Subjective Reports of Fatigue During Early Recovery From Traumatic Brain Injury

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Objective: To determine whether patients with traumatic brain injury (TBI) report higher levels of fatigue than do normal controls and to identify demographic and cognitive correlates of self-reported fatigue. Design: Prospective study. Setting: Inpatient neurorehabilitation unit in a medical center and neurological institute. Participants: Forty-seven neurorehabilitation inpatients with TBI. Main Outcome Measures: Barrow Neurological Institute (BNI) Fatigue Scale and BNI Screen for Higher Cerebral Functions. Results: Patients reported significantly greater levels of fatigue compared to the levels reported by normal controls, although fatigue was found to be unrelated to injury severity, number of days from injury to assessment, cognitive impairment, and gender. Inspection of individual items revealed no significant differences between severe versus moderate versus mild TBI groups. However, being able to last the day without taking a nap (ie, item 10) was found to be the most sensitive item associated with fatigue in the TBI group. Conclusions: Results of this study suggest the need to integrate activities and interventions to increase endurance in patients with TBI during early rehabilitation. Accommodating regular rest breaks and increasing restful sleep should be a focus of inpatient neurorehabilitation units. Key words: brain injury, fatigue, traumatic brain injury

Fatigue is a common symptom of many neurological conditions. Although subjective, it is often clinically observed in acute and postacute phases of recovery and in patients with unilateral focal and bilateral lesions. Physical and cognitive difficulties may be accentuated by fatigue, and fatigue may be exacerbated by involvement in physical and cognitive activities. It has been reported in patients with neurologic conditions, independent of mood disturbances. It has also been shown to have serious functional and emotional consequences and may have implications for participation in rehabilitation.

While there is no universally accepted definition of fatigue, most agree that it is a multidimensional construct, although variability exists as to its dimensions. For example, Grobar-Murray and colleagues described fatigue as consisting of 3 dimensions: (1) a perceived sensation of weariness; (2) a diminished interest or “task aversion”; and (3) observable physical signs or somatic symptoms. Smets and colleagues described physical and mental components of fatigue as characterized by the Multidimensional Fatigue Inventory measured in patients with cancer and chronic fatigue syndrome. The Fatigue Impact Scale is designed to measure fatigue as it relates to cognitive, physical, and social functioning in patients with multiple sclerosis.

In traumatic brain injury (TBI), fatigue has been reported as a prominent symptom for both mild and moderate/severe injuries.
has been documented as the third most prevalent symptom of postconcussive syndrome following headaches and dizziness. Other studies have shown similar results. van Zomeren studied reports of 43 symptoms in patients with TBI with a mean duration of posttraumatic amnesia of 24.5 days. In the sample studied, fatigue was endorsed as the second most common complaint by 41% of the patients, second only to memory problems, which were endorsed by 49% of the patients.

Problems with fatigue have also been shown to persist during the postacute stages of recovery after TBI. In a study of patients with mild to moderate TBI, 57% of patients complained of fatigue at 1 month postinjury, 61% at 3 months postinjury, 45% at 6 months postinjury, and 45% at 1 year postinjury. In a follow-up study of patients with moderate to severe TBI, 68% complained of fatigue at 2 years postinjury, while 73% complained of fatigue at 5 years postinjury.

There are few published questionnaires that are specifically designed to quantify fatigue, particularly during the acute stages of recovery after brain injury. Typically, an assessment of fatigue is obtained via a detailed history, a structured interview, or questionnaires designed to measure broader conditions (e.g., Beck Depression Inventory). The most recognized published questionnaires were developed to assess fatigue in patients with multiple sclerosis. The Fatigue Impact Scale, for example, is a 40-item self-report questionnaire that asks about the role of fatigue as it relates to cognitive, physical, and social functioning in patients with multiple sclerosis. Responses are rated on a scale of 0 (no problem) to 4 (extreme problem). The Fatigue Severity Scale is a 9-item self-report questionnaire that asks patients to rate on a scale from 1 (strongly disagree) to 7 (strongly agree) the degree to which fatigue interferes with their functioning. The Fatigue Severity Scale has demonstrated sensitivity to the fatigue problems of patients with multiple sclerosis.

