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Perceived Participation Restriction in Middle-Aged and Older Persons with Schizophrenia

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Abstract

Objective—The purpose of this study was to examine clinical characteristics associated with participation restriction in middle-aged and older persons with schizophrenia.

Method—Seventy-eight patients with schizophrenia or schizoaffective disorder, ranging in age from 40 to 81 were included in the study. Participants completed an assessment consisting of sociodemographics, psychiatric symptom severity, depressive symptom severity, cognitive functioning, and participation restriction.

Results—A majority of patients reported experiencing participation restriction. Greater severity of participation restriction was predicted by more severe depressive symptoms, less severe general psychiatric symptoms, and better cognitive functioning. Together, these variables accounted for 45% of variance in participation restriction scores with depressive symptoms accounting for the largest proportion of variance. Participation restriction was not associated with age.

Conclusions—Participation-restriction and depressive symptoms are related in individuals with schizophrenia; however, the direction of their relationship is unclear and requires further investigation.

Keywords

Stigma; Participation Restriction; Schizophrenia; Disability; Cognition; Depression

Introduction

Disability is increasingly being recognized as an important therapeutic target for adults with schizophrenia (1). Disability reduction may be particularly important for older adults who experience increased rates of cognitive impairment, medical morbidity, and stigma (related to both old age and mental illness). In order to develop new interventions to maintain functioning in people with schizophrenia into late life, a clear understanding of the determinants of disability is needed.

Disability, itself, is a World Health Organization umbrella term comprising three levels of experience: (1) impairment, (2) activity limitation and (3) participation restriction (2).

Impairment refers to the impact on bodily function (e.g., negative symptoms), whereas activity limitation and participation restriction refer to limitations in the ability to execute a task (e.g., perform adequately on a test of social skills) and the negative personal or social consequences of a health condition (i.e., limits in the ability to participate in life situations; having friends), respectively.

Participation restriction is an important construct of study in patients with schizophrenia for several reasons. First, several studies have already examined correlates of activity limitation in adults and older adults using performance-based measures of daily functioning (1). Fewer address participation restriction. Second, patients are more likely to be concerned about their engagement in life situations than actual impairments or activity limitations (3). Finally, potential to participate in society may remain in the face of impairments and activity limitations (4).

Recent work (5), using two items from the Participation in Society subscale of the WHODAS-II, found that individuals who scored high also had more severe positive and general psychiatric symptoms and greater disability than those who did not score high. Although these data suggest clinical factors that may predict participation restriction, the analysis did not include all subscale items. Additionally, findings from their relatively young sample (i.e., mid 30's) would not likely generalize to patients at the older end of the age continuum. Consequently, the purpose of this study was to examine sociodemographic and clinical predictors of participation restriction in middle-aged and older persons with schizophrenia. We hypothesized that greater age, psychotic and depressive symptoms severity, and cognitive functioning would predict more severe participation restriction.

Materials and Methods

Sample

This study included 78 adults with schizophrenia or schizoaffective disorder. Each subject was recruited as part of the Advanced Center for Interventions and Services Research through presentations at board-and-care facilities and community clubhouses in San Diego County. Subjects were included if they were over age 40, had a DSM-IV chart diagnosis of schizophrenia or schizoaffective disorder, had a stable outpatient status, and provided informed consent. Subjects were excluded if they had a chart diagnosis of dementia, were unable to complete the assessment, had a public conservator, or had any physical disorders that required medical hospitalization at the time of this study. A total of 89 subjects expressed initial interest in the study, however, 6 subjects declined to participate prior to consent, 3 subjects were ineligible due to wrong psychiatric diagnoses, and 2 subjects were unable to provide consent. Sociodemographic and clinical data were not retained for subjects who were disinterested in or ineligible for the study.

Procedure

This study was approved by the UCSD Institutional Review Board. Participants completed a 1.5-hour assessment by a trained interviewer. Each participant received \$10 for their effort.

Instruments

Psychopathology—Psychiatric symptom severity was measured with the 30-item Positive and Negative Syndrome Scale (PANSS (6)). Symptoms experienced in the past week were evaluated on a 7-point scale ranging from none (1) to severe (7). Items were summed to create three subscale scores (i.e., positive symptoms, negative symptoms, and general psychopathology). The 17-item Hamilton Depression Rating Scale (HAM-D (7)) was used to

measure cognitive, affective, somatic, and vegetative symptoms of depression. Total scores range from 0 to 50. Higher scores reflect greater symptom severity.

Neurocognitive functioning—Neurocognitive functioning was evaluated using Mattis' Dementia Rating Scale (DRS (8)). The DRS consists of 36 tasks that are divided among five domains: Attention, Initiation/Perseveration, Construction, Conceptualization, and Memory. The total score (used in this study) ranges from 0 to 144. Higher scores reflect better cognitive performance.

Participation restriction—Participation restriction was measured using the Participation in Society subscale of the World Health Organization Disability Assessment Schedule - II (WHODAS-II) (2). Respondents rated their perceived disability for 8 scale items from (1) none to (5) extreme. A percent disability (0-100%), using an algorithm provided by the World Health Organization, was calculated with higher scores reflecting greater disability.

Statistical Analysis

To test our hypothesis, we conducted a step-wise regression analysis. As a more conservative test, we also conducted the regression analysis entering all variables simultaneously. The predictors included age, gender, ethnicity (i.e., Caucasian or non-Caucasian), psychiatric symptom severity (PANSS positive, negative, general psychopathology symptoms total scores), depressive symptom severity (HAM-D total score), and cognitive functioning (DRS total score). The alpha was set at $p \leq .05$ and tests were two-tailed.

