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Behavioral and Functional Changes in First Responders Receiving Treatment in a Transdisciplinary Biopsychosocial Therapeutic Community Model Program

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*Topics

Please select up to 4 topics from each section that applies to your submission

Study Type

Specific population

Mind-body intervention

Understudied populations

Clinical Conditions and Disorders

Pain

Mental disorder

Somatic symptom disorder

Biobehavioral & Social Processes

Emotions / cognitions

Psychological Predictors

Depression & anxiety

Introduction: First responders are repeatedly exposed to trauma and injury, leading to behavioral and functional impairments. More die from suicide than injuries in the line of duty. An occupational medicine program addresses these issues and restores function by immersing first responders in a transdisciplinary biopsychosocial therapeutic community. As first responders' injuries are multifaceted, they are assessed in multiple domains, including ability to perform activities of daily living (ADLs) and mental health.

Objective: To examine the functional restoration and behavioral changes experienced by first responders following treatment in a transdisciplinary biopsychosocial therapeutic community model program.

Materials and Methods: Data from an occupational medicine provider were analyzed. Patients were eligible if they were first responders, began treatment from May 16, 2022 to August 4, 2025, and completed 90+ hours of treatment. Patients with incomplete data were excluded. Outcomes were measured at intake and discharge. ADLs included activity, food preparation, housekeeping, mobility, self-care, shopping, and transportation, with higher scores on a 0-4 point scale reflecting better function. Patients also completed the Brief Battery for Health Improvement 2 (BBHI-2), which assesses pain complaints, functional complaints, somatic complaints, anxiety, depression, and defensiveness, the Beck Anxiety Inventory (BAI), and the Beck Depression Inventory (BDI). $BAI \geq 17$ and $BDI \geq 20$ defined clinically significant anxiety and

depression. Paired *t*-tests compared continuous pre- and post-treatment scores, and McNemar's tests assessed changes in anxiety and depression prevalence.

Results: A total of 129 first responders were included. All seven ADL domains significantly improved, ranging from 0.23 (shopping, $p=0.030$) to 0.57 (activity, $p<0.001$). BBHI-2 scores declined for pain complaints (-10.3), functional complaints (-20.4), somatic complaints (-26.7), anxiety (-10.0), and depression (-16.0) (all $p<0.001$), while defensiveness increased (+23.1, $p<0.001$). BAI (-10.1, $p<0.001$) and BDI (-13.1, $p<0.001$) scores fell significantly. The proportion of patients with clinically significant anxiety decreased from 65.9% to 29.5% ($\chi^2=34.7$, $p<0.001$), and the proportion with clinically significant depression decreased from 76.7% to 27.9% ($\chi^2=57.4$, $p<0.001$).

Conclusion: Completion of the program was associated with significant improvements in functional capacity and behavioral health. First responders showed significant gains across all ADLs, reductions in anxiety, depression, pain, and somatic complaints, and decreases in clinically significant anxiety and depression.

Table: Changes in Behavioral and Functional Outcomes (N=129)

Outcome Measure	Mean Difference (Post-Pre)	<i>p</i> -value
Activities of Daily Living (ADLs)		
Activity	0.57	<0.001
Food Preparation	0.25	0.015
Housekeeping	0.51	<0.001
Mobility	0.36	<0.001
Self-Care	0.33	<0.001
Shopping	0.23	0.03
Transportation	0.33	0.007
BBHI-2 Subscales		
Pain Complaints	-10.3	<0.001
Functional Complaints	-20.4	<0.001
Somatic Complaints	-26.7	<0.001
Anxiety	-10.0	<0.001
Depression	-16.0	<0.001
Defensiveness	23.1	<0.001
Beck Inventories		
Anxiety (BAI)	-10.1	<0.001
Depression (BDI)	-13.1	<0.001

List at least 1 specific learning objective that participants will achieve from the session (limit of 250 characters per learning objective)

Learning Objective 1

Describe the functional challenges faced by first responders resulting from trauma exposure and occupational injury.

Learning Objective 2

Describe the behavioral health challenges faced by first responders, including anxiety, depression, and somatic complaints, linked to repeated traumatic stress.

Learning Objective 3

Explain the principles of a transdisciplinary biopsychosocial therapeutic community model programs, and how this approach addresses the multifaceted needs of first responders.

Learning Objective 4

Interpret changes in Activities of Daily Living (ADLs) scores following

program participation,
highlighting improvements
in specific domains of daily
functioning.

Learning Objective 5

Interpret changes in
behavioral health outcomes
as measured by the BBHI-2,
BAI, and BDI.

How you would like your submission to be considered

Poster or Paper

How your submission contributes to SBSM's diversity mission

This submission advances SBSM's diversity mission by examining the treatment of the behavioral and functional challenges faced by a subpopulation of individuals working in a hazardous role. First responders often serve in communities with significant disparities in access to healthcare, and their ability to function effectively has direct implications for equity in emergency response and public safety. Furthermore, first responders are often the onramp to the healthcare system for people without formal access to care.