ADDIS ABABA UNIVERSITY

COLLEGE OF NATURAL SCIENCE DEPARTMENT

OF SPORT SCIENCE

THE CAUSE OF INJURIES AND ITS IMPACTS SHORT DISTANCE ATHLETES TRAINING: IN THE CASE SELECTED FIRST DIVISION IN ATHLETIC CLUBS ADDIS ABABA

BY

WONDEWOSEN AYALEW

ADVISOR: SAHLEMIKEAL B. (PhD)

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A Thesis Submitted to Department of Sport Science as Parts of the Requirement for the Degree of Master of Science in Athletics Coaching

By
Wondewosen Ayalew

Advisor: Sahlemikeal B. **(PhD)**

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Approval of the board of Examiners:

_____	_____	_____
Advisor	Signature	Date
_____	_____	_____
Internal Examiner	Signature	Date
_____	_____	_____
External Examiner	Signature	Date
_____	_____	_____

DECLARATION

I the undersigned declare that the thesis entitled "An investigation on the cause of short distance athletes injuries and impacts on their training: the case of four first division Addis Ababa athletic clubs" is my original work, under the guidance of Dr. Sahlemikeal B. This thesis has not been represented or submitted here and any other university, as part of the requirement of any other academic degree, all materials and resources used herein, has been duly acknowledged.

Name: Wondewosen Ayalew
Signature_____

Date of submission _____

This thesis has been submitted for examination with my approval as a university adviser:

Name: Sahlemikeal B (PhD)

Signature: _____

Place: College of natural science, department of sport science, Addis Ababa University, Addis Ababa, Ethiopia

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ACRONYMS

BMI	Body Mass Index
CISIQ	Causes and Impacts of Sport Injury Questionnaire
HWT	Heavy-Weight Training
OCI	Observational Checklist Items
SPSC	Sport Science
RRI	Running Related Injuries
SPSS	Statistical Package for Social Science
IOC	International Olympic Committee
OTJ	OsteoTendinous Junctions
MTJ	Muscle Tendinous Junctions

ABSTRACT

The main purpose of this study was to investigate the cause of short distance athletic injuries and impacts on their training in the case of four first division Addis Ababa athletic clubs in the year 2020. Mixed method research design was employed and data were collected from 69 (42 male and 27 female) short distance athletic runners and 8 coaches selected via simple random sampling and purposive sampling respectively. Cause of Short Distance Athletes Injure and Impacts in their Training Questionnaires (CSDAI & ITQ), interview and observation guides were used as data collection tools in order to triangulate the data. Descriptive statistics, such as frequency counts and percentage values were used to analyze the quantitative data. extrinsic risk factor injuries like frequency, intensity, duration, stretching, shoes, running surface, running technique, or theses, warming up, and cooling down. Acute injuries can be i.e. bone, cartilage, ligament, muscle, bursa, tendon, joint, nerve or skin and the type of injury i.e. fracture, dislocation, sprain or strain. *Therefore, most running injuries were the result of training errors, meaning training is too fast and too soon. The results also showed statistically significant problem in shortage of standardized training area, convenient running track, training inputs and environmental hazards that invites them for different kind of injuries. There was also observed inadequate knowledge and skill in the coaches about the occurrence of sport injuries and in treating sport injuries. Strain and hamstring became the most frequently occurred kind of injury and body part injuries facing during training sessions respectively. The qualitative analysis also yielded the perceived causes of short distance athletic injuries and impacts on their training were shortage of equipment and facilities, limitation of standardized training place, event specific knowledge of the coaches and environmental hazards on short distance running. Therefore, the researcher put the following possible recommendations to those athletic clubs to improve the training methods, access to proper facilities and equipment and to build the knowledge of coaches in order to give appropriate treatment and prevention of the causes of injuries.*

Key words: Athletics, Causes, injuries, equipment's, training place and environmental hazards

CHAPTER ONE

INTRODUCTION

This chapter deals with background of the study, statement of the problems, research questions, objectives of the study, significance of the study, limitation and delimitation of the study and finally operational definition of terms are discussed as follows.

1.1. Background of the Study

The word athletics come from a Greek word ‘athlete' and ‘atlas'; Athlon means fight and atlas means competition. Athletics is physical activity comprising natural actions like running, jumping and throwing, (Adaix, 1980). Similarly, (Rogers, 2000) defied that athletics is a limited collection of sporting events that involves competitive running, jumping, throwing and walking that gives both physical and mental demands on athletes. The most universal types of athletics competition are field and track, cross country running, road running, and race walking.

Athletics is a very popular sporting activity that can be done everywhere and by almost everyone. Millions of people are running regularly. It is a healthy activity with positive effects on cardiovascular risk factors, and it gives mental and social benefits (Paualetal, 2001).
Therefore, athletics is natural sport which constitutes the most complete physical training and allows human being to satisfy his/her basic needs to training. Athletics is an activity in which millions of peoples throughout the world participate and in which many more millions taken interest through the media (Adaix, 1980). So, Ethiopia is the known country in Africa on the participating Athletics session during the computation. Ethiopia first participated at the athletics Olympic game in 1956, and has sent athletes in every summer Olympic Games since them, except for the 1976, 1984, and 1988 games(Wikipedia, in the free encyclopedia). Sport combination and administration was established depends on both female and male, (Adaix, 1980).

Short distance running is a race in which the contestant should attempt to run the entire distance at near maximum speed and which calls for top speed. It includes events which are currently held at Olympics and world champion ships, includes 100m female, 110m male hurdle and 100m, 200m, 400m, 4×100m and 4×400m relays for both males and females (Ayalew, 2001).

According to (Thompson, 2009) short distance athletic injuries refer to any kinds of body injuries that occur during sports training or exercise. Therefore, Short distance athletic injuries are injuries that alarming frequency occur during sport, athletic activities, or exercising sport office resulting from overuse and strength of muscular sport injuries appear related to day human sport and non-sport activities (Brand, 1995). According to (Thompson, 2009) there are two types of sport injury acute and overuse injury. Acute injuries are usually the results of single traumatic events common example contact, non contact injury, fracture, dislocation, strain, sprain, knee injury whereas overuse injuries are more common in athletics than acute injuries. For example overuse injuries include both intrinsic and extrinsic injury. Generally, sport injuries are the occurred during athletics in many ways most causes of injuries are often due to activities runner knees is pain full condition associated with running while tennis elbow from repetitive injuries at the elbow . Other caused by hard contact with something this can often cause broken bone or torn ligament or tendon.

Similarly, in the finding of (Adaix,1980) conceptualize in the science of training, basic principles, theories as well as specific safe methods of strength, power and conditioning for athletes training are common problems in the most coaches and athletes have predispose athletes for an injury. This can also have a significant negative impact on performance, health and daily life. In addition, overtraining and improper can be prevented by implementing a sensible training monitoring program and careful training planning. Therefore, this study focuses on an investigation on the cause short distance athletes of injuries and impacts on their training in case of first division four athletics club. Addis Ababa Administrative Region Mekelakeya Athletics Club was established 1936 E.C, Commercial Bank of Ethiopia was established 1975 E.C, Ethiopian Electric was established in 1953 E.C and Federale Maremiya Batochi was established in 1975 E.C each club are founded in Addis Ababa City.

1.2 Statement of the Problem

Short distance running is a very popular worldwide activity and the number of runners is ever-increasing or practiced everywhere. The health benefits are substantial and have beneficial effects on cardio respiratory fitness, weight control and mental health. Sooner or later however, many novice, recreational but runners get injured regularly. The incidence of running related injuries (RRIs) is high (Jemes, 1914). Various studies in different populations reported rates of

RRIs ranging from 19-79% (Hreljac, 2004). RRIs are often located in the lower extremities with knee and lower leg mostly affected (Marti, 1991).There is no agreement on the cause of RRIs. In the current literature, possible intrinsic and extrinsic risk factors are identified, but there is still no exact cause for an RRI but according to (van Mechelen, 1992).and (van Gent, 2007) proposed risk factors that have been significantly related to RRI; excessive weekly running distance, previous injury, lack of running experience and competitive running.

The findings of a very recent study revealed that a sudden increase in weekly training volume may be associated with injury development (Brand, 1995). The average weekly progression among healthy and injured participants was 22.1 and 31.6%, respectively. Some of the important factors of etiology of RRIs were the results of training volume, progression and adaptation time. Risk factors can be divided into extrinsic and intrinsic risk factors. (Likewise and Hreljac, 2004) made a subdivision into three categories; training, anatomical and biomechanical risk factors. The first category is training as an extrinsic risk factor with variables like frequency, intensity, duration, stretching, shoes, running surface, running technique, or theses, warming up, and cooling down. On the other hand from the review of (van Gent,2007) noted that there is no evidence for the risk factors stretching, running surface, warming up, and cooling down.

Another important risk factor reported by (van Gent, 2007) were training variable could be running technique. In a study of (Andre Panagos, 2009) reported that sports injuries are injuries that happen when playing exercising or running due to the result of poor training practices or improper warm up. Some athletes get injured when they are not in proper condition. Not warming up and cooling down or stretching enough before and after playing, running or exercising can also lead to injuries.

On the other hand, effective training needs adequate amount of facilities and equipment. With this regarded (Vaspoor, 1993) mentioned that poor material and facilities due to economic problem are the main bottleneck in the implementation of short distance training in developing countries.

Therefore, this study was focused on the cause of short distance Athletes, injuries and impacts of their trainees in case of first division four athletic clubs in Addis Ababa administrative regions. The main reason that initiates the research to this study was simple to serious sport injuries

presented in the clubs. So many types of injuries like that of the muscle cramp, dislocation of the hand and legs were the major sport injuries presented in thus clubs. There was little research investigating injury prevention strategies in Ethiopia and it appears injury prevention research has not yet conducted in the selected areas. Hence, the purpose of this study was to assess the causes of the prospects of four Addis Ababa first division short distance athlete injuries and to indicate possible solutions.

1.3 Research Questions

The research question of this study was;

- ✓ What problems do athletes of short distance runner encounter in the training program?
- ✓ Are Athletes of short distance runners provide with adequate training materials which can help for their performance?
- ✓ What is the major cause of sport injuries and impact their on short distance athletes?
- ✓ What type of sport injuries frequently occurred on short distance athletes?
- ✓ What is the role of coaches to prevent injuries?

1.4 Objectives of the Study

1.4.1 General Objective

The general objective of this study were investigating occurrence the Cause of injuries and impacts on short distance athletes training in the case of selected first divisive athletics clubs Addis Ababa administrative city.

1.4.2 Specific Objective

The specific objective of the research was;

- ✓ To identify the factor, determinant and challenges the performance of athletes
- ✓ To assessing the cause of sport injuries and impact their on short distances athletes
- ✓ To identifying type of injuries which frequently occur on short distance training
- ✓ To identifying the role of the coach to prevent injuries

1.5 Significance of the Study

In this research the researcher to the cause of injuries and their impacts short distance athletes in Addis Ababa first division athletics club in trainees. The results of the study will enhance others understanding of the main cause of sport injuries and its impact on short distance athletes. The study also used for policy makers, higher sport commissions especially for those four first division clubs Addis Ababa Administrative Regions for improving quality of prevention and in minimizing the cause of sport injuries and helping detail through information. It also expected to provide a valuable resource to coaches, athletes, club administrators, researchers and other interested parties. Finally, the results of this study may also serve as a spring board for further study.

1.6 Delimitation of the Study

The study was carried out four first division clubs in Addis Ababa Administrative Regions who are attending short distance training in 2019/2020 year. These clubs are Mekelakeya Athletics Club, Commercial Bank of Ethiopian, Ethiopian Electric and Federal MaremiyaBaticho athletics club.

1. 7 Limitation of the Study

As it is with all, this study has limitations and it is important to highlight them. A primary limitation of this study is the site where the survey was conducted. During data collection, there were financial problems and lack of cooperation with coaches and athletics in the study area may affect participants' response to items in the questionnaire.

Since the questionnaire was a self-report measure, there could be some form of bias and participants, therefore, may have denied the actual response options knowingly and select a more acceptable response option.

1.8 Operational Definitions of the Study

Sport: is an organized completive from of play

Athletics: is track and field sport which imbalances event in walking and throwing

Injuries: wounds or harm cause to person (Brand walker 1995).

Sport Injuries: an accident which occurs during training or computation time because of bad environment and other factors

Computation: time because of bad environment, poor nutrition, and body contact in appropriate over training poor techniques

Sprinting:-is running as fast as you can for a very short time

Coach: Are people who help/train athletes meeting their need to have fun and develop performance by strutting their sport experience

Training: is an exercise program to develop performance of practical active

Short distance runner (sprinter):- is an athlete who runs a short distance at top speed

CHAPTER TWO

REVIEW OF RELATED LITERATURE

This chapter provides on the cause of short distance athlete's injury and impact on their training. In particular, the review is presented in the following manner. First, introduction about concept of athletics, concept of sport injuries, types of sport injuries, causes of sport injuries techniques to prevent sport injuries, theories about sport injuries and theoretical model on the causes and impacts of short distance athlete's injuries**.** Finally, the summary of related literature was presented on the conceptual framework.

