

## A Report:

### Quality of Life in Traumatic Brain Injured Patients

*Divya Upadhyay*

Research Scholar, Department of Psychology, Banaras Hindu University, Varanasi, India

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#### INTRODUCTION

World Health Organisation [1] defines Quality of life (QOL) as an individuals' perception of their position in life in the context of their cultural and value systems in which they live and in relation to their goals, expectations, standards and concerns. This definition reflects the view that QOL refers to a subjective evaluation, which is embedded in a cultural, social and environmental context and this is the approach taken in the present study.

Berger, Leven, Pirento, Bouillon and Neugebauer [2] focused on the areas of life included in studies of the QOL of people with TBI. They noted that 4 functioning domains were frequently used: physical (including pain), psychological (e.g. affective disorders, personality changes), social (especially vocational status and relationships with family and friends) and cognitive.

In the present study also mainly four domains have been included namely physical health, psychological, social relationships and environment. Facets incorporated within physical health domains are activities of daily living, energy and fatigue, mobility, pain and discomfort sleep rest and work capacity. In psychological domain facets incorporated are bodily image and appearance, negative feelings, positive feelings, self esteem and thinking, learning, memory and concentration. In social relationships social support and sexual activity. Facets incorporated within environment domains are financial resources, freedom, physical safety and security, health and social care, participation in and opportunities for recreation/leisure activities and transport.

Studies investigating the relationship between QOL and physical functioning lack conformity. While some investigators have found physical functioning to be predicative of QOL [3] others have found no such relationships [4]. Vander Naatt [5] found that complaints

of fatigue after TBI were common in 45% of subjects reporting it after 1 year in mild and moderate TBI. Fatigue may be related to or even caused by, other problems common in TBI population, including sleep disturbance and day time somnolence [6], pain and depression [7].

Steadman-Pare, Colantonio & Ratcliff [8] reported that emotional distress (e.g. depression anxiety is associated with lower QOL.

Available literature suggests that QOL is associated with levels of perceived available social support and contact [9]. Moderate and severe TBI often results in a falling away of friendships [10]. Forming new friendships is often difficult because interaction with others is restricted and constraints on mobility further reduces opportunities to meet potential new friends [11].

Employment is a major determinant of QOL because it affects many other important factors in QOL, such as standard of living, financial security and opportunities to meet people.

Studies have reported that people with moderate or severe TBI lose their jobs [10, 12], Leisure disability is a frequent finding in research on the sequel of TBI. A number of studies reported that people with moderate or severe TBI have lower "quality of leisure activities" after injury [4, 10, 13].

Keeping in view the above review of literature, the objective of this study is to assess QOL in adults with mild moderate and severe TBI after 3 month post injury treatment as convenient communication is possible at that stage.

#### MATERIALS AND METHODS

**Subject:** Subject comprised of 30 TBI patients (n=10 mild, n=10 moderate and n=10 severe TBI). Subjects were classified into mild moderate and

severe TBI patients according to their GCS (Glasgow Coma Scale) score. All subjects were between the age group of 21-40 yrs. clinically registered cases from the hospitals were taken. Data collection was done 3 month post injury treatment as convenient communication is possible at that stage. Patients did not have previous history of substance abuse, neuropsychiatric disturbance, dementia or neurologic illness.

## Tool

**WHOQOL- BREF:** This scale produces a profile of quality of life. There are 26 items in the questionnaire relating to QOL. The four broad domains of QOL are physical health, (7 items); psychological aspects (6 items); social relationships (3 items); and environment (8 items). Subjects have to respond to these items on a five point rating.

**Procedure:** In the present study 30 TBI patients (n=10 mild, n=10 moderate and n=10 severe TBI) were assessed. Clinically registered cases from the hospitals were taken. The WHO QOL (BREF) scale was administered to examine their QOL after 3 months post injury treatment as convenient communication is possible at that stage.

## RESULTS

Table 1 shows that mean difference was found significant in physical health domain ( $t=3.98$ ,  $p<0.01$ ) of QOL in mild and moderate TBI patients after 3 month post injury

Table 2 shows mean difference was not found significant in all four domains of QOL in moderate and severe TBI patients.

