



Review of injuries and its prevention in Kabaddi Players

G. Shyam Kumar

Department of Physical Education, University college of Engineering, Jawaharlal Nehru Technological University Kakinada, 533003, India.

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ABSTRACT

Kabaddi is an extremely well known and venerable Indian national sport that was first played there. The game of Kabaddi requires quickness, strength, stamina, and agility from its players. There is a significant incidence of injuries in Kabaddi because of its competitive and physically demanding character. This research aims to give a complete literature analysis on the frequent injuries that occur in Kabaddi as well as the preventative strategies that may be taken to avoid these injuries. A literature review was carried out by using the databases MEDLINE, Science direct, The Web of Science, PubMed and Google Scholar. The following keywords in combinations were used to search for information within these databases: Kabaddi, Kabaddi competition, injuries, epidemiology, causes, and prevention. There were a total of thirteen studies that were evaluated in terms of the prevalent injuries that occur in Kabaddi and the preventative measures that may be taken. This evaluation considered the studies that were published from the year 2000 up till the month of March in the year 2020. The available research suggested that Kabaddi is a game that places players in a significant risk of sustaining injuries. Injuries to the knee were shown to be the most prevalent among Kabaddi players, followed by injuries to the ankle. It was shown that mouth guards have a significant role in the avoidance of injury, particularly when combined with improvements in playing technique. In the context of this sport in India, epidemiological research and preventative techniques are in short supply. Therefore, injury prevention techniques need to be created and put into practice for a sports safety framework to be effective. Additional epidemiological research is required to optimize our knowledge of the mechanics of injury, risk factors for damage, optimum injury prevention techniques, comprehensive and appropriate treatment, and the long-term implications of injuries sustained in juvenile sports.

KEYWORDS: Sport related injury, Epidemiology, Prevalence, Preventive measures, Combat sport, Indian game

1. INTRODUCTION

Meditation and self-discipline are the cornerstones of the Indian practice of yoga, which instructs practitioners to gain mastery over their minds and bodies. Kabaddi is lacking if it is played without it. The

raider is required to recite the word "Kabaddi," enter the court of the other team while holding his breath, and continue doing so until he is back in his own court [1]. This is referred to as "kant," and it is linked to "pranayama" in the yoga tradition. Pranayama, on the

other hand, is associated with vigorous physical exercise. This is one of the few sports that mixes physical activity with yoga, and it's becoming more popular. To be successful in this game, you need to have fast reflexes, a high lung capacity, muscular coordination, mental concentration, and agility. To take on seven opponents as a single player needs bravery, attention, and the ability to predict the moves of the opponent [2]. The All-India Kabaddi Federation (AIKF) was founded in 1950 with the purpose of advancing the sport of kabaddi across India and making it more well known. Since it was founded, the All International Kickboxing Federation (AIKF) has made efforts to improve the standard of competition. Since 1952, the organization has been consistently working toward this objective by running Kabaddi competitions at the national level on a schedule that is consistent with the rules and guidelines that have been set (for the game) [3]. While the first women's nationals were hosted in Calcutta in 1956, the first men's national tournament was staged in Madras (now Chennai) in 1955. Calcutta was the host city for the first women's nationals. (The contemporary version of Kolkata.) The Amateur Kabaddi Federation of India (AKFI) was founded in 1973 [4] in order to promote the sport in the countries that are geographically close to India and to organize events at the national level. In 1961, the Indian University Sports Control Board (USCB) decided to include kabaddi as a primary sport for students to participate in throughout their time at university [5]. Kabaddi's status as a sport in India was boosted as a result of this development as well. The School Games Federation of India (SGFI) recognized the game in 1962 as being significant enough to be considered one of the most important school games [6]. The School Games Federation International (SGFI) was in charge of organizing the game's state and national championships, and it was crucial that this option encourage participation among school-aged children in those competitions. Another key inflection point in the trajectory of Kabaddi's development in India came in 1971, when the National Institute of Sports (NIS) gave its approval for the sport to be taught as part of the normal curriculum for diploma programs [7]. The current version of kabaddi is a hybrid game that incorporates elements from a wide range of games with a variety of names and structures. Hanuman