2.1 Historical Over View on the Concept of Short Distance Athletics Injuries and impacts

The word athletics come from a Greek word ‘athlete' and ‘atlas'; Athlon means fight whereas atlas means competition and involves the physical activity comprising natural actions like running, jumping and throwing (Henning & Krieger, 2020). In the late 19th century track and field competitions emerged and were typically contested between athletes who were representing rival educational institutions, military organizations and sports clubs. Men and women compete separately. Track and field comes in both indoor and outdoor formats, with most indoor competitions occurring in winter, while outdoor events are mostly held in summer. The term was used to describe Athletics contests in general i.e. sporting competition based primarily on human physical feats.

The ancient definition in the 19^{th} century, the term athletics acquired a more narrow definition which describes sport involving competitive running, and walking. These athletic events were started when human being begins alive on earth. During the ancient times people were applying those events together their food and escape from wild animals which makes dangerous. Lack of equipment's, and ease of the competition makes athletics one of the most commonly competed sports in the world. An organized Ancient Olympic Games Athletics are started back on 776 BC and the most modern events are conducted by the member clubs of the International Association of Athletics Federations (Wikipedia, the free encyclopedia).

The word athletics is derived from the Greek word "Athol's" meaning "contest" or "task" initially. The ancient Greek people were expected to be sprinters and competing each other to know who is the fastest runner /good sprinter/among them as well as to hunter easily, to attack

their enemies and to escape from wild animals (Josef L Rogers, 2000 (Frank, Moore Colby & Talcott, Williams, 1914; Alain. Arvin & Bérod Les, 1996). Diversified running events are held on the track which categorizes into three broad distance events: sprints, middle-distance and long-distance track events. Relay races feature teams comprising four runners each, who must pass a baton to their teammate after a specified distance with the aim of being the first team to finish. Hurdling events and the steeplechase are a variation upon the flat running theme in that athletes must clear obstacles on the track during the race (Bach, Chapman, 1983). Combined events , which include the decathlon typically competed by men and heptathlon typically competed by women, are competitions where athletes compete in a number of different track and field events, with each performance going toward a final points tally (Alain, Arvin & Bérod, Les, 1996; Calvert, et al., 1983). Throughout its development, the athletics program has been extended and modified, not always in the most rational manner. For example the distance chosen for the standard races have been derived principally from the English mile and each specially has had a different origin. For this reason, it is a multiple sport which comprises tests that are very different from one another.

Short distance Injury, also known as physical trauma, is damage to the body caused by external force. This may be caused by accidents, falls, hits, weapons, and other causes. Muscles strains are common in sprints events, particularly hamstring strain, groin strains, and calf strains. Sprinters are always pushing the limits of speed and often training as close to the fine line of injury as possible. Injury risk can be mitigated by proper warm-up which includes dynamic stretching and strength and conditioning. there are many different injury definitions and running types, the incidence of RRIs varies considerably.[8] Runners have a high risk of getting injured, with incidence rates ranging from 7.7 to 17.8 per 1000 hrs of running. The incidence of running injuries differs between different running distances. Short-distance runners (those who run 15 km or less) have an incidence ranging from 14.3% to 44.7% (Hreljac, 2004). Shin pain (shin splints) is also a common complaint which is often caused by overuse, running on toes as sprinters do and running on hard surfaces such as running tracks. short-distance runners reveal that their risk factors differ from those of marathon runners. For example, 1 study showed that short-distance runners seem to be at higher risk of injury when they have a BMI of greater than 30, have an age range between 45 and 65 years, exhibit non-competitive behaviors and have experienced a previous injury.

Short distance is race in which the contestant should attempt to run the entire distance at near maximum speed and which calls for top speed. Similarly, (Rogers, 2000) noted that the fastest runner /good sprinter/among them. Particularly, in the explosive events including short distance (currently held at Olympics and world champion ships, including 100m, 200m and 400m, both genders, 100m females hurdle,110m males hurdle ,400m hurdle,4×100mand 4×400m relays for both males and females (Zeleke, 2001).

A good 400m sprint runner can usually run a good and sometimes a great 200m sprint race when he/she has enough speed, because he/she already has sufficient endurance. Every good 100m sprinter can become good in the 200m sprinters, but records indicate that with proper training more than 80% of the 100m sprinters can become affective 200m runners. In the past the 200m was runs principally on a strait way. After world war second as a menace of an strengthening Olympic events and conditioning runners to Olympic styles 200m become more and frequently run on the curve and is almost universally done. New runners should be first learn to run a paced 200m, then 300m and finally 400m, the 400m run is enough of an endurance challenge that a beginner will not be able to travel this distance at the desired speed. In the race it is usually best to run the 400m, according to their ability and nature. At the professional level, sprinters begin the race by assuming a crouching position as the race progresses and momentum is gained and has successes (Zeleke, 2001).

2.2 Concept of Sport Injuries

According to (Brand, 1995) sports injury defined that "damage on the tissues of the body that occurs as a result of sport or exercise". Sport injuries defined as any injuries related to the practice of sport office resulting from overuse and strength of muscular sport injuries appear related to day human sport and non-sport activities (Van Mechelen, 1992). Sport injuries are the occur athletics in many causes this types of injuries are often due to activities runner knees is pain full condition associated with running while tennis elbow from repetitive injuries at the elbow. Sports injuries are quite common especially for people who tend to be active or exercise a lot. Other caused by hard contact with something this can often cause broken bone or torn ligament or tendon. (Van Mechelen, 1992) also supported which noted that only four risk factors

that have been significantly related to running injuries (Paualetal, 2001). As one literature supported the athletes need to train physically and mentally to be being effective for competition.

Sports injuries are diverse in terms of the mechanism of injury, how they present in individuals, and how the injury should be managed. In addition, (Verhagen et al., 2010) define exactly what a sports injury is can be problematic and its definitions are not consistent. Therefore, highlighted definitions of sports injury can be expressed both in theoretical and operational terms. According to (Brukner & Kahn, 2012) the IOC manual of sports injuries as sports injury may be defined as "damage to the tissues of the body that occurs as a result of sport or exercise (Bahr, 2009) conditions but is currently rarely used in the field of sports medicine".

Training error lode to the majority of injuries biomechanical effects such as that insufficiencies muscle weakness contribute to 40% or running injuries (lyhalm , 1987).

Running related injuries (RRIs) are frequent in the running population. From a public health perspective it is important to look for risk factors and interventions to reduce the incidence of RRIs (Paualetal, 2001). In the principle of short distance athletes if short distance runners did not get variety of training area for training they would face for different injuries as well as impact for their performance.

2.3 Classification of Sport Injuries

According to (Brukner & Kahn, 2012) one of the most common methods of classifying sports injuries in acute and overuse injury.

Site	**Acute Injuries**	**Overuse Injuries**
Bone	Fracture Periosteal contusion	Stress fracture Bone strain Stress reaction
Joint	Dislocation Subluxation	Synovitis Osteoarthritis
Ligament	Sprain/tear (grades I - III)	Inflammation

Muscle	Strain/tear (grades I - III) Contusion Cramp Compartment syndrome (acute)	Compartment syndrome (chronic) Delayed onset muscle soreness (DOS) Focal tissue thickening/fibrosis
Tendon	Tear (complete or partial)	Tendinopathy
Bursa	Traumatic bursitis	Bursitis
Nerve	Neuropraxia	Nerve entrapment Minor nerve injury/irritation Adverse neural tension
Skin	Laceration Abrasion Puncture wound	Blister Callus

2.3.1 Acute Injuries

Acute injuries occur in a sudden trauma to the tissue, with the symptoms of acute injuries presenting themselves almost immediately. Similarly, (Hyman, Mark, 2004). Any type of injury that occurs to the body through sudden trauma, such as a fall, twists or blows to the body. Forces commonly involved in acute injury are either direct or indirect. Acute injuries can be classified according to the site of the injury i.e. bone, cartilage, ligament, muscle, bursa, tendon, joint, nerve or skin and the type of injury i.e. fracture, dislocation, sprain or strain (Brukner & Kahn, 2012).

2.3.1.1 Direct/Contact Injury

A direct injury is caused by an external blow or force and its majority of injuries in these contact sports are bruises and scrapes (Friedman, Manfred, 2002). The more significant injuries such as fractures, dislocations, or major ligament damage occur in the post-pubescent athlete (Hyman, Mark, 2004). Parents should be responsive to complaints of pain and discomfort from athletes in all age groups and be aware that any athlete who is not running up to skill level may be suffering from a significant injury.

- A collision with another person i.e. during a tackle in rugby or football
- Being struck by an object e.g. a basketball or hockey stick

DISLOCAION: Stabilizing ligaments of joint are torn at the time joint dislocation. Partial dislocations are more likely at the ankles and acromioclacular joint. They are caused by the bone the joint being forced out of their normal location (**VanMechelen**, **1992**). Dislocations are injuries to joint where on bone is displaced from another or complete dislocation of the articulating surfaces of the joint. A dislocation is often accompanied by considerable to the surrounding connective tissue. Complications of the dislocation can result of the joint being pushed past its normal of movement.

FRACTURE: bones can be fracture as a result of extreme stresses. Severity of range from a simple crack severs shuttering of the bone with multiple fracture ligaments. Fracture always classified as open and closed **(***www. Myers sport med. Com. Sport injuries*) Open fracture: are conditions where the overlying strain has been lacerated by the sharp bone end. Closed fracture: are conditions where the bone ends have not penetrated the skin and no wound exists near the fracture.

STRAIN: the most common injuries is the muscle strain are often not seen by medical practitioner these is mild muscle strain which is simple over stretching of muscle without good treatment even miner strain may repair properly and result in permanent scarring and adhesion in tissue which impair function (Flegel, Melinda, 2004). A moderate strain in a tear of the same of the muscle fibers it results in more pain and tenderness sever muscle. Some muscle tear may need surgical repair. But most was in actives that height respective element, with distance running being a successful and trauma to muscle due to over stretching and tearing of muscle fibers (www. Myers sport med. Com).

The severity of a sprain can be classified:

Grade 1: Only some of the fibers in the ligament are torn, and the injured site is moderately painful and swollen.

Grade 2: Many of the ligament fibers are torn, and pain and swelling is moderate. The functionality of the joint is compromised.

Grade 3: The soft tissue is completely torn, and functionality and strength on the joint is completely compromised. In most cases, surgery is needed to repair the damage

SPRAIN: ligament may tear if area of the muscle fibers. The result in more pain and tenseness sever muscle. Some muscle strain which is forced beyond its normal stage either because too great force or through sudden movement which too rapid for prospective system to respond as alignment central the range of joint movement which protect the bone damage with a major tear and medical assessment may need to considered a tear in sprain may be completing practical or minimal most strain are partial which it satisfactorily are a few weeks.

2.3.1.2 Indirect/Non-Contact Injury

- The actual injury can occur some distance from the impact site i.e. falling on an outstretched hand can result in a dislocated shoulder on-contact sports, major fractures, dislocations, or soft-tissue injuries are usually associated with accidental rather than intended collisions (Friedman, Manfred, 2002).
- Similarly, (Hyman, Mark, 2004) noted that minor sprains, muscle pulls, blisters, and overuse syndrome are commonly seen injuries in non-contact sports. Those injuries does not result from physical contact with an object or person, but from internal forces built up by the actions of the performer, such as injuries that may be caused by over-stretching, poor technique, fatigue, and lack of fitness i.e. muscle strain or ligament sprain, dislocation and fracture. On the other hand, tissue type sports injuries can also be classified in to two i.e. soft and hard according to sports physiotherapists (Bach, Chapman, Calvert, et al., 1983).

2.3.1.3 Soft Tissue Injuries

A soft tissue injury (STI) is the damage of muscles, ligaments and tendons throughout the body. Such common soft tissue injuries usually caused by sprain, strain, dislocation and fracture a one off blow resulting in a contusion or overuse of a particular part of the body (Lovering, 2008).

- **Ligament**

There are a number of different grading systems used for the classification of ligament sprains; each has their own strengths and weaknesses. One important consideration is that each therapist will employ different systems so it is important to be aware of a wide variety for continuity of care (Arnason , 2004; Sigurdsson and Gudmundsson, et al., 2004). The degree of ligament injuries ranged from mild injuries i.e. tearing of only a few fibers) to sever injuries to a complete tear of the ligaments in which may lead to instability of the joint.

- **Tendons**

Tendons are situated between bone and muscles and are bright white in color, their fibro-elastic composition gives them the strength required to transmit large mechanical forces. Normal tendons consist of tight parallel bundles of collagen fibers. Each muscle has two tendons, one proximally and one distally (Hyman, Mark, 2004). The point at which the tendon forms attachment to the muscle is also known as the muscle tendinous junction (MTJ) and the point at which it attaches to the bone is known as the osteotendinous junction (OTJ). Function of tendon is transmitted forces generate from muscle to bone movement. The proximal attachment of the tendon is also known as the origin and the distal tendon is called the insertion.

- **Muscle**

According to (**Lanzi**, **2017**) definition muscle is a soft tissue found in most animals, muscle cells contain protein filaments of action and myosin that slide past one another, producing a contraction that changes in the length and the shape of the cell fibers, the contraction of which produces movement in the body.

2.3.1.4 Hard Tissue Injuries

Types of hard tissue injuries can include dental and bone injuries and are less frequent than soft tissue injuries in sport, but are often more serious (Rowland, Thomas, 2012; Lanzi, Guy, 2017). Hard tissue injuries to teeth and bones can occur with contusions, such as Battle sign, which indicates basilar skull fracture, and so-called raccoon eyes, which indicate mid-face fractures (Rowland, Thomas , 2012).The ends of long bones are lined with articular cartilage which provides a low friction gliding surface that acts as a shock absorber and reduces peak pressures on the

underlying bone (Ven Mechelen, 1992). These are common injuries and there is an increased risk of long term, premature osteoarthritis if not well managed. These types being closed or simple, open or compound, greenstick, hairline, complicated, comminuted avulsion, and compression. A complicated fracture is when the structures surrounding the fracture are injured, such as blood vessels, organs, nerves, etc.

