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BRIEF REPORT

Subjective and objective measures of function and return to work: an observational study with a clinical psychiatric cohort

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Abstract

Purpose To evaluate the association between two measurement tools (Social and Occupational Functioning Assessment Scale, SOFAS and Sheehan Disability Scale, SDS), returning to work (RTW) and their inter-correlation.

Methods 132 psychiatric patients referred to assessment of work ability participated. The association between SOFAS and SDS Work to RTW were assessed by logistic regression. Inter-correlations between SOFAS and SDS were assessed with the Spearman's rho correlation coefficient.

Results SOFAS and SDS Work scores were associated with a 1-year RTW and SOFAS and SDS were inter-correlated.

Conclusions When assigning the ability to work, both subjective and objective measures of function predict RTW.

Keywords Psychiatric outpatient clinic · Work ability · Assessment · Disability · Return to work

Introduction

Function assessment tools are useful in clinical practice if they associate with practical outcomes, such as return to work (RTW). There is limited information on the intercorrelation of these tools and thus of their practical value among psychiatric outpatients. Pessimistic RTW self-expectations of psychiatric patients are associated with a lower RTW [1]. According to a recent Nordic cohort study, the importance of depressive symptoms over neurotic, stress-related and somatoform disorders as predictors of delayed RTW increases with age [2]. The significance of differences in education was not associated with a delayed RTW in a age group of over 50 years [2]. Work-related self-efficacy has been associated with RTW for employees with common mental disorders (CMDs) [3]. The comparably low subjective function experienced and reported by patients with mood and anxiety disorders deserves attention [4, 5]. In an earlier study by this study group, an absence of less than 6 months and active return to work strategies by occupational health care providers in co-operation with psychiatrists led to better RTW outcomes [6].

It seems that a long absence from work, for any reason, deteriorates the subjective capacity and self-expectations in CMDs. A prolonged depressive episode has a negative effect on a functional prognosis, which may be related to neurotoxic, social and psychological sequelae of chronic depression [7].

The aim of this study was to evaluate the association of the DSM-IV Social and occupational functioning assessment scale, SOFAS [8] and the Sheehan Disability Scale (SDS, subdomains Work, Home and Social functioning) [9] with RTW in a carefully assessed clinical psychiatric cohort.

Study population and methods

The study setting is a clinical cohort of psychiatric patients who were referred for a thorough psychiatric examination and assessment of function and work ability between the 23rd of March 2011 and the 23rd of December 2012, mainly by occupational health services (OHS) or psychiatric

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outpatient care units, and some from the health centers and insurance companies, to the Helsinki University Hospital tertiary psychiatric outpatient unit.

According to the referral criteria, the patients had already been evaluated by a psychiatrist and, if employed, by OHS. They suffered from a prolonged or severe disability with a probable mental health origin and there was no consensus about their functional status, or about the main clinical reason for their disability. The patients were unable to perform their designated work at the time of the evaluation.

The examination by the multidisciplinary team included the assessment of work ability and function, as well as a re-evaluation of differential diagnoses, illness severity, subtyping and comorbidity during 1–2 months. Among the 139 consecutive clinical patients, informed consent was given by 132 patients, who formed the study sample. After a 1-year follow-up period, the patients were contacted by telephone and interviewed about RTW outcomes. The study was approved by the ethical committee of the Helsinki and Uusimaa district hospital according to the Helsinki declaration. Permission to conduct the study was granted from the Helsinki University Hospital.

The baseline functional measures were SDS with its three sub-domains (Work, Social life and Home) and DSM-IV SOFAS scale. The former is a self-report measure, representing the subjective experience of the patient, and the latter is an instructed external evaluation assessment tool of the psychiatric team, based on recent information about the patient, obtained from available sources, objective perceptions and patient interviews. Two patients did not have a baseline SDS scale and two patients were lacking SOFAS scores. The data required for a logistic regression model at the 1-year time-point for the SOFAS score was available for 116 subjects of which 32 had returned to work and 84 had not and for SDS Work 115 subjects of which 32 had returned to work and 83 had not. There were 14 drop-outs, who were not reached at the 1-year follow-up time point and in addition information on the ongoing employment status was missing for two subjects. Statistical analyses were performed with SPSS 22 (IBM Corp, Armonk, NY, USA).

Results

The mean age of the patients was 45 (range of 24–61) years. There were 83 females (63%) and 49 males (37%). Their educational level was reported as follows, 70% low (no completed education, primary school only or college), 10% intermediate (undergraduate degree) and 20% high (graduate degree).

At the time of the baseline assessment, 9% of the patients had no known employment assignment, 39% were manual workers, 24% were lower-level non-manual workers, 18% upper-level non-manual workers, 1% managers and 8% entrepreneurs. Information was missing for 1%.

Among the main ICD-10 diagnoses affecting the ability to work (based on the tertiary care psychiatric evaluation), mood disorders (F30-F39) were the most predominant 61%, followed by anxiety disorders (neurotic, stress-related and somatoform disorders F40-F49) 17%, and psychosis spectrum disorders (schizophrenia, schizotypal and delusional disorders F20–F29) 11%.

