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Vocational outcomes after brain injury in a patient population evaluated for Life Care Plan reliability

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Abstract. This retrospective cohort study examined the vocational outcomes in forty-four traumatically brain injured patients. Patient files selected were limited to those who were seen for the development of an original Life Care Plan and were subsequently seen at least once for a complete update of that plan. Patients who were retired at the time of the brain injury were excluded. Each participant was actively involved in litigation at the time of the initial evaluation as well as at the time of his or her update evaluation. Traumatic brain injury resulted from various etiologies. Vocational outcomes were analyzed in relation to severity of injury, age at onset, gender and education. Vocational outcome was reported as a return to work, supported employment, return to school or training or permanent total disability. Twenty-one patients were classified as permanent-total disabilities. Twenty-three returned to work, supported employment, or were successfully in school and expected to return to work. This 52% rate of vocational or school participation is particularly noteworthy since all cases were actively in litigation. A significant trend was found for severity of injury, and level of education, but not for age at onset or gender. These factors are discussed in relation to the subjects' participation in third party civil litigation and implications for Life Care Planning.

Keywords: Return to work, traumatic brain injury, vocation, life care plan, disability, rehabilitation

1. Introduction

Return to work subsequent to the occurrence of traumatic brain injury (TBI) has been identified as a critical component of the rehabilitation process for many individuals who have incurred such trauma. Research literature related to the area of TBI has spent considerable time and effort to identify and predict vocational outcomes for these individuals. While the methodology and purpose of the studies may vary, similarity exists in the intent of each to offer supplementary information to assist researchers and practitioners alike in better understanding and supporting this population of individuals as it relates to their occupational re-entry. The purpose of this literature review will be to provide a summary of the existing research in the field of TBI and return to work. Areas considered include the identified predictors of successful return to work, stability of employment, the use of qualitative reviews and case studies to understand the individual perspective as well as the impact that litigation and compensation have on return to work status.

1.1. Relationship of severity of injury to return to work outcomes

For many, work is a part of the individual's definition of self. While the importance or role of work may be

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characterized differently, it has long been recognized as a factor related to an individual's perception of quality of life. Due to the multitude of physical, cognitive and behavioral factors related to TBI, and the various levels of severity that affect overall functioning, the return to work for individuals who have experienced a TBI has been a prevailing topic of research in the literature. A primary area of that focus has been on identifying factors used to predict the likelihood an individual will be capable of attaining employment post-injury. Studies have indicated that the more severe the initial injury and greater the length of posttraumatic amnesia, the more likely the individual is to experience poor return to work outcomes [4]. In fact, Cattelani et al. [4] found that these factors were the strongest predictors differentiating those individuals who would be capable of returning to their pre-injury levels of work from those whose needs would require more adaptive and support service accommodations. The Cattelani study [4] also suggests the importance of evaluating cognitive and behavioral strengths and weaknesses of the individual following a TBI at various stages of recovery to better understand what elements need to be considered in the environment in order to best facilitate successful return not only to work but additionally to social, family and community integration.

In contrast, others have reported less significant findings between the relationship of injury severity and future outcomes [6,14]. Results from these studies indicate that the severity of injury was not significant in the prediction of poorer outcome one and two years post injury. Dawson et al. [5] reported similar results finding that at four years post injury, the severity of the initial injury was not a strong predictor of vocational outcome; however, the length of rehabilitation stay was a significant predictor (the longer the stay the poorer the outcome). The Dawson study also investigated the use of the Galviston Orientation and Amnesia Test to determine if level of attention and memory recall measured at two different times post-injury could be useful in predicting future outcomes. A significant relationship was found between attained score and return to work. Additionally, the Dawson sample indicated that at one year post-injury 66% of subjects returned to work or school and at four year follow-up 80% had returned to work or school.

