

Comparative Study

Assessment of Emotional Maturity in Patients During Recovery Following Closed Head Injury – A Comparative Study

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ABSTRACT

The present dissertation titled, ‘Assessment of Emotional Maturity in Patients During Recovery Following Closed Head Injury – A Comparative Study’, was done using the Emotional Maturity Scale (EMS-SB) on 40 patients of closed head injury selected from hospitals in Firozabad city of Uttar Pradesh. The patients ranged from age 28 years to 58 years. The scores of head injury patients were compared with the scores of individuals without head injury. The objective of the study was to assess and explore the level of emotional maturity in patients during the recovery phase after a closed head injury and compare it with the emotional maturity of individuals without head injury. The hypothesis was that the patients with closed head injury will exhibit lower levels of emotional maturity during the recovery period in comparison to individuals without head injury. The results revealed that the closed-head injury group had a significantly higher proportion of individuals who are extremely ‘EMOTIONALLY IMMATURE’ (95%) compared to the without-head injury group (8%). The absence of head injury was associated with better emotional regulation skills and more mature coping strategies, as evidenced by the higher proportion of individuals coming under the category of ‘EXTREMELY MATURE’ (47%) in the without head injury group compared to the closed head injury group (0%).

Keywords: *Emotional Maturity, Head Injury, Recovery, Closed-Head Injury, without-Head Injury*

ASSessment is the process of assessing a patient’s current state of health, finding possible health issues or problems, and creating a strategy for management or therapy. Physical examinations, medical information gathering, laboratory tests, and imaging studies are just a few of the different ways that medical assessment can be done.

ASSESSMENT VERSUS EVALUATION: assessment is the process of learning about a patient’s health, and evaluation is the process of figuring out whether a medical intervention or therapy was successful. A medical practice requires both assessment and review because they enable practitioners to identify and handle patients.

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EMOTION: are complex psychological states that involve subjective feelings such as happiness, sadness, anger, fear, and surprise. They can be triggered by internal or external thoughts, memories, senses, or social interactions and are often accompanied by physical changes. Emotions play a vital role in human experience, communication, behaviour, thinking, and decision-making.

Emotional Quotient

The ability to recognize, understand, and control one's own emotions as well as those of others is known as emotional quotient (EQ). It also means to recognise and respond appropriately to those emotions. EQ is thought to be a key component of both personal and professional success because it can improve one's communication abilities, foster better relationships, and influence decision-making.

According to studies, those with greater EQ are more likely than people with lower EQ to feel good emotions, handle stress better, and have better mental health outcomes. Additionally, it has been discovered that EQ is favorably correlated with leadership effectiveness, collaboration, and job success.

Emotional Maturity

The capacity to comprehend control, and express emotions in a positive and healthy manner is referred to as emotional maturity. It entails being able to control one's emotions in a way that is acceptable for the circumstance, as well as being aware of one's sentiments as well as those of others.

A crucial component of mental health is emotional maturity, which has been shown to lead to favorable outcomes including improved relationships, increased life satisfaction, and enhanced well-being. Additionally, it is related to decreased stress levels and improved coping mechanisms.

Research has demonstrated that different therapies, such as counseling, mindfulness exercise, and social-emotional learning courses, can help people become more emotionally mature.

Head Injury

The symptoms of head injuries might include headache, dizziness, disorientation, nausea, vomiting, trouble speaking or comprehending speech, weakness or numbness, and loss of consciousness. Head injuries can range from minor concussions to serious traumatic brain damage. Rest, medication, therapy, or surgery are all possible forms of treatment.

Closed Head Injury

Closed Head Injury (CHI) is a type of traumatic brain injury that occurs when there is a blow to the head that causes the brain to move within the skull. This movement can result in bruising, bleeding, or tearing of brain tissue, leading to a wide range of symptoms. Symptoms of CHI can include headache, nausea, vomiting, dizziness, confusion, memory problems, and changes in behavior or mood. The severity of CHI can range from mild to severe, and treatment may involve rest, medication, rehabilitation, or surgery, depending on the severity of the injury.