2.3.2 Overuse Injuries

Overuse injuries occur over a period of time, usually due to excessive and repetitive loading of the tissue and repetitive activity with symptoms presenting gradually (Rowland, Thomas, 2012). (Likewise, Almeidaetal 1999) overuse injury occur when a certain activity is repeated frequently and the body does not have enough time to recover between occurrences. Little or no pain might be experienced in the early stages of these injuries and the athlete might continue to place pressure on the injured site. This prevents the site being given the necessary time to heal. In contrast to acute injuries, the cause of overuse injuries is often much less obvious (Dunn & Syrotuik, 2003; Almeidaetal, 1999) that repetitive micro trauma overloads the capacity of the tissue to repair itself**.**

2.3.2.1 Extrinsically caused injuries; This involves are recognizable abnormal incident which results damage to body tissue, usually causing pain and loss of function in affected area. Here is always directly relationship between cause and effect in extrinsic injuries.

2.3.2.2 Intrinsically caused injuries; This sport activity intrinsic is directly related to with biomechanical injuries usually seem to happen without identifiable cause tissues are damaged caused pain and loss of function as result at apparently normal, anatomy and physiology of the athletes.

2. 4 Other related Athletic Injuries

Head and neck injuries- Head and neck injuries can include a variety of pathologies from sprains, strains and fractures to traumatic brain injuries and spinal cord injuries (Rowland, Thomas, 2012). Sprains and strains can occur from an abrupt rotation or whipping motion, such as whiplash. Stress injuries (stress fractures and stress reactions) of the lumbosacral region are one of the causes of sports-related lower back pain in young individuals (Lanzi, Guy, 2017). This can occur when a person sustains a hit or blow that cause the head and brain to move quickly,

causing the brain to bounce in the skull (Cook, Gray and Burton, Lee, 2006). One of the more common head or neck injuries that occurs in sports is a concussion. A concussion is a type of mild traumatic brain injury resulting in a chemical change in the brain and has potential to cause damage to brain tissue.

2.5 Causes of Sport Injuries

2.5.1 Poor Training Methods

Most commonly sports injuries are caused by poor training methods structural abnormalities weakness in muscles, tendons, ligaments and unsafe exercising environments (VanMechelen, 1992; Brill & Macera, 1995). Similarly, **(**Brill and Macera, 1995) noted that sport injuries occurred when undertaking too many races or long runs, over load exercise and increasing the intensity of exercises too quickly and continuously as well as exercising when pain develops were the major causes of sport injuries. Most common cause of sports injuries listed by (Brill and Macera, 1995) was:

- Muscle imbalances
- Weakened muscles, bones, tendons, or ligaments
- Fatigue
- Previous injury
- Increase in activity or exercise
- Change in playing surface
- Dehydration
- poor equipment
- Heat-related
- Change in climate
- Poor mechanics
- Overtraining
- Lack of nutrients

2.5.2 Poor technique

The other causes of sport injuries were performed repetitively with improper technique were exacerbated and lead to a more serious condition or result in more acute injuries (Thomson, 2000). The best way to avoid repeatedly performing an exercise/sport with the incorrect technique is to make sure you use a professional coach or trainer to show you the correct way to

do things from the beginning and to ensure you're wearing to appropriate clothing, shoes and using the right equipment.

2.5.3 Improper warm-up

According to Thomson, (2000) report failure to perform a proper warm-up can put you at risk for injury as the muscles and joints are not prepared for exercise. A warm-up is necessary to increase body temperature and circulation of blood to the muscles. Therefore, 15-20 minute warm-up should include a combination of stretching and cardiovascular exercises to prepare the body for exercise, increases performance levels and helps to prevent injuries.

2.5.4 Over training

In addition, over training were the ather causes of sport injuries i.e. doing too much, too often with insufficient rest between and lack of adequate recovery time coupled with amplified intensity of training is the most common cause of overtraining.

Symptoms include:

- Excessive fatigue
- Troubled sleep
- Inability to concentrate
- Inability to perform the exercise or sport with the correct technique.

2.6 Techniques to prevent sport injuries

According to Thomson,(2000) report to prevent sport injury doing proper warming up and cooling down facilitates blood circulation and returns their body temperature to normal which helps to prevent injury. Similarly (Cook, Gray & Burton, Lee, 2006; Bach, Chapman, Calvert, et al., 1983) Exercise-based injury prevention has shown to reduce sport injuries such as specific warm-up programs exist which have proven efficacious in reducing injury. Prevention helps reduce potential sport injuries and provides several benefits some of the benefits include a healthier athlete, longer duration of participation in the sport, potential for better performance, and reduced medical costs (Cook. Gray & Burton, Lee, 2006; Lanzi, Guy, 2017). Explaining the benefits to participate in sports injury prevention programs to coaches, team trainers, sports

teams, and individual athletes will give them a glimpse at the likelihood for success by having the athletes feeling they are healthy, strong, comfortable, and capable to compete.

2.6.1 Primary, Secondary, and Tertiary Prevention

There are three broad categories of preventing sport injuries primary, secondary, and tertiary prevention. **Primary prevention** involves the avoidance of injuries such as develop fitness plan that includes cardiovascular exercise, strength training, and flexibility (Cook, Gray & Burton. Lee, 2006); (Lanzi, Guy, 2017). Primary prevention activities were effective, there would be a lesser chance of injuries occurring in the first place. Secondary prevention involves early diagnosis and treatment should be acquired once an injury has occurred (Bach T. Chapman, & Calvert, et al., 1983). The goal of obtaining early diagnosis is to ensure that the injury is receiving proper care and recovering correctly, therefore limiting the concern for other medical problems to stem from the initial traumatic event is very important. Lastly, last prevention is solely focused on the rehabilitation to reduce and correct an existing disability resulting from the traumatic event.

1. Alternate exercising different muscle groups and exercise every other day.
2. Cool down properly after exercise or sports. It should take 2 times as long as your warm ups.
3. Stay hydrated- Drink water to prevent dehydration, heat exhaustion, and heat stroke.
4. Stretching exercises can improve the ability of muscles to contract and perform, reducing the risk for injury. Each stretch should start slowly until you reach a point of muscle tension. Stretching should not be painful. Aim to hold each stretch for up to 20 seconds.
5. Use the right equipment or gear and wear shoes that provide support and that may correct certain foot problems that can lead to injury.
6. Learn the right techniques to play your sport.
7. Rest when tired. Avoid exercise when you are tired or in pain.
8. Always take your time during strength training and go through the full range of motion with each repetition.

2.7 Theories about Sport Injuries

2.7.1 Model of (van Mechelen, 1992) Injury Prevention Practice (IPP)

Most injuries in runners are overuse injuries of the lower extremity, caused by training errors i.e. running too much, too soon (Hreljac, 2004).The exact cause and risk factors of RRI's are still unknown. However, it can be stated that the etiology of these injuries is multi factorial and diverse. A review by (Van Mechelen, 1992) proposed only four risk factors that have been significantly related to running injuries: a) lack of running experience, b) previous injury, c) running to compete, and d) excessive weekly running distance.

According to (Hreljac, 2004) observations from clinical studies estimated that over 60% of running injuries could be attributed to training errors (too much, too soon). Effects of warming up, cooling down and stretching are contradictory and inconclusive in the prevention of sports injuries (Mechelen, 1992).Age, height, weight, body mass index (BMI), sex and fitness level have not been related to running injuries.

Likewise & Hreljac(2004) and Yeung et al(2001) noted that other training variables such as shoes and training surface showed no causal effect on the risk of RRI's. In addition, (Hreljac et al, 2000) reported that several anatomical variables have been implicated as causes of overuse running injuries, including longitudinal arch structure of the foot, ankle range of motion, leg length discrepancies and lower extremity alignment. There is no consensus among researchers regarding the effect of these variables on overuse injuries. Biomechanical variables such as excessive proration, impact force, rate of force development and other kinetic and kinematic factors are studied, but no differences were found in relation to sustaining an RRI (Mechelen, 1992).

The etiology of RRI's remains unclear and well designed studies using modifiable risk factors in the prevention of RRI's in competitive, recreational and novice runners are lacking. Until now, little high-quality research has been done into the prevention of running related injuries. Randomized controlled trials on the effect of interventions for preventing running injuries in recreational runners are scarce. (Yeung et al, 2001) concluded in their Cochrane review: "…well controlled randomized controlled trials are needed to shed light on the possible interventions for the prevention of lower limb soft tissue injuries in runners".

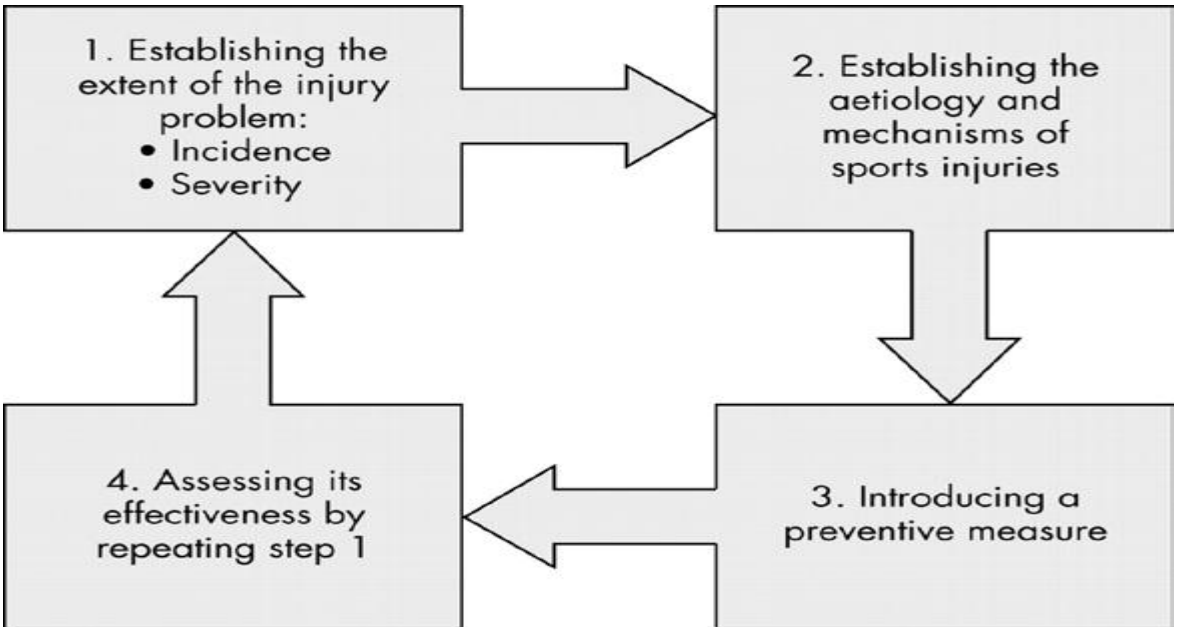
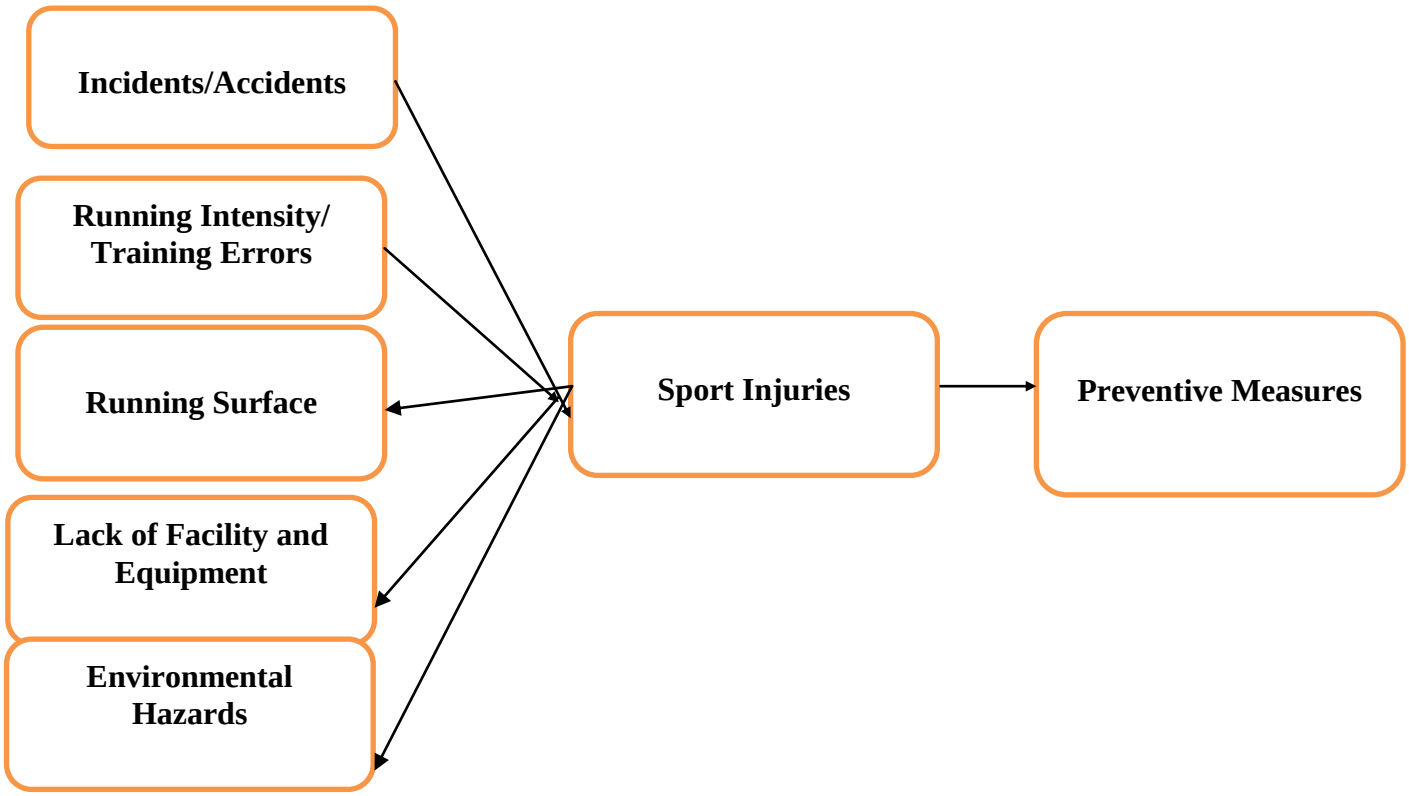


Figure 1 The injury prevention sequence model of van Mechelen (1992).

