ORIGINAL RESEARCH PAPER

Volume-7 | Issue-5 | May-2018 | PRINT ISSN No 2277 - 8179

INTERNATIONAL JOURNAL OF SCIENTIFIC RESEARCH

SURVEY OF CONCUSSION KNOWLEDGE OF WOMEN SOCCER PLAYERS

Physical Education

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KEYWORDS

Chapter-I
INTRODUCTION

1.1.Background of the Study:

Today sports have become one the most important as well as an inseparable phenomenon of our social life. Among the sports, soccer has reached its apex or we can say it that it has made its own apex of human civilization and it's all because of the competitive, interest and love for the game and also it even improves the nature and thinking of the mankind. People these days improve relationship among each other supporting the same team in every sports not only the soccer. The acquisition of new knowledge and skills in the individual in any game improves his or her knowledge and maturity of thinking and the most important thing is that sports are even used as a tools for peace and development where so many instances in the history had taught us.But apart from the knowledge of games, acquiring new skills and motor ability one of the most important things that every players, coach, and people who are the lovers of sports should keep in mind that so many players of different games had just ended their sports carrier in their life due to injuries sustained while playing. It should focus that every players or any person involved in the sports should be aware of the injuries and know the specific injuries and the safety tips of the game they play. As concerned to soccer injuries there are two types of injury mainly overuse injury and acute injury. Overuse injury are mainly due to over time stress on muscle, joints and soft tissue without giving proper time for healing. Acute injury occurs mainly due to sudden blow or impact on the body. Acute or Traumatic injury is one the most danger and dramatic injury which sometimes even cause death of a player in the field itself when the hit goes wrong and forcefully. Wrong in the sense means hitting the body area where it can stop the functioning of our body mainly the brain which controls our body part. Concussion also known as minor head trauma or mild traumatic brain injury is the most common types of traumatic brain injury.It is typically defined as a head injury with a temporary loss of brain function. Concussion is not a life-threatening injury, but it can cause both short-term and long-term problems. A concussion results from a closed-head type of injury and does not include injuries in which there is bleeding under the skull or into the brain.A mild concussion may involve no loss of consciousness (feeling "dazed") or a very brief loss of consciousness (being "knocked out"). A severe concussion may involve prolonged loss of consciousness with a delayed return to normal. In Soccer the player which head more are likely to have more concussion as it mainly occurs during heading the ball or try to head the ball.Soccer is one of the most popular sports in Europe and the Americans. It has a vivid and interesting history in the world of sports. Early evidence of soccer being played as a sport occurred in China during the 2nd and 3rd centuries B.C .

Soccer injuries are very common and can keep players out for as little as one game, up to an entire season or can lead to players having to retire from the game all together. Unlike other sports, soccer is unique where you can use your head to your advantage and is a crucial part of the game. This does however cause more soccer injuries. The biggest cause of head injuries come from two players clashing heads through both attempting to head the ball. Other head injuries come from elbows, arms even the feet making contact with a player. Fortunately, the head (skull) is very hard and takes a lot to cause serious injury. Other head injuries come from the eyes, nose and mouth - but are generally less serious. Soccer injuries which worry coaches, players and parents the most involve the brain. Much research has been done in the past looking at how heading a soccer ball may cause brain damage. No research thus far has 100% proved that heading a soccer ball can cause long lasting brain damage. Kids will complain that it hurts to begin with but the more they get used to it, the easier it becomes .

The adult brain is a three pound organ that basically floats inside the skull. It is surrounded by cerebral spinal fluid, which acts as a shock absorber for minor impacts. When the brain moves rapidly inside the skull, a concussion has technically occurred. One common scenario that can lead to a concussion is a direct blow to the head or a whiplash effect to the body. The impact rapidly accelerates the head, causing the brain to strike the inner skull (i.e., the coup). When the head decelerates and stops its motion, the brain then hits the opposite side of the inner skull (i.e., the countercoup). The second common scenario is a rotational concussion, in which the head rapidly rotates from one side to another causing shearing and straining of brain tissues. In either case, delicate neural pathways in the brain can become damaged, causing neurological disturbances. Athletes are known for more than the sport they play, but for the products .

