

STUDY OF MANAGEMENT OF KNEE INJURIES IN INDIGENOUS SPORT MALH IN SINDH

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ABSTRACT

This article has been written to explore the body movements of the sports persons in major districts of Sindh province of Pakistan to help individuals who are interested in sports, coaches and athletes to have better understanding of the role of physical training in the prevention of serious knee injury occur among present and future sportspersons in the proposed areas of Sindh in first place of its study of different districts of Sindh along with various provinces of the country to get maximum benefits from the findings of this study. The purpose of this study was to determine the cases related to knee injuries have occurred to players or expected to have it the persons playing traditional games without taking reasonable measures during matches in those district areas of Sindh province. This is perhaps the first study of its kind to investigate the knee injuries occur during training and sports competition of such traditional popular game played in Sindh, where this game is popular for its local and traditional sports - Malh in sindhi; language known as Malakhro and Kodi Kodi (popularly known as kabaddi). Apart from Malh , kabadi, and other sports played in Sindh such as cricket, football, badminton, hockey are equally played all over Sindh. In these sports competitions competitors are normally under huge psychological and physical pressure as not having grassy play grounds and such sports are played on hard ground. These sports played are centuries old and players often get injured during matches. As a result, this article has attempted to determine the cases of injuries factors and circumstances which contributed to occur sports injuries and this study provides guidelines to sportspersons, government policy makers, coaches, trainers and other stakeholders to reduce the risk of sports injuries and make sports as entertainment rather than becoming the source of inflicting the injuries in performing sports activities.

INTRODUCTION

The regular participation in sports activities and physical exercise is appreciated and encouraged in the society. The sports activities and physical

exercises are aimed to maintain the positive physical health along with, mental and social health of citizens of the society. Sports activities and physical exercises assures to improve the quality of



life of individuals, producing energy and dynamism in its citizens and also reduce the risk of chronic disease such as cardiovascular disease, diabetes, obesity, and depression. Such physical works outs help in increasing the longevity in developing sound and better health in the maintenance of independence into older age. In modern busy life, people squeeze out some time for their personal health and participate in leisure sports and/or do exercise.

However, regular participation in sport and/or taking exercise can sometimes have a detrimental effect on health in the form of injury. But such risk of injury to the overall health benefit far outweighs the anticipated risk. There is increasing body of empirical research showing up the cases of knee injuries while performing sports and physical exercise, worldwide (Bunker & Apthorp, 1995). The majority of sports injuries often occur in body contact games.

According to Bunker & Apthorp (1995) and Castelyn (1999) acute knee injuries have been described as an epidemic. The effects of knee injuries could be minor and or serious affecting

the health and movement of an individual with short period of rest needed or more serious case resulting in athletes having to retire from their careers. Sport and exercise-related injuries do not just affect sports performers, but are a significant problem at every level of participation.

Legs are considered fundamental organs of the human body which profoundly contribute to performance and bear the weight of whole body and let individual move and do physical activity. Similarly, knee is the most significant part of the leg that allows human leg and body to move and do any activity that is needed. Consequently, knee injuries are common in all kinds of sports especially, football, cricket, rugby, ice-hockey, wrestling, etc. The anatomy of knee joint has six degrees of freedom, three rotational and three translational (Greenfield, 1993).

It is a complex joint that provides both stability, to allow weight bearing, and mobility (see figure-1). Medical and health sciences understand that knee joint acquires reasonable strength and stability from the bones



due to incongruity of the tibia and femoral condyles. On the contrary, menisci offer stability through enhanced joint congruity in its shape, orientation, and functional properties. Similarly, the ligaments, capsule, and the muscolotendinous soft tissue envelops the knee to interact with gliding and rolling movements to maintain functional stability (barrack & Skinner, 1990). Knee movements are possible in amalgamation of rolling and gliding (Greenfield, 1993; Palastanga & Soames, 1994). The tibial plateaus slopes approximately 9° posterior (Meister et al., 1998; Nisell, 1985). During weight-bearing, a vertical compression causes the tibia to translate anteriorly (Dejour & Bonnin, 1994; Kvist, 2001). At activities such as running and cutting the knee is flexed, which means that the tibial plateau is almost parallel with the weight-bearing surface (Dye & Vaupel, 2000).