2.8 Conceptual Framework

In this review of related literature the researcher identifies the extent of the RRI problem, looking for the etiology and mechanisms of RRIs and its preventive measures. With a longer follow up period, and thereby also a longer training program the incidence could have been higher. In terms of exposure, which is a better figure of expressing injury incidence, there were 45 RRIs within 8 weeks of running. Another problem in running related in this research is the measurement of running intensity. In the findings of a very recent study in the literature revealed that a sudden increase in weekly training volume may be associated with injury development. Most running injuries are repetitive overuse injuries. The major causes of most overuse running injuries are due to training errors (running too short, too fast, and too often). When looking for an intervention it has to be practical, easy to do and therefore has a good chance for success in terms of compliance, efficacy and effectiveness for the target population. Based on the current study, to reduce effect of sport injuries the following the figure below shown the detail steps;

Figure 2 Conceptual Framework of the Present Study



NB: path ⟶ to be considered in this study

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.1 Study Design

The study was focused on the cause of short distance athlete's injury and impact on their training in the case of four first division athletic clubs in Addis Ababa administrative city. To this ends the research would be use descriptive types of research design with both qualitative and quantitative approaches.

3.2 Study Area

The study was conducted on four first division clubs in the city of Addis Ababa administrative region, Ethiopia. i.e. Mekelakeya Athletics Club, Commercial Bank of Ethiopia, Ethiopian Electric And Federal Maremiya Batochi.

3.3. Population of the Study

The study targeted four Addis Ababa first division Athletic clubs in 2012 E.C which were selected based on their last year 2011 E.C performance having top ranking champion clubs from (1-4). Therefore, the study of population was four first division Addis Ababa clubs. i.e. Mekelakeya Athletics Club 33 athletes (Male 20 and female 13), Commercial Bank of Ethiopia 22 athletes (Male 13 and Female 9), Ethiopian Electric 17 athletes (Male 9 and Female 8) and Federal MaremiyaBatochi 12 athletes (Male 7 and Female 5). Totally, 84 athletes (49 Males and 35 Females) and 8 coaches (Male 4 and 4 Females) were the target population of the study. Therefore, the total population of the study was 92 athletes and coaches.

3.4. Sample Size and Sampling Technique

The sample size of the study was determined based on the (Krejcie and Morgan, 1970) formula. They also recommend researchers to apply this formula in order to determine the sample size of their participants in a study.

The formula that the researcher uses to select the participants was:

$$S = x^2NP(1-P) \div d^2(N-1) + x^2P(1-P)$$

Where,

S = required sample size.

X^2 = the value of the x^2 for 1 degree of freedom with confidence level (3.841).

N = study population size.

P = the population proportion (assumed to be 0.5 since this would give the highest sample size).

d = the degree of accuracy expressed as a proportion (0.05)

Thus, the study used the above formula so as determine sample size that takes part in the study

Therefore,

$$S = 3.841 \times 84 \times 0.5(1-0.5) \div 0.05^2(84-1) + 3.841 \times 0.5(1-0.5)$$

- 80.661 ÷ 0.2075 + 0.960
- 80.661 /1.1675
- 69.08

Hence, according to (Krejcie and Morgan, 1970) out of the total number 84 short distance runners sample size of 69 was selected for a study with a confidence level of 95%. The detail selected respondents were presented below the Table.

Table 1 Population sample

Athletic clubs	Total Respondents	Selected Respondents	Frequency %
Mekelakeya	34	28	82%
Commercial Bank of Ethiopia	22	18	82%
Ethiopia Electric	17	14	82%
Federal MarmiyaBathoch	11	9	82%
Total	84	69	82%

The study was selected the respondents within equal chance (82%) from all athletic clubs. By using stratified sampling technique, strata were made based on athletic clubs. Then, in each athletic clubs the respondents represented with proportional allocation stratified random sampling technique. In addition, numbers of short distance runners in almost all athletic clubs are

evenly distributed then the study has equal chance to select the participants in each athletic clubs. Finally, a simple random sampling technique was employed to select participants from each athletic clubs as well as their sex distributions.

On the other hands, the interview part of the participants was selected through purposive sampling method. The respondents for interviews had from four Addis Ababa athletic clubs of 8 participants each. The study participants for interviews were coaches from the fourth athletic clubs because they have more empirical knowledge and intimate to short distance runners as well as nearest to guide, help, understand their problems and their causes than other peoples in their regularly practices. Therefore, a total of 8 respondents were involved in the interview.

3.5 Data Collection Tools

In this study the researcher was used questionnaire, interview and observation to collect the primary and secondary data from Addis Ababa first division selected athletics clubs.

Therefore, the primary data from the respondents the researcher employed diverse self-reported questionnaires consisted of demographic information, the Causes and impacts of short distance athletic Questionnaire (CIDAQ), interviews, and observational checklist with a total of 44 items both closed and open ended items . According to (Yallew,:2003). using more than one instrument is very important for the fact to make cross check or in triangulating the data collected.

3.5.1 Demographic Characteristics

This part of the questionnaire was consisting of items on the demographic information of research participants such as items regarding their gender, age, educational level and athletic clubs, [See Appendix A for Amharic - English version].

3.5.2 Questionnaire

In this study, the main data collection instruments to conduct the study were the adapted from the standardized scale of (Yeman, 1967) which was originally developed by (Best and Khan, 1996).The questionnaire were designed to identify cause, injure and impacts of short distance athletes runners in four athletic clubs and had 36 items with two dimensions i.e. Injure and Impacts Items for runners questionnaires (IIIQ) and observed Injure and Impact Items for

coaches (OIII). The original instrument showed good internal consistency for the full scale (Cronbach alpha of .96)

3.5.4 Interview

The researcher was used structured interview for additional information to fulfill the problem of the research. Therefore, four open ended interview questions, having similar concerns as of questionnaires had prepared by the researchers that provide clarification on the causes short distance athletic runners. A face to face interviewing had been conducted to each coach of athletic clubs [See Appendix C for English Version]. An average time for interviewing was 40-45 minutes per person.

5.2.3 Observation

The researcher ware used observational checklists as an instrument of data collection to observe all cause and impacts of sport injuries during training. Therefore, 4 items with diverse options were prepared and conducted for 4-8 weeks respectively [See Appendix D for English Version].

3.6. Pilot Study

Initially, before the actual study Carrie out pilot study was conducted. Hence, the Content validity of the questionnaires i.e. cause of short distance athletic injuries and impact on their training Items (CIIQ) were judged by two professionals for departments of sport science who are coach, sport science MA students and lecture in the department of sport science at Addis Ababa University. Then, pilot study was conducted to 15 respondents (10, from athletics and 5 from coaches) respondents who were not part of the sample groups. The purpose of the pilot study was to assess the relevance and clarity of the questionnaires designed to collect data for the main study. Accordingly, 19 closed ended items with an additional 5 open ended items and 9 closed ended items with an additional 3 open ended items were distributed to short distance athletic runners' and coaches respectively. Therefore, the reliability results of both closed ended item statistics were Cronbach's alpha coefficient of .95 and .93 respectively. Therefore, the total reliability statistics of 28 closed ended items were Cronbach's alpha coefficient .97. Hence, thus indicates that the scales have good reliability. [See Appendix E].

Finally, having taking in to account my thesis advisor's comments and suggestions given by these professionals in to consideration, the ambiguities, and misunderstandings found in the questionnaire were modified. By doing so, after the content validity assessed and the reliability statistics was checked the questionnaire becomes ready for the actual study.

3.7 Data Collection Procedure

Before, the questionnaire was distributing to the athletes and coaches. The research ware asked permission to fill the questionnaire. After that some relevant information ware been given for respondent to help them and understand each item. Next to that the research ware been explain the objectives of the research to the respondents. Then the research was distributing the questionnaire to the respondent and finally the respondents completed the questionnaires and the completion of questionnaires took approximately 55 minutes.

Table 2 Reliability of the main study result

Questionnaires	**Cronbach Alpha**	**No of items**
Causes and Injuries Items for Athletics	.97	19
Observed Causes and Injury Items for Coaches	.95	9
Overall Item Scores	.98	28

The Causes and Injuries Questionnaires (CIQ) in the current study consisted of two sub scales, made up of 28 closed ended questionnaires with an additional 8 open ended related items with a total of 36 items. As presented in Table 2, both closed ended questionnaires reliability statistics results of the instruments during the main study was (Cronbach Alpha=.97) for athletics and (Cronbach Alpha=.95) for coach respondents. Therefore, the whole reliability statistics of closed ended Items distributed for athletics and coach were excellent (Cronbach Alpha=.98) [See Appendix F].

3.8 Methods of Data Analysis

This section describes how each study variable was measured then explains the data analysis techniques that were employed to achieve the study objectives.

In this study, the collected data was analyzed both in quantitative and qualitative method. The quantitative data were processed and analyzed by using Statistical Package for Social Sciences (SPSS) version 24 applications. Therefore, the researcher employed the quantitative data through descriptive statistics such as frequency, percentage values.

Whereas, the qualitative data obtained from interview and observation were implemented by narrative way and analyzed through thematic analysis method.

3.9 Ethical Considerations

To make the research participants fully aware of the purpose of the research, the researcher gave explanation about the study before the beginning of data collection. Verbal consent of individual participants was obtained after they were fully informed about the purpose of the study and the procedures. Confidentiality and anonymity was ensured. No name or other identifying information was included in the instruments.

CHAPTER FOUR

DATA ANALYSIS, INTERPRETATION AND DISCUSSION

This chapter presents the results of the study with data analysis, interpretation and discussion of the findings. Both the results and discussions are presented in line with the research questions raised in the study.

4.1.1 Demographic Background of Participants

The demographic background information of short distance runners by their athletic club, age and educational level were analyzed and interpreted by frequency and percentage values.

Table 2 Demographic characteristics of the respondents

Demographic Characteristics		Frequency	Percentage %
Athletic clubs	Mekelakeya	28	41
	Commercial Bank of Ethiopia	18	26
	Ethiopia Electric	14	20
	Federal Marmiya Bathoch	9	13
	Total	69	100%
Age	Under 17 year	-	-
	18-19 year	4	5.8
	20-22 year	12	17.4
	23-25Year	44	63.8
	Above 26 year	9	13
	Total	69	100%
Educational level	1-4 grade	-	-
	5-8 grade	-	-
	High school	16	23.2
	Collage	22	31.8
	Diploma	18	26.2
	Degree and Above	13	18.8
	Total	69	100%

As the Table 2 shows that the higher number 41% of respondents were Mekelakeya athletic clubs. Whereas, the reaming 26%, 20% and 13% of the respondents were Commercial Bank of Ethiopia, Ethiopia Electric, and Federal Marmiya Bathoch athletic clubs respectively.

With regard to their age, the majority of athletics 44 (63.8%) reported that their age were between 23-25 years next 12 (17.4%) were responded between 20-22 years. The athletics were also asked about their educational status and one third of them 22 (31.8%) reported that they are practicing athletics while attending college. Whereas, the remaining 16 (23.2%), 18 (26.2%), 13 (18.8%) athletics were reported that they are at high school and diploma and degree holders.

4.1.2 Responses of Athletic Runners on their Injures and Impacts of their Training

To identify short distance athletes injure and its impacts on their training of the study participants was computed by frequency counts and percentage values.

Table 3 Responses of Athletes in Terms of Training

No	Items		Frequency	Percentage %
1	How many training program per week?	1 days a weeks	-	-
		2 days a weeks	6	8.7
		4 days a weeks	30	43.5
		5 days a weeks	33	47.8
		Week to weeks	-	
		Total	69	100%
2	How many training time program per day?	45 min-1 hrs	29	42
		1-1:30 hrs	31	45
		1:30-2 hrs	9	13
		2-2:30 hrs	-	-
		Above 2:30 hrs	-	-
		Total	69	100%
3	What time of days do you work training?	Morning only	44	63.7
		Afternoon only	13	18.8
		Morning and afternoon	12	17.5
		Other time days	-	-
		Total	69	100%

As shown in the above Table 3, the majority 33(47.8%) and 30(43.5%) of the athletics were responded that they trained four and five days per week respectively. Whereas, 8.7% of the respondents replied that they were trained three days per week.