1.2. Relationship of other variables to return to work outcomes

Other variables associated with return to work outcomes include the age at which the injury occurred, marital status and pre-injury level of education. It appears that the older the individual at the time of injury, the more negative the outcome for return to work [17]. In addition, Ip et al. [9] found higher rates of unemployment post-injury for both unmarried individuals and those with fewer years of pre-injury education.

The stability of employment over time has been another area of focus in the literature. While re-entry into employment is often a goal of the rehabilitation process for individuals who have sustained a head injury, it is important to understand how well individuals are able to maintain employment over time. Various studies have considered the employment status of individuals at various time frames following injury. Some have indicated that employment at one or two years post injury is predictive of employment at three and four years post injury [17]. Kreutzer et al. [11] looked at employment over a period of one, two and three or four years post injury of 186 subjects with TBI to determine stability of employment at three different intervals. Subjects were categorized as being stably employed, unstably employed or unemployed. Analysis showed that 34% were stably employed, that is employed at all three follow-up intervals, 27% were unstably employed, or employed at one or two of all follow-up intervals, and 39% were unemployed at all follow-up intervals. Prediction of job stability was indicated by variables including job status at one year follow-up. Those who reported working at this interval were more likely to be working at the two and three year intervals. Age, length of unconsciousness and measures on the Disability Rating Scale one year post injury were also predictive of future job stability. In addition a relationship was found between driving independence and employment stability [11]. Those individuals independently capable of transporting themselves to work were four times more likely to have established stable employment.

1.3. The effect of the definition of success on return to work outcomes

A shift in focus of the return to work research has occurred by considering the individual's perspective of the definition of success as it relates return to work. In quantitative literature, predicting return to work from the pre and post injury percentages can be a complex task if one is not careful to differentiate amongst the ways these percentages are presented. With respect to unemployment rates and TBI, some studies report pre-injury unemployment at 14% with post injury unemployment at 71% for a single group of subjects [3].

Given the reported percentages of return to work or the stability of work, different conclusions about how successful employment is defined may be inferred. An alternative way to measure success as it relates to return to work has been found through the use of qualitative studies. These investigations seek to understand the perspective, meaning making and values those individuals who have sustained a brain injury attribute to what they identify constitutes successful return to work.

In a study by Levack et al. [12] seven individuals diagnosed with moderate to severe TBI were interviewed to uncover themes associated with successful return to work. While support was indicated for the idea that paid work can be related to feelings of success, three additional themes about return to work and individual's feelings of success or failure were uncovered. These themes included the idea that return to work could be associated with highly negative and catastrophic personal consequences, feelings of success could be achieved without the presence of full-time or paid employment and success at work could be associated with factors other than the number of hours worked or the amount of pay received [12].

Using a small cohort of individual subjects, Oppermann [15] interviewed subjects to gain an understanding of the meaning they ascribed to work following a TBI. These interviews were subsequently analyzed for the presence of explicit themes and data analysis revealed three specific return to work themes. According to the participants, return to work was defined by their experiences of finding work post-injury, maintaining work post-injury and the feelings of independence related to work following injury [15]. Descriptive analysis was detailed in uncovering individual experience in these areas and giving rise to information about personal challenges and struggles of the individuals not ordinarily described or highlighted in quantitative studies that focus on measurement of factors or percentages.

Descriptive studies can be a valuable tool in helping practitioners and professionals working with individuals who have experienced a TBI establish more appropriate or functional ways of restructuring the work environment to facilitate a more successful re-entry into work. Through the use of individual case studies Kowalske et al. [10] reported the individual circumstances of three subject's experiences with return to work following TBI. Using the Enablement Model of treatment [8], accommodations were made to the work environment for each individual based on determined strengths and weaknesses. These accommodations included changes to the structure of the work environment as well as decreases in the level of distractions as a means of creating an optimal work environment to meet the individual's needs.

