**Development and evaluation of a recovery-oriented cognitive-behavioral workshop for people diagnosed with schizophrenia**

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Abstract

*Background*: There is a need to develop culturally adapted interventions that support the personal recovery and real-world functioning of persons diagnosed with schizophrenia.

*Aims*: This study reports on the development and evaluation of a culturally adapted, recovery-oriented, cognitive-behavioral workshop for service users with schizophrenia.

*Method*: The feasibility and acceptability were assessed, as were changes over time in personal recovery and psychosocial functioning (primary outcomes) along with psychopathology and health-related behaviors (secondary outcomes), using multilevel modeling. It was also assessed whether personal recovery predicts psychosocial functioning.

*Results*: The workshop was feasible and was received favorably. Participants improved over time regarding confidence and hope, feeling less dominated by symptoms, psychosocial functioning, and psychopathology. Personal recovery predicted decreased psychosocial difficulties.

*Conclusions*: The workshop is a promising intervention. It shows potential in terms of both improving personal recovery as well as real-life functioning of persons diagnosed with schizophrenia. Further workshop evaluation in a randomized controlled study is required.

*Keywords:* schizophrenia, disability, personal recovery, cognitive-behavioral therapy.

**Introduction**

Persons diagnosed with schizophrenia experience disability in their daily lives. According to the International Classification of Functioning, Disability and Health (ICF) (World Health Organization, 2001), *functioning* denotes positive aspects of the interaction between a person with a health condition and contextual (i.e., environmental and personal) factors. Meanwhile, *disability* refers to the negative result of such interaction and encompasses impairments of body functions, activity limitations and participation restrictions. Disability experienced by persons diagnosed with schizophrenia far exceed mental functions and refer to many activities and participation domains as well as environmental factors (Hartley et al., 2014; Świtaj et al., 2012). Consequently, interventions that support the real-world functioning of persons with schizophrenia need to be developed (Nowak, Sabariego, Świtaj, & Anczewska, 2016).

The recovery approach offers a valuable basis for developing interventions. It recognizes the needs of persons experiencing mental health problems by going beyond symptomatic reduction and encouraging self-determination and engagement in life pursuits (Anthony, 1993; Farkas, 2007). Processes of personal recovery identified during a systematic literature review included connectedness, hope and optimism about the future, identity, meaning in life, and empowerment (Leamy, Bird, Boutillier, Williams, & Slade, 2011). Although those targets are often integrated into working formulations by practitioners, the operationalization of ways to work with them remains less developed and evaluated (Thomas et al., 2014).

In terms of cognitive-behavioral therapy (CBT), results of a systematic literature review by Nowak et al. (2016) indeed showed that few recovery-focused, cognitive-behavioral interventions are available, despite that CBT for psychosis (CBTp) ranks among psychosocial interventions recommended for routine practice (Dixon et al., 2009; National Institute for Health and Care Excellence, 2014). Nevertheless, individuals who have benefited from CBTp often mention the particular benefit of its recovery-oriented aspects, thereby suggesting that it should be delivered in a manner that is acceptable to and empowering of service users (Brabban, Byrne, Longden, & Morrison, 2016). Cultural differences in the values fundamental to the concept of recovery should also be considered since the primary aim of recovery-oriented care is to provide people with serious mental illness with a range of effective and culturally relevant interventions (Davidson, Rowe, Tondora, O’Connell, & Lawless, 2008).

The open question of recovery-oriented interventions is to what extent they can also target the real-world functioning of persons diagnosed with schizophrenia. Results of a systematic literature review indicated limited evidence of the impact of recovery-focused CBT approaches on domains of disability. However, they reflected users’ views on recovery and targeted disability outcomes that in previous studies have shown improved mood and functioning as shown in the study by Nowak et al. (2016). By extension, an evaluation of whether a CBT intervention targeting personal recovery can also support persons diagnosed with schizophrenia in overcoming disabilities experienced in daily life is required. Such an investigation could provide a more comprehensive strategy for the recovery of persons with schizophrenia.