The growing number of knee injuries cases is reported in advanced and developed countries than in developing countries. Because, in developing countries, such injuries cases are treated at

local level been getting necessary first aids and patient do get medical health facility.

In Pakistan's context, a detailed analysis of the causes and management of knee-injuries in sports is urgently required. Such effort will invoke academic and research debates on one hand and provide policy recommendations for all stakeholders e.g. government officials, coaches, trainers, sportspersons, healthcare professionals and audience as well. This would help better understand the issues related to causes of knee-injuries and coping strategies can be developed for their prevention. The standardized assessment of sports injuries would provide government, trainers, coaches, health professionals and sportsmen an opportunity for monitoring long-term changes in the frequency and circumstances of injury. An extensive search for relevant literature was made for this study and it has been found out that most of the investigations have been undertaken in Western and advanced countries. Every country collects data on sports injuries for research, rehabilitation and management. Every society investigates emer-



ging trending in sporting and also estimates gender-related and social class differences in sports and sports-related injuries. It is unfortunate to report that majority of cases of sports injuries go unaccounted in Pakistan, limited or no data available on gender and social class sporting and knee-injuries. And there appears limited record of knee-injuries in sports in government district hospitals. Such sports injuries are more likely treated and management by quacks or parents of patients. Keeping in view of the brief description of literature following section presents statement of the problem.

There appears very limited knowledge about the cases of sports related knee-injuries and its management in our area of study. Consequently, this study is undertaken to investigate sports related knee injury and its appropriate management strategy in the area under investigation of this study e.g., ten districts of Sindh Province. The aim of this study was to gather data and analyze the incidence, circumstances, and characteristics of sports-related knee-injury

in area under this investigation and provide guideline for better management. Based on the research gap, this study deals with following main research question: to investigate the circumstances and management techniques of knee injuries in sports in Sindh.

For an athlete to be successful on the ground need not only the opportunities for practice and participation in the game but at the same time sportsman needs to go through intensive training and coaching and up-to-date awareness to play perfectly. Otherwise, sportsmen could get interrupted because of sports-related injuries including knee injury as a result the potential skill level of the athlete diminishes.

Western literature witnesses lots of research done in this regarding the knee-injuries result in potential surgery, rehabilitation, and absence from sport. Studies of Baker (1996), Chimera, Swanik, and Straub (2004), Gehri, Ricard, Kleiner, and Kirkendall (1998), and Hewett et al. (1999) have demonstrated that coaching, counseling, training,



strength training, and flexibility have the ability to positively alter the incidence of injury by reducing valgus knee motion, increasing knee strength, and improving performance.

- Identify district-wise data of sports related knee injuries in Malh.
- To investigate causes and circumstances of sport-related knee injuries in Malh.
- To explore the medical facility offered
- To determine the number of knee-injury cases reported and un-reported
- To investigate management techniques employed in diagnosis and rehabilitation of knee injuries
- To investigate the training, coaching or conditioning undertaken before game played

The body of literature is available on the injury patterns in games and sports in the advanced countries especially like United States, Australia, New Zealand and in some other countries indicates different levels of scope of the research studies. Increasing body of literature suggests that most of the studies have been undertaken on

national level in such major sports such as football, rugby, wrestling, baseball, hockey, tennis etc. other studies are based on local level such as university, college, school, club or state which confines the scope of the research to some specific locality or geographical areas depending on research interests and availability of resources (Foye et al., 200). Some studies have also concentrated on gender differences and only focused on girl athletes (Meyer et al., 2004). Similarly, the scope of this study is limited to the twenty two districts of the Sindh Province focusing on most of sports including local or indigenous ones like malh and kabadi played in the area under investigation of this research. Each sport either indigenous or not has its own degree of risk and injury profile. However, this would focus on the sports-related knee-injuries in the research area-10 districts of Sindh.