Results

The study participants ranged in age from 40 to 81 years ($M=52.7$, $SD=9.1$) and were predominantly male ($n=54$, 69.2%) and Caucasian ($n=56$, 71.8%). Participants had approximately 12 years of education ($M=12.8$, $SD=2.7$) and most lived in board-and-care settings ($n=69$, 88.5%). Psychiatric symptoms scores were generally low (9;10) (PANSS positive symptoms total score, $M=13.3$, $SD=5.0$; PANSS negative symptoms score, $M=14.6$, $SD=5.1$; PANSS general psychopathology score, $M=27.0$, $SD=6.5$) and depressive symptoms were mild ($M=7.2$, $SD=5.4$). The majority of the participants (82%) reported experiencing at least mild participation restriction.

The step-wise multiple regression analysis (see Table 1) showed that HAM-D, PANSS general psychopathology, and DRS scores all predicted participation restriction, accounting for 45% of the variance in participation restriction scores. The positive relationships of depression and cognition to participation restriction were consistent with our hypothesis. However, the negative relationship between general psychopathology and participation restriction was in the opposite direction to that expected. Age, gender, and ethnicity did not contribute to the model.

When then analysis was re-conducted using all variables, the model was also significant ($F = 7.96$, $df = 8/68$, $p < .001$). Greater depressive symptom severity (i.e., HAM-D) and better cognitive functioning (i.e., DRS) scores predicted greater participation restriction. However, the relationship between general psychopathology symptoms and participation restriction disappeared. Sociodemographic variables (i.e., age, gender, ethnicity) were also unrelated to severity of participation restriction.

Discussion

This study showed that depressive symptom severity was related to participation restriction for adults and older adults with schizophrenia. This finding is similar to other research demonstrating a relationship between depressive symptoms and overall functional disability

(11;12). The mechanisms that drive this relationship, however, are not clear (13). It is possible that people who experience depression see the world in negative terms and rate their participation restriction accordingly. Alternatively, feelings of depression may result from experiences in a culture limits involvement of people with mental illness. Behavioral factors (14) and social isolation (15) may also be associated with both depressive symptoms and disability.

This study also showed that better cognitive functioning was related to greater participation restriction. The contribution of cognitive functioning to the overall model was, however, was small. Although this finding runs counter to the work of Wilkie et al., (14) it is consistent with Bowie et al. (16), who found that patients with better cognitive abilities had more depressive symptoms and overestimated their level of disability. Additional work with larger samples and more specific measurement of cognitive functions (e.g., abstract thinking) may provide additional information about those who experience participation limitations.

Contrary to expectations, positive, negative, and general psychiatric symptoms were unrelated to participation restriction. These findings are also inconsistent with previous work (5) showing that those who perceived participation restriction had higher PANSS positive and PANSS general psychopathology scores than those who did not. Sample composition factors (e.g., living situation, age, culture, symptom severity), differences in construct measurement, and limited power may also have accounted for differences in the results. Age was also unrelated to participation restriction. It is possible that depressive symptoms are more important than age when predicting involvement in life situations. It is also possible that our age range was too restrictive. The inclusion of younger adults may allow a clearer relationship between age and participation restriction to emerge.

The limitations of this study are as follows: (1) Our findings, based on a sample of middle-aged and older persons with low psychiatric symptom severity, may not generalize to younger and more severely-ill persons; (2) We relied on the treating physician's chart diagnosis which may not have been accurate; (3) Missing data prevented us from being able to examine the relationship of illness duration and participation restriction; and (4) The exclusion of patients with public guardians prevented our examining the relationship between guardian status (i.e., guardian vs. no guardian) and participation restriction.

In summary, additional research is needed to clarify the nature and direction of relationship of depression to participation restriction in adults with serious mental illness. Studies are also needed to examine the relationship of participation restriction to other important constructs (e.g., perceived stigma).

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Table 1
Sociodemographic Characteristics of the Sample (N = 78)

Sociodemographic Characteristics	Total Sample	
	M (N)	SD (%)
Age	52.7	9.1
Education	12.8	2.7
Gender - Male	54	69.2
Ethnicity - Caucasian	56	71.8
Psychiatric diagnosis		
Schizophrenia	62	79.5
Schizoaffective disorder	16	20.5
Marital Status - Single never married	51	65.4
Living situation		
Board and care	69	88.5
House or apartment	9	11.5
Clinical Characteristics	M	SD
PANSS positive symptoms score ^a	13.3	5.0
PANSS negative symptoms score ^a	14.6	5.1
PANSS general psychopathology score ^a	27.0	6.5
Hamilton Depression Rating Scale total score	7.3	5.4
Dementia Rating Scale total score	127.5	11.5
Participation in Society percent disability ^b	69.0	26.6

^aPANSS, Positive and Negative Syndromes Scales

^bWHODAS-II, World Health Organization Disability Assessment Schedule, Participation in Society subscale

Table 2
Stepwise Regression of Stigma-Related Disability on Psychiatric and Depressive Symptoms and Cognitive Functioning^a

Step	Variable Entered	R ²	R ² Change	F Change ^b	Beta	p
1	Hamilton Depression Scale - Total	.37	.37	42.3**	.61	.001
2	Hamilton Depression Scale - Total PANSS General Psychopathology - Total	.41	.04	5.2*	.68 -.22	.001 .025
3	Hamilton Depression Scale - Total PANSS General Psychopathology - Total Mattis' Dementia Rating Scale - Total	.45	.04	4.3*	.65 -.24 .21	.001 .013 .025

^a Overall model was significant: (F(3,70) = 19.4, p< .001).

^b df for F change is as follows: (1) 1,72; (2) 1,71; (3) 1,70