



## EVALUATION OF ATHLETIC CONCUSSION TRAINING FOR YOUTH COACHES USING E-LEARNING PROGRAM

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### ABSTRACT

This paper aims to perform an evaluation procedure on the training of the athletic concussion assigned only for youth coaches by utilizing an e-learning program using an interactive learning method (ILM). For this, an interactive e-learning program is designed to carry out a training activity for the community coaches from the aged youth group. Their ages range between ten and eighteen who are effective. The purpose is to prevent and manage sports concussions practically. Approximately eighty-five young coaches/trainers have been used to select the online study. In this paper evaluation, the obtained outcomes of an arbitrarily controlled pilot test have confirmed noteworthy variances between the action of the treatment and the members involved in the tests where they have been classified into three categories, which are mentioned as follows: The first one is the knowledge related to the concussion of different sports. This group also has considered both the management and prevention of related to the concussion of different sports. The second one concerns the insolences related to the issue that prevention is of significance and the concussion for the athletes. The third one is the goal and personality- effectiveness for the management and prevention of the concussion such an athlete. Results related to the ILM have indicated that the training program is an effective way to train young sports coaches who have been involved in important positions to cut a number of hazards that are usually accompanying the concussion of the athletes.

## 1. Introduction

Approximately more than three million sports and traumatic brain injuries (TBIs) that probably occur caused by the reconstruction happen in the United States every year [1]. Statistics have shown that the maximum averages of visits to the departments of the emergency for the concussions related to the sports that occur among youth ages ten to fourteen, followed by those ages fifteen to nineteen, even though the figure is believed it is plentifully advanced because young athletes do not report significantly [1-3]. When slight extra than a “ding” or a “bell ringer has been considered,” it is here and now identified that concussions have hypothetically damaging increasing properties that result in long-standing variations in the job of the brain. Mutual signs of the concussion have included headache, misperception, puzzlement [4], reduced ability to process such a piece of information, damage of balance, and disturbances of vision or hearing [5, 6].

Beginning athletes seem to be weak due to concussions [7]. Regarding cognition, teens with minor TBIs can probably be more prospective than school athletes/sportspersons with similar injuries to memory-related understanding and the problems of the kind once the typical eleven-day retrieval time. Similarly, it is the comparatively erratic but appalling incidence related to the second impact syndrome (SIS), which arises when a sportsperson still improving from the concussion suffers a succeeding TBIs [8-10]. That has produced in a very speedy bulge in the brain and just about at all times leads to death, and might cause very serious injuries in the long term [11]. According to the SIS, in sportspersons thirteen to eighteen years has been reported, the significance of proper recognition and management of young athletes with a concussion cannot be overemphasized. This paper will be organized as follows. Section 2 reviews a literature review. Section 3 focuses on the method. Section 4 will be dedicated to discussing the obtained results. Section 5 is aimed to provide a further discussion. And Section 6 represents the conclusion which includes important concluded remarks for research directions.

## 2. Literature Review

Each year, approximately more than seven million youths as sportspersons are from the high schools, and thirty-eight million are considered kids participants every year in the sponsored community and organized sports programs. Trainers are very important to recognize the archetypal physical and behavioral symbols of the TBIs and alleviate the hazards that usually go together with the TBI in new sportspersons. Like the overall community, sixteen coaches have fallacies regarding the TBI [12]. Still, good physical activity can be clever to distinguish indirect indicators and effect shapes that could indicate crucial issues.

Of late, the Centers for Disease Control began an inclusive community well-being data program with its “Heads Up” TBIs information package for children sportspersons. That free package holds valuable information for trainers, fathers, and clinicians in print and rectilinear movie presentations. Preliminary information and data from emphasis collections and an investigation proposed that the usage of the software package has been accompanied with advantages in familiarity and the responsiveness of the harshness of TBIs and caused several augmented hard works to diminish the hazards of TBIs. The same outcomes were reported for one type of training in an advanced country. Several pieces of training have exposed that organized physical activities of rugby trainers can be accompanied by advances in knowledge and a reduction in damage quantities [13]. Selected “Heads Up” programs have been extensively performed by high schools and youth trainers in the United States as soon as it was initially launched. Nevertheless, untrustworthy indication based on the discussions with the authors related to the sports’ trainers and managers recommends that the physical had never been commonly used. Tactlessly, this inactive instructive material and procedure had never been continuously broadly implemented [14]. This research study mainly aims to assess a sports concussion electronic learning software for youth sporting coaches. ILM is an interactive learning method that uses multimedia planned to train the youth trainers in the community. The ages are ten to eighteen, inactive sports TBIs to perform such prevention(s) and management(s).

