Using Quantitative Research to Measure Recovery Outcomes and Correlates

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Abstract

Objective: Recovery has become an increasingly significant concept within mental health literature. Despite this, few studies have investigated the measurement of recovery and its correlates using quantitative methods. The aim of the current study was to measure recovery in people with chronic psychiatric disabilities using a quantitative tool and to investigate what factors were correlated to recovery outcomes. It was hypothesised that measures that investigated the individual's subjective sense of well-being would have a stronger correlation to recovery than more traditional clinician-rated scales.

Method: Participants were 63 people with a chronic psychiatric disability. They were recruited as a convenience sample from community mental health rehabilitation teams in three locations. Using a cross-sectional design, participants completed measures of psychological well-being (Psychological Well-being Scale (PWB); hope (Adult State Hope Scale) and recovery (Recovery Assessment Scale (RAS). Health professionals rated participants' psychosocial functioning using the Multnomah Community Ability Scale (MCAS-R).

Results: Analyses found that there was no significant correlation between clinician-rated psychosocial functioning scores and participant-rated recovery outcomes. Psychological well-being variables rated by the participants themselves were found to significantly correlate with recovery outcomes. The variables hope, environmental mastery and relationships with others were found to emerge as independent predictors of recovery scores.

Conclusions: Results underscore the premise that recovery is a distinct construct that is unique to the individual and cannot be fully captured by objective measures of functioning. Implications for practice suggest that services for people with chronic psychiatric disability should utilise recovery focused tools in patient assessment and treatment in order for a comprehensive assessment to be achieved. Recovery interventions should also focus on the individual's hope, mastery and relationships with others in order to promote recovery.

Key words: Serious mental illness, recovery (disorders), rating scales, psychological well-being.

Introduction

Historically there has been a pessimistic view of the prognosis for people with chronic psychiatric illness. When schizophrenia was first identified by Krapelin as 'dementia praecox' in 1913, he conceptualised its course as an 'inevitable deterioration' with a progressively downward degenerating path. In the 1950s the process of de-institutionalisation made it possible for individuals to live within the community. However many individuals who were discharged did not fare well leading to poor levels of quality of life.[1] Adequate psychosocial supports were not made available and many individuals experienced isolation within their community. The negative view of chronic psychiatric illness as a 'life sentence' therefore continued to pervade through the 20th century leading to much shame and stigma surrounding mental health issues.

Outcome studies conducted in the 1970s investigating recovery rates in people with chronic psychiatric disabilities began to challenge the negative view of the course of severe mental illness. The most prominent study was the Vermont Longitudinal Study.[2] This study followed a group of 269 people with severe mental illness and found that at 20-25 year follow-up 55% of people were judged to be recovered or functioning very well. Several other studies conducted since then[3,4,5] have found similar results and suggest that around two-thirds of people with chronic psychiatric disability can recover.

A concept of recovery was also put forward by the mental health consumer movement. First-hand narrative accounts from people who had experienced severe mental illness describe a sense of recovery that does not require the remission of symptoms or other deficits, nor does it constitute a return to normal everyday functioning. Recovery was proposed as a 'way of living a satisfying, hopeful and contributing life even with the limitations caused by illness. Recovery involves the development of new meaning and purpose in one's life as one grows beyond the catastrophic effects of mental illness.'[6]

Recovery is a complex and multidimensional construct and is unique to each individual. However a number of broad themes have been identified by qualitative studies and systematic reviews.[7,8,9,10,11] These are hope, sense of identity, engaging in meaningful activity, developing positive relationships with others and actively engaging in strategies to stay well.