1.4. The effect of compensation seeking on return to work outcomes

The impact of compensation seeking and litigation on the outcome of successful or timely return to work is another area that has received attention in the literature. In a study by Reynolds et al. [16] it was indicated that return to work outcomes were slower for individuals with mild TBI seeking financial compensation than for those who were not seeking any financial compensation for their injury. Return to work for those not seeking compensation averaged four to seven days from the time of injury while those involved in a litigation procedure averaged three to seven months to return to prior work status. These results are similar to earlier findings by Binder and Rohling [1] that found individuals seeking financial incentives as a result of their injury performed more poorly than their non compensation seeking counterparts on outcomes measures of symptom reports, neuropsychological testing and return to work status.

It is important to consider that the aforementioned findings are for those individuals who have experienced a mild rather than severe incident of TBI. Other studies have considered the clinical differences in testing and symptomology between mild and severe cases of TBI in the presence of pending litigation. Millis [13] used the Warrington Recognition Memory Test [18] to asses the memory and motivation of two groups of subjects who had experienced a brain injury. Findings indicated that subjects identified as having mild TBI and seeking financial compensation scored significantly lower on subtests of forced choice word and facial recognition than both individuals identified with mild TBI who had returned to work as well as a group identified with moderate to severe TBI. Green et al. [7] used the Word Memory Test to measure performance differences between subjects with mild head injuries to those with moderate or severe head injuries. In the absence of any significant between group differences in years of education or IQ, it was found that the subjects with more severe injuries scored significantly higher on measures of effort than did their less severely injured counterparts [7]. The notion that substandard effort and or malingering in more mild cases of TBI in the presence of litigation has been considered as a factor in cases where financial compensation is pending [2].

The occurrence of TBI is one that has a considerable impact on the individual who has sustained this injury. Mild, moderate or severe, brain injury affects multiple areas of an individual's life, not the least of which is the ability to return to one's prior level of work. Additional research into the predictors, outcomes and clinically as well as individually defined levels of success may assist in helping professionals identify and improve the supports needed to facilitate success in the return to work status of this population. This article seeks primarily to reassess many of the same predictors previously examined but within the context of a broad population of moderate, moderate to severe, and severe brain injury survivors, all of whom are involved in the State or Federal Civil Court system over a period of multiple years. The study reports on supported work programs, transitional work, return to work attempts and successful return to work in the open labor market in relation to various levels of brain injury.

1.5. Design and methodology

Data were collected on forty-four anonymous cases to examine the rate and influencing variables on return to work in traumatically brain injured individuals involved in State or Federal Civil Litigation. The patient litigation originated in various states nationwide. The diagnosis for all participants was acquired brain injury although the etiology of the brain injury varied. There are thirty-one males and thirteen females in the sample population. All patients were initially seen for a Life Care Plan (LCP) evaluation and subsequently it was necessary to accomplish a complete re-evaluation of the patient status to update the LCP. The LCP's were obtained from the data-base of The Foundation for Life Care Planning Research. Included cases from two experienced and certified life care planners in private practice, both of whom maintain a policy of strict adherence to published life care planning processes, procedures, standards, tenets, methodologies, and principles.

Two studies were being conducted simultaneously. An analysis of the original and updated LCPs was being accomplished as part of a study on the reliability and validity of the Life Care Planning Process while vocational data from the same files were being used to complete study reported here. Data were initially collected on 54 patients resulting in 108 Life Care Plans; however, 10 of these patients were retired from employment at the time of onset of their brain injury and were not included in the vocational study reported here.

All patient cases with the necessary vocational data and LCPs that fit the criteria were included in the study. To maintain confidentiality of the research, all files in the Foundation for Life Care Planning Research's database are purged of names and replaced with file identifiers.

1.5.1. Scaling of data: Traumatic brain injury

Patients were categorized based on severity of injury according to the Traumatic Brain Injury (TBI) Severity Rating Scale where:

1 = Moderate Injury
2 = Moderate to Severe Injury: Some supervision required
3 = Severe Injury: Supported apartment/Live-in care
4 = Severe Injury: 24 Hr supervision required
5 = Borderline Persistent Vegetative State (PVS)
6 = Persistent Vegetative State (PVS).