The present study introduces a new measure of self-reported fatigue—the Barrow Neurological Institute Fatigue Scale (BNI Fatigue Scale). The BNI Fatigue Scale was specifically developed to provide a quick quantifiable self-report assessment of fatigue in patients during early rehabilitation from brain injury. It is brief in length and easy to understand, making it unique and conducive for administration on an acute inpatient rehabilitation unit. Whether the scale is sensitive for detecting self-reports of fatigue in patients after TBI remains to be empirically determined and is a focus of this exploratory study.

The purpose of the present research is twofold. First, this study will examine self-reports of fatigue in patients with TBI during early rehabilitation using the BNI Fatigue Scale. It is expected that the patients with TBI will report significantly higher levels of fatigue compared to the levels reported by a sample of normal controls. A second focus of this study is to determine whether there is an association between self-reported fatigue and potential moderating variables. The number of
days that pass from injury to neuropsychological assessment has been positively correlated with severity of injury.\textsuperscript{29–31} Whether injury severity, number of days postinjury, and cognitive impairment are associated with self-reported fatigue has not yet been studied with the BNI Fatigue Scale. Also, fatigue has been shown to differ for gender across several studies\textsuperscript{11,32} and will therefore be examined in the present study.

\section*{METHODS}

\subsection*{Participants}

Fatigue was studied in 47 patients with TBIs, admitted to the inpatient neurorehabilitation unit of the BNI in Phoenix, Ariz. Patients had varying levels of injury severity as classified by admission Glasgow Come Scale (GCS) score.\textsuperscript{33} Average age was 35.93 (SD = 16.49), and average education was 12.43 (SD = 2.33) years. Table 1 shows the demographic and neurologic features of the patient group.

Eighteen patients had sustained severe head injuries (as evidenced by a GCS score of 8 or less), 18 patients had sustained moderate head injuries (GCS score between 9 and 12), and 11 patients had sustained mild head injuries (GCS scores in the 13–15 range). Of the 11 patients with mild injuries, 4 (36\%) had injuries complicated by intracranial lesions as visualized by computed tomography and/or magnetic resonance imaging, whereas 7 (64\%) had uncomplicated injuries. Of the total 40 patients with visualized injuries, 50\% had bilateral lesions, 17.5\% had left hemisphere lesions, and 22.5\% had right hemisphere lesions. Another 10\% had visualized lesions in the brain stem, cerebellum, or an unspecified location. The most common visualized lesions were contusions (45\%), hemorrhages (39\%), and hematomas (16\%).

The control group was a convenience sample of 30 volunteers recruited from the general population. Participants were included if they reported no history of psychiatric or neurologic disease. Mean age was 36.20 years (SD = 19.46), and mean education was 13.46 years (SD = 1.67). Sixty-two percent of the normal control participants were male (Table 1).

\begin{table}[h]
\centering
\caption{Demographic and neurologic characteristics of patient and control groups}
\begin{tabular}{|l|c|c|c|c|}
\hline
 & \textbf{Patients with traumatic brain injury (n = 45)} & & \textbf{Controls (n = 30)} & \\
 & \textbf{M} & \textbf{SD} & \textbf{M} & \textbf{SD} & \textbf{P} \\
\hline
Age & 35.93 & 16.49 & 36.20 & 19.46 & .951 \\
Education & 12.43 & 2.33 & 13.46 & 1.67 & .071 \\
Gender & & & & & \\
% Male & 55.10 & & 62.5 & & .238 \\
Glasgow Coma Scale score & 9.39 & 4.11 & & & \\
Postinjury days & 24.37 & 17.01 & & & \\
Range of days & 3–81 & & & & \\
Lesion location, % & & & & & \\
Right & 22.5 & & & & \\
Left & 17.5 & & & & \\
Bilateral & 40.0 & & & & \\
Other & 10.0 & & & & \\
Barrow Neurological Institute T Score & 18.44 & 17.81 & & & \\
\hline
\end{tabular}
\end{table}
Independent \( t \) tests were conducted to determine whether the groups differed on age and education. Chi-square analysis was conducted to determine whether there were any gender differences between the groups. The analyses showed no statistical differences between the groups on age (\( t_{73} = 0.229, P = .819 \)), education (\( t_{73} = 1.90, P = .071 \)), or gender (\( X^2 = -0.143, P = .238 \)).