Having hope that recovery is possible is a central foundation to the recovery process.[12] Despite this, contact with the mental health services can engender a profound feeling of hopelessness and people are given the impression that they have a 'long-standing

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chronic disorder' from which they are unlikely to recovery.[13]

Maintaining a positive self-identity is significant in recovery narratives. Individuals state that being given a label of mental illness creates a loss of self-identity.[14] Recovery begins when one engages in a 'reconstructive process' whereby the individual rebuilds themselves, drawing on old parts of the former self and discovering new parts to achieve a coherent and stable sense of identity.[8]

Several recovery stories have reflected the value of engaging in activity that is meaningful to them. This may be formal employment,[14] voluntary work,[15] or creative endeavour. One author states that meaningful activity motivates her, provides positive structure for her life and gives new skills and something to look forward to on a daily basis.[16] Other authors point out that it is also important that the individual's meaningful activities are recognised and valued by society.[17]

Developing positive relationships with others plays an enormous role in the recovery process. Many narratives speak of the vital support of a family member, friend or care-giver who provides support, hope and love.[13] One author outlines that it is difficult for people with severe mental illness to have faith in others as often their advice may be contrary to the individual's instincts.[9] Others point out that support for individuals is most effective when it is offered in a collaborative way within a trusting relationship that maintains the individual's sense of control and self-determination.[17] Peer networks have been central to the recovery movement and many people state that learning from others who are living well despite the illness has given them inspiration.[18]

Many narrators talk of living with their illness rather than being cured of it. Having a personal understanding of their illness and taking note of symptoms and triggers of ill health as well as indicators of what keeps them well can help individuals in their recovery.[17] Developing skills to actively engage in strategies to stay well and manage setbacks such as using the Wellness Recovery Action Plan (WRAP)[19] can create a sense of mastery in the individual that can help them maintain their well-being.

Despite a large body of literature focusing on recovery themes there remains a lack of clarification on the definition and operationalisation of the recovery concept. Several authors have raised the concern that lack of agreement on how to define recovery may lead to its loss of credibility as a meaningful construct.[20, 21] Psychometrically adequate measures to assess proposed components of recovery have only recently been developed and are not widely used.[27] The re-orientation of services towards a recovery model requires the development and utilisation of instruments that can be used to support and measure the recovery concept routinely in services.

Research investigating outcomes in participants with chronic psychiatric disabilities has tended to focus on measures of psychopathology and psychosocial functioning[22] and have not incorporated the measures of the recovery construct. For example the Team for the Assessment of Psychiatric Services (TAPS)[23] monitored 670 long stay patients discharged from two London hospitals into the community from 1985 to 1993. This study found few differences in terms of traditional outcome measures such as reduced symptomatology or improved social functioning between those who left hospital and those who did not. However, positive outcomes were identified on subjective constructs in line with the recovery concept such as more autonomy and a marked preference by patients for community rather than hospital residence.

It is the aim of this study to utilise a quantitative recovery measure in a population of participants with chronic psychiatric disabilities. The recovery measure will be correlated with subjective measures of psychological functioning and clinician-rated measures of psychosocial functioning. It is hypothesised that subjective measures of psychological well-being will be shown to have a stronger correlation to recovery outcomes than objective measures of psychosocial functioning rated by clinicians.

Method

Participants

Recruitment of participants took place from three community rehabilitation teams in Ireland. The majority of participants were living in medium to high support hostels while a small group were still living in institutional care. All participants had a severe and enduring mental health difficulty. A total of 83 participants were originally approached to participate in this study. Fourteen of these participants declined to participate in any of the questionnaires. Three more individuals started the interview but were excluded as they were not able to engage with the questionnaire method. Three more individuals started the interview but declined to complete all questionnaires. This gave a final sample of 63 participants.

Procedure

Ethical approval for this study was granted by the Ethics Committee of two regional hospitals where participant recruitment occurred. The researcher was introduced to potential participants by a staff member who explained that the purpose of the study was to, "Find out more about how people with a mental health difficulty think about themselves and their future". Participants were given an information sheet which explained the purpose of the study and its possible risks and benefits. They were also given information on who to contact if they required further clarification. This included a health professional known to participants on their rehabilitation team (e.g. consultant psychiatrist, senior psychologist). They were then asked if they would be agreeable to participate in the study and invited to sign a consent form.