In response to those needs, a recovery-oriented workshop combining existing evidence based approaches, such as CBT, with desired aspects of recovery identified by Polish service users diagnosed with schizophrenia was developed by using a phased approach to intervention formulation (Craig, Dieppe, Macintyre, Michie, Nazareth, & Petticrew, 2008). The objective of this first pilot trial is to evaluate the workshop feasibility, acceptability, and potential effectiveness over time in terms of personal recovery and psychosocial functioning as primary outcomes and psychopathology and health related behaviors as secondary ones. It also assesses whether personal recovery predicts psychosocial functioning of service users with schizophrenia.

**Methods**

**Participants**

Ethical approval for the study was granted by the Bioethics Committee at the Institute of Psychiatry and Neurology in Warsaw (Poland). Each participant provided written informed consent. Participants were recruited in clinics of the Institute of Psychiatry and Neurology from October 2015 to April 2016. The researcher visited the clinics during community meetings to present the objectives and procedure of the study, which also involved displaying informative posters about the workshop in the settings under study. Inclusion criteria were a diagnosis of schizophrenia (F20, International Classification of Diseases, ICD-10), age of 18–65 years, signed informed consent, and a stable mental health status according to the treating psychiatrist. Exclusion criteria were acute psychosis, withdrawal of consent to participate in the study, no diagnosis of schizophrenia, active drug or alcohol dependence. Diagnoses were made by the psychiatrist responsible for treatment and care in the settings under study, individuals interested in the program were enrolled in the study based on the inclusion and exclusion criteria.

**Measures**

**Feasibility and acceptability.** Feasibility and acceptability were assessed by registering attendance at the workshop, completion rates, feedback at the conclusion of each module, and standardized satisfaction ratings collected using the Client Satisfaction Questionnaire (CSQ-8) at the end of the workshop (Larsen, Attkisson, Hargreaves, Nguyen, 1979). The CSQ-8 has eight question items, responses to which range from 1 (*very negative*) to 4 (*very positive*). Total scores vary from 8 to 32, with higher scores meaning greater satisfaction.

**Primary outcomes.** Recovery and recovery domains were measured with the short version of the Recovery Assessment Scale–Revised (RAS-R; Corrigan, Salzer, Ralph, Sangster, & Keck, 2004), which assesses subjective perceptions of recovery among people recovering from mental illness. RAS-R uses a 5 point Likert scale measuring the extent of agreement, ranging from 1 = *strongly disagree* to 5 = *strongly agree,* on individual questions. Higher scores indicate improved recovery. The RAS-R factors are personal confidence and hope, willingness to ask for help, goal and success orientation, reliance on others, and no domination by symptoms. Cronbach’s alpha for the subscales range from .74 to .87.

Psychosocial functioning was operationalized with the PARADISE 24 metric, a new ICF-based measure that captures the impact of mental and neurological health conditions on people’s lives and provides an estimation of service users’ overall level of disability, named *psychosocial difficulties* (PSDs) in this scale. The metric contains 24 items scored on a 3 point scale (0 = *none*, 1 = *some*, 2 = *a lot*), and total scores, obtained from the sum of PSD scores range from 0 (*no PSDs*) to 100 (*extreme PSDs*). Rash analyses indicated a valid, reliable metric, with questions infit mean squares ranging from 0.7 to 1.3. Targeting between item thresholds and persons’ abilities was good, whereas the person separation index was .92 (Cieza et al., 2015).

**Secondary outcomes.** The severity of psychopathological symptoms was measured with the Brief Psychiatric Rating Scale (BPRS; Overall & Gorham, 1988), which consists of 18 items rated by a clinician on a scale from 1 (*symptom not present*) to 7 (*symptom extremely severe*). The total score is calculated by summing the individual item scores, and the higher the score, the more severe the symptoms. The Polish BPRS has a Cronbach’s alpha of .91 (Chrostek, Grygiel, Anczewska, Wciórka, & Świtaj, 2016).

