Guided peer support groups for psychosis
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Document Version
Publisher's PDF, also known as Version of record

Publication date:
2009

Link to publication in University of Groningen/UMCG research database

Citation for published version (APA):

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Chapter 6

Empowerment in people with psychotic disorders: A comparison of three instruments

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Psychiatric Services 2008: 59, 1338-42
Abstract

Objective This study compares three instruments measuring empowerment as an outcome in studies with people with psychotic disorders. The internal consistency, discriminant and convergent validity, sensitivity to symptom levels, and clinical usefulness are evaluated.

Method Fifty patients were administered the Empowerment Scale (ES), the Personal Empowerment Scale (PES) and the Mental Health Confidence Scale (MHCS), together with the Community Assessment of Psychic Experiences for assessing psychotic symptoms (CAPE).

Results The MHCS has good internal consistency, while the ES and the PES perform just below standards. The instruments demonstrated moderate correlations between total scores, much less so between subscales. All three instruments are comparably associated to symptom severity.

Conclusions All three instruments measure some aspect of empowerment in the severely mentally ill. However, empowerment is too broadly defined to have convergent validity in these instruments. In patients with psychotic disorders, psychometric qualities and clinical usefulness support the use of the MHCS.
Empowerment

Introduction

Empowerment is an outcome pursued by advocacy groups, consumer organizations, mental health professionals and health care providers. It originates from the political arena and has not yet reached a consensus on its definition. The many definitions of empowerment suggest that the concept is still evolving (Rogers et al., 1997) and the number of empirical studies on empowerment is limited.

Most definitions of empowerment include participation in society in terms of access to employment, education and other valued resources (Rappaport, 1987; Segal et al., 1995) but there is a distinction between definitions focusing on interpersonal characteristics (control over one’s life and the recovery process or the efforts to achieve more control and self-efficacy (Rogers et al., 1997)) and those that also highlight influencing the organizational and societal structure in which one lives (Segal & Silverman, 2002).

In instruments developed to measure empowerment these differences can be recognized. In this study, the impact of these differences is assessed and it is questioned whether these instruments measure the same concept. Also we aim to gain some insight in how to choose the right instrument of empowerment for a population of patients with psychotic disorders. The instruments studied are the Empowerment Scale (ES) (Rogers et al., 1997), the Personal Empowerment Scale (PES) (Segal et al., 1995) and the Mental Health Confidence Scale (MHCS) (Carpinello et al., 2000). They are the most frequently cited in literature and their reliability and validity have already been established for people with severe mental illness (Markowitz, 1998; Rogers et al., 1997; Segal et al., 1995).

Here we will reappraise their internal consistency, convergent and discriminant validity, and the instrument applicability for patients with psychotic disorders (Bengtsson-Tops, 2004; Corrigan et al., 1999). As for their convergent and discriminant validity, we hypothesize that the total scores of the instruments will have correlations of at least .70, and that between subscales with common content the correlations will be even
stronger. Further, we assess the association between empowerment and the level of symptoms.

**Methods**

Participants were recruited between August 2005 and December 2006 in inpatient and outpatient services of the University Medical Center Groningen, Groningen, and the Adhesie Psychiatric Institute, Deventer, in the Netherlands. Recruitment occurred only for the purpose of this study. Inclusion criteria were age 18 to 65 years, a good understanding of the Dutch language and a clinical diagnosis (by experienced SCAN-trained psychiatrists according to DSM IV criteria (Wing et al., 1990)) of schizophrenia or a related psychotic disorder. There were no exclusion criteria. The study is in accordance with the Declaration of Helsinki and all patients provided written informed consent.

All participants completed the three self-report questionnaires in one testing session. Also, demographic and clinical characteristics such as duration of illness (time since first contact with mental healthcare organization) and lifetime number of psychotic episodes were gathered. Although all questionnaires were designed for self-administration, there was assistance from an independent professional available for the clarification of items if needed.

The ES reflects the construct of empowerment as defined by consumers of mental health services and encompasses both the interpersonal as the societal perspective (Rogers et al., 1997). The 28-item scale consists of five factors: self-efficacy–self-esteem, power–powerlessness, community activism, righteous anger, and optimism–control over the future (see Table 1). The items are worded as statements. Examples are: ‘I feel powerless most of the time’ and ‘People have a right to make their own decisions, even if they are bad ones.’ The total score ranges from 1 to 4 with higher scores indicating more empowerment. The internal consistency of the ES scale as a whole is good with an alpha of .86 (n=261) and .81 (n=1827) (Rogers et al., 1997; Rogers et al., 2007).
Empowerment

The PES focuses on control over common life domains, including shelter, income, service provision, and the individual's ability to minimize unwanted occurrences, such as personal danger and homelessness (Segal et al., 1995). It contains in total 20 items, such as: ‘How much choice do you have about how you will spend your free time?’, ‘How likely is it that you will be physically threatened in the course of next month?’ The two subscales are ‘discretion’ and ‘reduction in chance’, both consisting of 10 items. The total score on the PES ranges from 30 to 100, with higher scores indicating more empowerment (Segal & Silverman, 2002). The Cronbach alpha of the PES as a whole is .84 (n=310) (Segal et al., 1995) and .78 and .74 for discretion and reduction in chance subscales (n=1027) (Rogers et al., 2007).