As can be seen from item 2 of the same table the majority of the athletics respondents 31(45%) rated that they have 1-1:30 hour training time program per day. Whereas 29(42%) of athletics responded that their training practice were 1:30-2 hours and the remaining 9(13%) 0f the respondents were trained with in 1:30-2 hours.

Regarding the item 3 of Table 3, on their time of days training 44(63.7%) respondents were trained only in the morning. Whereas the remaining 13(18.8%) and 12(17.5%) of athletics were responded trained only in the afternoon and both in the morning and afternoon time in the day.

The researcher also confirmed through observation from the beginning athletics was measured in training time and punctuality of the coach is the basic thing that to manage athletes on time. Proper training helps athletes for the prevention of injury by doing effective warming up and cools down. Therefore, as it was observed that athletic runners were effectively trained on their planed time to be psychologically and physically wellbeing for competition. As one literature supported the athletes need to train physically and mentally to be being effective for competition (Paual et al, 2001).

Table 4 Pre - Post-conditions for Athletes Runners

No	Items		Frequency	Percentage %
4	Do you perform warming-up exercise before the beginning of your training?	Always	69	100
		Sometimes	-	-
		Two days	-	-
		Three-four days	-	-
		Above four days	-	-
		Total	69	100%
5	Do you perform cooling-down exercise after finishing your training?	Always	-	-
		Sometimes	56	81.2
		Two days	13	18.8
		Three-four days	-	-
		Above four days	-	-
		Total	69	100%
6	How do you rate the level of your coach knowledge about the occurrence of sport injuries during pre and post your trainings?	Very High	11	15.9
		High	41	59.4
		Medium	15	21.7
		Low	2	2.9
		Very Low	-	
		Total	69	100%

As it is depicted in the above table 4, 69 (100%) of athletic runners replied that they perform cooling-down exercise after finishing their training. Whereas in item 2, 56 (81.2%) of respondents replied that sometimes they perform cooling-down exercise after finishing your training. But, the remaining 13(18.8%) of respondents replied that they perform two days per week to cool-down their exercise after finishing their training.

Regarding item 3 on the above table, 11(15.9%), 41(59.4%), and 15(21.7%) of respondents replied that their coach level of knowledge about sport injuries occurred during, pre and post trainings were very high, high and medium. Whereas the remaining 2(2.9%) of athletics

responded that their coach level of knowledge were low about sport injuries occurred during, pre and post trainings.

As the majority of respondents confirmed and in observation that proper warming up and cool down exercise was very important because it makes the body ready for the main training program especially for short distance runners. The findings of this study were similar to the previous studies conducted by (Thomson, 2000) doing proper warming up and cooling down facilitates blood circulation and returns their body temperature to normal which helps to prevent injury.

Therefore, those athletes who properly warming up and cool down would not face to injury and can ready for the next day training program and they shows progressive improvement in their performance

Table 5 Confidence on your coaches' knowledge and training areas

No	Items		Frequency	Percentage %
7	How do you rate the suitability of your training area?	Excellent	-	-
		Very good	3	4.5
		Good	11	15.9
		Medium	48	69.5
		Low	7	10.1
		Very Low		
		Total	69	100%
8	How do you rate of your coach have enough knowledge about treatment of athletics injuries?	Excellent	3	4.3
		Very good	6	8.7
		Good	14	20.3
		Medium	42	60.9
		Low	4	5.8
		No Knowledge	-	-
		Total	69	100%
9	Does your coach your guidance	Always	Always	17

	and counseling about precaution in the field of during training session?	Sometime	Sometime	41
		Least/little	Least/little	11
		Very least/little	Very least/little	-
		Never	Never	-
		Total	Total	69

As indicated in Table 5 item 7, 69.5%, 15.9% and 4.5%, of the respondents concluded that they rate the suitability of their training area were medium, good and very good respectively. Whereas, 10.1 of them concluded that there area of training were poor.

Concerning to item 8, the majority 59.4% of athletics replied that sometimes their coaches gave guidance and counseling about precaution in the field of during training session while 24.6% of them said always whereas the remaining 15.9% of them reported that their coaches gave little guidance and counseling about precaution in the field of during training session.

With regard to the last item 9 on the above table, the majority 42(60.9%) of respondents replied that their coaches level of treatment were medium. Whereas, 14(20.3%), 6(8.7%) and 3(4.3%) of athletic runners responded that good, very good and excellent about their coaches level of knowledge in treating sport injuries respectively. The remaining 4(5.8%) of respondents replied that their coaches were poor knowledge on the treatment of sport injuries.

In observation the researcher observed there was lack of standard sand truck areas in the form the selected clubs that used for short distance athletes. Short distance athletics needs different training areas based on the principles of training that is principles of variety in different areas in truck, grass land, hill up and down helps athletes to be relaxed and to be motivated. So according to (Paual et al, 2001) in the principle of short distance athletes if short distance runners did not get variety of training area for training they would face for different injuries as well as impact for their performance.

Table 6 Identifying causes and injuries on their training

No	Items		Frequency	Percentage %
10	Do you have any enough injuries knowledge about the sport injuries especially in athletics?	Excellent	-	-
		Very good	25	36.2
		Good	40	58
		Medium	-	-
		Low	4	5.8
		Very Low	-	-
		Total	69	100%
11	What is the main cause of injuries during training session?	Lack of warming-up	3	4.3
		Doing over load exercise	47	68.2
		Equipment facilities	19	27.5
		Knowledge of coach the coach	-	-
		Total	69	100%
12	What is the degree of injuries that occurred?	Very high	1	1.4
		High	4	5.8
		Medium	46	66.7
		Low	14	20.3
		Very low	4	5.8
		Total	69	100%

As indicate in item 10 of Table 6, the majority 58% and 36.2% of athletic runners rated that their coaches' level of knowledge were good and very good respectively. While, the remaining 5.8% of athletics replied that their coaches level of knowledge about sport injuries were low. Having knowledge about sport injuries is very for coaches in order to give aids or firsthand treatment to athletics. The researcher also observed 2/3 of coaches have enough injuries knowledge.

According to this data 68.2 % causes of sport injuries occurred while performing over loaded exercise. In addition, 4.3% of athletics replied that due to lack of warming-up before starting the

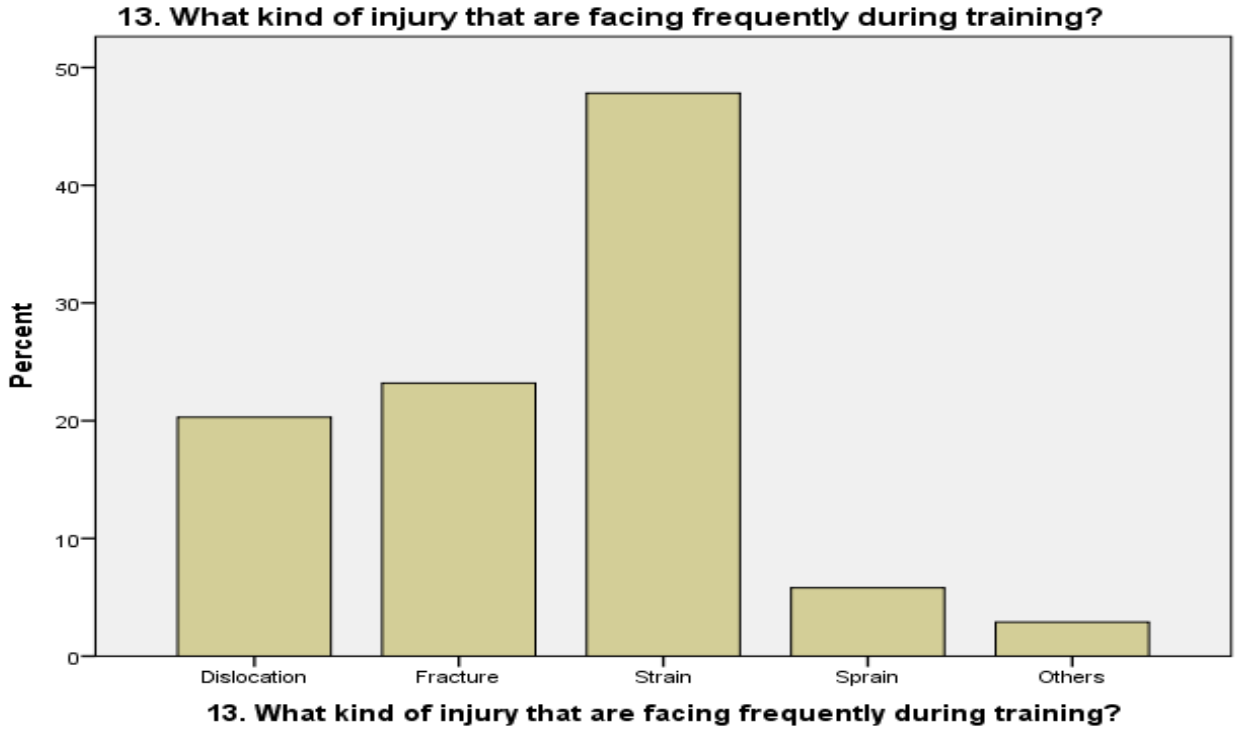
training. Whereas 27.5% reported that the major cause of sport injuries during training session was due to shortage sport facilities.

To support the response of respondents, the researcher also observed that there was lack of training materials that causes for injuries materials like hurdle were small in number and some of them were broken down and tied rubber and tread. But, there were materials which used for training of the short distance athletes both in mekelakeya and Commercial Bank of Ethiopia athletic clubs.

On the same table item 12 described that, 66.7%, 5.8% and 1.4%, of the respondents concluded that their degree of sport injuries occurred during training area were medium, high and very high respectively. Whereas, 20.3% and 5.8% of them reported that their degree of sport injuries occurred during training were low and very low respectively.

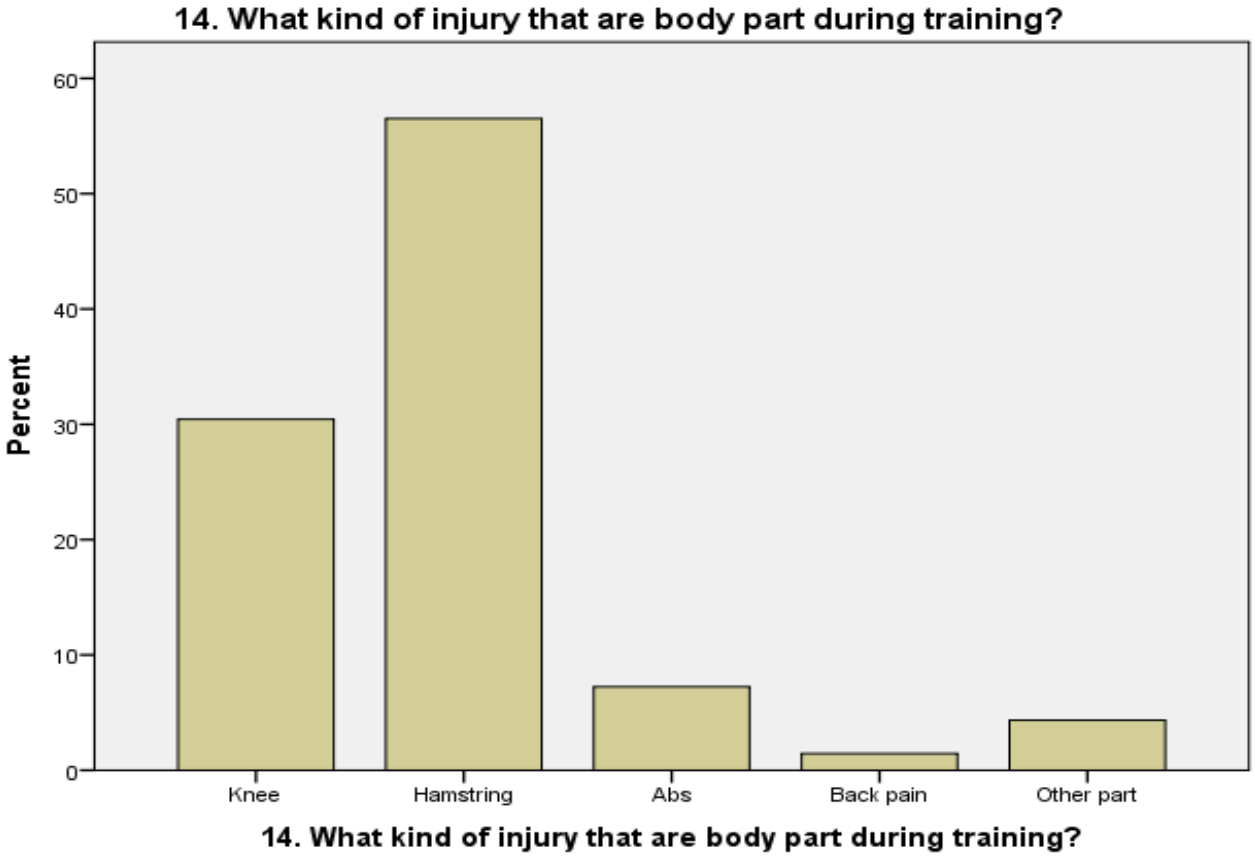
The literature also supported the responses of respondents, injury may occur in a sudden increase in training distance or speed (training too much, too fast, too soon, too frequently; (Van Mechelen, 1992); (Brill and Macera, 1995). Similarly, (Almeida et al, 1999) noted that injuries occurred when undertaking too many races or long runs and over load exercise.