Purposely "heading" a soccer ball may lead to concussion symptoms despite research suggesting those issues mainly arise from accidental knocks to the head, according to a new study.While amateur soccer players were at an increased risk of concussion-like symptoms from colliding with each other and objects, they also had an increased risk for those symptoms if they often used their head to hit the ball - an action known as heading.Dr. Michael Lipton, a neuroradiologist and neuroscientist at the Albert Einstein College of Medicine and Montefiore Health System in New York City said concussion-like symptoms among young soccer players were caused by accidental collisions - not heading.AboutCompared to those who reported the least amount of accidental hits to the head, the participants who reported the most were about six times more likely to experience symptom .

The cornerstone of concussion management is physical and cognitive rest until the acute symptoms resolve and then a graded program of exertion before medical clearance and RTP. The current published evidence evaluating the effect of rest after a sport-related concussion is sparse. An initial period of rest in the acute symptomatic period after injury (24–48 hours) may be of benefit. Further research to evaluate the long-term outcome of rest and the optimal amount and type of rest is needed. In the absence of evidence-based recommendations, a sensible approach involves the gradual return to school and social activities (before contact sports) in a manner that does not result in a significant exacerbation of symptoms. Low-level exercise for those who are slow to recover may be of benefit, although the optimal timing after injury for initiation of this treatment is currently unknown .

The danger of that technique was self-evident for decades, thanks to leather balls that got considerably heavier in the rain. Veterans from that era recall players getting knocked unconscious by the ball; one of them, English striker Jeff Astle, was quoted as saying it was like banging his head against "a bag of bricks". An inquest concluded that heading had damaged Astle's brain and was "likely to have had a considerable effect on the cause of death." England's Football Association responded by announcing a 10-year study into the consequences of heading the ball, but last year told the BBC that the

study had been abandoned after its subjects failed to make it to the professional level. The U.S. Soccer Federation made a similar pledge, asking exercise physiologist Donald Kirkendall to perform a five-year study into the effects of heading on the brains of national youth team players. But that study, too, was never published.Dr. John O'Kane, a University of Washington sports medicine professor who determined that heading was responsible for roughly a third of concussions suffered by female middle school players, said the current data don't justify such a step. He said a more productive measure would be to ensure that children are using a correctly sized ball that has been inflated properly. "The long-term ramifications of (heading) are completely unknown", he said. "There are millions of kids who have played soccer and it's not clear that there's any detriment from that" .

The most common form of brain injury is concussion. Head trauma is the broad description applied to injuries to the brain or its coverings, skull bones, soft tissue, and vascular structure of the head and neck. Traumatic brain injury is one of the leading causes of morbidity mortality worldwide. The crude incidence for all traumatic injuries is estimated at 300 per 100,000 inhabitants per year. Males are more than twice as likely to suffer a traumatic brain injury as females, with a peak incidence among the 15 to 24 year-old population. Mild traumatic brain injury accounts for 80% of all brain injuries, with moderate and severe injury each accounting for 10%. Concussion which is a subset of mild brain injury, requires appropriate management to avoid potential long term problems. In United States 300,000 sport-related concussions occur annually. In hospital-based surveys of brain trauma, sports injuries contribute to approximately 10% to 15% of all cases. The sport's most commonly associated with severe brain injuries were golf, horse riding, and mountain climbing. Sports related deaths due to brain injury are rare, although these injuries have not been rigorously studied outside American and Australian football.In mild brain injury and, in particular, the subset of concussion, the diagnosis is often missed because the symptoms are subtle, the athlete does not seek medical attention or the athlete recovers rapidly before a full assessment can be made. Most sports related head injuries occur without loss of consciousness. In this situation, the most common differential diagnosis is that of posttraumatic migraine, which may manifest similar early symptoms. The key clinical symptom of concussion used is establishing the presence of this injury is memory disturbance. The key differential diagnosis not to be missed is that of an expanding intracranial hematoma, which may mimic the symptoms of concussion in its early stages .