VyayamPrasarak Mandal, based in Amravati, Maharashtra, was responsible for attracting the attention of the international community to the Kabaddi protest that took place at the 1936 Berlin Olympics [8]. At the Indian Olympic Games, which were held in Calcutta in 1938, the sport was initially played for the first time. In 1950, the All India Kabaddi Federation was founded, and that same year, standardized playing regulations were drafted. It was in 1973 that the Amateur Kabaddi Federation of India was established. In the year 1955, the first men's nationals were held in Madras, while the first women's nationals were held in Calcutta [9]. Both of these events were the result of the founding of the Amateur Kabaddi Federation of India. The AKFI has the authority to make changes to the rules, and they have recently been updated with new formats. Mr. Janardan Singh Gehlot served as the president of the Asian Kabaddi Federation for many years [10]. In the city of Pune, the BadamiHaudSangh was in charge of organizing the first national championship for men's Kabaddi. The competition took place in a stadium and on a mat. Kabaddi was originally brought to Japan in 1979, the year it was first played there [11]. In order to spread awareness of the sport across Japan, the Asian Amateur Kabaddi Federation sent a representative from India by the name of Sundar Ram on a promotional trip that lasted for two months.

2. REVIEW ON KABADDI PLAYERS INJURIES

According to AmolDatar and Sinku Kumar Singh (2021), the primary goals of this research were to investigate the frequency of typical injuries sustained in the sport of kabaddi and to report their findings. 250 Kabaddi participants from the Marathwada area of Maharashtra were questioned about the injuries they sustained while competing in intercollegiate state and interuniversity championships [12]. The events were held in Maharashtra. There have been 94 documented injuries among the 250 players that have participated in Kabaddi during the last year. In all, there were 146 injuries, and of them, 28 percent were considered to be recurring injuries. The gamers' ages ranged anywhere from 16 to 30, with the majority of them (68%) lying between the ages of 20 and 25. Injury to the lower limbs was the most common kind of injury sustained by Kabaddi players, with the knees and ankles being the areas that were affected most often [13]. According to

Sajjan Pal et al. (2020), the game of Kabaddi has its origins in India and is considered to be a well-known, traditional national game. The sport of kabaddi requires players to have a certain level of speed, strength, endurance, and agility. Kabaddi is a contact sport, and as a result, there is a high incidence of injuries [14]. The objective of the research is to give a comprehensive review of the existing literature on common Kabaddi injuries and suggestions for their avoidance. The following databases were consulted in order to carry out a literature review: MEDLINE, Science Direct, The Web of Science, PubMed, SPORT Discus, and Google Scholar. Each database was searched using a combination of the following keywords: Injury, epidemiology, causes, and prevention methods in kabaddi competition, as well as kabaddi itself [15]. We looked at thirteen different research on Kabaddi and analyzed them based on common injuries and possible treatments. For the purpose of this analysis, we looked at papers that were published between March of the year 2020 and the year 2000. According to the most up-to-date information, the sport of Kabaddi may be rather hazardous. Knee and ankle sprains are the two types of injuries that occur most often among kabaddi players [16]. It has been established that improved playing technique and the use of mouthguards have a significant influence on the reduction of the risk of injury. In the setting of the Indian subcontinent, epidemiology studies and preventative techniques are in short supply in this sport. In order to have an effective sports safety infrastructure, injury prevention techniques need to be created and implemented. Additional epidemiological research is needed in order to better understand injury processes, risk factors, optimal preventive techniques, comprehensive and successful treatment, and the long-term impacts of injury in child sports [17]. This may be accomplished by doing additional studies. According to Yallappa M (2020), the goals of this article are to give biomechanical applications relevant to Kabaddi technique, Kabaddi play, and injury prevention ideas; evaluate recent research on the contribution of biomechanics to the prevention of sports injuries; and review recent studies on the contribution of biomechanics to the prevention of sports injuries [18]. Biomechanics is a tool that may be used by directors of physical education and coaches to assist players in improving their skills and correcting

