Research Article

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Journal of Physiotherapy Research

2018
Vol.2 No.5:14

A Survey on Sports Physiotherapist's Knowledge on Current Clinical Practice Regarding Concussion in Sports

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Received date: October 25, 2018; **Accepted date:** December 21, 2018; **Published date:** December 28, 2018

Citation: Shukla A, Sharma D (2018) A Survey on Sports Physiotherapist's Knowledge on Current Clinical Practice Regarding Concussion in Sports. J Physiother Res. 2018, Vol.2 No.5

Abstract

Concussion is very common in contact sports now-a-days. Being common, it is one of many traumatic head injuries and can lead to Second Impact Syndrome (SIS) and Punch Drunk Syndrome due to repetitive concussions. To prevent chances of SIS and PDS, Sports Physiotherapist who is the primary healthcare provider in the field, should be knowledgeable enough in order to assess and manage the severity of concussion. A cross sectional survey emphasized on the Knowledge, Assessment pattern and Management of Sports Physiotherapist about concussion using Questionnaire prepared by Keating and Louis in 2012. Questionnaire was made up of 3rd Consensus held in Zurich, 2008. This research was done as there was dearth of studies about knowledge of Sports Physiotherapist about Concussion. Result shows that about 86.67% of Sports Physiotherapists were able to assess, manage and they were aware about the latest guidelines for Concussion in sports.

Keywords: Sports physiotherapist; Injuries; Diagnostic imaging

Introduction

Sports have been an integral part rich Indian culture and history. With passage of time, emphasis is being placed on the safety of the participants due to increased sports participation and a heightened public awareness of sports-related injury. Nowadays, in amateur sport, the sports physiotherapist is often the primary healthcare professional present at sporting events. Out of all head injuries, Concussion is very common in all contact sports, incidences of player suffering concussion ranges from 0.25-5 per 1000 players. Derby riders are most prone to concussion, then American football and Australian football [1]. However, in India, these sports aren't common, so, sports like Field Hockey, Football, Rugby, Wrestling etc. are the ones where concussion is said to be common.

It is important to have knowledge of head injury to help in diagnosis as sometimes the medical professional is dependent on signs and symptoms to make initial diagnosis. He will not be having the services of diagnostic imaging centers in the field and in cases of brain injury, allowing a player to continue playing can be fatal. (Brain Injury Association, US, 2010) Various steps have been taken to enhance the knowledge of medical professionals in various countries. So it should continue in the same way and consensus on Concussion should include spokesperson from different countries in order to get different point of views and suggestions for the benefits of Athletes and Sporting Teams [2-5].

Policy

So this research is designed to undertake a survey to assess and understand the knowledge of Sports physiotherapists about Concussion with the help of Questionnaire developed by Patrick McGrann, Louise Keating in 2012. It has been observed, that even with the recent focus on concussion in sport, the dissemination and implementation of current consensus statements is not reaching all relevant groups. To date, there are dearth of studies about the knowledge and management of the concussed athlete by physiotherapists. This study will help in evaluating the knowledge of Concussion for Sports Physiotherapist [6]. It will be a small step in evaluation of knowledge of Sports Physiotherapist about concussion and its management. Sports physiotherapist plays an integral role in assessment and management of concussion and concussion is very common nowadays. Every sports team has their own Physiotherapist and they should know how come up with such situations quickly and intelligently [7-10].

Methodology

A cross sectional survey design was used for this research. 60 Sports Physiotherapists of various Colleges like Jamia Hamdard University, Banarsidas Chandiwala Institute of Physiotherapy, DDU Institute of Physically Handicapped, ISIC and Sporting venues like Ferozshah Kotla, Karnail Singh Stadium, Palam Airforce Ground, Sirifort Sports Complex etc, in Delhi NCR were taken for data collection [11-14].

Questionnaire prepared by Patrick McGrann, Louise Keating in 2012, was used for this research work. Alongside, the Guidelines from International Medical and Sporting Organization's reviewed with the 2008 Consensus Statement on Concussion in Sport were used as the gold standard. The respondents were selected on the basis of inclusion and exclusion criteria of the study. The participants were asked to sign the informed consent form after explaining to them the purpose of collecting the data. In some cases, E-mails were sent to the respondents [15-17]. There are four sections in the survey: Section A-Demographic information, Section B-Knowledge of concussion, Section C-Assessment of concussion and Section D-Management of concussion.

