

Background

The relationship between **self-awareness** and **outcome** following brain injury is well recognised (e. g. Prigatano & Schacter, 1991). However, there is some debate as to how prevalent and persistent lack of self-awareness is (e. g. Machamer et al., 2013). Recent studies suggest that significant lack of self-awareness of neurologic, cognitive, home and work functioning can still be present 5-years post injury, with individuals depicting their ability as better compared to their significant others (Kelley et al., 2014). These findings have implications for the **assessment of need** for care, treatment and support.

Aim

1. To investigate the relationship between outcome of brain injury, impaired self-awareness and level of risk for the individual.
2. To validate the use of a composite score of outcome and self-awareness as an indicator of need.

Method



Who?

N = 30 individuals receiving inpatient rehabilitation or supported living

53% female

Age on admission: 21-76 years ($M = 49.47$, $SD = 15.03$)

Diagnosis: Various forms of acquired brain injury, including TBI, CVA and hypoxia.

Injury severity: All had sustained moderate to severe brain injuries.

Time Since Injury: 1-17 years ($Median = 1$).

How?

Outcome: Glasgow Outcome Scale Extended (GOSE), Wilson et al., 1998), self-report

Self-awareness: Awareness Questionnaire (AQ, Scherer et al., 1998), discrepancy score

Composite: Brain Injury Needs Indicator (BINI) score

Risk: Structured multidisciplinary clinical assessment

Analyses: Non-parametric.

Results

High prevalence of **severe disability**
One in three with **low self-awareness**

Both outcome ($rs = .65$, $N = 26$) and self-awareness ($rs = .57$, $N = 26$) correlated moderately with risk, but weakly together ($rs = .27$, $N = 30$).

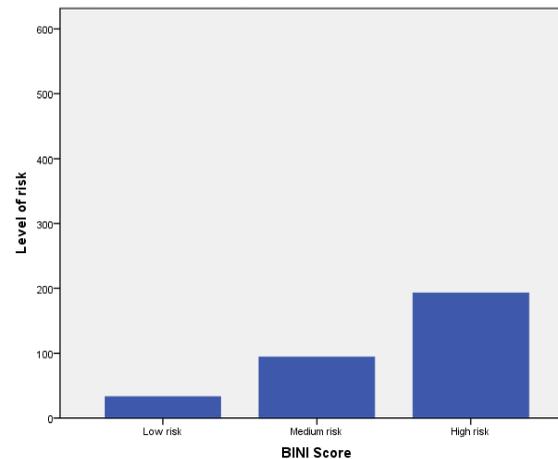
The BINI score, a composite of outcome and self-awareness, strongly correlated with risk ($rs = .72$, $N = 26$).

Table 1. Outcome and self-awareness

GOSE	N	%
Good recovery	3	10
Moderate disability	5	17
Severe disability	22	73

AQ	N	%
Good	13	43
Moderate	8	27
Low	9	30

Figure 1. Risk by BINI score



The **BINI** score was **consistent** with structured clinical **assessments of risk**, with higher median risk for the group identified as having high need on the BINI ($X^2(2) = 13.12$, $p < .01$).

Figure 2. BINI score, risk, outcome and self-awareness

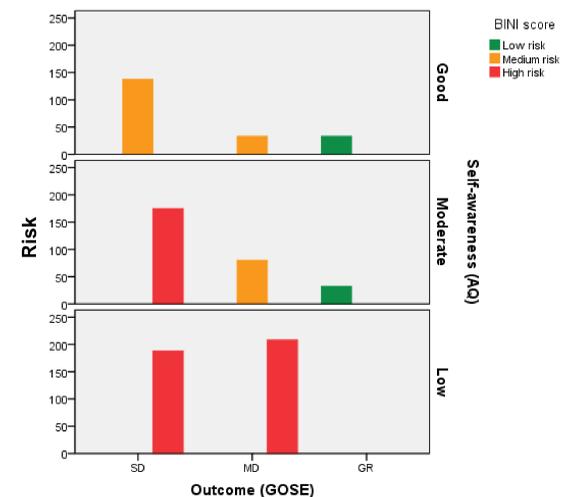


Figure 2 shows that estimating need solely on the basis of outcome may lead to underestimation (e. g. moderate disability with low-awareness), and in some cases, emphasis on awareness, may result in overestimation of need (e. g. good recovery with moderate awareness).

Discussion

The results are partly consistent with existing findings. Limited self-awareness was prevalent and persistent in some cases (4 of the 9 individuals who presented with low self-awareness had sustained their injury more than five years prior). Self-awareness and outcome of the brain injury were also associated with level of risk, suggesting that they are good indicators of need for care, treatment or support.

Contrary to existing findings, outcome and self-awareness were only weakly correlated. However, when the two variables were combined into a composite score, a strong association with risk emerged. This highlights the limitations of using self-report measures of outcome in those with limited awareness of their difficulties, and urges caution when completing assessments of care need solely based on self-reports in such cases.

Limitations

- Small sample with overrepresentation of those with recent time since injury and more severe outcomes.
- The second raters of self-awareness were not blind to the aims of the study.
- It is not possible to determine the factors driving the discrepancy scores on the AQ. One possibility is that they reflect specific lack of self-awareness post-ABI, however, other factors such as communication difficulties, pre-morbid personality, among others, could have influenced the discrepancies between raters (e. g. Kelley et al., 2014).

Conclusions

- Risk and need for care, treatment and support are multi-faceted and influenced by a number of factors (Weatherhead et al., 2012).
- Standard assessment methods of long-term disability, which often rely on self-report, may underestimate an individual's level of risk. This effect is exacerbated in those with low levels of self-awareness of their difficulties.
- The **BINI** score, which combines level of outcome with level of self-awareness, provides a more **accurate estimate of risk** than either measure taken individually.
- The BINI is a useful **tool for initial assessment** for those with brain injury, where it is necessary to **evidence the need** for access to limited resources, such as a full structured multidisciplinary assessment, specialist neurorehabilitation or long-term paid support.

References

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