The determination of level of severity was made at the time of the evaluation for the initial LCP.

1.5.2. Scaling of data: Return to work

Data were collected on return to various levels of work, supported employment, school or training according to the Return to Work (RTW) Coding Scale where:

1 = Permanent and Total Disability – 24 hour care required
2 = Supported Work
3 = Supported/Transitional Employment
4 = Return to School or Training with Limitations
5 = Return to Work with Loss of Earning Capacity.

For purposes of this study Supported Work (level 2) is defined as "a unique employment opportunity for individuals who require ongoing support services while placed with employers in the competitive labor market". A job coach providing supervision to no less than three individuals was one criterion that had to be met. One on one job coaching was not an accepted criterion for inclusion. The client had to have moved beyond the point at which they had received initial pre-vocational training or the stage at which training had been provided to the employee and co-worker in working effectively together.

To meet the criteria for Supported/Transitional Employment (level 3), "the client had to have moved through level 2 and transitioned into competitive employment without the need for a job coach". This

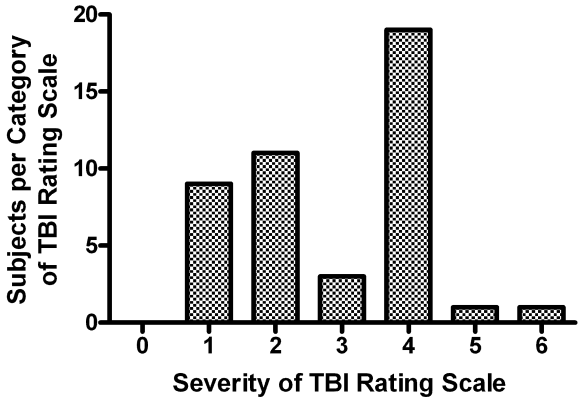

Fig. 1. Histogram of number of subjects per category of the Traumatic Brain Injury Rating (TBI) scale where 1 = Moderate Injury, 2 = Moderate to Severe Injury: Some supervision required, 3 = Severe Injury: Supported apartment/Live-in care, 4 = Severe Injury: 24 Hr supervision required, 5 = Borderline Persistent Vegetative State (PVS) and 6 = Persistent Vegetative State (PVS).

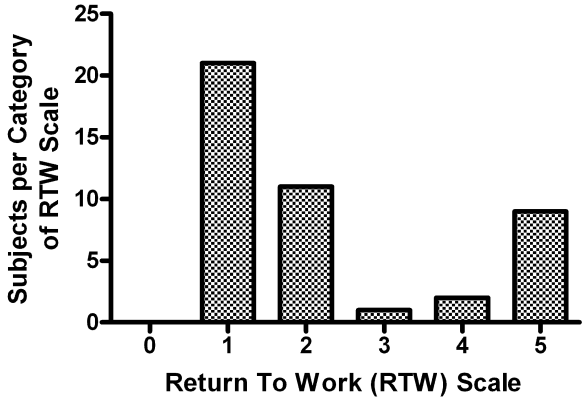

Fig. 2. Histogram of number of subjects per category of the Return to Work coding scale where 1 = Permanent and Total Disability-24 hour care required, 2 = Supported Work, 3 = Supported/Transitional Employment, 4 = Return to School or Training with Limitations and 5 = Return to Work with Loss of Earning Capacity.

required stabilization on the job with support only through the routine, on site supervision available within that employment setting. This employment or employment of a similar nature would have to have been maintained consistently from the initial evaluation through to the update. Should a job change have been required, only a brief break for a job search and interviews would have been allotted for consistent employment to have been considered. In relatively small sample of this study, no breaks in employment occurred, so determining a reasonable time break was not necessary.

Return to School or Training with Limitations (level 4) is defined as "a return to a full time elementary, high school or vocational school program". In each instance a determination was made as to the success of the individual's efforts. Success was defined in terms of passing grades and progress on to the level. Successful return to school or training was only considered in the instance in which the program led to a diploma or a vocational certificate.