**Measures**

**BNI Fatigue Scale**

The BNI Fatigue Scale (Appendix) consists of 10 items that are rated on a 7-point scale. The scale ranges from 0 to 1 (rarely a problem), 2 to 3 (occasional problem, but not frequent), 4 to 5 (frequent problem), and 6 to 7 (a problem most of the time). Patients are asked to characterize their level of fatigue since their injury by choosing a number that best describes their response. A total score is obtained on items 1 through 10. A final item (item 11) asks patients to circle their overall level of fatigue since their injury on a scale from 0 (no problem) to 10 (severe problem). Patients with acute TBI typically complete the questionnaire within 5 minutes. The scale was found to have good test-retest reliability on a heterogeneous sample (\( n = 30 \)) of inpatient neurologic patients (\( r = 0.96 \)). Additional reliability and psychometric properties of this scale have been documented elsewhere (see Borgaro et al.28).

**BNI Screen for Higher Cerebral Functions**

The BNI Screen for Higher Cerebral Functions (BNIS) was designed to provide a brief but valid assessment of higher cerebral functions from acute to chronic stages of various brain disorders. Initial studies have demonstrated its reliability and validity. The BNIS takes approximately 10 to 25 minutes to administer. It is composed of the following 7 subtests: (1) Speech and Language; (2) Orientation; (3) Attention/Concentration; (4) Visuospatial and Visual Problem Solving; (5) Learning and Memory; (6) Affect; and (7) Awareness versus Performance. For a detailed description of the individual items, see Prigatano et al.34 A total raw score provides an overall index of cognitive functioning. It is obtained by summing all of the subtest raw scores. Higher scores indicate a higher level of functioning. The total raw score may be converted to an age-corrected standard \( (T) \) score using the norms of Prigatano and colleagues.34 The total BNIS \( T \) score was used as a dependent variable of overall cognitive functioning.

**Procedures**

All patients who met the inclusion criteria were evaluated within the first 90 days of their injury. Participants were interviewed and administered the BNI Fatigue Scale and the BNIS by either a staff clinical neuropsychologist or a postdoctoral resident in clinical neuropsychology, as part of their neuropsychological examination.

**RESULTS**

**Performances on BNI Fatigue Scale**

It was expected that the TBI group as a whole would report higher levels of fatigue than would the normal control group. Using independent \( t \) tests and Bonferroni statistics, with alpha set at \( P < .004 \) for multiple comparisons, it was found that the TBI group reported higher levels of fatigue on the BNI Fatigue Scale. Inspection of specific items showed significantly higher reports of fatigue in the TBI group on items 4 (How difficult is it for me to complete a task without becoming tired?), 5 (How difficult is it for me to stay alert during activities?), 7 (How difficult is it for me to stay out of my bed during the day?), 10 (How difficult is it for me to stay out of bed during the day?), and 11 (overall index of fatigue) (Table 2).

A stepwise multiple regression analysis was performed to determine whether any of the statistically significant items listed above (ie, items 4, 5, 7, 10, and 11) would be most associated with the TBI group. The single item
Table 2. Group differences on Barrow Neurological Institute Fatigue Scale items