Participating and viewing sports events have been some of the chosen activities of human, since ages. And, winners of sport competitions are esteemed, cherished, treasured, considered as national heroes and stars of the



nation. Such emotions and feelings are commonly found across the world for their respective sportspersons. Sport competition may be Olympics, football world cup, cricket world cup, rugby world cup or any other local, national or international event of any sports, large crowds gather across the country, continents and the world for viewing. Moreover, advancement of electronic media and information technology has enabled millions of people across the continents to watch live sporting events when they happen and wherever they happen.

Spectators and audiences also enjoy the sport event and such activity generates huge business through sale of tickets, media ads, national, international travel, accommodation and sight-seeing of the host country. National governments, international organizations and sponsor organizations encourage and attract citizens and interested people through making huge investments on developing stadiums, courts, public parks and providing coaching and training facilities on ground to the participants.

Participation in sports and physical exercise is highly encouraged. It sometimes may have detrimental impact on the participant by injuring any parts of the body. Nonetheless, the nature and extent of the injuries vary among various games and sports whether indoor or outdoor. For example knee injuries are common among the football players, rugby and wrestling, etc. Several factors may reduce the risk of injury such as playing surface, protective equipment that are used during the game, environmental factors such as players position and activity at the time of injury leads and produces a particular pattern of injury.

The following table presents some common sports-related injuries along with its description and etiology.



Table-2.1
Common Sport-related Injuries

Sports Injury	Description	Likely Aetiology
Haematoma	Bleeding under the skin or bruising. Can occur within muscle (intramuscular) or between the tissues (inter muscular).	Most likely caused by a direct blow damaging the blood vessels in a local area.
Strain	Tearing of muscle fibers with pain, swelling and loss of muscle strength evident. Graded I–III based on severity of symptoms and fibers torn; Grade III is a complete tear of the muscle.	Muscle fibers fail to cope with the demands placed upon them. Muscles are likely to tear via overstretching, or rapid acceleration/ deceleration.
Sprain	A partial or complete tear of a ligament with symptoms of pain, swelling, bruising, loss of function, and often an audible ‘popping sound’. They are graded I–III based on number of fibers torn; Grade III is a total rupture.	Usually caused by a direct trauma to a joint such as a tackle. Can be caused indirectly by twisting or falling in the absence of a blow or collision.
Fracture	A crack or full break in bone/s. Can be closed or open where the bone punctures the skin. Have symptoms of intense pain, loss of function, swelling, bruising, and possible deformity.	Caused by direct trauma such as a blow, or indirect trauma such as falling and breaking the fall with the wrist.
Dislocation	Partial (subluxation) or total (luxation) separation of a joint. Most commonly affects ball and socket joints. Symptoms include pain, bruising, swelling, loss of function, and deformity.	Caused by a direct blow or trauma which forces the joint to separate.
Concussion	A head injury with a temporary loss of brain function, concussion can cause a variety of physical, cognitive, and emotional symptoms.	Caused by a direct blow or collision to the head.
Contusions	Local muscle damage and bleeding with accompanying swelling and pain. Contusion to anterior thigh is known as a ‘dead leg’.	Usually a direct blow from an opponent or contact with equipment in collision.
Tendinopathy	Refers to a range of tendon injuries with associated local pain upon movement. Common sites are patella, rotator cuff, wrist flexor, and Achilles tendons.	Excessive repetitive use of joints such as jumping, running, and throwing.
Bursitis	Inflammation of the bursa, usually in shoulder, hip, and heel. Symptoms of local tenderness, pain, and swelling are common.	Usually associated with overuse of joints, however can be caused by trauma to a joint. Can be a common secondary injury.
Plantar fasciitis	Pain, and sometimes inflammation of the plantar fascia (underside of the foot) which support the foot arch.	Usually caused by repetitive running-based training on hard ground, poor footwear, and poor foot biomechanics.
Stress fracture	A micro fracture in bone, usually tibia, leading to localized pain and tenderness.	Excessive overload stress caused by large impact forces or repetitive action of muscles pulling across the bone.
ITB syndrome	Tightness of the ITB leading to pain which can be located from hip to lateral knee. Often made worse by running or excentric activities such as walking down stairs.	Usually caused by repetitive use of quadriceps muscles without adequate rest. Other causes are the use of poor footwear on hard ground, biomechanical inefficiencies such as pronation, and hill running.
DOMS	Muscle soreness developing 24–48 hours after exertion. Symptoms are more severe after eccentric exercise.	Excessive overloading and over-reaching during training and competition.