### **3. Methodology**

#### *3.1 An Introduction*

This paper’s assessment aimed to regulate if the exercise working out when comparing with the regulator set, assessable properties are on: (a) knowledge related to the TBIs or the concussions, the management of sports; (b) Points of views towards the significance to prevent the TBIs in a sportsperson; (c) Intent and personality-effectiveness in the management and prevention of the TBIs related to the sports. This study was an arbitrarily controlled pilot test encompassing eighty-five young athletic trainers from the United States. Multidisparity investigation of variance has been used to relate the familiar means of the variables (i.e., pre-test measures as covariates) of the non-prior-examination means of the interference focuses with the regulating focuses.

#### *3.2 Participants*

The training has been performed online, including an example of young sportspersons’ trainers. Members have been engaged nationwide from the websites of the organizations of the sports belonging to the youth. A total of two hundred one trainers accomplished the selection tool. Eighty-five of these trainers have been capable (as members presently coach ten to fourteen years old) and whole accomplished jobs of the required duties. Members involved in this study have been categorized as men forty nine and women, about thirty-six, in counts. About sixty-six percent (n = fifty-six) were between thirty and forty-nine years old. Eighty-nine percent of members have joined university, obtained their bachelor degrees, or pursued further teaching. Less than half of the study’s members (quantity equals to thirty nine) stated that more than one of their group of actors had suffered the TBIs compared with the earlier times of the year. In this study, the research outcomes obtained for this agreement course have been agreed upon where members have given the related information for this training on an online platform.

#### *3.3 ILM Training Program*

ILM electronic learning software contains three brief parts: TBIs-related data, prevention, learning, and management of sports for young people. The program uses meek visuals and videos with hassle-free tracking direction-finding controls. Members will be led over the units chronologically (a “tunnel” skill). Besides, members will be free to repeat the units of the material previously covered. The design of the tunnel information architecture is particularly suited to software that directs members over a sequence of stages that logically complements the rest separately. The theoretical context could originate the physical activity states that the people could be extra likely to act once they notice a larger hazard if the hazard looks dangerous to them and if they have faith in confident penalties and less-harmful results. Other references have conveyed the communications of the ILM training activities: the doctors engaged in sports activities, an earlier field general noun in games (such as in football) who has faced several effects related to the TBIs, such an expert in high schools or a trainer for sports’ helper for young people. All storytellers focus on the essentials of the management of the TBIs.

#### *3.4 Program Development*

The content of the ILM software has relied on commendations from the National Athletic Trainers Association (NATA). The selected context and the elements of the design have been largely adapted according to the response from attention members with young trainers of the related sports and discussions, including clinicians, neuropsychologists, specialists, and experts from the departments of the public health, and qualified physical coaches, to characterize different sports and the settings from the public. Statistics obtained from emphasis sets and discussions have been recorded, converted, and revised. The different sets’ anxieties have made essential contexts zones related to the training contest. Obtained outcomes from motivation sets and discussions suggest that all the physical activities should emphasize the severity of concussions, particularly with the early adults, give indications to trainers which they will not be very careful when taking a child out of a game; which repercussions of TBIs in young adults are prolonged-lasting, teaches to give trainers to distinguish, and

not analyze, concussions, and make a routine for short videos and specialized sportspersons aiming to transfer crucial communications. Repeated advancement procedure included the testing of the serviceability with nineteen people and also with numerous reviews. The latest program or the toolkit has been delivered online, where the members have been given unique usernames and code words (PINs).

### *3.5 Measure*

The survey of the assessment substances has been based on concepts of perceptive communal system, healthy belief model, and reasonable action theory. The items assess knowledge, attitudes, self-effectiveness, and interactive purpose. Besides, the program's serviceability and the user's satisfaction have been evaluated. Facts related to the TBIs associated with several sports have been restrained by using two homogeneous sports concussion tools. Supplement substances have resulted from the ILM physical activity-related program.

Knowledge: Warning signs. The substances of the knowledge have contained sixteen warning signs listed in a worksheet where the members have recognized such effects of the TBIS (for example, hazy image and wooziness) by marking question that has either the answer of "YES" or the "NO."

Knowledge: overall wide-ranging knowledge related to the TBIs of the sportspersons has been tested and applied to twenty-three right/wrong substances (e.g., "An athlete who reports having a headache after a concussion is likely to show other signs").

Knowledge: Misconceptions. Here, substances related to the knowledge have been evaluated by the members' responses to shared misconceptions related to the TBIs. The user has valued six communal misconceptions (e.g., "It is easy to tell if a person has brain damage from a head injury by the way the person looks and acts") on the four-point measure (correct, maybe right, maybe wrong, wrong).