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Common Symptoms of closed head injury can include physical, cognitive, and emotional changes; Physical symptoms may include headaches, dizziness, nausea, vomiting, blurred vision, and sensitivity to light or noise; Cognitive symptoms may include confusion, memory loss, difficulty concentrating, and slowed thinking; and Emotional symptoms may include irritability, anxiety, depression, mood swings, and changes in personality.

Treatment

The treatment of closed head injury can vary depending on the severity of the injury and the symptoms experienced. Mild cases may only require rest and over-the-counter pain medication, while more severe cases may require hospitalization and intensive treatment. Treatment

Recovery: Patients with closed head injuries should have a thorough treatment plan that is catered to their particular requirements and objectives. This may involve receiving medical care, engaging in therapeutic recreation, and receiving support from close relatives, friends, and medical personnel. Although the healing process can be drawn out and difficult, many patients are able to improve their function and quality of life with the right care assistance.

Tools

The Emotional Maturity Scale-SB questionnaire established in 1971 by Dr. Yashvir Singh and Dr. Mahesh Bhargava was used in the present work. The scale consists of 48 items that measure 5 different dimensions of emotional maturity presents in Table no. 1 with interpretation of scores in Table no. 2.

The Emotional Maturity Scale-EB has been found to have good reliability, with a test-retest reliability coefficient ranging from 0.72 to 0.89, indicating that the test produces consistent results over time.

Table no. 1: Emotional Maturity Scale with 48 items under 5 dimensions:

| Sr. No. | DIMENSIONS | ITEMS IN EACH DIMENSION |
|---------|--|-------------------------|
| A. | Emotional Stability | 10 |
| B. | Emotional Progression | 10 |
| C. | Social Adjustment | 10 |
| D. | Personality Integration | 10 |
| E. | Independence (State of being competence) | 8 |
| | TOTAL ITEMS | 48 |

Table No. 2: Interpretation of scores:

| SCORES | INTERPRETATION (level of maturity) |
|---------|------------------------------------|
| 50-80 | Extremely Emotionally Mature |
| 81-88 | Moderately Emotionally Mature |
| 89-106 | Emotionally Immature |
| 107-240 | Extremely Emotionally Immature |

REVIEW OF LITERATURE

Jackson et.al. (1987). Their study indicated that patients with head injury were more impaired by negative emotions. **Cespedes et.al. (2000).** Their study is consistent with the presence of diffuse damage, although it is remarkable that assesses factors related to frontal lobes functioning. **Majumdar et.al. (2019).** Their study revealed that regarding the school

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type, the Government schools of class X students are more emotionally mature than private schools. **Kancharla et.al. (2020)**. Their study concluded that there is no relationship between Self-Esteem and Emotional Maturity and gender. **Al-Hureibi et.al. (2010)**¹. The study revealed that prevention of [primary head injury should be the aim. This includes protection equipment like helmets and possible rule changes. **Joy et.al. (2019)**. The study showed that there is a significant relationship between emotional maturity and happiness among emerging adults. Women are more emotionally mature than men and there is no significant difference in happiness between men and women. **Chen et.al. (2022)**. The study revealed significant geographical differences and socioeconomic gaps in global Traumatic Brain Injury (TBI) incidence tracking, prevalence, and mortality rates. **Rawat et.al. (2016)**. The study revealed that adolescents from coeducational schools, in both districts, were more emotionally progressive, socially adjusted, and independent as compared to those studying in non-coeducational schools. **Frank et.al. (2009)**. Their study found that patients with Closed Head Injury used information seeking as their most dominant coping strategy regardless of their time since injury. Patients with closed head injury had higher family cohesion scores than control subjects. **Richardson et.al. (2007)**. Their study suggested that an appropriate approach for dealing with cases of psychological dysfunction following brain injury would be to provide training in the use of relevant cognitive strategies.