Table 1: Mean, SD and t ratio of Quality of life in mild and moderate TBI patients

Quality of Life	TBI	Cases	Mean	SD	t- ratio	Significant(p)
Physical	Mild	10	24.700	2.31181		
	Moderate	10	18.600	4.24788	3.989	0.01
Psychological	Mild	10	20.600	3.09839		
	Moderate	10	19.100	2.96086	1.107	NS
Social	Mild	10	12.500	1.71594		
	Moderate	10	11.700	1.33749	1.163	NS
Environmental	Mild	10	24.6000	2.98887		
	Moderate	10	22.4000	3.06232	1.626	NS

Table 2: Mean, SD and t ratio of Quality of life in moderate and severe TBI patients

Quality of Life	TBI	Cases	Mean	SD	t- ratio	Significant(p)
Physical	Moderate	10	18.6000	4.24788		
	Severe	10	18.0000	3.74166	.335	NS
Psychological	Moderate	10	19.1000	2.96086		
	Severe	10	17.6000	2.79682	1.165	NS
Social	Moderate	10	11.7000	1.33749		
	Severe	10	11.9000	1.28668	-.341	NS
Environmental	Moderate	10	22.4000	3.06232		
	Severe	10	22.2000	5.09466	.106	NS

Table 3: Mean, SD and t ratio of Quality of life in mild and severe TBI patients

Quality of Life	TBI	Cases	Mean	SD	t- ratio	Significant(p)
Physical	Mild	10	24.7000	2.31181		
	Severe	10	18.0000	3.74166	4.817	0.01
Psychological	Mild	10	20.6000	3.09839		
	Severe	10	17.6000	2.79682	2.273	0.05
Social	Mild	10	12.5000	1.71594		
	Severe	10	11.9000	1.28668	0.885	NS
Environmental	Mild	10	24.6000	2.98887		
	Severe	10	22.2000	5.09466	1.285	NS

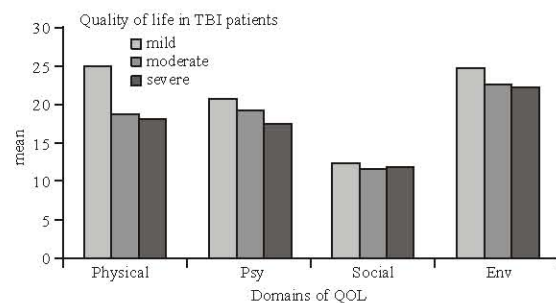


Fig. 1:

Table 3 shows that mean differences were found significant in physical health domain ( $t= 4.81$ ,  $p<0.01$ ) and psychological domain ( $t=2.27$ ,  $p<0.05$ ) of QOL in mild and severe TBI patients.

## DISCUSSION

In the present study severity of injury has an impact on physical and psychological domains of QOL. Our results are consistent with the study that reported people

with severe TBIs tend to rate QOL lower than those with less severe TBIs, possibly because of the potential emotional distress of cognitive and physical handicaps [14]. In contrast in a study it was found that higher levels of injury severity were significantly related to higher perceived QOL [15]. This finding may be attributed to cognitive deficits experienced by individuals who sustained severe injuries, such as lack of insight into post TBI difficulties.

In the present study it was found that in mild and moderate TBI patients significant differences existed with respect to physical aspects and in other 3 domains i.e. psychological, social and environment, there is no such difference.

It was found that moderate TBI patients suffer more pain complaints and fatigue than, mild TBI patients at 3 month post injury and this may be attributed to severity of injury. In contrast with our finding in one study it was reported that mild TBI patients have significantly more pain than patients with moderate to severe injury [16].

Vander Naalt [5] also found that complaints of fatigue after TBI were common with 45% of subjects reporting it one year after mild and moderate TBI.

With respect to moderate and severe TBI patients significant difference was found in the 4 domains of QOL after 3 month post injury. Our finding is consistent with the studies that report moderate and severe TBI often result in a falling away of friendships [10], lose their jobs after injury [10, 12] and have a lower level and lower "quality of leisure activities after injury [4, 10, 13].

In mild and severe TBI patients' significant difference were there in physical and psychological problems are more common in severe TBI patients than mild TBI patients.

## CONCLUSIONS

On the basis of the obtained result it can be concluded that severity of injury has an impact on the physical aspect and psychological domains of QOL. In comparison to mild TBI patients, moderate and severe TBI patients have many adverse effects on all the four domains of QOL i.e. physical, psychological, social and environment. The results reinforce the overriding importance of injury severity and its related domains in predicting QOL in TBI patients. QOL studies received a substantial amount of attention in research areas; however there is still a paucity of studies in this area especially on persons with TBI. This study on QOL in TBI patients attempts to fill this void. The finding of this study can guide the development of proper intervention

technique to enhance the QOL in TBI patients. The limitation of this study lies in the fact that gender and geriatric have not been taken into account. This calls for further research in this area to substantiate the finding of the present study.

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