The human body rest on two legs that enable to bear the load of the body to perform any task either in sports competition or at work. Similarly, knee is the most significant part of the legs that allows sportsman and any individual to move and do any activity accordingly. Consequently, knee injuries are common in all kinds of sports especially, foot ball, cricket, rugby, ice-hockey, wrestling and other games. Also, the nature and extent of the injuries vary widely among various games and sports whether indoor or outdoor. For example knee injuries are common among the foot ball players, rugby and wrestling also dislocation of shoulder is common problem with wrestlers both being major outdoors games.

Furthermore each sport with combination of various such as playing surface, protective equipment that are used during the game, environmental factors such as players position and activity at the time of injury leads and produces a particular pattern of injury. Before, we focus on knee injuries and its management techniques it would be rather pretend to sketch brief history of the sports.

Council established physical education through 1944 Act for its educational value. Physical education enhanced from merely educational values towards physical recreation and more recently towards health-related fitness. Various academic qualifications in physical education stimulated scrutiny of the subject. Physical education is now established in the national curriculum as a foundation subject. There has been an increasing influence of market forces on schools, physical education, sports facilities and sport.

Education and research in medical health science has made tremendous advances in human body structures and systems. Health fitness in sports has taken possible advantage of the medical health research and knowledge and applied in practice. Similarly, physical health science that focuses on the health and fitness of sportsmen and women on ground has utilized the available research and knowledge to manage sports injuries including knee injuries. Next section elaborates more on knee structures and its relevant knowledge.



