

Case Study: Neuropsychological Rehabilitation of Adult Head Injured Patient

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Introduction

Barbara A. Wilson by using World Health Organizations (1980) conceptual frame work, classify the sequel of brain injury into impairment, disabilities and handicaps.

Neuropsychological rehabilitation is a treatment modality that is offering hope to many with brain injury. It is employed by a neuropsychologist to assist patients who have sustained cognitive, emotional and behavior impairments as the result of brain injury. Neuropsychological rehabilitation (NR) is concerned with the amelioration of cognitive, emotional, psychosocial, and behavioral deficits caused by an insult to the brain. (Barbara W.2007).

TBI can result in physical, cognitive, social, emotional and behavioral symptoms, and outcomes can range from complete recovery to permanent disability or death,(wikepedia)

TBI is a major cause of death and disability worldwide, especially in children and young adults. (Alves and Bullock, 2001). A head injury is any injury that results in trauma to the skull or brain. The terms traumatic brain injury and head injury are often used interchangeably in the medical literature. (Snelson,et al.,2019)

In the case of brain injury, parts of the brain are no longer able to function normally. This can result in cognitive, emotional, behavioral or physical impairments. So this head injured patient need neuropsychological rehabilitation to get rid of these problems to maintain better quality of life. For this purpose Case study has done of Mr.A1, 32 years old, married male Head Injury (HI) patient, referred to the researcher after completing medical treatment for Neuropsychological rehabilitation for better management. He was selected as a participant of the present study.(Diagnosis: Haemorrhagic Contusion, Site of the injury: Left Front-Temporal region. Date of the accident: 26.03.08, Duration of injury:5 to 6 hours, Causes of injury: Fall from height, History of seizures-Nil, History of retrograde amnesia-present, Post traumatic amnesia-present, Nature of lesion: Multiple Hemorrhagic Contusion. The comprehensive assessment is vital to development of sensible and coherent intervention programmes. Within Case management systems(Intagliata,1982;Beardshaw and Towell,1990) or the care programme approach(Department of Health,1990).Hence for the assessment purpose researcher used Semi-Structured questionnaire, in -depth interview, Mini Mental State Examination (MMSE) in Bangla, Neurobehavioral Functioning Inventory (NFI), Self- Rating Scale 0-100 point and observation in the case of Mr.A1.Through in-depth interview, information was gathered from Mr.A1 and his caregiver (wife). The problems were found

which can be categorized as :(Physical :Smell –no smell sensation, Vision-blurred vision, Lack of energy, Cognitive-Impairment: Memory problem, Behavioral: Sexual dysfunction-Fear of sex. Emotional: Anger, Physiological changes/Somatic Complain: Headache, Sleep disturbance.Due to head injury Mr.A1’s Current Functional status: Unable to take responsibility, Relationship problem with wife and Can’t go to office.

Neuropsychological Rehabilitation plan for Mr.A1:

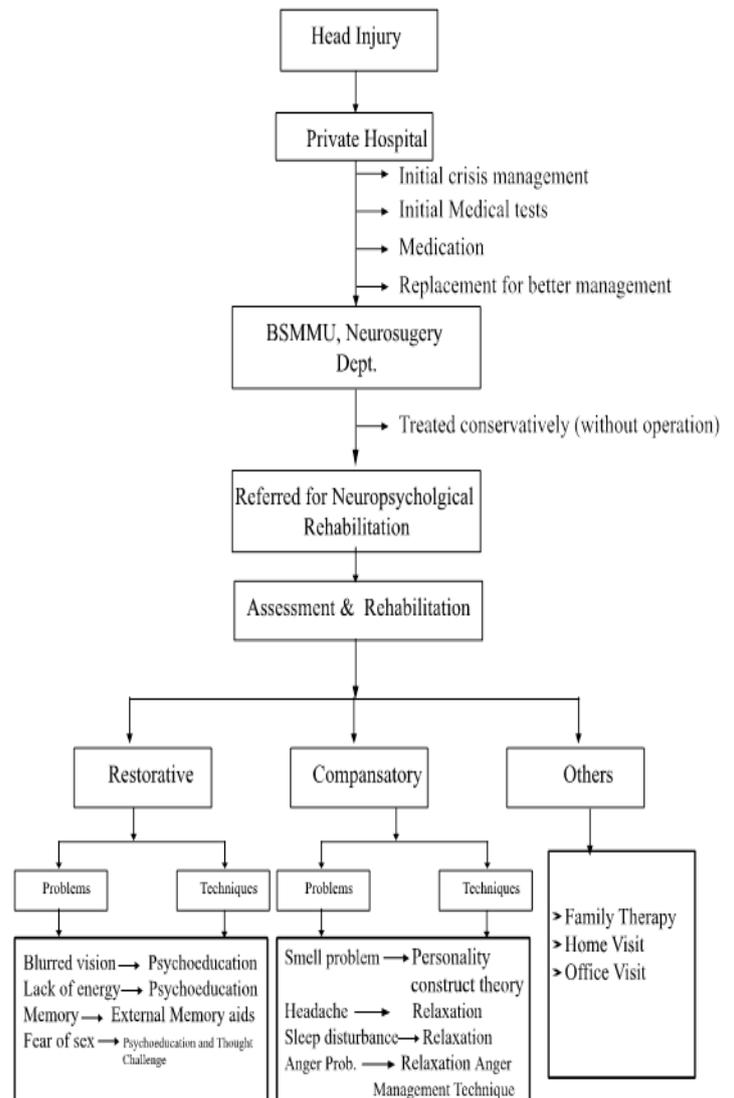


Fig.1.1: Neuropsychological Rehabilitation plan for Mr.A1

Fig.1.1.shows that after the accident Mr.A1 followed the three levels of treatment procedure .From the three at the last phase of the treatment procedure he referred for Neuropsychological rehabilitation where he assessed and received neuropsychological treatment (therapeutic techniques) for Rehabilitation purpose. Some techniques were applied to achieve successful rehabilitation plan.