their behaviors. In addition, professionals in the field of biomechanics may develop innovative and better strategies for enhancing the performance of a sport motion [19]. The primary characteristics of common Kabaddi injuries are discussed, along with the potential role that biomechanics might play in assisting with injury prevention. Using the results of the qualitative analysis, conclusions are derived [20]. Kabaddi is a physical game that involves bodily contact. Kabaddi players are susceptible to a wide variety of injuries due to the nature of the sport, which involves both individual defense and collective offensive. Because of the intense nature of the game, a wide variety of body parts are at risk of becoming hurt. Injuries may happen to players of Kabaddi both when they are practicing and while they are actually playing the game. Knee injuries are the most prevalent sort of injury that both "Raiders" and "Defenders" incur throughout the game. In order for a Raider to release himself from the stoppers, they need to make sudden motions that include turning and twisting [21]. These sudden and reflexive motions of starting, halting, bending, twisting, and changing direction all place a tremendous amount of strain on the knee, which ultimately leads to injury to the ligaments of the knee. A sprain is an injury that affects the ligaments in the body. The anterior cruciate ligament (ACL) is the ligament that is strained the most while playing kabaddi because of the quick movements involved [22]. An injury to the anterior cruciate ligament, the cause of which may be attributed to a number of different factors, occurs more often in male athletes. In professional athletics, injuries to the anterior cruciate ligament (ACL) are prevalent and may be devastating [23]. In kabaddi, an injury is most likely to occur to the knee joint since it is such a delicate joint. In kabaddi, it is typical for players to tear their ACL and MCL, in addition to straining their muscles and tendons. The total tearing of one or more of the knee ligaments is one of the most devastating types of knee sprains. If you have a strain, it signifies that you have ripped a muscle or tendon in some way, either partly or entirely [24]. The most prevalent kind of sprain that may occur in Kabaddi is to the ankle. Injuries of this kind are rather prevalent in the sport of kabaddi. Overstretching of the ligaments, which may lead to the ligaments being ripped in part or totally, can be caused by taking an uncomfortable step or falling on an uneven

terrain. Ankle sprains are the most common kind of musculoskeletal injury that happens in athletes. Several studies have shown that sports that demand rapid pauses and cutting motions are the ones that produce the largest proportion of ankle injuries [25]. Due to the fact that it is a contact sport, the game requires a significant amount of shoving, tugging, leaping, and twisting. These are the kinds of sports activities that are a major contributor to strains. When specific regions of the body are used repeatedly, they become much more susceptible to the sorts of injuries described above. Because of the physical nature of the game, players often suffer fractures to their ankles. There are a number of different situations that might result in a broken ankle when playing kabaddi. Following the successful tagging of an opponent or opponents, a raider would often execute a quick "U" turn back toward their or her own home court. This movement has the potential to cause a twisting motion in the ankle in both directions. In addition, many of these injuries are caused by uneven terrain. The impact of the fall, along with the body's full weight, produces damage to the ankle, which ultimately results in a fracture. It has also been shown that calf muscle injuries are rather prevalent in the game of kabaddi [26]. In order to earn a point for their team, raiders are expected to perform moves such as the running hand touch, the turning and attack, the fake hand touch, the fake and squat leg push, the squat and double attack, the back kick, the side kick, and the roll kick. The blocking talent is performed by the defender by sprinting, turning, and attacking while simultaneously blocking the raider either directly or with a minor skipping movement. Players in the sport of kabaddi run the risk of injuring themselves while carrying out this activity. Due to the fact that Kabaddi is a contact sport and the fact that both the playing mat and the ground have a rough surface, the following injuries are the most common: ankle sprains, strains, shoulder subluxations or dislocations, and even fractures. The knee is the part of the body that suffers injuries the most often among kabaddi players, with the ankle coming in a close second. By engaging in the appropriate training, one may easily avoid these injuries [27].

3. SIGNIFICANCE OF THE INJURIES

Any form of trauma exposure, especially during childhood, can raise the risk of death and physical harm, as well as the risk of mental illness and suicide, smoking, alcoholism, drug abuse, chronic illnesses such as heart disease, diabetes, and cancer, as well as social issues such as homelessness, crime, and violence. This is in addition to increasing the risk of death and increasing the risk of being physically harmed [28]. Because of these considerations, the act of minimizing injuries and violence, especially by dissolving intergenerational patterns of violence, does not just serve the purpose of avoiding physical injury; rather, it has the potential to have a large and beneficial effect on an individual's health as well as on society as a whole and the economy [29]. However, they are not distributed in the same way throughout countries or even within individual nations; some individuals are more susceptible than others based on the conditions surrounding their birth, growth, work, and living environment as they age. Injuries and acts of violence are major contributors to the global death toll and a substantial source of illness burden in every nation. For instance, having a low socioeconomic position, being a male, and being young all increase the likelihood of receiving an injury and being either a victim or an offender of major physical violence [30]. Other factors that further increase the likelihood of injury include being a person of color. The likelihood that older adults may get injuries as a result of falling increases with age. On the playing field, accidents and injuries are not uncommon. It is possible to avoid it, though, which will help to boost the fun and thrill of play even if it cannot be completely eliminated. If players and athletes are aware that they are supposed to keep their feet on the ground when competing in the coaching camp, the likelihood of them being hurt is significantly reduced. On the field, it is the duty of the coaches, officials, managers, and other authorities to take precautions to avoid injuries. If you want to compete at any cost, you may build a healthy standard and competitive program by applying cutting-edge technique and contemporary equipment.