Finally Return to Work with Loss of Earning Capacity (level 5) is defined as "a return to the competitive labor market without support on the job". No consideration was given to whether the individual had vocational rehabilitation assistance in placement. If the patient demonstrated supported work (RTW level 2) or greater level of success in the first interview, this had to be demonstrated in the updated LCP for inclusion in the study. If RTW was not achieved until the LCP update, but was stable at the time of the update the case was included in the study.

1.5.3. Demographic data collected

Also collected on each patient was the following data:

1). Sex.
2). Age at onset of injury.
3). Time between initial LCP and update LCP evaluations (in months).
4). Number of years of education attained before TBI.

1.5.4. Statistical analyses

This study analyzes various factors that impact patient outcomes as measured on the RTW scale. Because the data are therefore scaled, statistical tests are nonparametric where a choice between parametric and nonparametric testing is made, specifically, the data comparing RTW scores for males and females were analyzed using the Mann Whitney U test for unpaired, nonparametric data. Where more than three or more group means were compared, the one-way Analysis of Variance (ANOVA) test was employed. If the ANOVA was significant, a post test for linear trend and in one instance (RTW by level of TBI), the Newman-Keuls Multiple Comparison Test was applied.

All group comparisons were made for a two-tailed p value. An α level of $p < 0.05$ was considered significant for all statistical tests employed. The data are expressed as means plus and minus ($\pm$) the standard error of the mean (SEM). Computer assisted analyses utilized GraphPad Prism version 4, GraphPad Software, Inc., San Diego, CA (2003) and the Statistical Package for the Social Sciences, (SPSS).

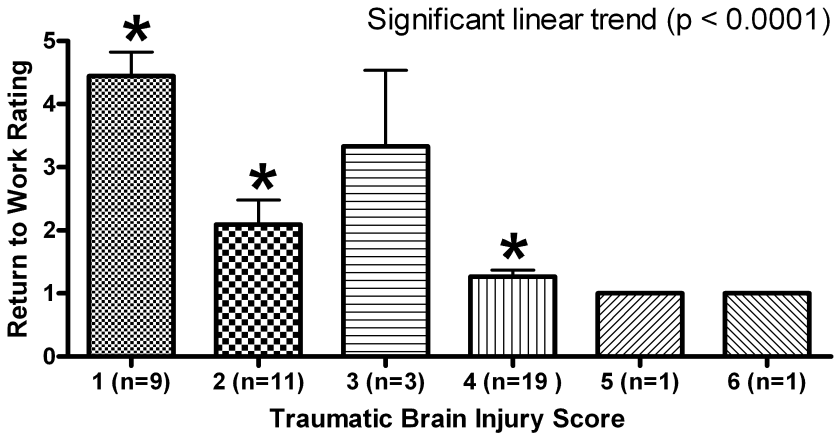

Fig. 3. Vocational outcomes (RTW score) by severity of injury (TBI score) showing significant ANOVA (F = 21.01; $p < 0.0001$); significant linear trend (R squared = 0.35; slope = −0.42; $p < 0.0001$); and Newman-Keuls post hoc test significant for categories 1, 2, and 4 ($*p < 0.05$ in every case).