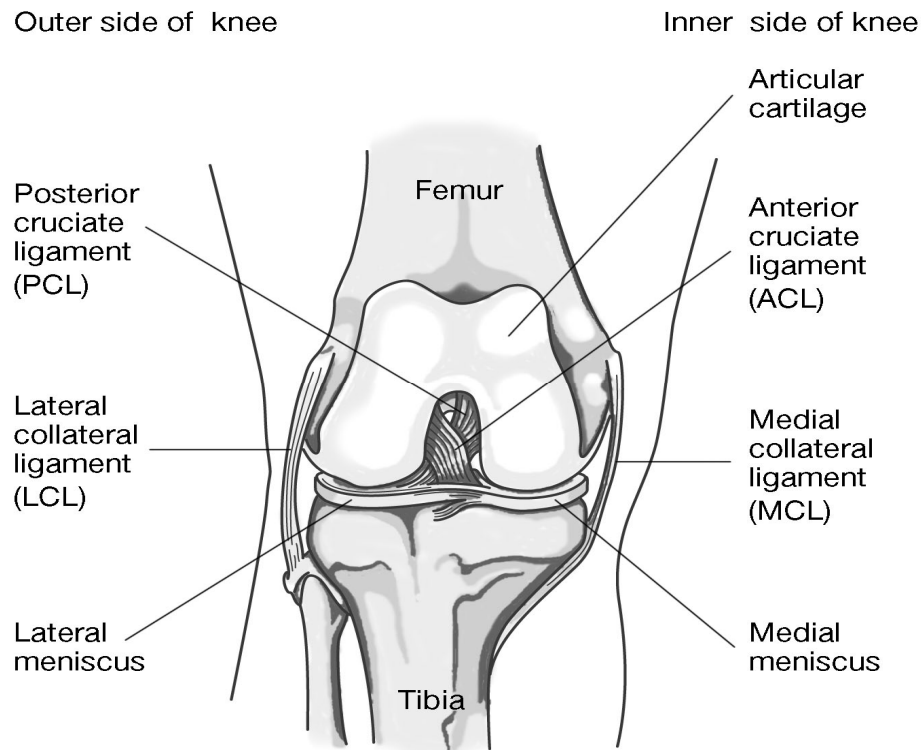
Anatomy of the knee

According to Greenfield (1993) the anatomy of knee joint pictured below in figure 2.1 indicates 6⁰ degree of freedom with 3 rotational and 3 translational which makes it a complex joint that provides both stability allowing weight bearing and mobility. Other investigations reveal that the knee joint obtains just modest stability from the bones due to incongruity of the tibia and femoral condyles. The menisci, on the other hand, provide stability through improved joint congruity because of their shape, orientation, and functional properties. Furthermore, the ligaments, capsule, and the musculotendinous soft tissue grip the knee interact with complex gliding and rolling movements in the joint to keep functional stability stable. According to Barrack & Skinner (1990) the knee ligaments direct the skeletal segments during motion and are the primary restraints to knee joint translations during passive loads. Knee is known to be flexible mechanical device to bend a 150 degrees front to back, another 30 or 40 degrees side to side and rotates 60 degrees. Consequently, it is able to with

stand anywhere from 100 to 2000 pounds of pressure. The hinge is durable for over 70 to 80 years. It is the largest hinge in the human body because of the most important weight bearing joint of the body during sports activities. There are a lot of anatomical structures inside the joint that can be abused by the external trauma or overuse activity. Knee joint comprises of strong bones, ligaments and thicker cartilages in the human body. It also consists of one huge tendon as well as smaller ones and full component of burse that can develop bursitis at any time during the injury. The highest numbers of knee injuries have to do with extensor mechanism Quick Recovery from Injury (Garick & Raletasky, 2000). The knee joint in figure 2.1 above appears to be a complex weight-bearing joint situated between the ends of the longest levers in the body with little bony congruence. It is subject to extremely high forces during sport and some occupational activities and its supporting soft tissue are therefore vulnerable to injury. In fact, when one thinks of knee joint it is well designed ingeniously.



Figure-1
Anatomy of the knee: Anterior vie



Causes of knee-pain

There are three common sports-related causes of knee injuries such as overuse injuries, ligament injuries, and torn cartilage. Firstly, athletes' knee injuries may appear to have inflammation of the tendons. In such as symptoms are pain, and sometimes swelling. Secondly, ligaments are tough bands of tissue connecting bones in your

joints that can be stretched or torn when your knee is twisted or hit. In such injury, symptoms are immediate and severe pain. In that situation, people are advised not to walk on the leg until you've seen a doctor. Thirdly, the two pads of cartilage in your knee can be torn if you forcefully twist your knee. Symptoms can include pain, swelling,



locking of the knee, or clicking of the knee. If the pain in the knee after injury is on lateral side then it's likely to be that you are suffering from one of the most common problem of knee illiotibial band syndrome (ITBS).

In order to minimize the risk of injury one needs to have the skills to diagnose, manage, and/or triage these injuries. In developed countries, injury rates have been reduced because of changes in the sport environment through increased safety regulation and intensive training. Effective prevention and management occur only when the patient history is accurate and appropriate diagnoses and rehabilitation programs are initiated by the physician performing the preseason examination.

Management and rehabilitation of knee injuries

A good understanding of the anatomy and biomechanics of the knee assists accurate diagnosis of acute knee injuries and management. Knee injuries at playground require medics, coaches, trainers and sports persons as well to have necessary skill and knowledge to diagnose, manage and/or triage these injuries.