METHODOLOGY

Objective: To study Emotional Maturity During the recovery period in patients with Closed Head Injury with **Hypothesis** Patients with a closed head injury will exhibit lower levels of emotional maturity during the recovery period in comparison to individuals without head injury. **Variables:** Independent Variable: Closed Head Injury, and Dependent Variable: Emotional Maturity during the recovery period. **Tool used:** Emotional Maturity Scale-SB, developed by Dr. Yashvir Singh and Dr. Mahesh Bhargava in 1971. **Sample:** Sampling technique: Purposive, Sample Size: 80 (40 With Closed Head Injury and 40 without Head Injury), Sample Population: Patients with Closed Head Injury (17 Females and 23 Males) and individuals without Head Injury (24 Males and 16 Females). **Purposive sampling:** is a non-probability sampling strategy that includes picking persons or instances based on certain criteria or attributes. This strategy is widely employed in qualitative research if the researcher intends to obtain information from a certain group that holds certain knowledge, experiences, or behaviours relevant to the study topic. When the community of interest is small, specialized, or difficult to reach, purposeful sampling might be helpful. Using this technique, the researcher can choose volunteers who are most likely to offer detailed information relevant to the study issue. The chosen individuals are frequently picked for their knowledge, experience, or distinctive viewpoints. **Inclusion Criteria:** Patients who have suffered a closed head injury and are currently undergoing recovery, Individuals without head injuries, matched for age with the patient group, Participants who are willing to provide informed consent to participate in the study, Participants who understand the language of the assessment tool used to measure emotional maturity. **Exclusion Criteria:** Participants who are currently receiving treatment for emotional or psychological disorders that could affect emotional maturity level, Participants who are unable to give informed consent due to cognitive impairment or language barriers, Participants who have previously been diagnosed with a development disorder that could affect emotional maturity levels.

Research Design

Comparative Research Design: A comparative research design is a type of research methodology that compares two or more groups of participants on a particular variable of

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interest (Trochim & Donnelly, 2008). In psychology, this design is frequently used to investigate differences or similarities between groups with specific conditions or disorders versus those without. Comparative research design is commonly used in various fields of psychology, such as clinical psychology, developmental psychology, and social psychology. It provides a way to investigate causal relationships, evaluate interventions, and identify patterns of behaviors across different groups (Trochim & Donnelly, 2008). **Procedure Followed:** Permission letter to collect data was taken from the department, Permission was taken from the trauma centre, Patients were identified from hospitals during their recovery period, their emotional maturity was assessed through self-report questionnaires under the supervision of psychiatrists. **DATA ANALYSIS:** t-test was calculated using SPSS to compare the emotional maturity scores of patients who have undergone closed-head injury with those who have not.

RESULT ANALYSIS AND DISCUSSION

The study examined the differences in mean, standard deviation, and standard error mean between respondents with closed-head injury and without head injury. Additionally, the study explored the correlation and significance of the difference between respondents with a closed head injury and without head injury, including the 95% confidence interval of the difference (lower and upper), t-value, degree of freedom (df), and significance (2-tailed). The result of the analysis are presented in this report to provide a comprehensive understanding of the differences between the two groups.

Table No. 3: Standard Deviation, Mean, & Standard Error Mean of Respondents with Closed Head Injury & Without-Head Injury.

| Paired Samples Statistics | | | | | |
|----------------------------------|---------------------|---------|----|----------------|-----------------|
| | | Mean | N | Std. Deviation | Std. Error Mean |
| Pair | Closed Head Injury | 135.225 | 40 | 23.06122 | 3.6463 |
| | Without-Head Injury | 98.05 | 40 | 28.72143 | 4.54126 |
| Index: | | | | | |
| CHI: Closed Head Injury | | | | | |
| NHI: 'Without-Head Injury | | | | | |

Interpretation of the table 3:

- The mean EMS-SB score for the Closed Head Injury group is 135.2250, with a SD of 23.06122 and a SE mean of 3.64630.
- The mean EMS-SB score for the Without-Head Injury group is 98.0500, with a SD of 28.72143 and a SE mean of 4.54126.
- Based on the mean scores, it appears that the Closed Head Injury group has a higher level of Emotional Immaturity than the Without-Head Injury group.