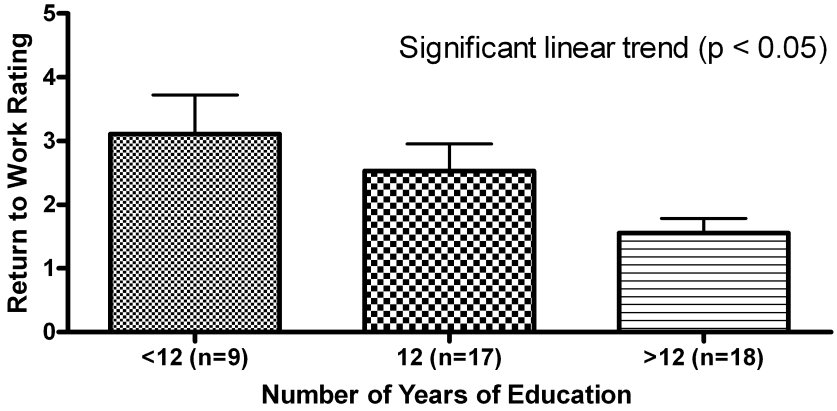

Fig. 4. Vocational outcomes (RTW score) by level of premorbid education showing significant ANOVA (F = 3.74; $p < 0.05$); significant linear trend (R squared = 0.13; slope = −0.78; $p < 0.05$).

2. Results

2.1. Demographics

The study's sample population is comprised of 31 males and 13 females. Except for the specific comparison of gender differences, the analyses are conducted on the entire group including both males and females. As a group, the mean age is 33.1 ± 2.4 years, with a range from 10 to 59 years of age at the time of acquiring the TBI. The mean time between the initial and the updated patient LCP evaluations was 22.9 ± 2.3 months with a range between 5 months, and (in only one case), 84 months. The level of education acquired prior to the onset of TBI is reported in number of completed years of schooling or training. The mean level of education is 12.3 ± 0.5 years with a range between 2.5 and 18 years. These data are not shown.

2.2. Scaled TBI and RTW data

The histogram of the number of subjects per category of TBI is shown in Fig. 1. The number of subjects per category is: $n_1 = 9$, $n_2 = 11$, $n_3 = 3$, $n_4 = 19$, $n_5 = 1$, $n_6 = 1$ and $N_{\text{total}} = 44$. The mean TBI score is 2.9 ± 0.2 with a range that spans the scale values from 1 through 6; however, with 3 or fewer subjects in categories 3, 5, and 6, some analysis are not possible and other interpretations are difficult.

The histogram of the number of subjects per category of RTW is shown in Fig. 2. The number of subjects per category is: $n_1 = 21$, $n_2 = 11$, $n_3 = 1$, $n_4 = 2$, $n_5 = 9$, and $N_{\text{total}} = 44$. The mean RTW score is

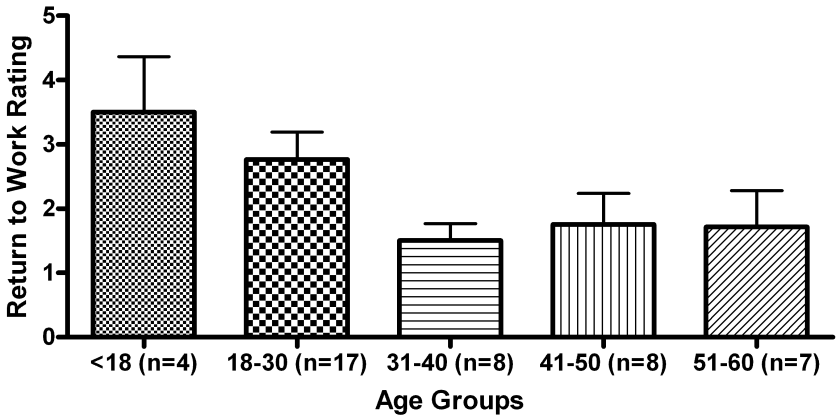

Fig. 5. Vocational outcomes (RTW score) by age group showing non-significant ANOVA (F = 2.11; $p > 0.05$).

2.2 ± 0.2 with a range that spans the scale values from 1 through 5; however, with fewer than 3 subjects in categories 3, and 4, some analysis are not possible and other interpretations are difficult.

2.2.1. *Analysis of factors' relationship to vocational outcomes*

The relationship of level of TBI and RTW score is graphically displayed in Fig. 3. The one-way ANOVA indicates the means are significantly different (F = 21.01; $p < 0.0001$); furthermore, the post test for linear trend is also significant (R squared = 0.35; slope $= -0.42$; $p < 0.0001$). The Newman-Keuls Multiple Comparison post hoc test shows TBI categories 1, 2, and 4 differ from one another ($*p < 0.05$ in every case). Conclusions cannot be made about categories 5 and 6 because too few subjects are included. Similarly, category 3 is difficult to interpret due to the high variability occasioned by the low number of subjects.