If you suspect a player may have a concussion, that athlete should be immediately removed from play. The injured athlete should be kept out of play until they are cleared to return by an appropriate health care provider. If the athlete has a concussion, that athlete should never be allowed to return to activity (conditioning, practice or competition) that day. Athletes with a concussion should never be allowed to return to activity while they still have symptoms.A player with a concussion must be carefully observed throughout the practice or competition to be sure they are not feeling worse. Even though the athlete is not playing, never send a concussed athlete to the locker room alone and never allow the injured athlete to drive home.Most concussions are temporary and they resolve without causing residual problems. However in the adolescent population, 10-20% of athletes that have a concussion have signs or symptoms that persist beyond 2 weeks. These symptoms of headache, difficulty concentrating, poor memory and sleep disturbances can lead to academic troubles among other problems. Concussion symptoms may even last weeks to months (post-concussion syndrome).Allowing an injured athlete to return too quickly increases the risk for repeat concussion. Repeat concussion may cause Second Impact Syndrome. Second Impact Syndrome is a rare phenomenon which happens only in young athletes that causes rapid brain swelling and death. Repeat concussions may increase the chance of long term problems, such as decreased brain function, persistent symptoms and potentially chronic traumatic encephalopathy (a disorder that cause early degeneration of the brain similar to what is seen with Alzheimer's disease).A major concern with concussion in the high school athlete is that it can interfere with school performance. The signs and symptoms of poor short-term memory, concentration and organization may temporarily turn a good student into a poor student. The best way to address this is to decrease the academic workload by potentially taking time off from school or going partial days. Injured athletes should have extra time to complete homework and tests, and they should be given written instructions for homework. New information should be presented slowly and repeated. Injured athletes will need time to catch up and may benefit from tutoring. If an athlete develops worsening symptoms at school, he/she should be allowed to visit the school nurse. The school and coaches should maintain regular contact with the injured athlete's parents to update progress. Athletes with a concussion should return to full speed academics without accommodations before returning to sports. Rest is the essential component of concussion treatment. Further contact is to be avoided at all costs due to risk of repeat concussion and Second Impact Syndrome. Physical exertion can also worsen symptoms and prolong concussion recovery- this includes aerobic conditioning and resistance training. Physical activity should not be started without authorization by an appropriate health care provider.It is also important to remember that the athlete's concussion can interfere with work and social events (movies, dances, attending games, etc.). It is important for injured athletes to sleep as often as possible. It is also helpful for parents to decrease brain stimulation at home by limiting video games, computer time, text messaging, and TV/movies. Neuropsychological testing has become more commonplace in concussion evaluation as a means to provide an objective measure of brain function. It is best used as a tool to help ensure safe return to activity and not as the only piece of the decision making process. Testing is currently done using computerized neuropsychological testing (example: IMPACT, Axon Sports) or through a more detailed pen and paper test administered by a neuropsychologist. If neuropsychological testing is available, ideally a baseline or pre-injury test is obtained prior to the season. This baseline should be done in a quiet environment when the athlete is well rested. It is felt that baseline testing should be repeated every two years for the developing adolescent brain. If there is no baseline available, the injured athlete's scores can be compared to age established norms. The WIAA feels that neuropsychological testing can be a very useful tool with regard to concussion management .

Durham, England — Three months have passed since the World Cup in Brazil, and still FIFA seems unaware or unwilling to grasp that head trauma has become the most serious and potentially most litigious issue threatening all of sports. The images of players' apparently knocked senseless but then revived and allowed to stagger on in a confused state have marred some of soccer's most-watched games. At the World Cup, those endangered players included Germany's Christoph Kramer during the final, Argentina's Javier Mascherano during a semi-final, and Uruguay's Álvaro Pereira in a first-round game against England. Pereira and Mascherano were in some quarters hailed as macho men who "persuaded" medical personnel that they were fit to continue. Kramer couldn't have persuaded anyone of anything because, he later admitted, he didn't know where he was or what was happening around him after being struck in the head in the 17th minute in the final against Argentina. Yet Dr.Hans-Wilhelm Müller-Wohlfahrt, one of the most experienced physicians in sports, examined Kramer and deemed him fit to play on. After 15 minutes, a still groggy Kramer was removed and taken to the dressing room. The alarm bells were ringing, but FIFA wasn't listening. One imagines that even the world governing body of soccer is cognizant of the situation in the N.F.L. and its efforts to settle a class-action lawsuit brought by thousands of former players over brain trauma linked to repeated hits to the head during play .