4. MINIMIZATION OF INJURIES TO THE PLAYERS

Load, overload, and recovery are the primary issues for team physicians who are responsible for the care and treatment of athletes. Load is an unavoidable

consequence of athletic fitness and training as well as competition. The term "load" refers to a stimulus that an individual encounters and responds to before, during, or after an activity. This may take place at any point in the action. Internal and external factors combine to produce a condition known as load, which may be characterized by demands or stress on the body and mind respectively. When loads are handled in a safe manner, there is a potential for improvements in both athletic ability and performance, as well as a reduction in the risk of sickness and injury. In the context of this article, the term "overload" refers to a load that is either excessive or poorly managed. Because of this, anatomical, physiological, and/or psychological difficulties will arise, which will result in a decrease in performance as well as an increase in the chance of being injured or sick. The promotion of optimal performance, the prevention of illness and injury, as well as the diagnosis and reduction of load are all crucial components that are associated with these strategies. There is potential for a reduction in any and all injuries if the coaches have a comprehensive awareness of the relevant situations. In order to refine the coaching process, this must be kept in mind at all

times, and teaching should always be preceded by close observation of the players' behavior [7]. The proper tactics and occasional tutoring, the correct warm-up activities, the right gear utilized by the players, the right attire and equipment for the game—all of these things should be employed by coaches. to adapt the training to the environment, as well as to get an understanding of the mentality and perspective of the athletes. That individual has to be aware of the coach and initiate coaching sessions that have a strong likelihood of being successful. Even if the players are injured, the coaching and player demonstrations that are taking place on the field of play should not be disrupted, and the players should get sufficient medical attention. If the coaches follow each and every one of the rules [8,9], they will have a better chance of achieving desirable outcomes and concluding the coaching process effectively. Recovery refers to both the period of time as well as the process that occurs when the body adjusts to strain. A strong recovery may lead to beneficial adaptations for athletic ability, performance, as well as injury and illness risk; on the other hand, a bad recovery may lead to negative adaptations for some aspects.

Table 1: Average linear acceleration by player position

Author	Study Design	Sample Size	Common Injuries/Study Findings
Dhillon et al.,2017 [32]	Cross sectional study	76 Indian Kabaddi players	According to the findings of this research, the injury that occurred most often was a tear to the anterior cruciate ligament (89.47%), followed by meniscus tears, which occurred in 68.42% of the participants. The contact mechanism was shown to be the most prevalent cause (72.37%).
Prabhu and Kishore, 2014 [33]	Survey	30 Indian Kabaddi players	Injury to the ankle joint was more severe than that to the knee.
Kurup and Chowdhery , 2014 [26]	Survey	Not defined	It has been observed that lower limb injuries were found to be prevalent, with the knee (knee injuries 83.8% being the most usually damaged region) being the most frequently affected area.
Moeini et al., 2011 [27]	Cross sectional survey	73 elite Iranian Kabaddi players	It was shown that muscle injuries accounted for 45.13 percent of all injuries, followed by skin injuries with 26.96 percent, bone injuries with 14.7 percent, and joint injuries with 13.1 percent. The upper limb accounted for the bulk of injuries (41.55 percent), followed by the lower limb (32.77 percent), the head and face (15.28 percent), and the trunk and neck (10.3 percent). In addition, it was claimed that the most prevalent reasons for injuries were "falling" and "to contact the opponent."