Training in management of musculoskeletal injuries should be equally important for all people involved. Research knowledge indicates that sports related knee injury rates have been reduced because of changes in the sport environment through increased safety regulation. For the individual patient with a musculoskeletal injury, there are four phases of rehabilitation: (a) Limiting additional injury and controlling pain and swelling, (b) Improving strength and flexibility of the injured structures, (c) Progressive improvement in strength, flexibility and endurance of the injured structures until near-normal function is achieved. (d) Returning to the sport gradually through functional rehabilitation. The vast majority of sports related injuries are non-surgical and this very nature requires rehabilitation. Even post-surgical management of injuries requires a sound Rehabilitation program to allow the athlete to return to competition safely.

Indigenous Sports in Sindh

Malh: Malh in Sindh is still immensely popular in rural areas of Sindh and has been played with traditional flair, with certain



rituals performed before each game. The mood is set by drumbeaters called Manghanhaar e.g., Sindhi folk musicians, beating drums to a particular rhythm. Games generally begin in the evening, and the drumbeat serves to attract spectators and infuses the competitors. The drumbeating sets the environment and they keep on beating till the end of the day. The drumbeating gets mixed together with lots of noise, shouts of hurray from the crowd. Drumbeaters are accompanied by some other musicians who play other instruments including shehnai e.g., the reed instrument. The music they produce together is called 'the music of the game'

Research Design and Methodology

Broadly speaking, the review of literature provides evidence to argue that there is limited information and empirical research undertaken in area of Sindh. Against this backdrop, this chapter aims to identify the most suitable research methodology that can be used to address this gap. In order to achieve this task, an attempt is made to position

the central research question (to investigate the circumstances and management techniques of knee injuries in sports in Sindh) within the context of various methodologies to find out best choice with strong justifications. The positioning of this question within the context of various research methodologies is done in order to identify the most suitable methodology that can address the question under investigation appropriately.

Mixed methodology involves the combination of qualitative and quantitative methods in order to address the same research question. Mixed methodology promotes the confirmation and elaboration of research findings aids the notions of complementarity, completeness, comprehensiveness, development and expansion of academic research. The adoption of mixed methodology is driven by researchers' desire to obtain a broader picture of complex and non-phenomena. The use of mixed methodology promotes researcher confidence in research findings and enhances the facilitation of a method by guiding the samples and the data collection process. This



study is done by mixed research methodology by undertaking field survey and by collecting purposive samples of players who were injured.

Present study focuses on those sportsmen who got injured during playing on the ground. As a result, the population of study will reflect all the players of ten of twenty eight districts of Sindh Province in Pakistan. The data will be gathered through snow-ball sampling technique from the participants who ever played Malh A structured interviews using survey questionnaire survey were administered. In-depth interviews also be conducted parallel to get detailed views to uncover hidden aspects of the knee injuries in sports the area under investigation.

Sample and Sampling Method

Sampling distribution depicted in Table-1 shows that 129 players of Malh participated in the research who suffered knee injuries during playing respective sport. Through structured interviews using survey questionnaire, respondents were asked to share information about

the circumstances of knee injury as well as their recovery, medication and replay of games. Followed by, in-depth interviews to probe more about the circumstances and participants' feelings on the availability of coaching, mentoring, training, practice, stadia, healthcare awareness and several relevant issues. Researcher travelled extensively to collect data. Through snowball sampling method researcher begin by identifying someone who meets the criteria for inclusion in your study and referred to someone else who he knew. This process continued and more references and recommendations were made by the participants for others who they may know that also meet the criteria. Following table highlights the district-wise games and number of participants in this study.

Construction of structured interviews and survey questionnaire

Data was collected through structured interviews using survey questionnaire comprising three sections. The first section assesses demographic characteristics of the sample. Second section contained several questions type of sports respondents



played and type of injury they gone through and period or recovery. Sports injury circumstances and environment were also part of the second section. Last section focused on injury management (first-aid) and rehabilitation and comeback. Structured interviews using survey questionnaire was applied to collect data.

