes, opening a savings/checking account, creating a realistic budget, meal planning on a budget, understanding a paycheck stub, identifying a housing option based on income, understanding social security disability	
	Health Maintenance and Management	9 (5%)
	Sleep, stress, health, pain management, smoking cessation, exercise, developing healthy hygiene and appearance, sexual education, addressing impact of co-morbidities (managing hypertension, diabetes), harm reduction strategies for drug and alcohol use, and weight management	
	Self-Care (Miscellaneous)	9 (5%)
	Increasing confidence, improving memory and attention, dressing on a budget, appropriate dress in the workplace, hair care, accessing dental care, parent training re: typical childhood development, education, and discipline strategies	
	Driving and Community Mobility	5 (3%)
	Preparation for obtaining a driver's license, utilizing public transportation, safety awareness in the community, identifying and connecting with community resources	

*196 total problems identified in (n = 44) COPM assessments

Theoretical/Model/Framework basis to support array of interventions listed: Cognitive Behavioral Model: Beck, 2011; Transtheoretical Model: Prochaska and DiClemente 1983; Person-Environment-Occupational Model: Law et al. 1996; Model of Human Occupation: Keilhofner 2008; Recovery and Harm Reduction Approaches: SAMHSA 2012

discharge, another participant reported, "Occupational therapy has helped me communicate and work better with others…" also stating that, "I learned about careers to look at for the future." Responses highly suggest that participants had positive experiences regardless of the intervention area in which goals were focused.

Discussion

Clarity surrounding demographic diagnostic breakup was incomplete on all records and limited to participant self-report. Schizoaffective disorder, schizophrenia, bipolar disorder, major depressive disorder, substance use disorder, anxiety, PTSD, trauma, a previous history of homelessness or incarceration was identified for some, but was not available on all participant records analyzed. Many participants who received individual occupational therapy services also participated in weekly onsite occupational therapy group programming in the areas of mental health and wellness, stress and anger management, money management, assertiveness training, vocational skill development and more. Since this retrospective analysis was limited to participants who completed pre/post COPM assessment only, the researchers were unable to compare the effectiveness of group only versus individual occupational therapy intervention.

Findings indicate that the positive change scores captured with the COPM may have also been influenced by group occupational therapy programming. While the COPM is considered a reliable and valid tool for pre/post scoring, the essence of occupational therapy treatment is based in a client-centered and individualistic approach. For example, identified under the COPM domain of "productivity" out of 196 total problems identified by participants, 38 (or 19%) of those problems related to the area of "work" (see Table 3). Each occupational therapy intervention approach that addressed "work" was tailored to the specific individual. One participant identified the need to explore realistic employment; another desired to increase computer skill training, while another noted the need to learn effective work site communication. Individualized and client-centered approaches to treatment are unique to occupational therapy, but can present as a limitation, as deductive groupings for clear delineation between specific interventions

administered per COPM category in the areas of self-care, productivity, and leisure are not rote, and all determined goals are open-ended and tailored to the individual.

It is noteworthy that participants with a history of SMI, homelessness and/or individuals with ex-offending histories demonstrated statistically significant improvement via the COPM. The outcomes indicate the impact of individualized occupational therapy interventions in a relatively short time frame, suggesting the power of occupational therapy and the effectiveness from implementation of brief, but meaningful, occupation-based interventions in the community [37]. Although this retrospective analysis focused on services provided within one program, outcomes suggest individualized occupational therapy intervention provides significant benefits for individuals with behavioral and/or mental health, wellness, and employment needs. Occupational therapists are trained to develop client-centered occupational therapy consultative, individual and group programming using collaborative, evidence and theory-based models, including the recovery model as noted in the Occupational Therapy Practice Framework to support needs within the community [38]. Findings from this retrospective analysis warrant consideration for expanding the role of occupational therapists to include consultant, employment specialist, and/or program director and recognition as qualified mental health service providers in Certified Community Behavioral Health Clinics (CCBHCs) [39]. Replication of this occupational therapy program model may further enhance the delivery of individualized interventions within other community based behavioral and/or mental health settings in order to meet the needs of individuals, groups and/or populations of individuals with mild intellectual disabilities, SMI, homelessness and/or with a history of incarceration in order to facilitate satisfaction and performance in daily life.

Compliance with Ethical Standards

The submitted manuscript was approved by the authors' University Institutional Review (IRB). This process required each author to indicate all potential conflicts of interest related to this study. No conflicts were identified and all authors certify

responsibility for the content of this manuscript. All authors also certify that there are no conflicts of interests in relation to the requirements indicated on the journal's website. All authors' have adhered to the required "ethical responsibilities of authors" required for the submission of this manuscript and have signed and submitted conflict of interest forms. This project is unfunded.

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