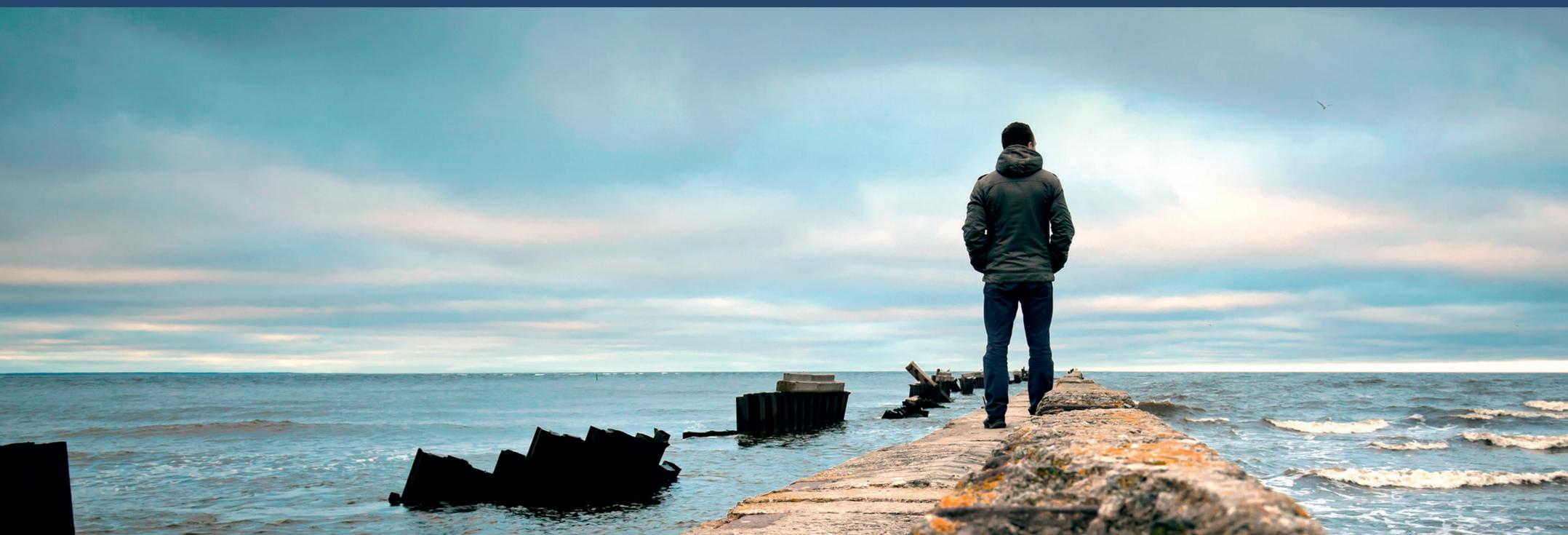# How do depressive symptoms and satisfaction with everyday occupations affect each other?

By Julie Engell Paulsen, Neuropsychologist, Trine Okkerstrøm Ryttersgaard, Neuropsychologist, and Pernille Lüdorf, doctor. The Outpatient Clinic for young people with acquired brain injury, Department of Neurology, Aalborg University Hospital.

Because of the small sample size the results must be comprehended with caution and looked upon as tendencies.

Background

The aim of rehabilitation is to increase individual functioning and life satisfaction. Unfortunately people with acquired brain injury have a high prevalence of psychiatric symptoms including depressive symptoms (Scholten et al., In press; Bulloch, 2015). One study has found a connection between depression and quality of life (QoL) among young people post-TBI (Batista et al. 2014). Additionally Eriksson et al. (2009) found a connection between capability to participate in everyday occupations and life satisfaction among patients with ABI.

The aim of this study is to explore if there exists a connection between depressive symptoms and satisfaction with everyday occupations, and if a change in one domain affects the other.

Method

The Ministry of Health and Elderly in Denmark has made an initiative towards young people with ABI, which has resulted in five regional outpatient clinics.

Subjects:
Patients (age 15 -30) living in North Region Denmark with a diagnosis of possible ABI. Patients with congenital brain injury are excluded. Patients are referred either by discharging hospital or general practitioner.
In the clinic patients undergo an interdisciplinary examination at first visit (T1) and a control examination one year after (T2).

N	Gender	Age years (SD)	Years
23	Female: 8 (34,8 %)	22,65 (3,84)	Min: 0,23
	Male: 15 (65,2 %)		Max: 24,76

Table 1 - Descriptive data

Examination:
The patients are examined by doctor, occupational therapist, physiotherapist and neuropsychologist using a standard test-battery consisting of NIHSS, FIM, GOS-E, Mini-Best TEST, HIMAT, COPM, Major Depression Inventory (MDI) and neuropsychological testing.

This study focus on the results on COPM and MDI. To ensure that the patient's cognitive difficulties did not affect the understanding of the questions, MDI is conducted in cooperation with the neuropsychologist. The COPM both measure the patients'evaluation with performance on everyday occupations ($COPM_{Performance}$) and satisfaction with performance ($COPM_{Satisfaction}$). The COPM is known to be associated with measures on QoL (Carswell et al. 2004). The COPM-interview is conducted by the occupational therapist.