Health-related behaviors were operationalized with the total score on the Inventory of Health Behaviors (Inwentarz Zachowań Zdrowotnych; Juczyński, 2012), which measures various health-related behaviors, including proper nutritional habits, preventive behaviors, positive thinking, and health practices. Responses are rated on a 5 point Likert scale, ranging from 1 = *almost never* to 5 = *almost always*. Higher scores indicate greater intensity of healthy behaviors. Cronbach’s alpha is .85 for the whole questionnaire, whereas for its subscales it ranges from .60 to .65.

**Intervention**

**Development of the recovery-oriented cognitive-behavioral workshop.** Prior to developing the workshop, a systematic literature review and a focus group study were performed. Results of the systematic review by Nowak et al. (2016) indicated a need to develop more recovery-oriented CBT interventions, which can foster personal recovery and address the disabilities of people diagnosed with schizophrenia. To make the workshop meaningful for Polish service users, themes derived from the focus group study carried out by Nowak et al. (2017) guided the development of the workshop’s content. Seven modules were formulated and manualized since brief CBTp might be a cost effective option in settings with limited resources (Naeem et al., 2016). The learning process, grounded in the lifelong learning approach (Longworth, 1999), focused on eliciting and expanding participants’ knowledge about recovery topics and fostered empowerment and building upon personal recovery skills necessary for recovery. Exercises directed at amplifying recovery skills were derived from a range of available CBT approaches, for instance traditional CBT (Kingdon & Turkington, 1994; Tarrier, 1994), third wave CBT (Chadwick, 2006; Laithwaite et al., 2009; Oliver, Morris, Johns, & Byrne, 2011), positive CBT (Bannink, 2012). Feedback on the workshop’s content and structure was sought from Larry Davidson, Ph.D. (Yale University, USA), Joseph Olivier, Ph.D. (‎[University College London](https://www.linkedin.com/company/university-college-london?trk=ppro_cprof), UK), and Agnieszka Popiel, Ph.D. (University of Social Sciences and Humanities, Poland). Revisions to the manual were made based on common themes that emerged from reviewers’ feedback.

**Content of the recovery-oriented cognitive-behavioral workshop.** Since psychological recovery was the most widely recurring theme in the focus group study, Module 1 focused on the concept of recovery in exercises that elicited personal meanings of recovery and its process from participants. Module 2 sought to strengthen participants’ positive sense of self by expanding their knowledge of identity change related to the appearance of illness and by building upon their personal resources and capacities. Module 3 revolved around establishing personally meaningful recovery goals linked to personal values, as well as involved identifying difficulties preventing progress toward valued directions and fostering motivation to overcome the difficulties. The content of further modules referred to more objective recovery related domains that emerged in the focus group. Namely, modules 4 and 5 aimed to cultivate the self-management of mental and physical health by developing personal management strategies and promoting self-efficacy in light of successful instances of symptom and physical health management. Modules 6 and 7 aimed to enhance several areas of interpersonal relationships (i.e. identifying supportive people in existing networks, initiating new contacts, developing friendships, disclosing personal mental health status). Each module ended with planning for small, achievable goals that reflected personal areas of interests. Two weeks after the workshop ended, an optional online booster session was offered to participants since briefer CBT interventions incorporating booster sessions in the treatment conceptualization can facilitate change in targeted outcomes (Johns et al., 2016; Tarrier et al., 2004). The objective of the booster session was to foster motivation and confidence in overcoming difficulties related to recovery, the content of which was not manualized. Table S1 presents the content of the intervention modules.

Each module was delivered as a 2 h session with a 15 min coffee break. Occurring twice weekly, sessions were led by the first author and a co-educator who had lived experience of mental illness and was recruited from the Foundation *efkropka*, an organization that aims at changing the stigma and self-stigma of mental illness. A recovery workbook was developed and distributed to each participant at the beginning of training, and sessions were guided by PowerPoint presentations.

