

Student Corner

Association between Traumatic Brain Injury, Mental Health and Quality of life among citizens of Sialkot

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Abstract

Objective: Traumatic brain injury (TBI) is disruption in the human brain's operative process as an outcome of any external pressure/strength that damage brain function. The current research study aims to examine the relationship between traumatic brain Injury, mental Health and quality of life among youth of Sialkot.

Methods: Current research is grounded on cross sectional research design based on quantitative research method. A sample comprised of 90 citizens of Sialkot was collected through convenient sampling technique. A self-developed demographic sheet was administered along with WHOQOL scale and Warwick Edinburgh Mental well-being scale (WEMWBS) for data collection.

Results: Measurements were analysed by using inferential Statistics, Pearson product moment correlation and one sample T-Test were applied. Pearson correlation shows the values between 0.3 and 0.7 (-0.3 and -0.7) indicates a moderate positive (negative) linear relationship between TBI and two dependent variables; Mental health (-.497), Quality of life (-.497) means when TBI severity increase then there will be a decrease in the level of mental health and quality of life. Value of $p < 0.05$, means there is significant correlation. But the results of One-Sample T test reveals that quality of life and Mental health are dependent on TBI (as $p < 0.05$)

Conclusion: The current research study has explored the impact of Traumatic brain Injury on mental health and quality of life among people of Sialkot. Undoubtedly, Traumatic brain injury not only affects the people physically, it also badly affects the psychological and emotional states of individuals. TBI is a reality that has affected many persons around the globe in physical, mental, economic and emotional aspects. Current research welcome all researchers to find out the predictive factors which contributes in traumatic psychological state of an injured person i.e., absence of social support, absence of moral support, low self-esteem, inferiority etc.

Keywords: traumatic brain injury, mental health, quality of life, citizens, affect.

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Introduction

Damage to the brain due to trauma is known as Traumatic brain injury it could be an outcome of sudden or violent hit by any object.¹ In traumatic brain injury there may be an article that stabs the skull and reaches to the brain tissue or any other thing that on striking causes severe injury, while non-traumatic brain injuries are not because of external force on the head and can spread towards the whole brain. It directly affects the brain cells which result in many illness or lack of oxygen. Traumatic brain injury could be mild to severe and it may increase threat for mental health conditions such as depression, anxiety as well as sleeping problems.

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A study conducted by Andelic et, al. 2017², said that numerous clients with an average, acute/severe traumatic brain injury have long term emotional disturbance, corporeal and intellectual issues that have severe, long lasting effect on their performance, their quality of life and their interaction with society.²

A study estimated that traumatic brain injury causes strong impact on the psyche of the sufferer, it not only lasts impact on physical but also causes disturbance in occupational functioning of the sufferer while others found that fifty per cent of the young people and adults were reported psychological disability after 12-14 years of head injury.³ Another study announced that determi-

nants of HRQL in a TBI after 22 years of injury found no association between HRQL. A research discovered that TBI is associated with longitudinal disability ultimately causes psychosocial, academic, behavioural and family adjustment issues. It is said that uneducated/least educated population or the individuals who belong to rural areas of habitat are more prone to the risk of TBI. Krenz, et, al., 2021 have revealed in their research that children who suffered from TBI may develop physical and cognitive impairment.⁴

However, some researchers asserted that parents often proportionate the external aspects more accurately than internal ones and underestimate the quality of life of their children.⁵ Traumatic brain injury is also measured as major cause of death and disability. Children and adolescents who are participants of sports or other recreational activities are at risk of TBI. Motor vehicle crashes, suicides and falls are communal causes of deaths as an outcome of TBI. The survivors may require professional and psychological support to deal with cognitive and emotional challenges after TBI.⁶ Traumatic brain injury has been divided into two categories i.e., open head and close head. The emotional psychological and social well-being are included in mental health. Mental health determines how we deal with stress, how we differ from others in making choices and how we perceive things differently in our environment. Mental health is composed of normal, active and productive state of mind. It is important aspect of person's life from infancy to adolescence and to adulthood. World Health Organization define quality of life as 'an individual's perception of their position in life in the context of the culture and value systems in which they live in relation to their goals, standards, concerns, and expectations'. HRQL is assessed by generic and disease-specific measures.⁷ The comparison with general population and other medical conditions are generic measures while disease specific measures are more sensitive to characteristics of specific conditions. Enormous studies have been conducted on impacts of TBI on physical and cognitive processes of Many researches were conducted to examine relationship between fatigue, post traumatic brain injury and quality of life.⁸

Global fatigue index (GFT), Pittsburgh sleep quality inventory (PSQI), and Beck depression inventory scales (BDI) were used by researchers, on almost 223 individuals having severe and mild traumatic brain injury.⁶ According to these researches fatigue was more prevalent after TBI and as compared to men, women were more vulnerable to fatigue and lack of activity in daily life and this conversely effects the quality of life. According to researchers, brain injury strains energy of person and effects their activity to perform daily chores of life, brain injury also affects mental health, quality of life

and the perception of individuals among youth. Current research also viewed a significant relationship among TBI, mental health and quality of life among masses.

