

HOW DOES SELF-REPORT OF MOOD SYMPTOMS COMPARE WITH OBSERVER ASSESSMENTS AFTER ACQUIRED BRAIN INJURY?

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Introduction
 Post Acquired Brain Injury (ABI) depression has been implicated in different patient outcomes such as cognitive impairment (including prospective cognition), rehabilitation outcomes, and quality of life. However, there have been no studies identified in the literature, investigating post-ABI insight into depression across varied cognitive abilities. Here we looked at ABI patient insight into their depression across a range of cognitive abilities and compared this to an observed or an objective measure of depression.

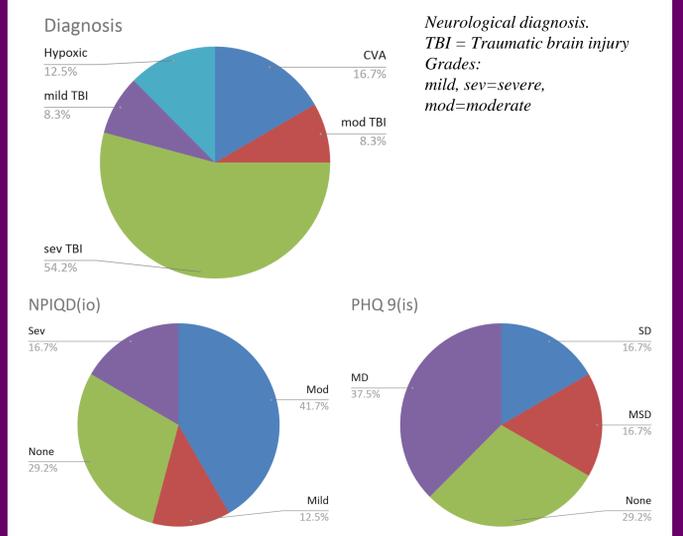
Aim
 Our aim was to investigate concordance between a subjective measure of depression, the PHQ-9 (Patient Health Questionnaire-9) and an objective measure, NPI-Q (Neuropsychiatry Inventory Questionnaire) in the context of ABI. A high concordance would imply that the PHQ-9 could reliably be used as a proxy for the patient's insight. We were interested in seeing if this changed with impairments of cognition as measured in the MoCA (Montreal Cognitive Assessment)

MoCA: The MoCA is a cognitive screening test, scored out of 30, validated in ABI.(1)

NPI-Q: A self-administered, abbreviated assessment of depression, which can be rated by a carer or loved-one. (2)

PHQ-9: The PHQ-9 is a self-administered diagnostic checklist derived from the 9 DSM-IV depression criteria, each scored from 0 to 3. (3)

Method
 A retrospective cohort of 24 individuals with ABI (depressed and non-depressed) seen in a neuropsychiatry outpatient clinic between 2019 and 2020 completed a PHQ-9 (self-reported depression scale) and had a NPI-Q (an observer assessment with a depression domain). The patients also underwent a formal cognitive examination using the MoCA. Z-Scores were created for the MoCA (corrected for age and educational level)



Distributions of severity of depression according to objective (NPIQD scale) and subjective measures (PHQ9). SD = Severe depression, MSD = moderate severe depression, MD = mild depression, Sev = Severe, Mod = Moderate.

	Min	Median	Mean	Max
Age	20	38	37.41	65
Time from diagnosis	1	6	8.83	32
Race	Caucasian		Mixed (black and white)	
	23		1	
Gender	Male		Female	
	19		5	

Demographics of the patient group studied.

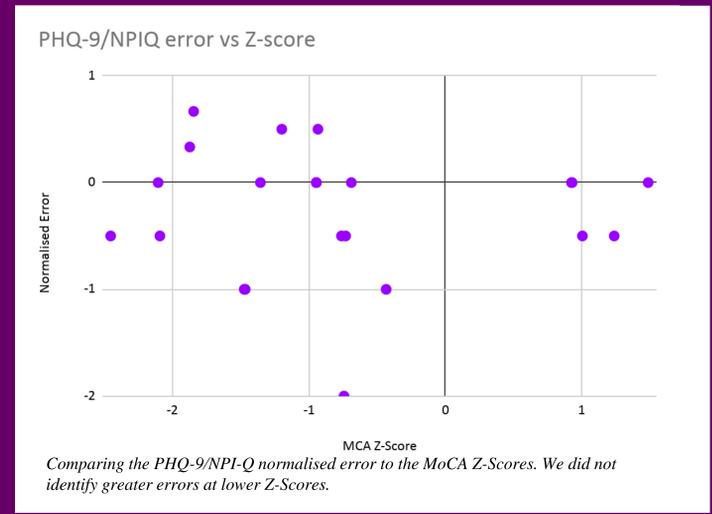
Results
 Non-depressed ABI and depressed ABI individuals with a wide range of cognitive abilities demonstrated good insight into their depression when matched to the observer rating. Chi-Square Test showed little variation between the PHQ-9 and NPI-Q Depression data sets; Wilcoxon Signed Ranks Test: Z Test -4.08, p<0.001, Effect Size 0.87 and Spearman's rho showed positive correlation between the two data sets (Correlation Coefficient 0.527, P<0.008). Therefore, there was a statistically significant agreement between the subjective measure (PHQ-9) and the observed (objective) measure NPIQD and that there was a positive correlation between the two measurement scales for patients with ABI regardless of cognition (as measured by MoCA Z-Score; range -6 to 2.21, mean: -1.17).

Diagnosis	Mean MOCA z-score	Mean PHQ 9	Mean NPIQD
CVA	-0.777	11.75	1
Hypoxic	-0.780	17	2
Mild TBI	-1.325	9.5	0.5
Moderate TBI	-0.712	12	2
Severe TBI	-1.434	7.38	1.53
Average	-1.174	9.875	1.46

Neuropsychiatric evaluations for various diagnoses. CVA=Cerebrovascular accident, Hypoxic = hypoxic brain injury, MTBI = Traumatic Brain Injury.

References

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- 2) Kroenke, Kurt, Robert L. Spitzer, and Janet BW Williams. "The PHQ-9: validity of a brief depression severity measure." Journal of general internal medicine 16.9 (2001): 606-613.
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Conclusion
 These findings indicate (1) self-reported measures of depression in ABI are consistent with observed (objective measures) thus can be used to assess depression in this cohort and (2) ABI patients with a wide range of cognitive abilities would appear to have good insight into their depression. This is reassuring for current methods in neuropsychiatric evaluation, but for further evidence of this correlation, a prospective study with a larger patient group would be of benefit.

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