**Data Analyses**

All data were checked for consistency, followed by descriptive statistics to characterize the study population and describe recovery, psychosocial functioning, psychopathology, and health-related behaviors at each assessment point. Multilevel models for change were run to determine the impact of the workshop on the variability and change over time of the primary outcomes (i.e., recovery and psychosocial functioning) and secondary outcomes (i.e., psychopathology and health-related behaviors). In addition, it was assessed whether recovery predicted psychosocial functioning. Analyses were performed on participants who answered the questionnaires during at least one assessments with the MIXED procedure of the Statistical Package for the Social Sciences (SPSS) version 23.

**Results**

**Demographics**

The program enrolled 46 participants, whose demographic and workshop characteristics appear in Table S2.

**Feasibility and acceptability**

Considering the 46 individuals who consented to participate in the study, 63%, 19.6%, 6.5%, 2.2%, 6.5%, and 2.2% attended seven, six, five, four, two, and one module, respectively. Dropout after the first or second module occurred due to university exams (*N* = 1), unexpected early discharge (*N* = 2), resigning after the first module (*n* = 1), or unknown reasons (*N* = 1). Thirty seven participants were assessed at post-intervention (80.4%) and 20 at follow-up a month later (43.5%). The total score on CSQ-8 was 26 (*SD* 3.54), thereby indicating that participants were satisfied with the workshop. Furthermore, mean ratings were greater than 3 for each item on that scale. Participants’ common feedback revealed that the workshop was thought to be positive and interesting, with group and role play exercises frequently perceived as being the most helpful.

**Primary outcomes**

Table S3 presents mean scores and *SD* for each dependent variable. For recovery total, time was not a significant predictor in the individual growth model. However, there was a significant improvement over time in terms of RAS-R’s personal confidence and hope (F (1,65.54)=4.075, p<.048) and no domination by symptoms (F (1,60.19)=4.027, p<.049). A significant change over time also occurred in terms of psychosocial difficulties (F (1,35.89)=7.616, p<.009). Increased personal recovery predicted a decrease in psychosocial difficulties (F(1,74.27)=9.246, p<.003).

**Secondary outcomes**

A significant decrease in symptomatology emerged over time (*F*(1, 57.60) = 18.68, *p* < .001), however time was not a significant predictor in the individual growth model for health-related behaviors.

**Discussion**

A culturally-adapted, recovery-oriented, cognitive-behavioral workshop was developed for persons diagnosed with schizophrenia that aimed to facilitate personal recovery and process of overcoming disabilities experienced in daily life. The workshop feasibility, acceptability, and potential effectiveness were evaluated. Furthermore, it was also assessed whether recovery predicts psychosocial functioning.

Participants were satisfied with the workshop, as supported by good retention rates in workshop attendance and participation in the post-test assessments. A drop in attendance at follow-up a month after the intervention occurred, which stemmed mostly from geographical distance of residence following discharge from the hospital, since mental health services provision is not regionalized in Poland. That factor needs to be accommodated in the design of future studies as randomization employing a control condition can impact adversely upon recruitment (Johns et al., 2016).

Individual growth models indicated no significant change over time in total recovery. However, participants improved over time as to personal confidence and hope, and feeling less dominated by symptoms, which marks an encouraging finding since hope is central to recovery (Onken, Craig, Ridgway, Ralph, & Cook, 2007). Perhaps co-educators help in the running of the workshop contributed to these results as research indicated that adding peer-led support may increase service users engagement in care (O’Connell, Flanagan, Delphin-Rittmon, & Davidson, 2017) as well as their sense of hope (Davidson, Bellamy, Guy, & Miller, 2012). Nevertheless, other recovery related domains such as goals and success orientation, reliance on others, and asking for help did not improve over time, which could suggest that goals were not fully self-determined and that improvements in relationships, which illustrate the importance of others in recovery, might take longer to realize.