Methods

Current research is grounded on cross sectional research design based on quantitative research method. A sample comprised of 90 citizens of Sialkot was collected through convenient sampling technique. A self-developed demographic sheet was administered along with WHOQOL scale and Warwick Edinburgh Mental well-being scale (WEMWBS) for data collection. Data was analysed by using inferential Statistics, Pearson product moment correlation and one sample T-Test were applied. Pearson correlation shows the values between 0.3 and 0.7 (-0.3 and -0.7) indicates a moderate positive (negative) linear relationship between TBI and two dependent variables; Mental health (-.497), Quality of life (-.497) means when TBI severity increase then there will be a decrease in the level of mental health and quality of life. Value of $p < 0.05$, means there is significant correlation. But the results of One-Sample T test reveals that quality of life and Mental health are dependent on TBI (as $p < 0.05$)

Inclusion and Exclusion Criteria

- Persons between age ranges of 18 to 50 were included.
- Both male and female were included.
- Those who were directly suffered from any type of TBI included.
- Participants from all religions were included.
- Participants from rural and urban areas were included.
- Rests of the individuals other than the mentioned inclusion criteria were excluded.

It is hypothesized that:

- There would be a significant association between Traumatic brain injury has a significant association with mental health and quality of life.
- There would be a non-significant association between Traumatic brain injury symptoms and mental health among youth.

Results

In current research the sample comprised of 90 individuals was based on 44 males and 46 females from both urban and rural areas. To check the impact of TBI, mental health and quality of life among Sialkot citizens; Pearson Product-Moment Coefficient Correlation Analysis and One-Sample T- Test Analysis for model variables of current study among youth were applied.

Table 1: :Pearson Product-Moment Coefficient Correlation Analysis for model variables of current research among youth.

CORRELATION				
		Total MWBS	Total QOL	Type of TBI
Total MWBS	Pearson Correlation	1	.497**	.125
	Sig. (2-tailed)		.000	.242
	N	90	90	90
Total QOL	Pearson Correlation	.497**	1	.192
	Sig. (2-tailed)	.000		.070
	N	90	90	90
Type of TBI	Pearson Correlation	.125	.192	1
	Sig. (2-tailed)	.242	.070	
	N	90	90	90

** Correlation is significant at the 0.01 level (2-tailed).

Note: The null hypothesis states that there is no correlation or any linear relationship between TBI, Mental health and Quality of life. Alternative hypothesis states that there is correlation between the variables. Correlation coefficient is significant at 0.05 Level (sig2 tailed). If value is less than 0.05 that we rejected null hypothesis and concluded that there is either positive or negative linear association between variables.

Table 2: One-Sample T- Test Analysis for model variables of current study among youth.

One-Sample T-Test				
	N	Mean	Std. Deviation	Std. Error Mean
Type of TBI	90	1.9778	.77862	.08207
Total MWBS	90	26.3556	5.87187	.61895
Total QOL	90	77.6222	16.66361	1.75650

The calculated test statistics of TBI is $t = 24.098$, Mental wellbeing scale is 42.581 and the Quality of life is 44.191 at 89 degrees of freedoms, the p-value is 0.00, $2 * P(T > |24.09, 42.58, 44.191|)$, which is less than the default level of significance $\alpha = 0.05$ this implies that we don't reject the null hypothesis and conclude that the data provided no scientific information to reject H_0 . We are 95% confident that the mean score of the entire class is equivalent to 0. The 95% calculated is

Table 3: One-Sample Test

	T	df	Sig. (2-tailed)	Mean Difference	95% Confidence Interval of the Difference	
					Lower	Upper
Type of TBI	24.098	89	.000	1.97778	1.8147	2.1409
Total MWBS	42.581	89	.000	26.35556	25.1257	27.5854
Total QOL	44.191	89	.000	77.62222	74.1321	81.1123

for the mean difference between the observed sample mean ($\bar{x} = 1.9778, 26.3556, 77.6222$) and the hypothesized population mean ($\mu_0 = 0$), $\bar{x} - \mu_0 = 1.9778, 26.3556, 77.6222$, We are 95% confident that the mean difference between the observed sample mean and the hypothesized population mean is as low as 1.8147, 25.1257 and 74.1321 and as high as 2.1409, 27.5854 and 81.1123.

Discussion

Findings from current research can be helpful for psychologists, mental health professional, and social workers focus on a quality of life identified as the most in need.

The initial hypotheses highlighted that TBI can have significant association with quality of life and mental health and approved through the values of inferential statistics. The reason behind this is quite evident that we have observed in our surroundings and heard about it globally that every traumatic incident has great impact on human mind and it is human nature, a person when face some calamity he/she will produce some reaction. Many researches have highlighted the worst effects of TBI which indicated that psychological distress such as fears, worries, and nervousness, anxiety and mood disorders, have a negative impact on psychological well-being of people worldwide.

In our next hypothesis from 2-3 that there would be a negative relationship between Traumatic brain injury symptoms and mental health and quality of life among citizens in Sialkot, explain the negative relationship between realtors brain Injury, mental health and quality of life. Many researches have indicated that people with traumatic brain Injury suffer to more stress, anxiety, low self-esteem and distorted thinking than other people. In some previous researches it has been highlighted that there should be stress releasing strategies for elimination of psychological distress and to enhance quality of life among the survivors of TBI.

Conflict of Interest

None

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