<table>
<thead>
<tr>
<th></th>
<th>Patients with traumatic brain injury (n = 47)</th>
<th>Controls (n = 30)</th>
<th>t</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 1</td>
<td>2.44 ± 1.71</td>
<td>1.87 ± 1.91</td>
<td>−1.26</td>
<td>.212</td>
</tr>
<tr>
<td>Item 2</td>
<td>2.13 ± 1.98</td>
<td>1.17 ± 1.13</td>
<td>−2.58</td>
<td>.012</td>
</tr>
<tr>
<td>Item 3</td>
<td>1.89 ± 2.05</td>
<td>1.00 ± 1.41</td>
<td>−2.12</td>
<td>.038</td>
</tr>
<tr>
<td>Item 4</td>
<td>2.18 ± 1.97</td>
<td>0.83 ± 0.76</td>
<td>−4.05</td>
<td>.000*</td>
</tr>
<tr>
<td>Item 5</td>
<td>1.84 ± 1.99</td>
<td>0.62 ± 0.57</td>
<td>−3.82</td>
<td>.000*</td>
</tr>
<tr>
<td>Item 6</td>
<td>1.60 ± 1.90</td>
<td>1.54 ± 1.93</td>
<td>−0.12</td>
<td>.904</td>
</tr>
<tr>
<td>Item 7</td>
<td>2.36 ± 2.21</td>
<td>0.79 ± 0.83</td>
<td>−4.20</td>
<td>.000*</td>
</tr>
<tr>
<td>Item 8</td>
<td>2.04 ± 2.08</td>
<td>1.95 ± 1.42</td>
<td>−0.20</td>
<td>.840</td>
</tr>
<tr>
<td>Item 9</td>
<td>1.73 ± 1.92</td>
<td>0.95 ± 0.99</td>
<td>−2.20</td>
<td>.031</td>
</tr>
<tr>
<td>Item 10</td>
<td>2.53 ± 2.23</td>
<td>0.66 ± 0.76</td>
<td>−5.08</td>
<td>.000*</td>
</tr>
<tr>
<td>Total score</td>
<td>20.71 ± 16.49</td>
<td>11.41 ± 6.99</td>
<td>−3.27</td>
<td>.002*</td>
</tr>
<tr>
<td>Overall fatigue index</td>
<td>4.44 ± 3.09</td>
<td>2.50 ± 1.93</td>
<td>−3.20</td>
<td>.002*</td>
</tr>
</tbody>
</table>

*Significant after appropriate adjustment of alpha level (α = .004).

most associated with TBI was item 10 (How difficult is it for me to last the day without taking a nap?) ($r^2 = 0.183, F = 15.49, P = .000$).

**Correlates of fatigue in TBI**

To better understand the role of self-reported fatigue in the TBI group, potential moderating variables were examined for their effects on fatigue. Pearson correlations yielded no statistically significant findings for cognitive performance on the BNIS ($r = −0.08, P = .628$), days postinjury ($r = −0.12, P = .424$), or injury severity as per the GCS score at admission ($r = −0.05, P = .738$). An independent t test revealed no significant difference between gender and self-reported fatigue ($t_{73} = −1.01, P = .317$).

**Injury severity and fatigue**

Individual fatigue items were examined for differences between TBI groups (mild vs moderate vs severe) as classified by GCS score (Table 3). The groups did not differ on age ($F_{2,45} = 2.65, P = .079$), education ($F_{2,45} = .029, P = .971$), or gender ($X^2 = 0.418, P = .811$). The TBI groups did differ on days from injury to assessment ($F_{2,45} = 4.18, P = .022$). There also was a dose-response relationship between TBI groups and total cognitive impairment score on the BNIS ($F_{2,45} = 6.45, P = .004$), with patients with severe TBI having the greatest cognitive impairment ($M = 13.22, SD = 14.70$), followed by the moderate ($M = 16.56, SD = 18.47$) and mild groups ($M = 36.00, SD = 13.25$), respectively. With days postinjury and BNIS score covaried, and alpha set at $P$ less than .004 for multiple comparisons using Bonferroni statistics, analyses of covariance revealed no significant differences between the TBI groups on any of the BNI Fatigue Scale items.

**DISCUSSION**

This study examined self-reports of fatigue in patients with TBI during early rehabilitation. Self-reported fatigue was found to be a problem during the early stages of recovery from TBI, as measured by the BNI Fatigue Scale. Patients with TBI reported significantly greater fatigue than did normal controls, although it was found to be unrelated to injury...
Table 3. Performance across traumatic brain injury groups on the Barrow Neurological Institute Fatigue Scale total score