Participants were administered the research questionnaires in an interview format. The interviewer read the questions aloud to the participants who chose their answer from a graphical illustration depicting the appropriate Likert scale. Interviews on average lasted 45 minutes. Depending on concentration levels of participants some interviews were administered over two occasions.

Measures

Details of age, diagnosis, age when first diagnosed, time since hospitalisation and level of education were recorded.

The Psychological Well-Being scale 24 consists of six seven-item subscales: autonomy, environmental mastery, personal growth, positive relations with others, purpose in life and self-acceptance

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and a total score. Test-retest reliability was reported to range between .81 and .88; validity was reported to range between .50 and .77.

The Adult State Hope Scale[25] was developed as a measure of hope. It consists of two three-item subscales: agency, which refers to the individual's perceived capacity for initiating and maintaining actions necessary to reach a goal, and pathway, which refers to an individual's perceived ability to generate routes to one's own goal. Test-retest reliability was reported to range from .48 to .93. Concurrent validity was reported to range from .50 to .75.

The Recovery Assessment Scale[26] was developed as an outcome measure of recovery-orientated programmes. The scale was initially developed through narrative accounts of the stories of four consumers of mental health services with specific emphasis on hope and self-determination. Reliability and validity of the Recovery Assessment Scale has been tested using a sample size of 1,824 participants as part of the Consumer Operated Services Program (COSP) Multi-site Research Initiative.[27] Test-retest reliability was reported to be .88. Concurrent validity ranged from .55 to .71.

The Multnomah Community Ability Scale –R (MCAS-R)[28] was used to measure the psychosocial functioning of participants. It is an informant questionnaire and is commonly completed by mental health clinicians or staff with a broad knowledge of the individual's functioning gained by regularly working with the individual over a period of time. It has four subscales: interference with functioning; adjustment to living; social competence; behavioural problems; and a total score. Inter-rater reliability was reported to be .85 and test-retest reliability was found to be .82.

Results

Demographics

The participants were 35 men and 28 women. The mean age was 50 years ranging from 27 to 84 years (SD=14.68). Age of onset ranged from 14 years to 64 years (M=27.9; SD=10.9). Time elapsed since last hospitalisation ranged from eight months to 15 years (M=4.6; SD=3.9). Diagnosis included schizophrenia, 42 (67%), bipolar depression, nine (15%), major depression, nine (15%), anxiety, four (6%) and other, four (6%). In terms of educational level, eight (13%) participants had primary level, 42 (66%) had secondary level and 13 (20%) had tertiary level.

Descriptive statistics

Descriptive statistics for Psychological Well-being scores (PWB), Adult State Hope scale (HOPE) and Recovery Assessment Scale (RAS) are presented in Table 1.

Table 1. Descriptive Statistics for Psychological Wellbeing Scale (PWB), Adult State Hope Scale (HOPE) and Recovery Assessment Scale (RAS).

	Mean	SD
PWB Total score	159.95	26.69
HOPE Total score	32.00	9.34
RAS Total score	158.61	21.52

An analysis of MCAS-R scores demonstrated that 53% of the current sample scored above the 90th percentile on the total MCAS-R score. This suggests that many participants' psychosocial functioning was at a higher level compared with an 'average' person in a mental health population.

Correlations between demographics and RAS scores

Pearson R correlations were conducted to investigate if there was a significant relationship between demographic variables and RAS scores. No significant correlations were found between age, age at onset or length of time since last hospitalisation and recovery scores. There were no significant differences in recovery scores based on diagnosis. There were no significant differences between groups based on level of education.

Correlations between MCAS-R scores and RAS scores

Spearman rank correlations were conducted in order to investigate the relationship between psychosocial functioning measures and recovery measures. Results found that there was no significant relationship between MCAS-R scores and recovery scores.

