**Traumatic Brain Injury**

**Name**

**ID**

Florida International University

Month Year

**Method**

The brain is the controller for all the functions of body, counting unconscious activities (heart rate, breathing, etc.) and conscious activities (walking, speaking). The brain has the responsibility to control understanding, thought, emotions, and speech. The lesions of the brain may interrupt some or all of these functions, whether as a result of severe trauma or an injury without fracture. Brain injuries can have perpetual and serious impact on mental health and physical functioning, counting loss of memory, consciousness or character disorders and complete or partial paralysis (Harvey, L., & Close, J, 2012). Traumatic brain injuries are mainly the consequence of vehicular accidents, acts of violence, falls, or sports injuries. It is twice as likely in men compared to women. This paper adopted the qualitative method that is based on the review of existing literature to study it in detail. The terms such as Neurofeedback and Vicariation have also been studied in this research paper.

**Research Method and Design Appropriateness**

Harwoodn & Hutchinson (2009) points out that the research methods are considered as the tools used to collect information, ask and answer questions that help us draw conclusions through the analysis of the information obtained. The research is aimed at finding a truth that has not been fully studied or has not been discovered so far, besides this always seeks to obtain fully reliable conclusions. Every research method has its purpose already established, they coincide in some goals such as obtaining new knowledge, testing hypotheses, having more details about situations and much more (Harwoodn & Hutchinson, 2009).

Research methods are divided according to the characteristics or situations to be studied, in addition to the requirements of the subject. The Scientific or experimental method is considered one of the most rigorous and gives us different techniques and procedures that help us obtain valid and scientifically purchased theoretical knowledge. By using the scientific method one can get answers that have been tested through experiments and reproducing the same fact with other contexts and executed by different individuals. This method is one of the procedures that allow explaining some phenomena in a more objective way, besides providing solutions to different problems (Ostergaard, J. 2007).

The Comparative Method is used to look for similarities and comparisons that help us verify some theories, always trying to find coincidences. Mainly, the comparative method is based on investigating a great variety of cases that are useful to make comparative analysis among them. One of the most important methods for data collection is the Quantitative Method. This method is based on studies or analysis of reality using different processes that are based on measurement. The main goal of the quantitative method is to find a broader knowledge of a case using detailed data. The results obtained with this method are based on statistics, measurements, testing, and others, and are considered generalized results (Harwoodn & Hutchinson, 2009).

On the other hand, Qualitative Method provides us with non-quantifiable data that is based mainly on observation. The information obtained with this research method is very subjective, besides it does not allow us to explain some phenomena in a clearer way. The data obtained from this method can be used later for their respective analysis and in some cases giving a better explanation about the case or phenomenon that is being studied (Ostergaard, J. 2007). It may include a review of the existing literature about a particular topic, which is the case in this study. The reason for adopting this method for the present study is its appropriateness.

**Population**

Traumatic brain injuries (TBI) are a severe public health problem for US. Each year, traumatic brain injuries contribute in large numbers to demises and cases of everlasting infirmity. A traumatic brain injury can be instigated by a blow, shock or jolt impacting the head that impacts the normal operation of the human brain. The degree of a TIB can vary from slight to serious (Karen, 2018).

It is expected that about 1.7 M deaths, emergency room visits, and hospitalizations occur yearly due to TBI in the US. About 80 percent of these people are treated in the emergency rooms of hospitals. TBI is a causal factor to 30% of all deaths related to injuries in the United States of America, equivalent to 52K demises yearly (Taylor, 2017). This data has been kept under consideration during the research study and it is essential to understand the degree of this important public health issue. This study can provide data prevention strategies of TBI and identify education and research urgencies and facilitate the necessity to provide services to those suffering from TBI (Moore, E., Feliciano, D., Mattox, K., Demetriades, D., & Inaba, K, 2017).

**Sampling Frame**

The search for this study was widespread. Of the 128 articles obtained initially, the study excluded a total of 42 articles after the reading of the title and summary, taking into account the aspects that are closely related to TBI, thus reducing the number of articles to 86. Subsequently, the duplicate items were eliminated, since most of the selected articles were indexed in more than one database, reducing the number of articles to a total of 40. After the complete reading of the texts of these 40 articles, 20 of them were discarded, reaching a total of 20 relevant articles, as given in the references section of the literature review.

**Data Collection**

To collect the data for this research study, it was required to search extensively through the relevant electronic database. The Search strategy employed multiple databases to find authenticated research studies. The databases include Research gate, Springer, Google Scholar, National Centre for Biotechnology Information, Journal of Educational Technology Development and Exchange, Elsevier, and ICMI. The Search Strategy obtained millions of results from which the research studies lying between 2005 to 2019 were selected.

For this project, the keywords used are TBI, Traumatic Brain Injuries, Neurofeedback, Vicariation, EEG, and Brain Injuries. The search limits used have been idiomatic. Specifically, the search excluded all the language except English because English is the main language of articles related to TBI and is mainly used in the US. The secondary data sources were mainly used for the purpose of this research paper.

**Data Analysis**

Based on this qualitative data, it can be said that the thing that is most responsible for TBI is constraint of shear on the blood vessels and brain, which arises due to acceleration and deceleration of the head. Traumatic brain injury can either heal itself completely with the passage of time or causes severe disability and often leads to death. The main cause of TBI is falling, specifically among children and elder people. The motorbike accidents are also responsible for brain injuries and it is found more among men as compared to women. The other TBI causes include falling objects, motor vehicle accidents, or machine accidents. The sectors in which people are at most risk of getting traumatic brain injury are transportation, forestry, agriculture, construction, and fishing. This can be controlled by taking the careful measures in these sectors.

**References**

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