<table>
<thead>
<tr>
<th>Item</th>
<th>Severe (n = 18)</th>
<th>Moderate (n = 18)</th>
<th>Mild (n = 11)</th>
<th>F</th>
<th>P</th>
</tr>
</thead>
<tbody>
<tr>
<td>Item 1</td>
<td>2.17 (1.62)</td>
<td>2.44 (1.85)</td>
<td>2.91 (1.51)</td>
<td>0.55</td>
<td>.653</td>
</tr>
<tr>
<td>Item 2</td>
<td>2.44 (2.17)</td>
<td>1.67 (1.41)</td>
<td>2.36 (2.29)</td>
<td>0.79</td>
<td>.506</td>
</tr>
<tr>
<td>Item 3</td>
<td>2.50 (1.98)</td>
<td>1.55 (2.12)</td>
<td>1.36 (1.74)</td>
<td>1.45</td>
<td>.249</td>
</tr>
<tr>
<td>Item 4</td>
<td>1.88 (2.05)</td>
<td>2.00 (1.85)</td>
<td>2.64 (2.01)</td>
<td>1.30</td>
<td>.288</td>
</tr>
<tr>
<td>Item 5</td>
<td>1.83 (1.98)</td>
<td>1.61 (1.94)</td>
<td>1.91 (2.21)</td>
<td>0.45</td>
<td>.750</td>
</tr>
<tr>
<td>Item 6</td>
<td>1.22 (1.44)</td>
<td>1.89 (2.05)</td>
<td>1.82 (2.22)</td>
<td>0.54</td>
<td>.796</td>
</tr>
<tr>
<td>Item 7</td>
<td>2.89 (2.72)</td>
<td>1.61 (1.68)</td>
<td>2.60 (1.58)</td>
<td>1.43</td>
<td>.247</td>
</tr>
<tr>
<td>Item 8</td>
<td>2.56 (2.45)</td>
<td>1.61 (1.58)</td>
<td>2.09 (1.87)</td>
<td>0.83</td>
<td>.482</td>
</tr>
<tr>
<td>Item 9</td>
<td>1.61 (2.00)</td>
<td>1.67 (1.78)</td>
<td>2.09 (1.92)</td>
<td>0.44</td>
<td>.728</td>
</tr>
<tr>
<td>Item 10</td>
<td>2.61 (2.61)</td>
<td>2.22 (2.02)</td>
<td>2.91 (1.75)</td>
<td>0.93</td>
<td>.453</td>
</tr>
<tr>
<td>Total (1–10)</td>
<td>21.72 (16.93)</td>
<td>18.28 (15.97)</td>
<td>22.45 (16.14)</td>
<td>0.55</td>
<td>.650</td>
</tr>
<tr>
<td>Overall index</td>
<td>4.44 (3.32)</td>
<td>4.17 (3.22)</td>
<td>5.09 (2.38)</td>
<td>0.46</td>
<td>.056</td>
</tr>
</tbody>
</table>

*Values are mean (SD).

severity, number of days postinjury, cognitive impairment score on the BNIS, and gender. No differences were found between TBI groups on the BNI Fatigue Scale when classified by injury severity (ie, mild, moderate, and severe).

Inspection of patient scores revealed greatest difficulty on items related to staying alert during rehabilitation activities, completing tasks without becoming tired, and staying awake and out of bed during the day. Being able to last the day without taking a nap (item 10) was found to be the most sensitive item associated with TBI. The sensitivity of this item may be due in part to sleep disturbances after TBI. Sleep disturbances have been frequently reported in patients after TBI and particularly during early rehabilitation because of a variety of factors, including scheduled therapies, recreational activities, visitors, medical/nursing procedures, noise/activity level, etc.

Although sleep disturbances may be common during early recovery, fatigue may be related but independent of sleep for some patients. For example, Clinchot and colleagues found that 50% of the 45 patients studied by them reported sleep disturbances, while 63% reported fatigue. Of the 50% of patients with sleep disturbances, 80% also reported fatigue, suggesting that fatigue may be secondary to sleep disturbances for some patients. Not all patients with fatigue however reported sleep disturbances, suggesting that fatigue may be a separate domain. Thus, fatigue after brain injury may be due in part to both sleep deprivation and brain injury. Item 10 may be a sensitive and useful quantifiable measure of fatigue after TBI, regardless of sleep patterns.