The question that so many parents of youth soccer players have on mind is this: Can be better protect our children and make the game of soccer safer if band heading at the youth level?While the answer to this question is yes, banning heading can reduce the number of concussions, the more important part of concussion prevention and reduction at this level would likely come from a change in the style of play and stricter adherence to game rules, the end result of better officiating to limit dangerous body-body contact.While a ban on heading would reduce concussions in high school soccer, the bigger effect would come from teaching techniques and ways to limit body contact, and calling fouls to enforce the rules more strictly. Better attention to the rules to limit player contact would likely result in a reduced number of concussions.Stricter officiating to play by the rules, along with a greater emphasis from coaches and players to practice using finesse techniques in passing and dribbling would be a way to help make the game safer.We know that soccer is inherently an aggressive game, so making players approach the game with a greater awareness about brain injury may be a step in the right direction. Players know that body-to-body contact can also produce a concussion as concussive force is transmitted from the body and then to the neck and head .

A mild concussion is a brain trauma that causes a change in mental functioning, states Brain Injury Association of America. Grade 1 concussions are the mildest type of concussion. After the injury, individuals maintain consciousness, but experience confusion for up to 15 minutes. Symptoms of a grade 1 concussion include being dazed and an inability to follow directions or think clearly, states Brain Injury Association of America. With a grade 2 concussion, the individual experiences similar symptoms that last longer and may also suffer amnesia. With a grade 3 concussion, the person losses consciousness and experiences more serious symptoms such as a noticeable change in brain function, behavior and cognition addition to the cognitive symptoms, concussions may also cause a person to feel nauseous, dizzy or tired, notes WebMD. People with concussions may experience blurred vision, difficulty balancing and sensitivity to light. Changes in sleeping patterns or mood may also occur.Most people fully recover from a mild concussion with rest, according to WebMD. Even if symptoms disappear quickly after a mild concussion, the brain is still healing and is more prone to injury. Repeated concussions may cause permanent damage and inhibit a person's ability to learn, speak or move. Concussions are common after car and bike accidents, fights and falls .

According to Medicine.net, 80% to 90% of concussions heal within 7 to 10 days. It is normal for people to experience different recovery times after a concussion. According to WebMD, it can take several months for a concussion to heal. If symptoms appear during normal activity, patients are advised to stop that activity and rest. Concussions in children also take about 7 to 10 days to heal. The Mayo Clinic recommends that children wait for several days after symptoms disappear before resuming normal activity. Additionally, if symptoms in children persist after 24 hours, parents are advised to contact a doctor to rule out a more serious condition .

As the popularity of soccer grows among children, doctors and researchers say the dangers of concussions need to be taken more seriously in the sport. When researchers at St. Michael's Hospital in Toronto reviewed the evidence on concussions in soccer from hits to the head from other players' heads, shoulders or the field this winter, they found a higher incidence of concussions among females than males playing the world's most popular sport. Doctors warn that heading purposely using the head to control and hit the ball is a unique aspect of the beautiful game that needs more attention. Heading the ball isn't necessarily going to cause an overt concussion with symptoms, but the accumulation of those impacts over time could cause difficulties with thinking, concentration and memory, said study co-author Monica Maher, a graduate student at the University of Toronto, and a former soccer goalkeeper. Maher doesn't want people to stop playing soccer or stop heading the ball. She does suggest limits on head exposure in younger children and padding on goal posts to prevent injury to the youngest players. Dr. David Robinson, a sports medicine physician at McMaster University in Hamilton, sees 10 to 15 concussions a week at the clinic, including many related to soccer. "It's not a stretch to think that these chronic sub concussive blows may be softening the brain, injuring the brain over time," Robinson said. He calls it a step forward that balls are becoming lighter for young people. Players reminds parents and coaches that if a concussion is suspected, it's best to remove an athlete from play .