Figure 3 Athletes common kind of sport injury identified



As illustrated in Figur 1 item 13, the highest injuries 49.3% of respondents responded that the major injury that athletics frequently face during training session were strain. Whereas 23.2%, 20.3%, and 7.2% of respondents replied that their frequently facing injuries while undertaking training were fracture, dislocation and sprain respectively.

Figure 4 Athletes common kind of body part injuries identified



Concerning to item 14 Figure 2, the most frequently self reported body parts injured during training were hamstring (63.8%), knees(30.4%) and back pain injuries (5.8%).

Table 7 Athletics responded about the protection/treatment of injuries during training

No	Items		Frequency	Percentage %
15	The treatment that you get for your club?	Very high	6	8.7
		High	16	23.2
		Medium	39	56.5
		Low	8	11.6
		Very low	-	-
		Total	69	100%
16	Do you have idea to protect injuries during training session?	Yes	43	62.3
		No	26	37.7
		Total	69	100%
17	Do you have enough sport facilities to implement the competition and training program?	Yes	8	11.6
		No	61	88.4
		Total	69	100%
18	If your answer is "No" in question number (17) why?			

As can be seen from the above Table 7 item 15, about the treatment that their club given 56.5% of athletics reported that medium where as 23.2% and 8.7% were reported high and very high treatment was given by their club while the remaining 11.6 % of respondents reported that low treatment which is given by their club. The researcher also observed some athletes were injured and become out of training and no one physiotherapist who can treat them at the injury time.

Regarding item 16, 62.3% of short distance runners' reported that they have ideas how to protect injuries during training session. Whereas the remaining 37.7 % of short distance runners' respondents that they haven't any idea how to protect sport injuries while undertaking trainings.

Almost all 88.4% of the respondents responded that there is no enough sport facility services provided to athletics to implement the competition and training program. While, 11.6% of them were reported that their athletic club were provided enough sport facilities to athletics to implement the competition and training program.

Hence most respondents responded that there is lack of facilities and equipment's, such as shortage of individual training, shortage of sport wearing and other equipment's, environmental influences and lack of support from peer and family. This shows that the above result is a factor for sport injuries as well as for improving the performance of short distance running.

Table 8 Responses about the causes or sport injury during Training

No	Items			Frequency	Percentage %
19	Do you think long time training a cause or injury?	Yes		69	100
		No		-	-
			Total	69	100%
20	Did environmental hazards change invite you for different kind of injuries?	Yes		69	100
		No		-	-
			Total	69	100%
21	If your answer is "No" in question number (20) why?				

From the above Table 8 item 19, all 100% of the respondents responded that exercising longer hour of training was a cause for their sport injuries. Hence most athletics about their causes said that their daily training program were relatively longer.

The researcher also confirmed through observation they trained3-4 hours per day. This shows that the both athletics and coaches do not follow modern training system.

Similarly the research conducted by (Mechelen, 1992); (Brill and Macera, 1995); (Almeida et al, 1999) noted that injury may occur in a sudden increase in training time or speed (training too much, too fast, too soon, too frequently; or may occur when undertaking too many races or long runs. Similarly on item 20, all 100% of the respondents responded that environmental hazards was a cause or invited them for different kinds of sport injuries.

4.1.3 Questions for Short Distance Coaches

The demographic information of short distance coaches by their athletic club, age educational level and experiences were analyzed and interpreted by frequency and percentage values.

Table 9 Demographic characteristics of the coaches

Demographic Characteristics		Frequency	Percentage %
Coaching clubs	Mekelakeya	2	25
	Commercial Bank of Ethiopia	2	25
	Ethiopia Electric	2	25
	Federal Marmiya Bathoch	2	25
	Total	8	100%
Sex	Female	4	50
	Male	4	50
	Total	8	100%
Age	21-28 year	`1	12.5
	29-35 year	3	37.5
	36-45 year	4	50
	Above 45 year	-	-
	Total	8	100%
Educational level	BA /BSC/BED	1	12.5
	MA/MSC/MED	7	87.5
	If any	-	-
	Total	8	100%
Working experiences	1-5 years	2	25
	6-10 years	5	62.5
	11-15 years	1	12.5
	Above 16 years	-	-
	Total	8	100%
Courses of trained coach license	First level	-	-
	Second level	1	12.5
	Three level	4	50
	Fourth level	2	25
	International license	1	12.5
	Total	8	100%
Employed in the club	Full Time coach	8	100
	Part Time coach	-	-
	Total	8	100%

As the above Table 9 indicated, the background information of coaches from selected Ethiopian national athletic clubs, 25% of respondents were from Mekelakeya, Commercial Bank of Ethiopia, Ethiopia Electric, and Federal MarmiyaBathoch athletic clubs respectively. From out of the eight coach respondents we could see four female coaches which is (50%) and the rest 4(50%) were male coaches.

With regard to their age, the majority of coaches 4(50%) reported that their age were between 36-45 years next 3(37.5%) were responded between 29-35 years. The remaining 12.5 were between the age of 21-28 years. Regarding the educational qualification of coaches one third of them 1(12.5%) was hold first degree and 7(8.75%) of them were second-degree (Msc) holder. All coaches were learned health and physical education except one coach.

Concerning to the experience of respondents, the majority 5(62.5%) of them had between 6-10 years, whereas 2(25%) has between 1-5 years' experience and the remaining 1(12.5%) were between 11-15 year experiences. Thus, majority of the respondents could provide pertinent information that would be helpful for the success of this finding.

Regarding their coach license of the respondents (50%) of them were 3^{rd} level coach license while 2(25%) and 1(12.5%) were having 4^{th} and 2^{nd} level coach license respectively. Only one coach has an international coach license. All of them were a full time employer in the club. From the above table the researcher realized that, all of the coaches were working as a full time on their athletic clubs and this has a great influence in giving the right training system.

Table 10 Response of Coaches Related To Training

No	Items		Frequency	Percentage %
3	Before, after and during training have you done warm up and cool down activities properly?	Very high	-	100
		High	8	
		Medium	-	
		Low	-	
		Very low	-	
		Total	8	100%
4	At what time of day do you work training?	Morning only	5	62.5
		Afternoon only	2	25
		Morning and afternoon	1	12.5
		Total	8	100%

As it is indicated in the above table 10, 100% of the respondent responded that there were done warm up and cool down activities before, after and during training properly. Concerning to time of days training 62.5% of coaches responded that they trained only in morning time. Whereas, 25% of them train in the afternoon while the remaining 12.5% of them were train both in the morning and afternoon time.

Table 11 Response of Coaches Related to Treatment

No	Items		Frequency	Percentage %
5	When athletes injured have you got immediate first Aid from club physiotherapist	Yes	8	100
		No	-	-
		Total	8	100%
6	Have you faced injury during over training and at your being in the training?	Yes	6	75
		No	2	25
		Total	8	100%
7	If your response if yes, justify the problems?			

The results of Table 11, item 5 shown that all 100 % of respondents agreed or chosen "yes" in giving first Aid from their club physiotherapist while injuries occurred during training. Regarding in item 2, 6(75%) of coaches replied that they faced different injury during training. while, the remaining 2(25%) of respondents reported that they are not facing injury during on training.

Many coaches responded that there is also the possibility of a running related sport injury (RRI). In running, the incidence of RRI's is high.5-8. The major reason for discontinuation (drop out) of a running program is injury. Negative experiences, caused by an injury that occurs while training for a running event, have the potential to significantly affect the future physical activity of each individual. Most injuries in runners are overuse injuries of the lower extremity, caused by training errors i.e. running too much, too soon. The exact cause and risk factors of sport injuries are still unknown.

A researcher also observed from athletic fields which estimates over 60% of running injuries could be attributed to training errors (too much, too soon).Effects of warming up, cooling down and stretching are contradictory and inconclusive in the prevention of sports injuries.
When looking at these data it seems to the finding of (Van Mechelen, 1992) also supported which noted that only four risk factors that have been significantly related to running injuries: lack of running experience, previous injury, running to compete, and excessive weekly running distance.

Table 12 Coach Responses in Identifying causes and sport injuries during Training

No	Items		Frequency	Percentage %
8	What are main factors for the occurrence of injuries during training?	Running field	3	37.5
		Temperature	-	-
		Aggressive plying	2	25
		Load of training	3	37.5
		Total	8	100%
9	Do you think long time training and competition a cause or injury?	Yes	7	87.5
		No	1	12.5
		Total	8	100%
10	If your response is yes, justify your reason?			

As illustrates Table 12 item 8 shows, majority 37.5% of respondents agreed that both running filed and loads of training were main factors for the occurrence of injuries during training. Whereas 25% of respondents replied that main factors for the occurrence of injuries during training was aggressive playing.

Regarding item 9, 87.5% of respondents agreed or chosen "yes" doing a long time training and competition is a cause for sport injuries. While, the remaining 12.5% of respondents reported that they didn't agree which indicates that training in a long time is not a cause for sport injuries.

As the majority of respondents replied yes, the researcher also confirmed through observation the main factor forthe occurrence of injuries during trainingwas running surface or fields and the frequency, intensity and duration of the training. Similarly one study supported the current study which shown that when running over 20 miles a week there seems to be a higher risk for obtaining an running related injuries (RRI) (Van Mechelen, 1992). Is it often said that running on a soft surface prevents RRIs but in literature there are no data to support this popular theory.

Table 13 Summary of coaches' response in relation to general coaching environment

No	Items		Frequency	Percentage %
11	In which weather condition more injures are occurred?	At the time of heavy rain	3	37.5
		At the time of high cold	5	62.5
		At the time of hot weather condition	-	-
		None	-	-
		Total	8	100%
12	Do you have enough sport facilities to implement the training programs?	Very high	-	-
		High	1	12.5
		Medium	6	75
		Low	1	12.5
		Very low	-	-
		Total	8	100%
13	Did environmental hazards invite you for different kinds of injuries?	Yes	8	100
		No	-	
		Total	8	100%
14	If your response is yes, justify your reason?			

As it is shown in Table 13 item 11, almost half 5(62.5%) of the coaches responded that at the time of high cold weather condition were more injures are occurred. Whereas 37.5% of them were replied more injures are occurred during at the time of heavy rain. Similarly, from the above findings as well as field observations the researcher also concluded at the time of high cold weather condition and during heavy rain time more injures was occurred.

With regard to item 12, three-fourths of coaches 75%, responded that facilities were somewhat provided for their effective training. On the other hand 12.5% of the respondents were replied their club provided low sport facilities to athletics to implement the training programs.

Concerning the training environment 100% of coaches reported that the areas were not free from obstacle and other distorting factors hazards that invite many athletics for different kinds of injuries. Yes the researcher also observed in the field some short distance runners were facing

obstacles and injures so many times due to environmental hazards which invites them for different kinds of injuries. For example, most training area of Athletic clubs was not easily accessible. Moreover, the majority of training area was zigzag (not comfortable) that they didn't allow free movement in long continuous aerobic training.

4.1.4 Qualitative Analysis

As described in the method section, qualitative data were gathered through interviews, observation checklist and field observations were conducted with coaches and athletics of each athletic clubs. Therefore in response to the open-ended questionnaires, with regard to the causes and impacts that hinder short distance athletic runners were conducted through interview with coaches and athletics of each athletic clubs. In addition, the researcher tried to find out supplementary data from coaches and through field observation. This is just made because of the fact that to triangulate to the quantitative data and to find out some additional impacts of athletes of short distance runners from what they know and to prevent sport injuries. They were required to comment on the following four points which deal with the major impacts and causes of sport injuries (See Appendix C and D).

4.1.4.1 Data Obtained from Interviews

Q1. Did you manage the time given to training and allocate enough training per week?

In relation to the first question all coaches respond that most coaches could not manage the athletes properly at the training time due to large number of athletes' runners for one coach that was difficult to manage their time properly. In addition there were no enough professional coaches that control all activities of athletes runners. The coaches used training load monitoring system by using stopwatch and planning before the training that controls all the activities of the athletes and their recovery times. But the training load monitoring system was not effective in all rounded even there was no measuring of heart beat in between the training.

In addition, many athletes didn't get enough training per week and time per day. As they responded, they only trained only three days per week. This is not meeting the progressive adaptation principle.

On the other hand, the annual plan that was prepared at the beginning of the year are not implemented accordingly that means the competition schedule between the Ethiopian Athletics clubs were not conducive.

Q2. Is there any kind of coaching materials and facilities which support to short distance runner athletes which face sport injuries?

With regard to second question all coaches respond that there was no any kind of coaching materials, facilities and enough equipment for training which support to short distance runner athletes which face sport injuries. Due to the shortages of training materials were limited to implement the scientific training and lacks to give effective training. For example we have shortages of starting blocks, hurdles and gymnasium materials.

According to the coaches responses there were so many deficiencies of equipment's in their clubs. If athletes do not practice with modern starting blocks it will be difficult to them to compete in international competitions. Gymnasium training for short distance athletes is among the vital training type put in the training plan. But due to lack of materials this type of training was not done properly as it expected. Generally lack of sufficient equipment's in the all athletic clubs may increase the athletes' runners' injuries.

Regarding their support to reduce short distance injuries they replied that they may discuss the issue with sport federation to allocate enough budgets to fulfill some special coaching equipment and services for athletes, but they need list of facilities and their importance in order to allocate the enough budget to give effective training and to prevent the impact injuries.