Sen, 2004 [4]	Survey	Not defined	It was shown that knees (19%) and ankles (14%), in that order, were more likely to sustain injuries. The majority of the injuries encountered were head trauma, including concussion (32%) and deformation (28%), respectively. The most prevalent factors that led to injuries were collisions with other players and contact with the uneven playing surface.
Mohamadi and Rajabi, 2017 [28]	Prospective survey	Not defined	According to the findings of this research, the injury rate per 1000 hours of match was 229.9, and the knee (15.5%) and head and face (26.2%) were identified as the body areas with the highest risk of damage. Contusions, bruises, and hematomas account for 48.5% of all injuries. The most significant factor in causing an injury was making contact with an adversary.
Mondal and Ghosh, 2017 [2]	Survey	154 players	It was discovered that Kabaddi players often suffer from damage to the ligaments in their knees and ankles. Also discovered were bone fractures and dislocations, as well as contusions, lacerations, and bruises.
Belaldavar et al., 2018 [29]	Case report	1 case (male Kabaddi player)	As a consequence of forceful trauma, it has been reported that it has orbital emphysema.
Shetty and Rao, 2013 [30]	Case report	1 case (male Kabaddi player)	It was stated that a player suffered a face injury while playing in the contest. It was discovered that the player had a fracture of the zygomatic arch.
Agrawal, 2010 [31]	Case report	1 case (female Kabaddi player)	The player was injured while playing Kabaddi when their head hit the ground, which led to the development of a subdural hematoma.

5. CONCLUSIONS

The majority of injuries are brought on by a wide range of factors, which may be mitigated if the coaches have a comprehensive awareness of the relevant components. It is essential that this fact be kept in mind at all times in order for the coaching procedure to be perfected. It is essential, before commencing coaching, to carefully observe the players' behavior in every single practice. The proper tactics and occasional tutoring, the correct warm-up activities, the right gear utilized by the players, the right attire and equipment for the game all of these things should be employed by coaches. To run practices that are appropriate for the environment, as well as to get an understanding of the mentality and perspective of the players. That individual has to be aware of the coach and initiate coaching sessions that have a strong likelihood of being successful. Even if the players are injured, the coaching and player demonstrations that are taking place on the field of play should not be disrupted, and the players should get sufficient medical attention. If the coaches follow each and every one of the criteria, they will be able to finish the coaching process with a high level of success and receive the outcomes they want.

suggestions and advice

- Integrating epidemiological research is essential if one wants to enhance their knowledge of the processes of injury, risk factors for injury, optimum preventive tactics, comprehensive and appropriate treatment, and the long-term impact of injuries sustained in child sports.
- Evidence obtained from descriptive epidemiological studies may be applied in the design of future study exploring risk factors and preventative measures in the sport of Kabaddi in order to target appropriate athlete groups.
- It is necessary to do further research on preventative measures such as proprioceptive and balance training in the near future.

Prospective randomized controlled trials (RCTs) investigating the most effective treatments for the prevention of sport-specific injuries should assess and account for possible risk factors for sports injuries.

Conflict of interest statement

Authors declare that they do not have any conflict of interest.