Table no. 4: Correlation & Significance of difference between Respondents with Closed Head Injury) & without Head Injury)

| 'Paired Samples Correlations' | | | | |
|-------------------------------|--|----|-------------|----------------------------|
| | | N | Correlation | Significance of difference |
| Pair | 'Closed head injury' & 'without head injury' | 40 | .129 | .429 |

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Interpretation of the table:

“The correlation coefficient is 0.129, indicating a positive correlation between the two variables. However, the significance level (p-value) is 0.429, which suggests that this correlation is not statistically significant at the conventional level of significance ($p < .05$).”

Table no. 5: Means, Standard Deviation, 95% Confidence interval of the difference (lower & upper), t value, Degree of Freedom (df) & Significance (2-tailed) of respondents with Closed head injury & without head injury.

| Paired Samples Test | | | | | | | | | |
|---------------------|-----------------------------------|--------------------|----------------|-----------------|---|----------|-------|----|----------------|
| | | Paired Differences | | | | | t | df | Sig. (2tailed) |
| | | Mean | Std. Deviation | Std. Error Mean | 95% Confidence Interval of the Difference | | | | |
| | | | | | Lower | Upper | | | |
| Pair | closed head injury & without head | 37.17500 | 34.44571 | 5.44635 | 26.15873 | 48.19127 | 6.826 | 39 | .000 |

Interpretation of the table:

“The result of the paired samples t-test indicates a significant difference between closed-head injury and without-head injury in the sample of 39 participants. The mean difference was 37.175, and it can be said that there is 95% significance in the t-value, the true difference falls between 26.15873 and 48.19127.”

Table no. 6: Interpretation of scores on Level of Maturity in patients with Closed Head Injury

| Interpretation (Level of Maturity) | Scores | Number of Patients |
|------------------------------------|---------|--------------------|
| Extremely Emotionally Mature | 50-80 | 0 |
| Moderately Emotionally Mature | 81-88 | 1 |
| Emotionally Immature | 89-106 | 1 |
| Extremely Emotionally Immature | 107-240 | 38 |

Interpretation of the table:

- 38 out of 40 patients (95%) have come under the category of as ‘extremely emotionally immature’ indicating that they may struggle to regulate their emotions and may exhibit impulsive or irrational behavior because of closed head injury.
- 1 out of 40 patients (2%) is coming under the category of ‘moderately emotionally mature’, indicating that he is generally capable of managing his emotions but may still struggle in certain situations.
- Finally, 1 patient (3%) falls under the category of ‘emotionally immature’, which suggests that he may struggle to regulate his emotions to a greater extent than those in the moderately emotionally mature category.

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Pie Chart based on table no 6