Would soccer be safer if young players were not allowed to head the ball?According to a new study of heading and concussions in youth soccer, the answer to that question is not the simple yes that many of us might have hoped. Soccer parents and nowadays we are legion naturally worry about head injuries during soccer, whether our child's head is hitting the ball or another player. The resounding head-to-head collision between Alexandra Popp of Germany and Morgan Brian of the United States during the recent Women's World Cup sent shivers down many of our spines.People's concerns about soccer heading and concussions have grown so insistent in the past year or so that some doctors, parents and former professional players have begun to call for banning the practice outright among younger boys and girls, up to about age 14, and curtailing it at other levels of play.And she said she wasn't aware of any studies showing that heading causes the majority of concussions in the youth game. In fact, she and her colleagues could not find any large-scale studies examining the causes of concussions in youth soccer at all.They began by turning to the National High School Sports-Related Injury Surveillance Study, a large online database administered by Dr. Comstock that collates reports from hundreds of certified athletic trainers nationwide. The researchers were particularly interested in how players with a concussion had been injured and whether they had been heading the ball at the time.But the first finding that leapt from the data was that concussions related to soccer are clearly on the rise. The rate of head injuries among male and female high school players increased "substantially" throughout the years in question, the researchers found.But heading the ball, it turned out, was not the leading cause of the injuries.Instead, the overwhelming majority of concussions resulted from player-to-player contact, especially among boys. Almost 70 percent of soccer-related concussions in boys occurred when players collided, the researchers found. Among girls, the percentage was 51 percent.Heading still played a role in many of the concussions. About a third of all concussions among male players involved heading, the data showed, as did about a quarter of the concussions among female players.But most of these particular injuries also involved player collisions, and it was the contact that typically caused the concussion, the researchers found, not the heading.Less than 17 percent of concussions in boys and 29 percent in girls resulted from direct impact with a soccer ball .

Head impacts and concussions caused by contact sports are a quickly growing epidemic among young athletes. When left undetected, concussions can result in long-term brain damage and may even prove fatal.To preserve the young athlete's head health, mental cognition and ability to succeed, it is critical that coaches, players and parents are aware of the inherent dangers and how to properly perform a concussion evaluation.CDC reports show that the amount of reported concussions has doubled in the last 10 years. The American Academy of Paediatrics has reported that emergency room visits for concussions in kids ages 8 to 13 years old has doubled, and concussions have risen 200 percent among teens ages 14 to 19 in the last decade.While the first hit can prove problematic, the second or third head impact can cause permanent long-term brain damage. Cumulative sports concussions are shown to increase the likelihood of catastrophic head injury leading to permanent neurologic disability by 39 percent.High school football accounts for 47 percent of all reported sports concussions, with 33 percent of concussions occurring during practice. After football, ice hockey and soccer pose the most significant head health risk.Without medical professionals present to assess the head impact or impact measurement data to review, head health management standards decline. Athletes are left vulnerable and ill-equipped without information readily available about their own health .