The items in the measurement have been derived from reviews conducted in three former revisions. Statistics regarding the psychometric assets of these elements are not obtainable—robust interior steadiness (Cronbach's alpha has been equal to 0.83).

The test of dependability test of knowledge measuring by using tests either prior or post of control participants has been acceptable. Warning signs knowledge ( $r$  equals 0.82), overall knowledge ( $r$  has equal to 0.68), and finally knowledge fallacies ( $p$  has equal to 0.48). For the self-awareness and planned activities, about five inquiries based on the scenario have been judged. The trainer's planned activities and self-awareness answer aptly to every single scenario where the scale of the Likert has been applied for values one to five.

## **4. Results**

### *4.1 Program Effects: Alterations in Situations*

Members engaged with both situations have never been meaningfully different from the others who have been engaged in the pilot tests and their appearances or procedures. A comprehensive multidimensional analysis related to the alterations model, including five procedures of the posterior test, control, and preliminary test levels, have been tested. Another analysis has followed that. That is the univariate analysis of alteration models. Multidimensional testing has been noteworthy because coaches in the interference set have got significant and noteworthy general advances related to trainers in the regulating state,  $F$  (five, sixty three) equals 14.51, and the  $p < 0.001$  fractional square equals 0.54. Obtained results related to both the descriptive statistics and analysis have been presented. The largest gains were obtained in terms of knowledge of concussion symptoms ( $\eta^2 = 0.46$ , the size has significant effects); general monitoring of concussion awareness ( $\eta^2 = 0.39$ , the size has a large effect); knowledge of misconceptions related the TBIs ( $\eta^2 = 0.12$ ; the size has mean outcome). Regarding self-awareness concerning professed self-confidence that could yield proper measures, the five presented circumstances ( $\eta^2 = 0.29$ ; the size has large results), and intent to act according to the five presented situations ( $\eta^2 = 0.17$ , the size has large results).

Usability and Acceptability. The measures for usability have indicated that a favorable answer from members. Members in the ILM set have been questioned whether they would agree or not to agree to declarations by answering the scale of the five points (one equals to disagree strongly and five equals to agree strongly). Answers have been encouraging, with members that score an interest with a high grade where  $M$  has equal to 3.98, ease of use where  $M$  has been equal to 3.93, and navigation where  $M$  has been equal to 3.94. The satisfaction of the users. By using the scale of 7 points (one equals "in no way"; seven equals "real significance"). Users in the action set have mentioned that the ILM program is a cooperative toolkit where  $M$  equals 5.87; pleasurable  $M$  equals 6.11. a huge number of trainers stated that they are going to indorse so with  $M$  equals to 6.21 when that range has been compared to others.

## 5. Discussion

This research aims to include the ILM program obtained outcomes in a file. Regarding the controlled set, there are effects on the knowledge, intentions, and self-awareness of coaches related to preventing TBIs in sports. Outcomes have indicated that participants who used the ILM program demonstrated meaningfully larger development than members who used the safety resources from two points. The first point is the knowledge of the effects of the TBIs (size has a huge outcome) and your overall knowledge (size here has a median outcome). The second point is the subjective effects of the suggested arrangements after a TBIs, such as those offered in the example scenarios (size has a huge outcome). Overall, improvement in these four-item groups indicates that training would be able to calculate the effect helping to recognize trainers' needs on how to stop and reduce the effects of TBIs caused by several types of sports.

There are several limitations to the presented preliminary study. The small example size bounds the generalizability of the reported outcomes to other beginning healthy trainers in the USA. Another extra constraint of the sampling is that a huge number of the trainers who have already participated have been finely trained. Although the example size has never been off the sufficiency to examine the reaction of informative side-by-side, trainers who do not have as much schooling or knowledge related to the computers might not earn similar profits from this study's analysis.

## 6. Conclusion

The possible consequences of concussion in formative years sports turn out to be purer for both short- and long-terms. Given the number of youths involved in planned sports with a possibility of risk occurrence or suffering such as damages, the reality is that most trainers in sporting programs related to the public contain helpers without prescribed working out. There can be an urgent requirement to teach students or trainees regarding the seriously trained athlete of a concussion. Such an educational program needs to do available exercises related to the management of the initial TBIs in exercise and sports-related circumstances. Electronic learning can provide an approach for the exercise assigned to trainers. When both the education and athletes have been combined, the broader sports and school community, the exercise is of a potential effect to reduce the hazards accompanying the TBIs related to the sports in youth and high schools categories.

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