Figure 4 displays the relationship of level of education acquired prior to TBI and vocational outcomes as measured on the RTW scale. For this analysis the levels of education are grouped as less that a high school degree (< 12 years education) ($n = 9$, mean RTW score $= 3.1 \pm 0.61$), attainment of the high school diploma (12 years of education) ($n = 17$, mean RTW score $= 2.5 \pm 0.42$), or some education beyond high school (> 12 years education) ($n = 18$, mean RTW score = 1.6 $\pm$ 0.23). The one-way ANOVA indicates the means are significantly different ($F = 3.74$; $p < 0.05$); furthermore, the post test for linear trend is significant (R squared = 0.13; slope $= -0.78$; $p < 0.05$).

The relationship of level of age at the time the TBI was acquired and vocational outcomes as measured on the RTW scale is graphically displayed in Fig. 5. For this analysis the ages of the subjects at the time of TBI are grouped as under 18 years of age ($n = 4$, mean RTW score $= 3.5 \pm 0.86$), ages 18 through 30 years ($n = 17$, mean RTW score $= 5.0 \pm 2.76$), ages 31 through 40 ($n = 8$, mean RTW score $= 3.0 \pm 1.50$), ages 41 through 50 ($n = 8$, mean RTW score $= 5.0 \pm 1.75$), ages 51 through 60 ($n = 7$, mean RTW score $= 5.0 \pm 1.71$).The one-way ANOVA indicates the means of the age groups are not significantly different (F = 2.11; $p > 0.05$), and therefore, there is no linear trend between the age groups.

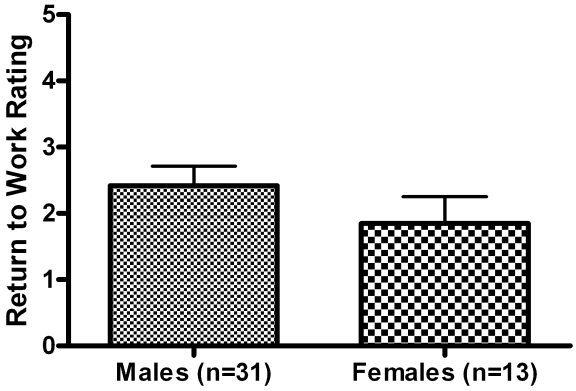

Fig. 6. Vocational outcomes (RTW score) by gender showing non-significant Mann Whitney U test ($p > 0.05$).

Figure 6 graphically displays the results of the analysis of vocational outcomes as measured by the RTW scale by sex of the patient. The mean RTW score of males ($n = 31$) is 2.4 ± 0.29. The mean RTW score of females ($n = 13$) is 1.8 ± 0.41. The Mann Whitney test for unpaired nonparametric (scaled) data are not significant ($p > 0.05$).

3. Discussion

The data which were extracted and analyzed for this study are noteworthy in relationship to the outcomes found on employment post traumatic brain injury in other studies noted in the literature search. Kreutzer et al. [11] reported finding a 34% rate of stable employment and another 27%, unstably employed. Brooks et al. [3] reported a post injury employment rate of 29%. Among the forty-four participants in this study 11, or 25%, are in supported employment post injury while twelve, or 27%, are working, in transitional employment settings leading to work or are in stable school/training programs likely to lead to work.