In 1992 Al Toon, who was a wide receiver for the New York Jets, was the first National Football League player known to have retired because of postconcussion syndrome. The year after Mr. Toon's retirement, another player, Merrill Hoge of the Chicago Bears, retired because of the same problem. Commissioner Paul Tagliabue, team physicians, and many others raised questions: was this a new problem or a misdiagnosed or unrecognized one? Was this a statistical anomaly or the beginning of an epidemic?It was decided that a rigorous, scientific approach was necessary to gather the data to answer these questions for this high-profile professional sports league. In 1994, Commissioner Tagliabue approved the creation of the National Football League's Committee on Mild Traumatic Brain Injury. The Committee was composed of experts inside and outside the National Football League. It was decided by the Committee that protection against in jury as well as collection and analysis of injury data would be critical to the success of their mission. For the study, a reportable mild TBI was defined as a traumatically induced alteration in brain function manifested by an alteration of awareness and consciousness, including but not limited to an LOC, a "ding," a sensation of being dazed or stunned, a sensation of "wooziness" or "fogginess," a seizure or amnesic period, and by symptoms commonly associated with post concussion syndrome, including persistent headaches, vertigo, lightheadedness, loss of balance, unsteadiness, syncope, near-syncope, cognitive dysfunction, memory disturbances, hearing loss, tinnitus, blurred vision, diplopia, visual loss, personality change, drowsiness, lethargy, fatigue, and inability to perform usual daily activities. The research summarized here was developed, supervised, and completed in response to the stated goals of the National Football League's Committee on Mild Traumatic Brain Injury .

Increasingly, researchers think concussions are not as much the result of one spectacular hit as the accumulated effects of many lesser impacts in the same way a prizefighter may appear unharmed by the first several hard punches, then be knocked out by a routine jab. This suggests that the way football teams practice is as important to reducing concussion risk as the way they play. A forthcoming study in

the Journal of Athletic Training showed that the players of a typical Division I football team during the course of a season endure about 3,000 hits to the head in practice, 500 of them strong hits.Many coaches at all levels of football encourage players to go after each other brutally in practice. The worst happens in high school, where coaches may encourage older, stronger varsity players to beat up on younger junior-varsity players. (Idiots view this as a display of manhood.) If the accumulated effects of lots of small hits to the head are a leading cause of concussions, then football needs best-practices standards for practice. There are no such standards now in high school,college or the pros. Neutral observers at practice would help, too. Generally, only players know what transpires in practice, and at all levels of football, the majority of players are terrified of telling outsiders anything that reflects poorly on their coaches

Players know the typical story of someone who gets concussed - they are knocked out playing football and wake up at the side of the field dazed and confused. They are taken to the Accident Department of the local hospital and after an hour or two they are well enough to go home. They feel bad for twenty-four hours, go back to work a couple of days later, and in a month have almost forgotten the whole incident.Unfortunately this isn't the complete picture - many people have unpleasant symptoms for several weeks after being concussed, and in a few of them the problems may last much longer.Most people are unaware that this can happen and they may become very concerned, anxious and sometimes depressed. They may be afraid that they have 'brain damage' or that they will never get back to being normal. They may make wrong decisions about their future, and can lose the sympathy and understanding of their family and friends.The good news is that these unpleasant symptoms don't last forever, and that if you manage them properly there should be no long-term ill effects .

Originally deemed a safer sport, soccer's player-to-player contact has steadily increased on the back of the sport's ever-rising popularity, especially among children and adolescents.With more physical play coinciding with the growth in competition, the discussion around sports-related injury, especially concussion, is becoming more relevant to the soccer-playing community. It's not always a collision with another player that is at fault, however, as soccer's unique ball-handling style often puts a player's head in contact with the game ball, a technique called “heading.”To better understand the types of injuries leading to concussion and what soccer-specific activities contribute to this, researchers led by R. Dawn Comstock, PhD, of the University of Colorado analyzed data collected from 2005-2006 through 2013-2014 on a nationally representative sample of male and female high school soccer athletes. Among girls, researchers found that 627 concussions were sustained during 1,393,753 athlete exposures (AEs) (4.50 concussions per 10 000 AEs), defined as one high school athlete participating in one school-sanctioned soccer practice or competition. Male athletes sustained 442 concussions during 1,592,238 AEs (2.78 concussions per 10 000 AEs). Contact with another player was the most common concussion mechanism for both boys (68.6%) and girls (51.3%) and heading the ball was the most common soccer-specific activity that was responsible for 30.6% of concussions in boys and 25.3% of concussions in girls. The researchers also noted that player-to-player contact was the most common mechanism of injury in heading-related concussions among boys (78.1%) and girls (61.9%). Concussion symptoms did not significantly differ based on injury mechanism. “Banning heading is unlikely to eliminate athlete-athlete contact or the resultant injuries. Athlete-athlete contact was the most common mechanism of all concussions among boys (68.8%) and girls (51.3%) regardless of the soccer-specific activity during which the injury occurred,” the authors wrote. “Therefore, we postulate that banning heading from soccer will have limited effectiveness as a primary prevention mechanism (i.e. in preventing concussion injuries) unless such a ban is combined with concurrent efforts to reduce athlete-athlete contact throughout the game ”.