The baseline values for SOFAS were: mean 53, median 53, standard deviation (SD) 10 and range 32–87. The corresponding values for SDS Work were: mean 7.8, median 8.0, SD 2.6, range 0–10 and for SDS Social life: mean 6.6, median 8.0, SD 2.8 and for SDS Home: mean 6.0, median 7.0, SD 2.9.

Odds ratios (OR) of uni- and multivariate analysis of the associations between SOFAS and SDS-work scores [alone or in combination with gender, age and ongoing employment status (OES)] and a 1-year RTW in the binary logistic regression models are presented in Table 1. Multivariate analyses include age, gender and OES alone or in

Table 1 Uni- and multivariate analysis of the associations of SOFAS and SDS Work scores (alone or in combination with gender, age and ongoing employment status, OES) with 1-year RTW in the binary logistic regression models

	Univariate		Multivariate (SOFAS)		Multivariate (SDS Work)		Multivariate	
	OR	95% CI	OR	95% CI	OR	95% CI	OR	95% CI
Age (years)	1.00	0.96–1.04	0.98	0.93–1.03	0.96	0.92–1.02	0.98	0.93–1.02
Gender (male)	1.05	0.46–2.40	2.94	1.01–8.56	1.99	0.73–5.43	1.34	0.55–3.27
OES	3.58	1.48–8.66	5.37	1.83–15.77	4.05	1.45–11.27	4.29	1.65–11.13
SOFAS	1.09	1.03–1.14	1.11	1.05–1.18	Not entered		Not entered	
SDS Work	0.76	0.65–0.88	Not entered		0.72	0.59–0.86	Not entered	

Uni- and multivariate analysis of the associations of SOFAS and SDS Work scores (alone or in combination with gender, age and ongoing employment status) with 1-year RTW in the binary logistic regression models. Multivariate analysis include age, gender and OES alone (column 4) or in combination either with SOFAS (column 2) or SDS Work scores (column 3)

OES ongoing employment status, *RTW* return to work

combination either with SOFAS or SDS Work scores. A positive OR of SOFAS score either alone or in combination with age, gender and OES indicated that SOFAS points are associated with RTW, i.e., a one point increase in the SOFAS score is positively associated with RTW. For SDS Work the negative OR score shows an inverted association to RTW, which is explained by the inverse scale SDS Work utilizes (10 being the worst and 0 being the best value a subject can report).

In addition, significant negative inter-correlations between SOFAS and SDS scores were observed; for SDS Work a Spearman's rho correlation coefficient of − 0.369, $p < 0.0005$ and for SDS Mean a Spearman's rho correlation coefficient of − 0.481, $p < 0.0005$. The negative correlation between the inverse SDS scores (indicating higher disability) and the SOFAS scores (indicating an increasing level of function) thus show a positive correlation between the functional capacity measured by the two scales.

Discussion

We assessed two established and standardized, but very different functional measures in a naturalistic setting, a clinical cohort of patients referred to an assessment of work ability conducted in a psychiatric tertiary outpatient clinic. A higher baseline in functional capacity assessed by professionals with the SOFAS tool and by a subjective SDS assessment was associated with a 1-year RTW. To our knowledge, this is the first study comparing SDS and SOFAS scales in a naturalistic psychiatric outpatient setting. A logical correlation between SOFAS and SDS Work was observed; and both measurements of function are applicable in clinical practice. An ongoing working status had a strong impact on RTW, which may emphasize also the coordinating role of the occupational health care providers supporting RTW after longer absences from work.

The subjective experience of a low function in common mental disorders is probably not only explained by depressively distorted cognitions and a reaction to loss [10] and fear avoidance [11], but also by a process of marginalization initiated by a long absence from work [12]. Based on recent literature employment is beneficial for health, particularly for recovery from depression and general mental health [12].

This study, conducted in a naturalistic setting with representative psychiatric population provides further information about the tools used for the measuring function. Limitations of the study include missing data on full RTW after 1-year, due to a naturalistic cohort setting. Another limitation is the number of patients in different diagnostic groups was not sufficient to comprehensively analyse the role of different psychiatric diagnoses on RTW, while all psychiatric and somatic comorbidities may affect the RTW readiness.

We conclude that an objective assessment using a validated functional rating scale forms the bases for rehabilitation planning and RTW and could be complemented by a structured subjective self-report, related to the psychosocial environment, and the functional roles of the patient.

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Compliance with ethical standards

The study was approved by the ethics committee and conducted according to the declaration of Helsinki.

Conflict of interest TL: work as a part-time private psychiatrist, part-time Current Care Editor and as a psychiatrist giving expert opinions to the Accident Appeal Board cause no conflicts of interest. SH: None. AV: work as a part-time medical consultant for insurance companies (Social Insurance Institute of Finland and OP Insurance Ltd) cause no conflicts of interest. ISJ: None. KT: None.

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