In the knowledge section, scores were calculated and compared with each respondent's years of experience. Identification of a correct answer (agree or strongly agree) scored one point and incorrect answers or 'I don't knows' scored zero, yielding a potential maximum score of 19 and a minimum of zero. In the management section, five questions were used to assess management of concussion, giving a maximum score of 10 and a minimum of zero. Respondents were asked to rank a list of signs and symptoms of concussion from most common to least common (1=most common, 12=least common). Signs and symptoms not related to concussion were included in the list to identify respondents' ability to distinguish unrelated signs and symptoms from those associated with concussion.

Results

The study was conducted on Sports Physiotherapists (n=60) currently or previously worked with Sports Team or in a Sporting Event. There are four sections in the survey: Section A-Demographic information, Section B-Knowledge of concussion, Section C-Assessment of concussion and Section D-Management of concussion **(Tables 1-3)**.

Table 1 The results depicts that about 80% of physiotherapists were experienced and had undertaken concussion management courses to enhance their skills and knowledge.

Scoring Criteria (Section-A)	Percentage of Population
Physiotherapist scoring<6	20.00%
Physiotherapist scoring ≥ 6	80.00%

Table 2 The results of the study depicts about 93.33% of Sports physiotherapists has information regarding concussion. They scored equal to or more than 10 out of 19.

Scoring Criteria (Section-B)	Percentage of Population
Physiotherapist scoring<10	6.67%
Physiotherapist scoring ≥ 10	93.33%

Table 3 The results of the study depicts about 81.67% of Sports Physiotherapists were aware on how to assess the patient having Concussion.

Scoring Criteria (Section-C)	Percentage of Population
Physiotherapist scoring<3.5	18.33%
Physiotherapist scoring ≥ 3.5	81.67%

Table 4 The results depicts about 78.33% of Sports Physiotherapists was aware on how to manage the Sports person having Concussion.

Scoring Criteria (Section-D)	Percentage of Population
Physiotherapist scoring<9	21.67%
Physiotherapist scoring ≥ 9	78.33%

The result of the study depicts that 86.67% of Indian Sports Physiotherapists have knowledge about Concussion in Sports. 86.67% scored total score of 30 or more and 13.33% scored less than 30 out of maximum of 47 **(Table 4)**.

Discussion

The present study examined the knowledge of Sports Physiotherapists about Concussion in Sports. It is important to have knowledge about concussion for the Sports Physiotherapist as He/She is the first person on the field to

assess the player. Most of the Second Impact Syndrome (SIS) occurs due to previous history of Concussion.

36 males and 24 females participated in the survey, 38.33% were having experience of 3-6 years on average. Almost every subject was having first aid qualification and they were associated with various sporting teams at different levels. Although Physiotherapists were not the first primary healthcare provider in most of the sports in Club and County levels. On a scale of 10, 80.00% of subjects scored 6 or more, highlighting their involvement and courses undertaken for management of Concussion.

In Section B-Knowledge of Concussion, 50.00% of them were aware about 3rd consensus statement on Concussion, other common guidelines they were aware of where FIFA recommendations (26.67%) and IOC recommendations (21.67%). Most of the subjects agreed, that Concussion can occur without loss of consciousness. Treatment protocol for the ones who are less than 18 was different than the ones who are 18 or more. Females and male players should have same protocol for management. This research shows that about 93.33% of people were having Knowledge of Concussion which means they were aware about the recent guidelines and consensus of Concussion.

In Section C-Assessment of Concussion, 81.67% of Sports Physiotherapists were Assessing Concussion in pattern, by their signs and symptoms; they were able to assess the player.

In Section D-Management of Concussion, most of them answered about graduated return to play post-concussion, in order to prevent fatal head injuries. In Management section, 78.33% of people were Knowledgeable enough to manage concussion at the time of its incidence. They were also the ones along with team doctor to decide the management protocol for Concussed Player.

Total Score was taken by adding scores of Section A, B, C and D. About 86.67% of Sports physiotherapists were having Knowledge, able to assess and manage the signs and symptoms seen commonly after Concussion.

The result are in consensus with result of work of Louis Keating and Patrick McGrann who in 2011 in Northern Ireland, concluded 81.2% of Sports Physiotherapist were having knowledge about Concussion in Sports. No correlation between years of experience in physiotherapy or and knowledge of management of concussion was found by Louis et al found, suggesting that a standard of care is maintained amongst all chartered physiotherapists. Even in the current research 86.67%, were having Knowledge about Concussion. This result shows they are aware about the latest guidelines and rules for management of Concussion.

Research with latest guidelines will help in enhancing knowledge of Sports Physiotherapists and there should be more involvement of Physiotherapists in various Consensuses about Concussion and its Management.

Conclusion

In this study Pursed lip-breathing treatment appeared to be more effective than breathing control technique to increase expiratory flow rate in COPD patients.

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