1.2. The Problem and its Social Relevance:

Concussions are coming out of the closet as the downside of football these days. The core problem is that football coaches at the high school, college and professional levels are rewarded for winning games but not penalized for allowing their players to be harmed. A coach who sits a player down out of concern for the player's health may pay a price, if a game is lost. A coach who sends a concussed player onto the field may never be penalized in any way if that player suffers another concussion. Human beings respond to incentives, and right now the coaches' incentive is to be irresponsible with players' health. Many players ask to return to action when battling injury, including neurological harm. But coaches are the ones who make the decisions. They're the adults in charge. And incentive structure is all wrong. For any sport, the goal must be cautious management of concussions. Just like an injured ankle, an injured brain needs time to heal. In shortly the importance should be given more on the health than winning the game because the same player be able to play again with optimum performance if players is diagnosed at right time in any injury no matter how important is the game.

So, the researcher wanted to “Survey of Concussion Knowledge of Women Soccer Players”.

1.4. Objective of the Study:

14.1. To find the status ofconcussion knowledge of women soccer players.

14.2. To assess the status of concussion knowledge of women soccer players.

1.5. Delimitation of the Study:

1.5.1. The study was delimited to the women football players.

1.5.2. A total 100 women professional soccerplayers respectively were selected as the subject for the study out of which 80 data were recorded and 20 dropped out.

1.5.3. For the present study the age of women soccer players were above 16 to 35 years of age.

1.5.4. Only the elite professional athletes were used for the present study.

1.5.5. Only the standard questionnaire was used for the present study.

1.6. Limitation:

1.6.1. Certain factors like habits, life style, routine work, etc. might have an affect the result of the present study hence they are not considered while analyzing the data.

1.6.2. Data's from the subjects was taken through the questionnaire therefore correctness of the response depended on subject honesty, however every major was adopted to ensure honest and sincere response of participants.

1.7. Significance of the Study:

The presents study will have significance in the following manner-

1. It will give awareness on people regarding sports injury mainly on concussion.
2. The study will add some new knowledge how to handle the concussion on players and what can be done when concussion occurs.
3. The study will give a red alert to all the women soccer players, coaches, families and those organizations of soccer regarding the injury.

1.8. Definition of the Terms Used:

The following definitions will gain a better understanding of the concepts of this study:

1. Concussion- “A concussion is a traumatic brain injury that alters the way your brain functions. Effects are usually temporary but can include headaches and problems with concentration, memory, balance and coordination.” (Mayo Clinic Staff).
2. Head Injuries- “A head injury is any sort of injury to your brain, skull, or scalp. This can range from a mild bump or bruise to a traumatic brain injury. Common head injuries include concussions, skull fractures, and scalp wounds. The consequences and treatments vary greatly, depending on what caused your head injury and how severe it is”.(Lauren Reed-Guy, 2015,p-1).

1.3. Statement of the Problem:

Sports injuries are one of the most concerned topics in our society now a days as so many players were unable to continue their carrier in the sports due to injury.On the basis of literature reviewed and about the sports injuries known as concussion the researcher wants to check the knowledge of concussion and attitude towards concussion among

women soccer players and women coaches of Pune city. Statement of the problem is to know that how much knowledge does the coaches and the soccer players have.

Therefore, the researcher has undertaken this study entitled, "Survey of Concussion Knowledge of women Soccer Players".