Q3.Please list the causes/reasons that you think about short distance runners injuries?

The following are causes/reasons of short distance injuries that expressed by each Coaches

- The low level of attention and support given by athletics clubs and athletics federation.
- The traditional and non-scientific method of training.
- The lack of proper facilities and equipment for short distance running and training.
- Inadequate knowledge and skill of trainers and coaches during short distance training.
- The absence of standardized training area and convenient running track for clubs thus and other may a cause for short distance injuries.

Moreover, the position and situation of training area were the other noticeable cause of challenge for short distance athletes. For example, the training area of ethio electric and mekelakeya were not comfortable for athletic runners. In addition, the majority of training area was zigzag that they didn't allow free movement in long continuous aerobic training.

The respondents were also forwarded helpful idea so as to solve the problem treated under this particular area.

- The club officials (board) have to either allocate sufficient money to fulfill the training need for short distance runner athletes.
- The federation should give due consideration to short distance runner athletes when coaching guide redesigned again.
- Training should be made for coaches and officials.
- Awareness should create to club administrators since the budget of athletes is allocated by them.
- Keeping the training area clean from any obstacle by any possible means
- To minimize the potential danger in training area, it is better to change and observe other comfortable training area like Addis Ababa Stadium

Q4. Please list the method that you prevent athlete's injury?

In relation to the fourth question five coaches respond that by controlling of training load and the other three coaches also responds that they used the principle of training and educating athletes. So, this indicates that some athletic clubs coaches were control the training load but they did not teach the athletes to prevent injury. Therefore from this that can be discussed for the prevention of athletes injury educating of athletes is one of the first and helps coach for easily understanding of athletes. And following the principle of training also the core and which should not forgotten in the training system.

4.1.4.2 Data obtained from Observation checklists and Athletes fields

The observation checklist items were involved more of the, athletes runners training surfaces, training pre-post activities, facility and equipment's and the training environmental conditions that causes short

distance athletes' runners injuries and impact in their training in the case of four first division athletic clubs were as follows.

Table 14 Responses of Observational Checklists

No	**Area**	**Always Work-out**	**Fairly** 50%	**Sometimes**	**Never/Not at all**
1	**Running Surface**				
	Track		*		
	Asphalt			*	
	Hill			*	
	RedAsh			*	
	Gym House		*		
	Grass land			*	
	Stair			*	
	Cone area			*	
2	**Training Related Causes**				
	Warm up		*		
	Cool down		*		
	Much intensity		*		
	Much volume		*		
	Recovery/rest		*		
3	**Environmental Condition**				
	Low attitude		*		
	High attitude			*	
	High temp**.**		*		
	Low temp.				*
4	**Facility and Equipment's**				
	Original Sport Materials		*		
	Appropriates Sport Wear			*	

As indicated in the above Table, the training tracks were 50% satisfactory, using reddish training areas. However, there was shortage of standard sand truck. Even if the gymnasium materials are enough for all of them but all of the materials were not totally quality. Similarly the researcher observed training related activities during training time 50% of athletics proper done warming and cooling down activities on their training program. Most of the short distance athletes have full recovery time before the next day program. But some athletes did not recover fully before the next

day program because they have regular education in every day after the morning training. Then, if it so, the short distance athletes those did not have full recovery time they may an impact or a cause for injuries due to lack of full recovery time.

The researcher confirmed in field observation, it is difficult to say there is sufficient training equipment and facilities. For example, lack of standard sport materials and appropriate sportswear may a cause for short distance athletes' runners' injuries and impact on their training.

In addition, the researcher used different ways of data gathering mechanism from those one was by taking an observation of all the environments and activities.

CHAPTER FIVE

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

In this section, main elements of the study were summarized, conclusions were drawn and based on the results of the present study and significant recommendations were made to prevent the causes of sport injuries.

5.1 Summary

This study was conducted with the aim of exploring the causes of short distance athletes' injuries and impacts on their training in the case of four first division Addis Ababa athletic clubs.

The study tries to answer the following basic research questions:

- What problems do athletes of short distance runner encounter in the training program?
- Are Athletes of short distance runners provide with adequate training materials which can help for their performance?
- What type of sport injuries frequently occurred on short distance athletes?
- What is the major cause of sport injuries and impact their on short distance athletes?
- What is the role of coaches to prevent injuries?

In order to deal with these basic research questions, related literatures were reviewed and theoretical frameworks were utilized. The target population of the present study were consisted of 84 athletic runners (male= 49 and female= 35) from four first division, Addis Ababa athletic clubs. Based on (Krejcie and Morgan, 1970) formula $S = x^2NP(1-P) \div d^2(N-1) + x^2P(1-P)$ the sample size of participants in a study were 69.

Before collection of main data, a pilot study was conducted to realize the validity and reliability of the instruments and some items were improved. Simple random sampling technique and purposive sampling were employed to select the participants of the study.

The study involved questionnaires of self-report measures used for collecting primary data from participants of the study. The data, pertaining to athletic runners perceived causes of short distance athletes' injuries and impacts on their training were collected through Injure and Impacts Items for runner questionnaires (IIIQ). In addition, the data which were pertaining to the causes

of injuries and their impacts on their training were collected through interview and observation. The measuring instruments were adapted from previous related studies and prepared in line with the objectives of the study.

The collected data were entered and performed by using SPSS version 24 and analyzed using descriptive statistics, frequency counts and percentage values. In addition, the qualitative data obtained from interview and observations were analyzed through thematic analysis.

5.2 Conclusions

In light of the findings of this study, the following conclusions were drawn:

- Strain and hamstring became the most frequently occurred kind of injury and body part injuries facing during training sessions.
- The overall injuries problems of short distance athletic runners' on their training was unable to use the principle of training program for example most running injuries were the result of training errors, meaning training is too fast and too soon.
- There was also observed in the findings lack of qualified coaches related to their knowledge and skill about the occurrence of injuries and in treating sport injuries, unable to use scientific method of training and environmental hazards like heavy rain, temperature were the major cause or impacts of sport injuries during training.
- Moreover, data obtained from interview and observation revealed that the major perceived causes of short distance athletes' injuries were due to shortage of equipment and facilities, limitation of standardized training place, event specific knowledge of the coaches and environmental hazards on short distance running.

5.3 Recommendations

Based on the findings, the researcher forwarded the following suggestions for a particular reference to first division four Addis Ababa athletic clubs.

5.3. 1 For Administration and Concerned Bodies

- All athletic club administrators should be committed and focusing on the mechanisms of solving athletic injuries in collaboration with concerned government bodies, and other concerned organizations, which are interested in strengthening short distance runners.

- Concerned body should fulfill at list some quality equipment and give support, create good administration in sport and discus with the athletes in order prevent/treat the causes of sport injuries.

5.3.2 For Coaches

- Coaches should use scientific training system, change theory based knowledge to practice in the gerund to short distance runners, use international scientific findings or experience best coaches, and the approach used in other countries.
- Coaches should enhance athletic runners' awareness on coping injuries through different trainings like principle of training skill and first aid treatment training in order to prevent/treat sport injuries.
- The club should enhance the knowledge and skills of the coaches how to prevent/treat the causes of sport injuries.
- Counseling based intervention should be prepared to provide the necessary guidance and help to build their physical and psychological wellbeing in order to solve problems regarding to sport injuries.

Further study should be done by covering wide range of sample from different Addis Ababa athletic clubs even in using different geographical locations and by including variables that were not addressed in this study.

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APPENDIX A

ADDIS ABABA UNIVERSITY

COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCE

DEPARTMENT OF SPORT SCIENCE

Filled by Athletes

This questionnaire is designed to collect data for the study aimed to organized and prepared questions cause of short distance athletes' injuries and impact in their training four first division clubs Addis Ababa administrative regions. The data to be collected using this question gathered from you will be helpful to get pertinent finding and to forward timely and sound recommendation. Your responses are confidential and reliability. Therefore kindly requested to till the questionnaire for which the success of the study will directly depend on your genuine and truth full response to the questions. No need of writing your name and your club.

Thank you very much for your kindly cooperation!!

Part I- General Background Information

Direction, Here are some items about your background information. For each item indicate your response by putting a tick mark "✓" in appropriate place.

1. Sex Male ☐ Female ☐

2. Age 1. Under 17 year ☐ 3. 20-22 year ☐

2. 18-19 year ☐ 4. 23-25Year 5. Above 25 year ☐

3. Educational level

1. 1-4 grade ☐ 4. Collage ☐

2. 5-8 grade ☐ 5. Diploma ☐

3. High school ☐ 6. Other level _____

Part Two: Related to cause of short distance athletes injure and impacts in their training in the four First division administrative regions. Please, indicate your response by putting a tick mark "✓" in appropriate place.

1. How many training program per week?

A. Two days weeks ☐ C. Four days ☐

B. Three days ☐ D. Five days ☐ E. Week-week ☐

2. How many training time program per day?

A.45 min-1 hrs ☐ C.1:30-2 hrs ☐

B.1-1:30 hrs ☐ D.2-2:30 hrs ☐ E. above 2:30 hrs ☐

3. What time of days do you work training?

A. Morning only ☐ C. Morning and afternoon ☐

B. Afternoon only ☐ D. Other time days ☐

4. Do you perform warming-up exercise before the beginning of your training?

A. Always ☐ C. Two days ☐

B. Sometimes ☐ D. Three-four days ☐ E. Above four days ☐

5. Do you perform cooling-down exercise after finishing your training?

A. Always ☐ C. Two days ☐

B. Sometimes ☐ D. Three-four days ☐ E. Above four days ☐

6. How do you rate the level of your coach knowledge about the occurrence of sport injuries?

A. Very High ☐ C. Medium ☐

B. High ☐ D. Low ☐ E. Very low ☐

7. How do you rate the suitability of your training area?

A. Excellent ☐ C. Good ☐ E. Low ☐

B. Very good ☐ D. Medium ☐ F. Very low ☐

8. Do you have any enough injuries knowledge about the sport injuries especially in athletics?

A. Very good ☐ C. Medium ☐

B. Good ☐ D. Low ☐ E. Very low ☐

9. How do you rate of your coach have enough knowledge about treatment of athletics injuries?

A. Excellent ☐ C. Good ☐ E. Low ☐

B. Very good ☐ D. Medium ☐ F. No knowledge ☐

10. Does your coach your guidance and counselling about precaution in the field of during training session?

A. Always ☐ C. Least/little ☐

B. Sometime ☐ D. Very least/little ☐ E. Never ☐

11. What is the main cause of injuries during training session?

A. Lack of warming-up ☐ C. Equipment facilities ☐

B. Doing over load exercise ☐ D. Knowledge of coach the coach ☐

12. What is the degree of injuries that occurred?

A. Very high ☐ C. Medium ☐

B. High ☐ D. Low ☐ E. Very low ☐

13. The treatment that you get for your club?

A Very high ☐ C. Medium ☐

B. High ☐ D. Low ☐ E. Very low ☐

14. What kind of injury that are facing frequently during training?

A. Dislocation ☐ C. Strain ☐

B. Fracture ☐ D. Sprain ☐ E. Other ☐

15. What kind of injury that are body part during training?

A. Knee ☐ C. Abs ☐

B. Hamstring ☐ D. Back pain ☐ E. Other part ☐

16. Do you have idea to protect injuries during training session?

A. Yes ☐ B. No ☐

17. Do you have enough sport facilities to implement the competition and training program?

A. Yes ☐ B. No ☐

18. Do you think long time training a cause or injury?

A. Yes ☐ B. No ☐

19. If your answer is "No" in equation number (17) why?

_____

20. Did environmental hazards change invite you for different kind of injuries?

A. Yes ☐ B. No ☐

21. If your answer is "No" in question number (20) why?

_____

22. What is the impact of sport injuries that occurs in athletes during training period?

_____

23. What do you think to give the possible solution for the athlete's injuries?

_____

24. What are the rolls of club to prevent injury training? _____

APPENDIX A2

አድሰ አበባ ዩኒቨርሲቲ

የተፋጥሮ ሳይንስና ስፓርት ሳይንስ ት/ክፋል

በአትሌቶች የሚሞላ መጠይቅ

ይህ ጥያቄ ዋና አላማዉ በአጭርቀት አትሌቶች ላይ የሚደርስ ጉዳት ምክኒያትና ችግር መንስኤ የተዘጋጀ ጥያቄ ነዉ። ይህን ጥያቄ በምሠ በስብበት ወቅት እረሰዎም እንድት ተባበሩኝ ችግሩን እንድፋልግና ለሌላዉ ለማስተላለፍ ሠዓቱን ጠብቆ ለመምከር ነዉ። ስለሆነም በዚህ ጥናት በተለያየ መንገድ ብትጠየቁም መልሱን በምትመልሱበት ግዜ በራሳችሁ በመተማመንና ትክክለኛዉ ወይም በእዉነታዉ መንገድ ነው።

በመጀመሪያ ደርጃ አመሠግናለሁ!!