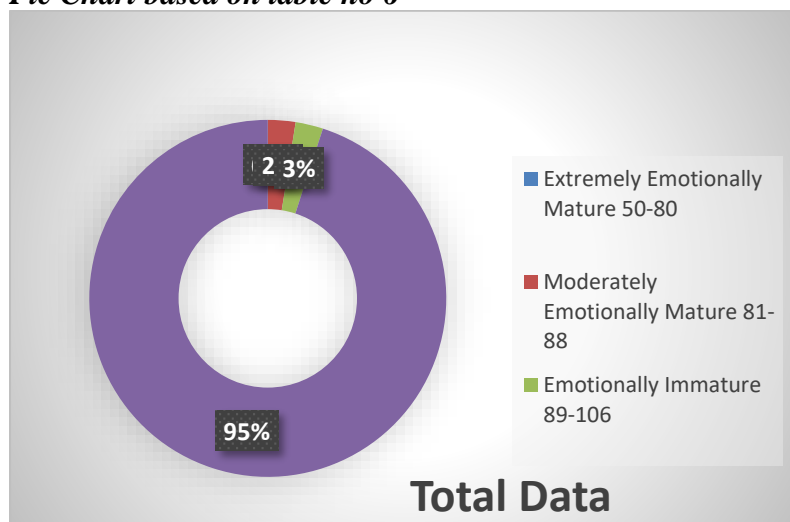


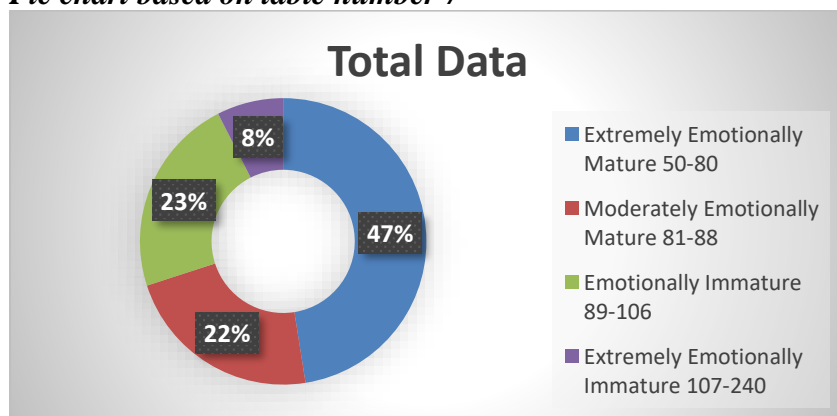
Table no. 7: Interpretation of scores on Level of Maturity in Individuals Without Head Injury

| Interpretation (Level of Maturity) | Scores | Number of patients |
|------------------------------------|---------|--------------------|
| Extremely Emotionally Mature | 50-80 | 19 |
| Moderately Emotionally Mature | 81-88 | 9 |
| Emotionally Immature | 89-106 | 9 |
| Extremely Emotionally Immature | 107-240 | 3 |

Interpretation of the table:

- 40 out of 19 individuals (47%) have come under the category of ‘extremely Mature’, which suggests that they are adept at managing their emotions in a healthy and productive way. 9 out of 40 individuals (22%) are ‘Moderately Emotionally Mature’, indicating that they are generally capable of managing their emotions but may still struggle in certain situations.
- 9 out of 40 individuals (23%) come under the category of ‘emotionally immature’, 3 out of 40 individuals (8%) are coming under the category of ‘extremely emotionally immature’, these individuals may struggle to regulate their emotions, may suffer from traumatic events, and may be prone to impulsive or irrational behavior.

Pie chart based on table number 7



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The results suggest that the closed head injury group has a significantly higher proportion of individuals have come under the category of ‘extremely emotionally immature’ (95%) compared to without head injury group (8%). This finding suggests that closed head injury group may be associated with a higher risk of emotional regulation difficulties, impulsive or irrational behavior, and emotional immaturity. In contrast, the without head injury group has a higher proportion of individuals coming under the category of ‘extremely mature’ (47%) compared to the closed head injury group (0%). This suggests that the absence of head injury may be associated with better emotional regulation skills and more mature coping strategies.

Though the patients were under medication during the recovery period still the researcher observed and experienced that the patients had a presence of mind based on which they answered the questions. The data was not collected from such patients who were not able to comprehend the questions.

CONCLUSION

Based on the results, it may be suggested that individuals with closed head injury may benefit from targeted interventions and support aimed at improving emotional regulation and coping skills. Such interventions may include cognitive-behavioral therapy, mindfulness-based interventions, and social skills training.

Limitations

1. The study is limited by a small sample size, which is not representative of the entire population.
2. The emotional maturity of patients was assessed using self-report measures which may be subject to bias due to social desirability, memory recall, and other factors that may influence their responses.
3. Medications prescribed to patients during their recovery may impact their emotional maturity, which may also confound the study results.
4. Patients with closed head injury may have other comorbidities that may influence their emotional maturity, which could not be accounted for in the present study.
5. Only those patients who understand English and Hindi were part of the sample population. Patients from different cultural and linguistic backgrounds may have different concepts of emotional maturity making it difficult to generalize the findings.

Suggestions

1. The sample size could have been larger and cross-sectional to obtain the result that can generalize.

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Conflict of Interest

The author(s) declared no conflict of interest.

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