Relationship between PWB scores and RAS scores

Pearson correlations were conducted to evaluate the relationship between measures of psychological well-being and recovery. Results are presented in Table 2 (overleaf).

Results found that each of the measures of psychological wellbeing was significantly correlated with recovery score. Agency, relationship with others, environmental mastery and pathway had a large size correlation with recovery score. Self-acceptance, purpose in life, personal growth and autonomy had a medium size correlation with recovery score.

A hierarchical multiple regression analysis was conducted to evaluate how well measures of psychological wellbeing predicted recovery and what variables were independent predictors of recovery above and beyond other variables. The predictor variables were the seven measures of psychological well-being (PWB); autonomy, environmental mastery, personal growth, relations with others, purpose in life, self-acceptance and one measure of HOPE (total of agency and pathway subscales). The criterion variable was the total recovery score. As age was found to significantly correlate with psychological wellbeing, age was entered in the first step and all other variables were entered in the second step.

Results found that the linear combination of psychological well-being measures was significantly related to recovery score $F(8,51)=12.99$, $p<.001$ (see Table 3 overleaf). The correlation co-efficient was 0.81 indicating that approximately 65.2% of the variance was accounted for by these variables.

Table 3 indicates the relative strength of each of the individual predictors. Three variables were statistically significant ($p<.05$). These were hope, environmental mastery and relations with others. This suggests that these measures are independent predictors of recovery above and beyond other measures of psychological well-being.

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Table 2. Intercorrelations between Measures of Psychological Well-being (PWB) and Recovery Assessment Scale (RAS) scores

	Environmental Mastery	Personal Growth	Relationship with Others	Purpose in Life	Self Acceptance	Pathway	Agency	Recovery score
Autonomy	.529**	.149	.409**	.433**	.452**	.374**	.344**	.349**
Environmental Mastery		.331**	.543**	.491**	.532**	.602**	.592**	.664**
Personal Growth			.383**	.690**	.356**	.269*	.194	.288*
Relationship with Others				.407*	.577**	.355**	.374**	.600**
Purpose in Life					.485**	.496**	.331**	.330**
Self Acceptance						.479**	.315*	.471**
Pathway							.565**	.572**
Agency								.692**

*p<.05 **p<.001

Discussion

The aim of this study was to utilise a quantitative recovery measure in a population of participants with chronic psychiatric disabilities. It was hypothesised that recovery would be more strongly correlated to subjective measures of wellbeing than to objective measures of psychosocial functioning rated by clinicians.

Results found that there was no significant correlation between psychosocial functioning scores and recovery scores and this suggests that the concept of recovery is a highly subjective concept and is distinct from objective measures of psychosocial functioning. These results support previous studies which have investigated the relationship between traditional clinical outcome data and recovery outcomes. One study[29] used the Recovery Assessment Scale (RAS) to measure recovery and the Health of the Nations Outcome Scale (HoNOS) to measure psychosocial functioning. Participants were a convenience sample of 168 people with severe and enduring psychiatric disability. Using a cross-sectional analysis the authors did not find overall significant correlations between psychosocial functioning and recovery. The authors concluded that the lack of correlation between measures suggests that the RAS is assessing an aspect of recovery that is external from measures of psychosocial functioning and suggests that the recovery variable is something unique and distinct.

A further study[30] correlated recovery scores using the RAS with four clinical measures. Using a sample of 110 people who had severe and enduring mental health difficulties this study found that recovery scores did not significantly correlate with measures of the Health of the Nation Outcome Scale (HoNOs); the Life Skills Profile-16 (LSP-16) or the Global Assessment Functioning (GAF) scales which are clinician-rated scales. The authors also used the Kessler-10 (K-10) which is a consumer-rated measure which assesses the level of anxiety and depressive symptoms the person has experienced in the past four weeks. This scale was found to correlate with recovery scores. The authors therefore concluded that the recovery measure is a unique construct and is not comprehensively assessed by objective clinical measures.