Participants improved over time in terms of psychosocial functioning, which suggests that personal recovery might be a useful approach to not only embracing personal recovery, but also supporting real-world functioning of persons diagnosed with schizophrenia. Although the direction of causality in relationships of personal and functional recovery remains unclear (Tse, Davidson, Chung, Ng, & Yu, 2014), our results revealed that personal recovery predicted a decrease in psychosocial difficulties. Secondary outcomes analyses showed that participants improved over time regarding the severity of psychopathological symptoms. However, future randomized controlled trials should evaluate whether that change occurred due to improved illness self-management.

Results regarding workshop effectiveness are consistent with those of other recovery-focused CBT interventions, which have shown improvements in functioning and psychopathology (Grant, Huh, Perivoliotis, Stolar, & Beck, 2012; Johns et al., 2016). The above findings indicate that participants entered into the dynamic of recovery, which was supported by improvements in some dimensions central to personal recovery and by recovery being a predictor of a better psychosocial functioning. Perhaps the workshop formulation directly targeting culturally relevant recovery processes, along with applying a learning instead of treatment approach to recovery, contributed to those results.

A limitation of the study was its uncontrolled design, meaning that conclusions about observed changes might not be attributable to the workshop. A longer follow-up might have also showed different outcome results over time. However, as a pilot study, its initial results indicate the value of investing resources in a larger evaluation. Self-reports used might have been sensitive to social desirability, recall bias, and demand effects, but since recovery is a rather subjective phenomenon, the choice to use them was deliberate. The role of co-educators was not evaluated along with the knowledge of recovery and illness self-management. However, at this stage of intervention development, a few outcome variables are recommended to be measured to assess the intervention’s preliminary efficacy (Rounsaville et al., 2001).

Overall, the workshop was positively received and offered potential benefits for incrementing participants’ confidence and hope, reducing feelings of being dominated by symptoms, improving psychosocial functioning, and reducing psychopathology. Furthermore, personal recovery predicted decreased psychosocial difficulties. Therefore, the workshop shows potential in terms of both improving personal recovery as well as real-life functioning of persons diagnosed with schizophrenia. Running of a pilot randomized controlled trial employing a longer follow-up is recommended.

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*Conflict of interest*

The authors report no conflicts of interest. The authors alone are responsible for the content and writing of this article.

*Ethical statements*

The study was approved by the Bioethics Committee at the Institute of Psychiatry and Neurology in Warsaw (Poland) and was conducted in compliance with the Declaration of Helsinki. In addition, the authors abided by the Ethical Principles of Psychologists and Code of Conduct as set out by the American Psychological Association (APA).

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Table S1

*Content of the recovery-oriented cognitive-behavioral workshop*

|  |  |
| --- | --- |
| **Module**  | **Content** |
| **Introduction to recovery** | Introduction and getting to know each otherThe concept of personal recoveryPersonal definitions of recoveryRecovery as an evolutionary journey |
| **Identity transformation** | Self-transformation in relation to life changesIdentity change and appearance of illnessMemory retrieval and group feedback on personal strengths Personal strengths and their impact on daily life |
| **Value-based goal setting** | Values and value-consistent life goalsIdentification of valued life domainsIdentification of difficulties preventing progress toward the valued direction and fostering motivation to overcome them |
| **Managing mental health** | Biopsychosocial concept of health and personal strategies in managing symptomsOverview and identification of personal coping strategiesSuccessful instances of symptom management  |
| **Living a healthy life** | Introduction to healthy lifestylesElements and actions of healthy lifestylesCosts and benefits of healthy lifestylesExperiences of success with healthy lifestyles |
| **Connecting with people 1** | Interpersonal relationships and recoveryEmpathy and jumping to conclusionsIdentification of personal support networksCommunication skills (meeting new people)Initiation and development of friendships |
| **Connecting with people 2** | Disclosure of mental health illness and asking for supportCosts and benefits of mental health status disclosureLevels of disclosure and selective disclosureAssertiveness in making requestsFuture recovery directions |
| **Online booster session** | Follow-up on participants’ progress toward recoveryFostering motivation and confidence in overcoming difficulties |