Such as,Psycho education, Relaxation, Thought Challenge and Socratic questioning, Personal construct Therapy, Pros and cons, Anger management techniques and Memory Intervention (external memory aids to keep a daily for daily activities), so that he can improve his memory.

Family therapy: Emotion focused techniques were used to disclose wife’s suppressed emotions, where empathetic listening and reflection was provided, and tried to normalize these feelings. Psycho education was given to wife, where wife were informed about the head injury and effects of different types of physical and mental problems that might be happened from the injury. Sometimes wife played the role of co-therapist for behavioral and cognitive problems.A1 was given sessions for three months. Total session was 13.From these last 2 sessions was follow-up.

Changes of the problems based on the Pre and Post Assessment:

In subjective rating,A1 has rated his problem severity in “0” to “100” point rating scale. First three sessions were baseline session. Twelve and thirteen number session was follow-up session. Significant changed has been found in Pre and post assessment phase.

Objective rating:

Mini Mental State Examination (MMSE):

According to MMSE his score was 29 that indicated there was no cognitive dysfunction. After treatment again MMSE was applied and his score was 30.That indicated A1’s problem was slightly improved.

Neuro-behavioral Functioning Inventory (NFI):

According to NFI,

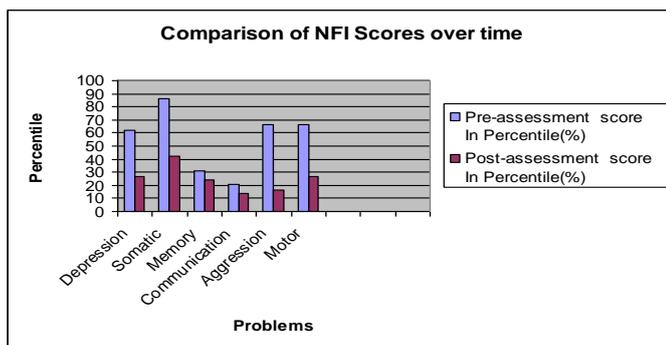


Fig 6: NFI scores of A1, According to patient (A1):

Fig.6: illustrates, according to NFI,in the pre assessment session , the respondent’s(A1) greatest problems fall within the realm of the Somatic, Aggression, Motor and Depression scale. Difficulties’ relating to Memory/Attention and Communication was less significance from the patient’s point of view. In the pre-assessment session the highest percentile (%) score was in Somatic area and the lowest percentile (%) score was in communication area, it were 86 and 21 accordingly. And in the post assessment session these score were 42 and 14 respectively. So it indicated that the problem severity was significantly reduced after intervention.

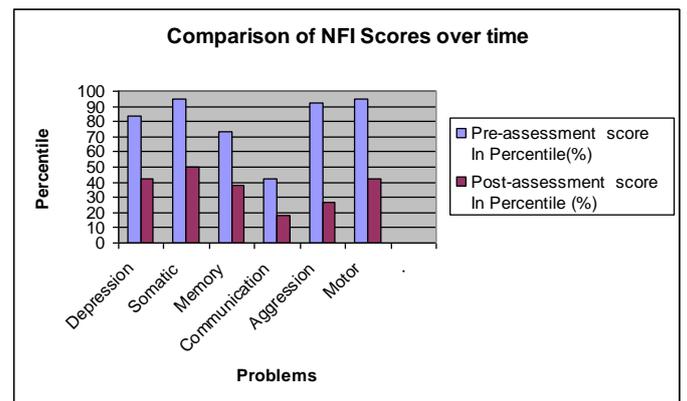


Fig: 7: NFI scores of A1, According to Caregiver (wife):

Fig.7: illustrates , according to the caregiver, greatest problems fall within the realm of the Somatic, Motor, Aggression, Depression and Memory/Attention scale and Communication was less significance from the caregiver’s point of view . In the pre-assessment session the highest percentile (%) score was in Somatic and motor area, it was 95 and the lowest percentile (%)score was in communication area, it was 42. And in the post assessment session Somatic and motor score were 50 and 42respectively. And the communication score was 18. So it indicated that the problem severity was significantly reduced after intervention.

Tab1.12: Observation Report:

Type of observation	Pre -assessment period	Post- assessment period
Motor behavior	Weakness in the legs. There was problem with balance and clumsy feeling while walking.	There was no weakness in his legs.
Language	Language was ok.	Language was ok.
Memory	Recent memory problem.	Memory was intact.
Style of performance	Style of performance was ok, patient was focused and co-operative.	Overall performance was ok.

Spatial and Visual awareness-	Blurred vision	Vision was ok.
Personality	Patient showed socially appropriate and acceptable behavior.	Patient was well manner and looked confident.

Through Tab.1.12. In the pre assessment session Mr.A1 came in well dressed. A1 seemed gloomy and helpless. His facial expression was depressed, but in the follow-up session Mr.A1 looked confident and his face was always smiley.

Prognosis Criteria:

The patient was very much motivated and devoted to the treatment process. He practiced all the techniques, whatever he learnt from the psychotherapy session. It made him skilled to manage himself. So the short term prognosis is good, but a better prognosis can be made after long term follow-up which was not done.

Discussion:

The psychologists can deal with these types of problems like the neurologists.

Moreover, Head Injury falls A1 into trouble. For example, A1 is helped to decide of adopting a baby. The members of his family were co-operative. They were suggested how to behave and deal with the patient. But if we could do it earlier, it would be better. The researchers plan was to visit the home environment and to visit office environment to see actual nature of behavior but it was not possible.