Measurement and instruments

Demographic characteristics:The structured interviews using survey questionnaire asked a wide variety of demographic questions, including gender, age, education, height, weight. All respondents were surveyed in the English language as it is the official language in Pakistan and most of the population is able to read and write it. Moreover, English is a medium of instruction in education institutions and a Lingua Franca in offices for most of the workforce. Nevertheless, researcher helped respondent out on the request.

Structured interviews using survey questionnaire design

Structured interviews using survey questionnaires are an effi-

cient method of data collection. This method involves setting up clear objectives, incorporating results from exploratory research. Before collecting actual data, questionnaire needs to be piloted at a smaller scale of population for verifying its content. Structured interviews using survey questionnaire preparation in this study followed the processes which consist of question content development, question wording, response formatting and structured interviews using survey questionnaire layout. Questions need to be grouped by topic and placed in a logical sequence by using a 'funnel' approach, starting with broad questions and narrowing them down in scope.

Data Analysis

Malh is locally popular game in Sindh likewise it has also same popularity across Pakistan and South Asian countries. Malh is known as indigenous form of wrestling.



Table-1 District wise distribution of Samples

	Frequency	Percent
Jamshoro	18	14
Mirpurkhas	17	13.2
Larkana	13	10.1
Hyderabad	12	9.3
Dadu	12	9.3
Sukkur	11	8.5
Matiari	10	7.8
Khairpur	10	7.8
Badin	8	6.2
Nawabshah	6	4.7
Naushehroferoz	6	4.7
Jacobabad	6	4.7
Total	129	100

Table No. 1 shows the sampling distribution of the respondents. It is revealed from the table that major proportion of the sample (14%) was taken from Jamshoro followed by Mirpurkhas (13%), and Larkana (10%) showing the popularity of the game among the Districts. A very small part of sample was taken from Nawabshah, Nausheroferoz and Jacobabad which was about 4.7 percent.

Table-2 Personal Profile of the Respondents

	N	Minimum	Maximum	Mean
Age (years)	129	17	79	43.03
Height (inches)	129	60	84	64.37
Weight (kgs)	129	55	118	83.26

Table-2 divulges the personal profile of the respondents. The mean age of the respondents was found to be 43.03 years. However, height and weight were recorded as 64.37 inches and 83.26kgs respectively.

Table-3 Descriptive statistics of occurrence and Recovery of injury and replay

	N	Minimum	Maximum	Mean
Recovery in days	129	5	1835	227.17
Time of Occurrence of Injury (PM)	129	4pm	8pm	5 pm
How soon (days) started playing again				

Table-3 is evident of the occurrence, recovery of injury, and the replay of the game after injury. The minimum and the maximum days taken in recovery were 5 and 1835 days with the mean 227 days. The table also indicates that the mean time of injury was 5pm because this game is mostly played in the evening time.



According to data most of the players (52%) injured in right knee while 41.9 percent have injury in left knee. A very small percent (5.4%) has got injury in both the knees.

It is also observed that that 79.85 percent of the injured players were completely recovered while only 19.38 percent got partial recovery.

According to survey, it is cleared that all the players (99.2%) has got injury during the competition where as a very small number of players 1 (0.8%) was injured during the training of the game.

According to survey findings about a comfortable majority of the players (51.9%) were injured in the cold season while (47.3%) were injured in the hot season.

Table-4 Nature of Injury

	Frequency	Valid Percent
Intrinsic	127	98.4
Extrinsic	2	1.6
Total	129	100

Table No. 4 reveals that mostly all the players (98.4%) were injured intrinsically while only about two percent were injured extrinsically.

It is observed that majority (77.5%) of the injured players were delayed in the injury complaint whereas only 22.5 percent were complained instantly.

During the survey it was observed that most of the players (67.4%) were severely injured while 29.5 percent had injured moderately. A very small percent (3.1%) were got mild injuries.

This study also investigated about the medical investigations respondents gone through in case of knee injury. About 27.14 percent of the respondents replied that only X-ray technology is used for the investigation purpose. Only one percent of them said that ultra sound is also used when it is necessary.