Particularly of interest is that each member of the study population had an active case in litigation during the course of the initial evaluation and the update evaluation. Forty-three of the forty-four members of the study population had litigation limited to State or Federal Tort Claims with no Worker's Compensation claim. Although no specific data are analyzed to compare one type of litigation to another, it is noteworthy that this study demonstrates findings different from those whose participants are primarily drawn from a population of worker's compensation claimants. The worker's compensation process brings with it a different set of variables with influences that need to be researched separately from those whose litigation is outside this process. Assumptions cannot be extrapolated from that population to other types of litigation groups and the outcomes in this study helps to affirm that point. Participation in supported work, transitional employment, formal school, vocational training programs or employment was not impeded by the litigation process. There are no data that would allow for a determination of any delay in the rehabilitation process secondary to litigation, but since all proceeded to these steps prior to an end in litigation there also is no basis to suggest such a delay took place. All participants ranged from moderate traumatic brain injuries to those in a persistent vegetative state. Even those in at the moderate level were sufficiently severe that they were not living entirely independent lives post injury. They required case management, and assistance in arranging for apartment leases, major purchases, and coordination of a daily structured routine. Most required a supervised apartment program or similar arrangements in a private home setting.

The data suggest a number of clear trends that have important implications for Life Care Planners. Certainly, as one might expect, the less severe injuries have the greatest probability of return to work. What is equally important is the number of individuals with more severe injuries with success in transitional employment and training programs. With 7% of the study population in this category and 25% in supported work there are clear implications for Life Care Planners not to forget their commitment to vocational rehabilitation in plan development. Overall 52% of the study population is involved in supported work, transitional employment, school, training or direct employment with 20.5% falling in the stably employed category.

Age of onset is the next data set that demonstrates a significant trend. The younger patients to tend to show a greater probability of a return to supported work, transitional employment, school/training or employment. It is important to recognize this as a trend with participation in these programs still spread across age categories.

Pre-morbid educational development is a variable that had a counter intuitive outcome in this study. Based on results seen in the literature results and based on intuitive expectations as a Vocational Rehabilitation Counselor, the anticipation would be that the higher the premorbid educational level, the greater the probability of return to work. In the data analysis in this study, the results showed an inverse relationship between the various categories of return to work and education. This may, in part, be explained by the relatively low numbers in the sample population. It is more probably explained by the greater severity of injury found in the individuals with the higher levels of education. This artifact may have been factored out had the study populations been larger, but in this instance it significantly impacted the results. Nevertheless, for Life Care Planners this again is an important consideration. Certainly vocational rehabilitation counselors are well aware that lower educational levels prior to the onset of an injury negatively influence transferable skills. Planning for their clients will often include post injury training to improve vocational participation. Again the Life Care Planner, when not coming from a vocational background, should consult with a vocational rehabilitation counselor and consider training or supported to transitional employment settings to improve potential for the traumatically brain injured.

In summary: variables that significantly interacted with vocational outcomes in this study included the age of the patient at the time TBI was acquired, number of years of pre-morbid education, and severity of brain injury. Gender, number of months between initial and update evaluations and the time frame between injury

onset and initial evaluation were not found to be influencing variables in this study. The existence of litigation in each of the study population's cases did not appear to influence their participation in supported work, transitional work, school/training, or employment.

Further research needs to be considered regarding how Life Care Planners are utilizing vocational rehabilitation programs for the Traumatically Brain Injured in the LCP process specifically to answer these questions: What is the extent of post planning follow-through with these plan recommendations? Does the use of the Life Care Planning Process enhance the vocational outcome in TBI?

4. Conclusions

A number of important implications for Life Care Planners were identified. The most critical is the importance for the planner not to simply take the individual as they are at the time of the evaluation and assume this will be the long term outcome for final plan recommendations. The Life Care Planner must have a commitment to rehabilitation and the plan should include reasonable and appropriate recommendations to improve the status of that individual. This research shows the potential of the individual with a brain injury to participate at various levels of employment. It is critical for the Life Care Planner to take this into consideration and where necessary to consult with the Vocational Rehabilitation Counselor with expertise in working with brain injury. It is also clear that assumptions should not be made about the status of litigation interfering with the rehabilitation process. At least outside of worker's compensation, this study suggests good potential for rehabilitation participation proceeding unimpeded without regard to litigation.

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