The MHCS (Carpinello et al., 2000) is a 16-item scale with three subscales: optimism, coping and advocacy. The focus is on the intrapersonal aspects of empowerment as the instrument is originally designed to measure self-efficacy. The questions refer to a person’s global confidence in his/hers coping ability across a wide range of situations. Questions start with: ‘How confident are you right now that you can: …’ Examples are: ‘set goals for yourself’ and ‘deal with symptoms related to ones mental illness diagnosis’. The total score ranges from 16 to 96 with higher scores indicating more empowerment. The internal consistency of the MHCS is good with an alpha of .94 (n=610) (Markowitz, 1998).

The Community Assessment of Psychic Experiences (CAPE) (Konings et al., 2006) contains 42 items and measures positive, negative and depressive symptoms. It provides a total score of the ‘frequency’ and ‘distress’ dimension of these symptoms (both ranging from 42 to 168) and an overall score ranging from 84 to 336. Higher scores on the CAPE indicate more (distress of) symptoms. Period of examination for this study was the preceding two weeks.

All instruments are available after permission of the first author (no fee for use).

We examine the internal consistency with Cronbach’s alphas and the mean inter-item correlation coefficient (MICC) for each (sub)scale. We
consider the alpha to be sufficient if ≥ .80 and an MICC of ≥ .25. Also, correlations of ≥ .70 are considered to be sufficient for convergent validity and correlations of ≤ .40 for discriminant validity (Cohen, 1988).

In schizophrenia, the formulation of the items is very important as many patients experience difficulties in abstract thinking, understanding ambiguous sentences and have attention problems in long sentences (Thoma & Daum, 2006). For this reason, we will evaluate the clinical usefulness of the three instruments in our population. We evaluate the formulation of the items (i.e. ambiguity, concreteness, relevance, response alternatives and length), the number of missing values and self-reported experiences of the patients. Analyses were conducted using SPSS, version 14.

Results

Fifty patients were recruited: 36 (72%) participants were male, mean age was 31.4±13.0 years, their ethnic background was white, and duration of illness of 6.5± 6.3 years. Twenty-two (45%) were living alone, 2 (4%) were married, 5 (10%) had competitive employment, and 25 (50%) had a high school, college or university degree. The lifetime number of psychotic episodes was: one (N=13, 27%), two (N=12, 25%) and three or more (N=23, 48%). The diagnostic criteria for schizophrenia were fulfilled by 39 participants (78%), while eleven participants (22%) had a related psychotic disorder (i.e. psychosis NAO, delusional disorder).

All participants were able to complete the instruments on their own and only used limited aid for the clarification of the items. The mean total score on the CAPE frequency dimension was 71.7±16.2 and on the distress dimension: 67.7±19.5 leading to an overall score of 139.6±34.8 indicating mild symptoms.

Results on internal consistency of the original study and this study are presented in Table 1, together with the means and SDs for each (sub)scale. The MHCS showed the highest level of internal consistency. The ES had low Cronbach’s alphas and MICC’s on some subscales. The PES had a too low MICC on the total score. The means and SDs found in our study
Empowerment population are comparable with another study on the effects of participation in consumer-operated services programs in severe mental illness (Rogers et al., 2007).

Table 1. (Sub)scale, number of items, Cronbach Alpha original study, Cronbach Alpha of this study, mean inter-item correlation coefficient (MICC) of this study, mean (M) and standard deviation (SD) per (sub)scale in 50 patients with schizophrenia or a related psychotic disorder