Referencer:
Battista, AD et al. (2014) Depression and Health Related Quality of Life in Adolescent Survivors of a Traumatic Brain Injury: A Pilot Study. *PLoS ONE* 9(7), e101842
Bulloch, AGM (2015) Depression – a common disorder across a broad spectrum of neurological conditions: a cross-sectional nationally representative survey. *General Hospital Psychiatry,* 2015 Nov.-dec; 37(6): p. 507-12.
Carswell, A. et al. (2004). The Canadian Occupational Performance Measure: A research and clinical literature review. *Revue canadienne D'ergothérapie,* 2004; 71(4): p. 210-222.
Eriksson, G. et al. (2009). Relationship between occupational gaps in everyday life, depressive mood and life satisfaction after acquired brain injury. *Journal of rehabilitation Medicine J Rehabil Med,* 2009; 41: p. 187-194.
Scholten, A.C. et al. (2016 – in Press) Prevalence of and risk factors for anxiety and depressive disorders following traumatic brain injury: A systematic review. *J Neurotrauma,* 2016 Jan 5 [Epub ahead of print]

Results

A significant increase was found on scores on $COPM_{performance}$ and $COPM_{Satisfaction}$ from first contact in the clinic (T1) to control one year follow-up (T2). Decrease in depressive symptoms is not found to be significant (Table 2).

Measure	Statistics	T1 - Mean (SD)	T2 - Mean (SD)	Difference - Mean (SD)	P
$COPM_{satisfaction}$	paired t-test	3,62 (1,48)	6,62 (2,10)	2,62 (1,90)	p<0,0001
$COPM_{performance}$	paired t-test	4,51 (1,57)	6,67 (1,66)	2,16 (1,93)	p<0,0001
MDI	paired t-test	18,56 (9,08)	16,91 (11,45)	1,65(9,37)	P=0,41*

*Table 2 – Differences from T1 to T2 (*not significant)*

There was found a significant negative correlation between $COPM_{satisfaction}$ and MDI score at T1. The two variables were correlated, Pearson r(21) = -0,56, p = 0,006. Linear regression analysis indicated that depressive symptoms and satisfaction with performance is associated, β = -0,09, t(21)=-3,09, p=0,006 (Figure 1).
We found no correlation between scores on $COPM_{performance}$ and MDI at T1 Pearson r(21) = -0,11, p=0,61 (Figure 2).

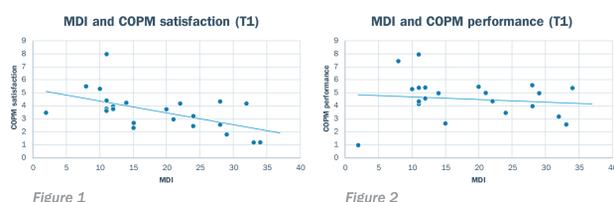*Figure 1*

Figure 2

An analysis of covariance was conducted to determine the difference between T1 and T2 on $COPM_{satisfaction}$. The difference on $COPM_{satisfaction}$ was estimated after linear adjustment for scores on MDI. After controlling for MDI score, the $COPM_{satisfaction}$ increased significantly from T1 to T2, with a mean difference of 2.44, 95 % CI(0.46;4.42), p<0.001 (Figure 3).
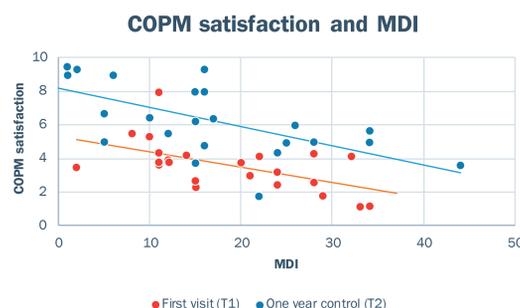

COPM satisfaction and MDI

Figure 3

Discussion:

The patients experience increased performance and satisfaction with occupational performance from first visit (T1) to the follow-up (T2). This could indicate that an interdisciplinary examination and assessment of need for rehabilitation after discharge, have had a positive influence in the patients'experience and satisfaction with own functioning. Since scores on COPM is associated with measures on QoL, the results could also be interpreted as an increase in QoL. At this stage, we can't conclude which factors are responsible for the changes. But knowing that 83 % of the patients, who went to the outpatient clinic had an unmet need for rehabilitation, the interdisciplinary examination, which often results in prescription of rehabilitation, may have had an influence (Poster 0411, 11th IBIA World Congress).

The negative correlation between satisfaction with everyday occupations and depressive symptoms, is in accordance with Batista et al. (2014), who have shown an association between QoL and depressive symptoms. The causality of the relationship is unclear. Whether high level of depressive symptoms predict a low satisfaction with occupational performance or low satisfaction with performance predict depression remains unclear at this stage.

We found an association between depressive symptoms and satisfaction with everyday occupations. However, we only found a significant change in $COPM_{satisfaction}$ after one year whereas the change in MDI was non-significant. Furthermore the regression analysis showed that only a part of the increase on $COPM_{satisfaction}$ were associated with the decrease on MDI. The increase in satisfaction with everyday occupations can therefore not only be explained by a drop in depressive symptoms, but also depend on other factors. This indicates that clinicians need to focus on both depressive symptoms and other rehabilitation needs such as increasing functioning in daily living.

Scores on COPM and MDI are both measures dependent on the patients'evaluation. We have not been able to account for factors such as lack of insight among the patients, which could have influenced the results.

Conclusions

- The patients experience an increase on both performance on everyday occupations and satisfaction with performance. This indicates that an interdisciplinary examination and assesment of rehabilitation-needs have had a positive impact on the patients' experiences of own functioning one year after first examination.
- The patients generally experience an increased satisfaction with everyday occupations, even though their depressive symptoms do not decrease.
- The results indicates an association between decrease in depressive symptoms and increase in satisfaction. Even though, there exists an association, the increase in satisfaction with everyday occupations after one year cannot entirely be explained by the association. Other factors influence the satisfaction with everyday occupations as well.

Perspectives

In the future it could be interesting to look into which other factors than depressive symptoms affect evaluation and satisfaction with everyday occupations?