Table 3. Prediction of Recovery Assessment Scale (RAS) scores from Psychological Well-being (PWB) Measures.

	β	P	R^2 Change
Step 1			
Age	-.024	.858	.001
Step 2			
Autonomy	-.081	.480	
Environmental Mastery	.275	.047*	
Personal Growth	.123	.340	
Relations with others	.292	.012*	
Purpose in Life	-.173	.223	
Self-acceptance	.012	.919	
Hope	.488	.000**	.652

*p<.05 **p<.001

The present study found significant correlations between all psychological wellbeing variables measured and recovery scores, with strengths of correlations ranging from medium to strong. Taken together, psychological variables explained 65% of the variance in recovery scores. Environmental mastery, the two variables comprising hope (agency and pathway) and relationship with others had a large size correlation with recovery score. These variables were identified as being significant independent predictors of recovery above and beyond other psychological wellbeing variables.

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Hope was reflected in the recovery literature by themes such as knowing and being told that recovery is possible. The strong correlation between recovery and hope scale reflects the importance of this variable in recovery. Narrative discourses point to the importance of other people in the individual's lives who foster hope.[13, 14] They point out that contact with mental health services can engender a profound sense of hopelessness. Interventions with people with chronic disability should be delivered with an attitude of hope and one that recovery is possible.

The concept of environmental mastery is reflected by themes such as understanding one's illness and general wellbeing and actively engaging in strategies to stay well and manage setbacks. Narrative discourses have identified the importance of experiencing a sense of control and mastery over one's environment.[17,18] By individuals having knowledge of their ill health and taking note of triggers, events and symptoms, they increase their sense of mastery and ability to stay well. Interventions such as the WRAP programme focus on a range of strategies that aim to increase mastery and help establish and maintain wellbeing.

Relationships with others was independently correlated with recovery scores. This is reflected in the qualitative literature by themes such as developing positive relationships with others and having family and friends who are supportive. From narrative discourse it appears that there are multiple ways in which positive relations with other people help those with chronic psychiatric disability. Support from others can inspire hope and can help individuals increase their own awareness.[31] Support can help the individual overcome a sense of self-stigma.[32] Peer support networks can offer information and practical support.[17] What seems to be important however is that support from other people must be offered in a collaborative way and one which respects the way in which the individual makes sense of their illness. As one author points out[10] those with chronic psychiatric disabilities may have a different explanation for their difficulties than health professionals. What is therefore required is the building of trust where the individual is open to the advice of health professionals but where their expressed needs and treatment choices are also respected.

Limitations of this study include that it is cross sectional in design. This means that one cannot establish the direction of causality for correlations between variables. For example, it is not possible to state whether positive relationships with other people cause the strength of recovery or whether the strength of recovery causes positive relationships with other people. One can only simply conclude that a relationship exists. The sample size of this study was limited and this study was powered to detect medium and large effect size correlations between variables. It is therefore possible that significant relationships which were small in effect may have existed but were not identified. The measures used in this study relied on self-reporting by participants which may have been open to social desirability. Furthermore, the sample was a convenience sample. Potential participants who were excluded or dropped out of the study (e.g. those with active psychosis, cognitive difficulties or who could not give informed consent) may have represented a more severe group than those who did participate.

Conclusions

Overall results found that recovery was not predicted by objective psychosocial functioning variables and was predicted by subjective psychological wellbeing variables. This illustrates that recovery is a distinct construct that is unique to the individual. This suggests that recovery instruments should be used routinely with people with mental health difficulties in order to provide a more comprehensive assessment of the individual. Furthermore interventions should continue to target individuals' hope, environmental mastery and relationships with others in order to promote recovery. Service delivery for people with chronic disabilities is now becoming more recovery-orientated. Guidelines for practice embracing models of recovery-oriented psychiatric rehabilitation are now central to many government health policies and there are many models that espouse these principles.[33] The current research has underscored the importance of addressing these concepts in service delivery.

Conflict of Interest

None.

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