Injury severity and cognitive impairment on the BNIS were unrelated to fatigue as measured by the BNI Fatigue Scale. The lack of relationship may be due to the acute nature of patients studied. Patients may be too severely injured, hence requiring inpatient rehabilitation, to show differences in fatigue. It is possible that specific patterns of self-reported fatigue might emerge as patients progress from acute to postacute stages of recovery. Furthermore, the severe TBI group in this study was limited to those who were able to complete a brief assessment. Thus, the most severe patients (ie, those who could not complete a brief assessment) were excluded from this study.

Other studies have reported no relationship between fatigue and cognitive impairment. For example, recent research by Parmenter and colleagues showed no differences...
in cognitive performance in patients with multiple sclerosis when tested during periods of high versus low fatigue. Similarly, ratings of fatigue were unrelated to cognitive performance in patients with chronic fatigue syndrome. Other studies, however, have shown an association between fatigue and cognitive performance in patients with myasthenia gravis and chronic fatigue syndrome.

The present study found no differences between fatigue and gender after TBI, which may be characteristic of the acute and diffuse nature of TBI. However, several studies have documented differences between fatigue and gender, with females often reporting more fatigue than do males. This pattern has been reported in patients with myasthenia gravis, sleep apnea, major depression, chronic fatigue syndrome, chronic hepatitis C, heart disease, and rheumatoid arthritis. It is unknown why females have shown higher rates of fatigue compared to those shown by males across the different conditions noted above.

This study consisted of several limitations that should be considered when interpreting the present results. Medication and related issues (eg, dosage, type) were not controlled for, which may have impacted self-reported fatigue levels. Furthermore, this study did not include a general medical control group to examine potential hospital-related variables impacting fatigue (eg, medical conditions, complications). Finally, future studies using the BNI Fatigue Scale should examine the impact of other variables on fatigue, including sleep deprivation and injury location, as these are important factors during early inpatient neurorehabilitation.

Results of this study emphasize how self-reported fatigue is perceived as a problem after TBI regardless of injury severity, and may have implications for early rehabilitation. Patients are expected to complete physical, occupational, and speech therapies on inpatient rehabilitation units. Each therapy typically takes 1 hour, but is often done in half-hour sessions. Thus, much of the patient’s time during the day is occupied by therapies and other activities, with little time for rest. When they are done with therapies, they are often visited by family members and friends. In addition, it is often difficult to obtain a restful night’s sleep because of the nature of an inpatient unit, often leaving the patient fatigued the next morning. Scheduling regular rest breaks during the day may help to reduce a patient’s fatigue and should be considered on inpatient rehabilitation units. Also, activities aimed at helping to increase endurance (eg, mild exercise) would likely facilitate the reduction of fatigue and should be considered as a focus of early remediation interventions.

It is not uncommon for patients with TBI to request frequent breaks or end a cognitive task prematurely when they cannot sustain the mental energy or “drive” required to perform a task. Future research should be aimed at identifying potential correlates of sustained intensity or energy. Halstead, for example, referred to the “cerebral power” factor or energy source in describing tests of intellectual energy. Identifying cognitive tests sensitive to fatigue would allow for measurement of clinical intervention and outcome.

REFERENCES

5. Fisk JD, Pontefract A, Ritvo PG, Archibald CJ, Murray TJ. The impact of fatigue on patients with TBI.


Appendix

Please rate the extent to which each of the items below has been a problem for you since your injury. You should choose only ONE number from 0 to 7 on the scale below when making your response.

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rarely a problem</td>
<td>Occasional problem, but not frequent</td>
<td>A frequent problem</td>
<td>A problem most of the time</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. How difficult is it for me to maintain my energy throughout the day?
2. How difficult is it for me to participate in activities because of fatigue?
3. How difficult is it for me to stay awake during the day?
4. How difficult is it for me to complete a task without becoming tired?
5. How difficult is it for me to stay alert during activities?
6. How difficult is it for me to build my energy level once I wake up in the morning?
7. How difficult is it for me to stay out of my bed during the day?
8. How difficult is it for me to stay alert when I am not involved in something?
9. How difficult is it for me to attend to something without becoming sleepy?
10. How difficult is it for me to last the day without taking a nap?

**TOTAL RAW SCORE =**

**T SCORE =**

11. Please circle your OVERALL level of fatigue since your injury:

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>No problem</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Severe Problem</td>
</tr>
</tbody>
</table>