Chapter- II
Review of Related Literature

Janie Cournoyeret al. (2014)conducted a survey onhigh school varsity football players to determine their level of knowledge about concussions after the initiation of new concussion-education legislation.On participating in sports while experiencing symptoms of a concussion can be dangerous. An athlete's lack of knowledge may be one factor influencing his or her decision to report symptoms. In an effort to enhance concussion education among high school athletes, legislation in Florida has attempted to address the issue through parental consent forms.Descriptive survey administered in person during a team meeting.A total of 334 varsity football players from 11 high schools in Florida.Participants completed a survey and identified the symptoms and consequences of a concussion among distractors. They also indicated whether they had received education about concussions from a parent, formal education, neither, or both.The most correctly identified symptoms were headache (97%), dizziness (93%), and confusion (90%), and the most correctly identified consequence was persistent headache (93%). Participants reported receiving education from their parents (54%) or from a formal source (60%). Twenty-five percent reported never receiving any education regarding concussions. No correlations were found between the method of education and the knowledge of symptoms or consequences of concussion.The high school football players we surveyed did not have appropriate knowledge of the symptoms and consequences of concussions. Nausea or vomiting, neck pain, grogginess, difficulty concentrating, and personality or behavioral changes were often missed by participants, and only a small proportion correctly identified brain hemorrhage, coma, and death as possible consequences of inappropriate care after a concussion. Even with parents or guardians signing a consent form indicating they discussed concussion awareness with their child, 46% of athletes suggested they had not.
Hecimovich M Det al.(2017)conducted on junior-level Australian Rules football there is a paucity of head injury and concussion surveillance data; thus, the primary aim was to document head injury and concussion incidence in participants aged 9-17 years

METHODOLOGY

In this chapter the selection of subjects, criterion measure, and administration of questionnaire, sampling, research process was presented.

3.1. Research Design:

The present investigation was a survey study, done using descriptive research (Percentage Study). This survey was conducted to find out the status ofconcussion knowledge and to assess thestatus of women soccer players. Considering the feasibility of time and money, the researcher had selected All India for the collection of data using standard questionnaire.

3.1.1. The Subject:

The present study wasconducted on a maximum of 80 women professional soccerplayers. The age groups of the subject were 16 to 35 years of age for the players.

3.1.2. Inclusion Criteria:

- Only 80 women professional soccerplayers were included.
- Only 80 women professional soccerplayers were selected as the subject for the present study and the age included were between 16 to 35 years of age for the players.

3.1.3. Exclusion Criteria:

- Otherage ranged below 16 years and above 35 years for the players were excluded.
- Other than the women professional soccerplayerswere excluded.

Chapter-IV
ANALYSIS OF THE DATA AND RESULT

The detailed analysis of the data is presented in this chapter. The data collected from the subject were arranged in a tabular form and graphical method of percentage was used and the entire analysis of the data was done on the basis of the objective of the study. The data was obtained by administrating the Rosenbaum Concussion Knowledge Survey (RoCKAS) questionnaires to the subject.

Table-01
TOTAL RESPONSE OF THE CONCUSSION KNOWLEDGE OF WOMEN AMONG THE WOMEN SOCCER PLAYERS

TOTAL RESPONSE	CORRECT RESPONSE (%)	WRONG RESPONSE (%)
100	59.19%	40.81%

Chapter-V
SUMMARY, CONCLUSION AND RECOMMENDATION

5.1. Summary:

The aim of the study was to find out how much women soccer players had idea about the concussion knowledge of women towards concussion.

For this purpose,100women professional soccer players of all Indiawere taken as the main subjects of the study out of which 80 have given the data and 20 dropped out. The age of the subjects was 16 years and above.To asses the concussion knowledge towards concussion, standard questionnaire known asRosenbaum Concussion Knowledge Survey (RoCKAS)was administrated to the subjects. When the data's of the results are achieved further the percentage of correct response was found out analyzing the data's. The correct response percentage for the women soccer players was 59.19% and the wrong response percentage for the women soccer players of India was 40.81% Thisconcludes that women soccer playershad the concussion knowledge towards concussion.

5.2. Conclusion:

On the basis of findings of the present study, the following conclusions are drawn:

- The correct response percentage of women soccer players was 59.19%.
- The incorrect response percentage of women soccer playerswas40.81%.