Table S2

*Demographic and workshop characteristics of participants (N = 46)*

|  |  |
| --- | --- |
| **Variables** | **Values** |
| Mean age (*SD*) Total sample | 32.89 (9.00) |
| Gender *N* (%)FemaleMale | 22 (47.8)24 (52.2) |
| Education *N* (%)Primary schoolSecondary schoolVocational educationBachelor’s degreeMaster’s degreeDoctoral degree | 1 (2.2)19 (41.3)1 (2.2)3 (6.5)21 (45.6)1 (2.2) |
| Employment *N* (%)Full-time Part-time Social security benefitsUnemployed InternshipSelf-employed | 9 (19.6)5 (10.8)27 (58.7)3 (6.5)1 (2.2)1 (2.2) |
| Marital status *N* (%)SingleMarried In a relationshipDivorced | 42 (91.3)1 (2.2)2 (4.3)1 (2.2) |
| Treatment status *N* (%)InpatientsOutpatients | 30 (65.2)16 (34.8) |
| Place of living *N* (%)WarsawOut of Warsaw | 28 (60.9)18 (39.1) |
| Mean duration of illness (*SD*)Total sampleThe first five years (*N* = 21)More than five years (*N* = 25) | 7.54 (7.64)1.75 (1.94)12.40 (7.23) |
| Mean modules attended (range 1–7) (*SD*) | 6.15 (1.55) |
| Completion rates *N* (%)Completers (7 modules)Non-completers (fewer than 7 modules) | 29 (63.0)17 (37.0) |
| Booster session attendance *N* (%)AttendedUnattended | 12 (26.1)34 (73.9) |

Table S3

*Mean scores and SD at each assessment point*

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | **Baseline** **(T0)** |  | **Post intervention****(T1)** |  | **Follow-up****(T2)** |
| **Mean** | ***SD*** |  | **Mean** | ***SD*** |  | **Mean** | ***SD*** |
| Recovery total (RAS-R)a | 83.43 | 14.85 |  | 87.00 | 16.43 |  | 87.50 | 12.67 |
| Personal confidence and hope (RAS-R) | 30.26 | 6.34 |  | 32.14 | 6.17 |  | 32.65 | 5.57 |
| Asking for help (RAS-R) | 10.22 | 2.67 |  | 10.54 | 2.43 |  | 10.75 | 1.94 |
| Goals and success orientation (RAS-R) | 18.00 | 3.73 |  | 18.70 | 4.02 |  | 18.45 | 4.24 |
| Reliance on others (RAS-R) | 15.41 | 3.32 |  | 15.41 | 3.51 |  | 15.35 | 1.81 |
| No domination by symptoms (RAS-R) | 9.54 | 2.66 |  | 10.22 | 2.31 |  | 10.30 | 2.43 |
| Psychosocial functioning (PARADISE 24)b | 21.02 | 10.53 |  | 17.38 | 8.35 |  | 16.90 | 8.51 |
| Symptomatology (BPRS) c | 36.14 | 8.15 |  | 30.08 | 7.37 |  | 27.70 | 6.28 |
| Health behaviors (IZZ) d | 82.28 | 13.55 |  | 84.00 | 12.97 |  | 84.05 | 10.28 |

RAS-R = Recovery Assessment Scale - Revised; PARADISE 24 = Psychosocial fActors Relevant to brAin DISorders in Europe; BPRS = Brief Psychiatric Rating Scale; IZZ = Inventory of Health Behavior.

a Possible scores range from 5 to 120, with higher values indicating better recovery.

b Possible raw scores range from 0 to 48, with higher values indicating more extreme PSDs.

c Possible scores range from 18 to 126 points, with higher values indicating more severe symptoms.

d Possible raw scores range from 24 to 120 points, with higher values indicating greater intensity of health-related behaviors.