REFERENCES

- [1]. Jadhav, S.L., A study of role of yoga in kabaddi sport in India. *World Res J PhyEducat Sport Sci*, 2012. 1(1):04-6.
- [2]. Mondal, A., and Ghosh, M.C., A Study on Nature of Sports Injuries among the Players of Different Age and Gender Groups in Kabaddi. *J Med SciClin Res*, 2017. 5(7): 24539-43.
- [3]. Dey, S.K., Khanna, G.L., and Batra, M., Morphological and physiological studies on Indian national kabaddi players. *Br J Sports Med*, 1993. 27(4): 237-42.
- [4]. Selva, S., et al., Awareness, prevention and management of dental injuries among the kabaddi players of Madurai District. *J Dent Res Rev*, 2018. 5(3): 97.
- [5]. Sen, J., Injury Profiles of Indian Female Kabaddi Players. *Int J Appl Sports Sci*, 2004. 16(1): 23-28,
- [6]. Nataraj, H.V., and Chandrakumar, M., Motor Ability Variables as Predictors of Performance of Kabaddi. *J Sports SportsSci*, 2008. 31(3): 12-18.
- [7]. Sanjeev, K.K.S., Dr. Sudhakara, G., Selected physical fitness components and Kabaddi performance. *Int J Acad Res Develop*, 2018. 3: 908-910.
- [8]. Shobha, S., Selected physical fitness components of kabaddi and kho-kho intercollegiate male players of Bangalore University: A comparative study. *Int J Multidiscipl Res Develop*, 2019. 6: 23-24.
- [9]. Pawar, S.B., and Borkar, P., Effect of ladder drills training in female kabaddi players. *Int J PhyEducat Sports Health*, 2018. 5(2): 180-184.
- [10]. Patel, M.M., and Dutta, N.K., A review on selected physical and physiological components of inter collegiate kabaddi and kho-kho players. *Global Res Anal*, 2014. 4: 139-47.
- [11]. Murthy, V., Common injuries in kabaddi play and their prevention with the help of biomechanics. *Int J PhyEducat Sports Health*, 2016. 3(4): 78-81.
- [12]. Bjordal, J.M., et al., Epidemiology of anterior cruciate ligament injuries in soccer. *Am Sports Med*, 1997. 25(3): 341-5.
- [13]. Granan, L.P., et al., Development of a national cruciate ligament surgery registry: the Norwegian National Knee Ligament Registry. *Am J Sports Med*, 2008. 36(2): 308-15.
- [14]. Prodromos, C.C., et al., A meta-analysis of the incidence of anterior cruciate ligament tears as a function of gender, sport, and a knee injury–reduction regimen. *Arthroscopy: J ArthroscRelatSurg*, 2007. 23(12): 1320
- [15]. Alentorn-Geli, E., et al. Prevention of anterior cruciate ligament injuries in sports—Part I: Systematic review of risk factors in male athletes. *Knee Surg Sports TraumatolArthrosc*, 2014. 22(1): 3-15.
- [16]. Maan, F.S., Rehabilitation of knee injuries in Kabaddi players of Punjab. *Int J PhyEducat Sports Health*, 2020. 7(1): 75-78.
- [17]. McGuine, T.A., and Keene, J.S., The effect of a balance training program on the risk of ankle sprains in high school athletes. *Am J Sports Med*, 2006. 34(7): 1103-11.
- [18]. Ardern, C.L., et al. Consensus statement on return to sport from the First World Congress in Sports Physical Therapy, Berne. *Br J Sports Med*, 2016. 50: 853-64
- [19]. Dhillon, H., Dhillon, S., and Dhillon, M.S., Current concepts in sports injury rehabilitation. *Ind J Orthop*, 2017. 51(5): 529.
- [20]. McBain, K., et al., Prevention of sport injury II: a systematic review of clinical science research. *Br J Sports Med*, 2012. 46(3): 174-9.
- [21]. Gundre, S.D., et al. Injury profile in state level inter university sports competition. *J Sports PhyEducat*, 2015. 11: 2-58.
- [22]. Rennie, D., *Sports Injury Prevention: Olympic Handbook of Sports Medicine*. ISBN: 978-1-405-16244-9
- [23]. Finch, C., A new framework for research leading to sports injury prevention. *J Sci Med Sport*, 2006. 9: 3–9.
- [24]. Fuller, C.W., Managing the risk of injury in sport. *Clin J Sport Med*, 2007. 17: 182–187.
- [25]. Stasinopoulos, D., Comparison of three preventive methods in order to reduce the incidence of ankle inversion sprains among female volleyball players. *Br J Sports Med*, 2004. 38(2): 182-5.
- [26]. Kurup, V.K.M., and Chowdhary, A., Injury Spectrum of Amateur College-Going Athletes in Southern India -A Survey. *Int Res J Medical Sci*, 2014. 2(9) : 20 -1
- [27]. Moeini, S.M., Hojat, S., and Aghaei, R., The epidemiology of some common injuries in elite male kabaddi player. *Sport sciences quarterly*, 2011. 2(6): 11 -30
- [28]. Mohamadi, S., and Rajabi, R., The epidemiological study of sport injuries in male kabaddi premier league. *Scient J Manag Sys*, 2017. 15(13): 25-34.
- [29]. Belaldavar, B.P., Tejaswini, J.S., and Debnath, P., Lamina Papyracea Breach: Brunt of Amateur Kabaddi. *J ScientSociet*, 2018. 45(3): 136.
- [30]. Shetty, S.R., and Rao, P.K., Zygomatic arch fracture in a kabaddi player. *Saudi J Sports Med*, 2013. 13(2): 105.
- [31]. Agrawal, A., Acute inter-hemispheric subdural hematoma in a Kabaddi player. *J Neurosci Rural Prac*, 2010. 1(02): 122-3.
- [32]. Dhillon, M.S., et al. Epidemiology of knee injuries in Indian Kabaddi players. *As J Sports Med*, 2017. 8(1).
- [33]. Prabhu, A., and Kishore, K., Common injuries among kabaddi and kho-kho players-an empirical study. *Int J Engg Res Sports Sci*, 2014. 1(7): 1 -4