The survey also inquired respondents what type of medical attention was paid to them either by MBBS-medical doctor or local quack.

It was also investigated types of doctors to whom the injured players get consultation. About one fourth of the players (22.48%) said that they consult with the specialists and three-fourth of the players (73.64%) was replied that they used other sources than doctors.



Investigation was done about whether the injured players were hospitalized or not. That proves that majority (95.3%) of the injured players were not hospitalized whereas only 4.7 percent were hospitalized.

It was also investigated that if the injured players hospitalized, were they admitted on immediate or late basis?

Those who were hospitalized (4.7%), among them 3.1 percent were admitted on immediate basis while only 1.6 percent was admitted on late basis.

Investigation answers the question whether the injured players were operated or not? It is clear from the answers that majority of the players 126 (98%) were not operated where as a very small number of players 3 (2.3 %) were operated.

Table-5 Physiotherapy

	Frequency	Valid Percent
Yes	119	92.2
No	10	7.8
Total	129	100
Type of physiotherapy		
Manual	113	87.6
Instrumental	3	2.3
Both	3	2.3
NA	10	7.8
Total	129	100
Complaint of Recurrence		
Yes	31	24.0
No	98	76.0
Total	129	100

Table No.5 The responses of the players about the physiotherapy were summarized in the above table. Majority (92%) of the respondents got physiotherapy and only 8% did not get it. Table 5.69 deals with the type of physiotherapy given to the players i.e. manual, instrumental. 114 out of 120 respondents (95%) were given manual physiotherapy. Further, the same percentage (2.5%) was found for those who were given instrumental and both (manual and instrumental). The same table reveals about the complaint of recurrence of injury. About three fourth (75%) of the players had not complained about the recurrence of injury while only one fourth (25%) of them had complained about its recurrence.



It was also investigated whether the injured players continue to play or not? Majority (71.32%) of the injured players were continued their game after injury whereas only (26.35%) percent said that they could not continue.

In response to a questions that "whether they continued playing after getting treatment for reported injury or not", all respondents (41) reported that they continued playing after getting injury (Table 5.98). None of the respondents quit playing the games.

CONCLUSIONS

It is concluded from the results that respondents from various districts participated in the survey reveals that malh is widely popular in Jamshoro, Mirpurkahs, Larkana, Nawabshah, Nausherofroz and Jacobabad. The average mean age of the respondents was found to be 43.36 years. However, height and weight were recorded as 69.13 inches and 83.26kgs respectively. Majority of the respondents (50%) were primary educated while a very low proportion (4%) of the respondents reported they got graduated.

Results of this study show that over 60% respondents don't belong to any sports association or organization whereas about 40% belonged. A high proportion of the respondent belonging to any organization could be because this game is mostly organized by various organizations. The findings revealed that 52% malh players got their right knee injured while 41.9 percent have injury in left knee. A very small percent (5.4%) has got injury in both the knees. Further data shows that 80.5 percent of the injured players were completely recovered while only 20 percent were partially. About (99%) players reported that they got injury during the competition where as a very small number of players 1 (0.8 %) was injured during the training of the game. Mostly, all the players (98.4%) were injured intrinsically while only about two percent were injured extrinsically.

Majority of 80% of the injured players delayed in the injury complaint whereas only 20 percent complained instantly. Results also revealed that most players (67.4%) were severely injured while 29.4 percent had



injured moderately. A very small percent (3.1%) were got mild injuries. About 25 percent of the respondents replied that only X-ray technology was used for the investigation purpose. Only one percent of them said that ultra sound is also used when it is necessary. About one fourth of the players (23%) said that they consult with the specialists and three-fourth of the players (75%) were replied that they used other sources than doctors. Survey also shows that majority (95.3%) of the injured players were not hospitalized whereas only 4.7 percent were hospitalized and 98% were not operated. Majority of 92% of the respondents got physiotherapy and 95% were given manual physiotherapy. A comfortable majority of about 73% of the injured players reported they continued playing after complete recovery.

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