<table>
<thead>
<tr>
<th>Subscales</th>
<th>Number of items</th>
<th>Cronbach alpha: original study</th>
<th>Cronbach alpha: this study</th>
<th>MICC: this study</th>
<th>M</th>
<th>SD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empowerment Scale (ES)</td>
<td>self-esteem</td>
<td>9</td>
<td>*</td>
<td>.87</td>
<td>.43</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>power</td>
<td>8</td>
<td>*</td>
<td>.50</td>
<td>.11</td>
<td>2.6</td>
</tr>
<tr>
<td></td>
<td>community</td>
<td>6</td>
<td>*</td>
<td>.73</td>
<td>.31</td>
<td>3.1</td>
</tr>
<tr>
<td></td>
<td>optimism</td>
<td>4</td>
<td>*</td>
<td>.54</td>
<td>.23</td>
<td>2.8</td>
</tr>
<tr>
<td></td>
<td>anger</td>
<td>4</td>
<td>*</td>
<td>.59</td>
<td>.26</td>
<td>2.4</td>
</tr>
<tr>
<td></td>
<td>total score</td>
<td>28</td>
<td>.85</td>
<td>.82</td>
<td>.14</td>
<td>2.8</td>
</tr>
<tr>
<td>Personal Empowerment</td>
<td>discretion</td>
<td>10</td>
<td>*</td>
<td>.77</td>
<td>.25</td>
<td>42.7</td>
</tr>
<tr>
<td>Scale (PES)</td>
<td>reduction</td>
<td>10</td>
<td>*</td>
<td>.81</td>
<td>.30</td>
<td>40.7</td>
</tr>
<tr>
<td>Mental Health</td>
<td>optimism</td>
<td>6</td>
<td>*</td>
<td>.88</td>
<td>.55</td>
<td>25.4</td>
</tr>
<tr>
<td>Confidence Scale (MHCS)</td>
<td>coping</td>
<td>7</td>
<td>*</td>
<td>.87</td>
<td>.49</td>
<td>28.8</td>
</tr>
<tr>
<td></td>
<td>advocacy</td>
<td>3</td>
<td>*</td>
<td>.76</td>
<td>.51</td>
<td>13.4</td>
</tr>
<tr>
<td></td>
<td>total score</td>
<td>16</td>
<td>.94</td>
<td>.93</td>
<td>.45</td>
<td>67.6</td>
</tr>
</tbody>
</table>

a Possible scores range from 1 to 4, with higher scores indicating more empowerment
b Possible scores range from 30 to 100, with higher scores indicating more empowerment
c Possible scores range from 16 to 96, with higher scores indicating more empowerment

All correlations between the total scores of the three instruments were too low to meet the standard for a satisfactory convergent validity (see Table 2). Most subscales of the empowerment instruments were weakly correlated with a mean correlation of .34 (ranging from .03 to .66). Even the comparably optimism subscales of the MHCS and the ES correlated too poorly ($r=.59$, $p<.01$).
Empowerment was negatively associated to symptom scores as measured by the CAPE, correlations varied from -.58 to -.67.

Table 2. Pearson Correlations between Empowerment Scale (ES), Personal Empowerment Scale (PES), Mental Health Confidence Scale (MHCS) and Community Assessment of Psychic Experiences (CAPE) in 50 patients with schizophrenia or a related psychotic disorder

<table>
<thead>
<tr>
<th>Empowerment Scale</th>
<th>Personal Empowerment Scale</th>
<th>Mental Health Confidence Scale</th>
<th>Community Assessment of Psychic Experiences</th>
</tr>
</thead>
<tbody>
<tr>
<td>Empowerment Scale</td>
<td>1</td>
<td>.405** a</td>
<td>.341* a</td>
</tr>
<tr>
<td>Personal Empowerment Scale</td>
<td>.550***</td>
<td>1</td>
<td>.406** a</td>
</tr>
<tr>
<td>Mental Health Confidence Scale</td>
<td>.612***</td>
<td>.554***</td>
<td>1</td>
</tr>
<tr>
<td>Community Assessment of Psychic Experiences</td>
<td>-.575***</td>
<td>-.595***</td>
<td>-.673***</td>
</tr>
</tbody>
</table>

*** p < .001, ** p<0.01, * p<.05

a Controlling for CAPE scores

The clinical usefulness of the instrument was evaluated in grammatical and lexical ways (Streiner D.L. & Norman, 2003). In the ES 4 items are negatively worded. The MHCS and PES phrase items as a personal question (in the MHCS starting with: ‘How confident are you …?’ and in the PES with ‘How likely is it that you…?’). The ES also uses statements such as ‘People should try to live their lives the way they want to’ or (abstract) sayings, such as ‘Making waves never gets you anywhere’. Notably, the ES and MHCS have both one response format, while the PES uses three response formats (no choice—a lot of choice; 0-100%; very likely—very unlikely). The mean number of letters in the items of the MHCS, ES and PES were 24, 42 and 53, respectively. Because of missing values a total score could not be calculated for the PES in 7 patients (14%).

Patients reported that many items in the PES did not apply to them (for example: ‘How likely is it that you have a place to stay? … will get enough to eat in the next month?’), simply because they did not have minimal resources or were hospitalized at that moment. They also reported difficulties in answering the PES items that referred to a
possibility in the month ahead (10 out of 20), saying 'I really have no idea.' ‘How do I know that?’ No difficulties were reported with regard to the MHCS and ES that refers to the present with items such as ‘How confident are you right now that you can set goals for yourself?’

**Discussion**

This study investigated the measurement of empowerment in psychotic disorders by assessing the internal consistency, discriminant and convergent validity, sensitivity to symptom levels, and clinical usefulness of three self-report instruments simultaneously: the ES, PES and the MHCS. The three instruments were developed for the broad population of all people with severe mental illness, and their psychometric qualities also extend to people with schizophrenia. The results on internal consistency favored the MHCS above the ES and the PES that just failed to meet the standards in this study. Although the instruments were significantly associated on the total score, the (inter)correlations were moderate suggesting that each instrument measures different aspects of the concept. Of note, in this study we did not validate the instruments. Nor is the question addressed whether any of them really measures empowerment.

Empowerment is still broadly defined and constitutes of several domains. The low convergent validity of the instruments found in our study may very well be explained by the different definitions of the empowerment construct in the different instruments. The MHCS empowerment concept is related to personal self-confidence. The ES empowerment concept is defined as self-efficacy in combination with societal empowerment, whereas in the PES it is defined as the number of choices and opportunities one has in life and in the meeting of basic needs.

The instruments were equally sensitive for the symptom scores as measured by the CAPE. The correlations we found are in accordance with the clinical notion that psychiatric symptoms are negatively correlated with empowerment (Bengtsson-Tops, 2004; Corrigan et al., 1999). About 36% of the variance of the empowerment scores could be explained by the symptom severity. Although all three instruments were influenced by
psychopathology, there is also evidence for another common factor though: when controlled for psychopathology, correlations between the empowerment scores remained significant.

Aside of internal consistency and type of empowerment under study (intrapersonal, interpersonal and societal), study objectives and clinical usefulness are important factors when it comes to choosing one of the instruments.

The ES can be used in measuring empowerment in a broad category of mental illnesses; for example in studying supported education and supported employment or evaluating consumer operated services. In vocational rehabilitation studies of chronically ill and homeless people, the PES will assess the lack of resources and unmet needs (Segal et al., 1995). The MHCS will fit well in studies aimed at treatment effect in interventions, such as peer support groups (Castelein et al., 2008), dual-focus self-help groups (Laudet et al., 2003) and cognitive behavioral therapy (Durrant et al., 2007), but does not measure the societal empowerment.

The clinical usefulness of the instruments depends on the cognitive disabilities of our study population. The ES and PES formulated some of their items as sayings, for this reason both instruments can lead to difficulties in our population which has problems when confronted with figurative language (Thoma & Daum, 2006). The missing values in the PES also indicated that the instrument was not fully applicable for hospitalized patients, although this is not mentioned as a restriction in the manual of the instrument. The MHCS uses positively worded, personal and short items and has no missing values and a positive evaluation by the patients. In our view, the MHCS is the most clinically useful instrument to use in a population of patients with schizophrenia.

Strength in this study is the fact that this is the first study to report the Cronbach’s alphas and MICC’s of each subscale. An important limitation of this study is the small sample size of 50 patients. However, our results on internal consistency are in line with the original, much larger studies.
Empowerment

(Rogers et al., 2007). Therefore, we do not expect that the sample size will account for the lack of association between the instruments.

Conclusions

All three instruments are designed to measure empowerment in severe mental illness, but they seem to focus on different aspects. The results provide more evidence for discriminant than for convergent validity. Their psychometric qualities in our study population are moderate to good. The choice of an instrument depends on the research hypothesis and the target population. For research focusing on intrapersonal empowerment the MHCS is to be preferred, whereas the ES or PES would be more adequate when societal empowerment is the objective. For patients with psychotic disorders, the MHCS is recommended because of its good psychometric qualities, its short and personally formulated items that refer to concrete every-day situations and its applicability in people with cognitive disorders. A more precise definition of empowerment and operational definitions of subdomains of empowerment are needed before rehabilitation research that aims to improve empowerment can be performed.

Acknowledgements

The authors would like to thank those who participated in this study, and further Pieter Jan Mulder for helpful comments, the Adhesie Psychiatric Institute - especially Harmannus Goedhuis and Just van der Linde -, Willem Lok for statistical advice, Marit de Sonnaville for research assistance and Dick Bruggeman for critically reviewing the manuscript. This study was funded by the Roos Foundation.

The authors report no competing interests.
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