<u>መመሪያ</u>

1. ስም ና ክለብ መፃፍ አይቻልም

2. ጥያቄዉን በምትመሩጡበት ግዜ በማክበብ ይምርጡ ይጠቁሙ

3. የፃፉን ጥያቄ በነፃነት መግለፅ ና ማብራራት

<u>የግል መጠይቅ</u> ክፋል 1

1. **ፆታ** A. **ወንድ** B. **ሴት**

2. **እድሜ** A. **ከ**17 **ዓመት በታች** B. 18-19 **ዓመት** C. 20-22 **ዓመት** D. 23-25 **ዓመት** E. 26 **ዓመት በላይ**

3. **የት/ት ደርጃ** A. 1-4 **ክፋል** B. 5-8 **ክፍል** C. **ሁለተኛ ደርጃ** D.**ኮሌጅ** E. **ዲፕሎማ** F. **ሌላት/ደርጃ**

<u>ክፍል</u> 2:- በአጭር ረቀት አትሌቶች ጋረ ጉዳት ምክኒያትና መንስኤ የተገናኝ ጥያቄ።

1. **በሳምንት ለምን ያክል ቀን ትሰራላችሁ?**

A. **ሁለት ቀን** B. **ሶስት ቀን** C. **አራት ቀን** D. **አምስት ቀን** E. **ከሳምንት-ሳምንት**

2. **በሳምንት ለስንት ሠዓት ያክ ልትሰራላችችሁችሁ?**

A. 45-1 **ሠዓት** B. 1-1:30 **ሠዓት** C. 1:30-2:00 **ሠዓት** D. 2:00-2:30 **ሠዓት** E. 2:30 **ሠዓት ላላይ**

3. **በምን አይነት ወቅት ነዉ የምትሰሩት?**

A. **ከጣት ብቻ** B. **ከሠዓት ብቻ** C. **ከጣትና ከሠዓት** D. **ሌላ ሠዓት**

4. ስልጠና ከመስራታችሁ በፊት የማማመቃ እንቅስቃሴ ትሰራላችሁ?

A. ሁልግዜ B. አንዳንድ ቀን C. ሁለት ቀን D. ሶስት ቀን E. ከሶስት - አራትቀን F. ከአምስትቀንበላይ

5. ስልጠና ከጨረሳችሁ በኃላ የማቀዝቀዣ እንቅስቃሴ ትሰራላችሁ? A. ሁል ግዜ B. አንዳንድ ግዜ C. ሁለት ቀን

D. ከሶስት -አራት ቀን E. ከዚያ በላይ ቀን

6. እንዴት ነዉ አሠልጣኛችሁ ጉዳት እንዳይደረስባችሁ እዉቀቱ አለዉ?

A. በጣም ጥሩ አለዉ./ት B. ጥሩ ነገረ አለዉ/ት C. ምንም አይል/ም D. ዝቅተኛ ነዉ/ች E. በጣም ዝቅተኛ/ች

7. ስልጠና የምትሰሩበት ቦታ አመችነዉ?

A. እጅግ አመቺ B. በጣም አመቺ C. አመቺ D. ምንም አይልም E. አይመችም F. በጣም አይመችም

8. ስለ ጉዳት የምታዉቁት በቂ የሆነ እዉቀት አላችሁ በተለይ ስለ አትሌትክስ?

A. በጣም ጥሩ የሆነ B.ጥሩ የሆነ

C. ምንም አይደል D. ዝቅተኛ ነዉ E. በጣም ዝቅተኛ

9. እንዴት ነዉ አሠልጣኛችሁ በቂ የሆነ እዉቀት አለዉ ስለ አትሌቲክስ ጉዳት?

A. እጅግ ጥሩ ነገር አለዉ/ ት B. በጣም ጥሩ አለዉ/ት C. ጥሩ ነገር አለዉ/ት

D. ምንም አይል/ት E. ዝቅተኛ ነዉ/ች F. በጣም ዝቅተኛ

10. አሠልጣኛችሁ ስልጠና በምትሰሩበት ግዜ ቅድመ ጥንቃቄና ምክረ ይነግራችኃል? A. ሁልግዜ B. አልፎ አልፎ C. በትንሹ

D. በጣም በትንሹ E. አይነግረነም/ት

11. ምንድን ነዉ ዋናዉ ምክኒያት ስልጠና በምትሠሩበት ወቅት ጉዳት የሚደርስባችሁ? A. የማለቀቂያ ስራ ማነስ

B. ከአቅም በላይ መስራት C. የትጥቅ ማነስ D. የአሠልጣኞች እዉቀት ማነስ

12. ጉዳት የሚደረስባችሁ ደረጃ ምን ያክል ነዉ? A.በጣም ከፋተኛ B. ከፋተኛ C. መካከለኛ D. ዝቅተኛ

13. ክለባችሁ እንድታገግሙ ግዜ ይሰጣችኃልል? A. በጣም ብዙ ግዜ B. ብዙ ግዜ C. መካከለኛ ግዜ

D. ትንሽ ግዜ E. በጣም ትንሽ ግዜ

14. ምን ዓይነት ጉዳት ነዉ አዘዉትሮ የሚደረስባችሁ ስልጠና በምትሠለጥኑበት ወቅት? A. ወለምታ B. ስብራት

C. ጡንቻ መሸማቀቅ D. ጡንቻ መሠቀል E. ሌላጉዳት

15. ምን ዓይነት ጉዳት ነዉ የሚደርስባችሁ በሠዉነታችሁ ክፋል? A. ጉልበት ላይ B. ሀምስትሪግ ላይ

C. ሆድ ላይ D. ጀረባ ላይ E. ሌላ የሠዉነት ክፋል

16. ሀሳብ አላችሁ ጉዳት እንዳይደረስባችሁ በምትሠሩበት ግዜ የምትቆጣጠሩበት? A. አወ B. አይደለም

17. በቂ የሆነ የስፓርት ዕቃአላችሁ በስልጠናና በዉድድር ሠዓት? A. አወ B. አይደለም

18. ለእርጅም ሠዓት ግዜ መስራት ለጉዳት ምክኒያት ነዉ ብላችሁ ታስባላችሁ? A. አወ B. አይደለም

19. አይደለም ከሆነ አብራሩ; ----------?

20. የተለያየ አከባቢ ሲቀያየር ለጉዳት አደጋ አለዉ?

21. የለም ከሆነ አብራሩ ለምን ----------?

22. ምን ዓይነት ግጭት በስፓረታዊ ጉዳት ሊከሰት ይችላል በምትሰሩበት ወቅት?

23. ምን ታስባላችሁ በአትሌቶች ጉዳትና መፍትሔዉ ላይ?

24. በአጠቃላይ በክለባችሁ ስልጠና በምትሰለጥኑበት ወቅት ምን ቢደርግ ነዉ ጉዳቱን መከላከል የሚቻለዉ?

APPENDIX B

ADDIS ABABA UNIVERSITY

COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCE

DEPARTEMENT OF SPORT SCIENCE

Questionnaire to be filled by Coaches

The purpose of this question were to get reliable information to the causes of short distance athletes injuries and impact in their training from four first division clubs Addis Ababa administrative regions, Therefore, choose the question you are request circle the letter and brief description for closed and open ended question in the space provide. Please, do not write your name on the questionnaire.

Thank you!!

Part I- General Background Information

Direction, Here are some items about your background information. For each item indicate your response by putting a tick mark "✓" in appropriate place.

1. Sex Male ☐ Female ☐

2. Ag

A. 21-28 year ☐ C. 36-45 year ☐

B. 29-35 year ☐ D. Above 46 year ☐

3. Educational Status A. 12 Completed ☐ D. BA /BSC/BED ☐

B. Certificate ☐ E. MA/MSC/MED ☐

C. College diploma F. If any _____

4. Name of your clubs

A. Mekelakeya C. Et☐ Electric ☐

B. Commercial Bank of Ethiopia ☐ D. Federal MarmiyaBathoch☐

5. What is responsibility /position/in the club?

A. Coach ☐ B. Physiotherapist ☐

5. Working experiences

A. 1-5 years ☐ C. 11-15 years ☐

B. 6-10 years ☐ D. Above 16 years ☐

6. Courses of trained coach license

A. First level ☐ D. Forth level ☐

B. Second level ☐ E. International license ☐

C. Third level ☐ F. If any _____

7. Employed in the club

A. Full time coach ☐ C. If other specify_____

B. Part timer coach ☐

Part Two: Item related to causes of short distance athletics injured and impacts in their training four First division administrative regions. For each item indicate your response by putting a tick mark "✓" in appropriate place

1. Name of your clubs _____

2. What is responsibility /position/in the club? _____

3. Before, after and during training have you done warm up and cool down activities properly?

A. Very high ☐ C. Medium ☐

B. High ☐ D. Low ☐ E. Very low ☐

4. At what time of day do you work training?

A. Morning only ☐ B. Afternoon only ☐

C. Morning and afternoon ☐ D. Other times ☐

5. When athletes injured have you got immediate first Aid from club physiotherapist?

A. Yes ☐ B. No ☐

6. Have you faced injury during over training and at your being in the training?

A. Yes ☐ B. No ☐

7. If your response if yes, justify the problems?

_____

_____

8. What are main factors for the occurrence of injuries during training?

A. Running field ☐ C. Aggressive plying ☐

B. Temperature ☐ D. Load of training ☐

9. Do you think long time training and competition a cause or injury?

A. Yes ☐ B. No ☐

10. If your response is yes, justify your reason?

_____

_____

11. In which weather condition more injures are occurred?

A. At the time of heavy rain ☐ C. At the time of hot weather condition ☐

B. At the time of high cold ☐ D. None ☐

12. Do you have enough sport facilities to implement the training programs?

A. Very enough ☐ C. Medium ☐

B. Enough ☐ D. Low ☐ E. Very Low ☐

13. Did environmental hazards invite you for different kinds of injuries?

A. Yes ☐ B. No ☐

14. If your response is yes, justify your reason?

_____

_____

APPENDIX C

ADDIS ABABA UNIVERSITY

COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCE

DEPARTMENT OF SPORT SCIENCE

INTERVIEW FOR COACHES

Dear coaches the main objectives of the interview is to collect relevant data for study in the cause of short distance athletes injuries and impact in their training in four first division Addis Ababa administrative region. Thus, your direct participation has been essential and you have been select for the interviews. So, you are kindly required to provide information need objectively and honesty. It is assured that they collected information would be kept confidential and used for research purpose only the coach.

1. Did you manage the time given to training and allocate enough training per week?
2. Is there any kind of coaching materials and facilities which support to short distance runner athletes which face sport injuries?
3. Please list the causes/reasons that you think about short distance runners injuries?
4. Please list the method that you prevent athlete's injury?

Appendix D

ADDIS ABABA UNIVERSITY

COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCE

DEPARTMENT OF SPORT SCIENCE

FILED OBSERVATION CHACK LIST FOR BOTH COACHESAND ATHLETICS

The observation checklist items were involved more of the, athletes runners training surfaces, training pre-post activities, facility and equipment's and the training environmental conditions that causes short distance athletes' runners injuries and impact in their training in the case of four selected first division Addis Ababa athletic clubs.

No.	**Area**	**Always Work-out**	**Fairly** 50%	**Sometimes**	**Never/Not at all**
1	**Running Surface**				
	Track				
	Asphalt				
	Hill				
	RedAsh				
	Gym House				
	Grass land				
	Stair				
	Cone area				
2	**Training Related Causes**				
	Warm up				
	Cool down				
	Much intensity				
	Much volume				
	Recovery/rest				
3	**Environmental Condition**				
	Low attitude				
	High attitude				
	High temp**.**				
	Low temp.				
4	**Facility and Equipment's**				
	Original Sport Materials				
	Appropriates Sport Wear				

Appendix E
Pilot Study Result

Appendix E1 Results of Athletic Respondents

Cronbach's Alpha and item total statistics for cause of short distance athletic injuries and impact in theirtrainingScale(CSDAI&ITS)

Reliability Statistics

Cronbach's Alpha	*N of Items*
.957	*19*

Item-Total Statistics

	Scale Mean if Item Deleted	*Scale Variance if Item Deleted*	*Corrected Item-Total Correlation*	*Cronbach's Alpha if Item Deleted*
Q1	35.10	84.544	.719	.955
Q2	35.00	81.556	.889	.952
Q3	34.90	81.433	.857	.953
Q4	35.00	81.778	.872	.953
Q5	35.10	87.433	.668	.956
Q6	34.90	80.544	.922	.952
Q7	35.30	85.122	.897	.953
Q8	35.10	83.878	.771	.954
Q9	35.10	84.100	.754	.955
Q10	34.90	81.211	.873	.953
Q11	35.30	86.233	.786	.954
Q12	35.20	85.511	.574	.958
Q13	35.30	86.011	.808	.954
Q14	35.40	87.156	.954	.954
Q15	35.30	85.567	.640	.956
Q16	35.60	88.489	.627	.956
Q17	35.70	90.678	.387	.959
Q18	35.50	86.500	.628	.956
Q19	35.90	93.433	.126	.961

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	1.958	1.300	2.300	1.000	1.769	.079	19

Appendix E2

Results of Pilot Study of Coach Respondents

Cronbach's Alpha and item total statistics for cause of short distance athletic injuries and impact in theirtraining Scale(CSDAI&ITS)

Reliability Statistics

Cronbach's Alpha	*N of Items*
.934	*9*

Item-Total Statistics

	Scale Mean if Item Deleted	*Scale Variance if Item Deleted*	*Corrected Item-Total Correlation*	*Cronbach's Alpha if Item Deleted*
Q20	15.60	20.800	.812	.923
Q21	15.60	20.800	.812	.923
Q22	16.20	23.200	.796	.926
Q23	16.00	23.500	.923	.924
Q24	16.20	24.700	.496	.939
Q25	15.80	22.200	.750	.927
Q26	15.80	20.200	.723	.934
Q27	15.20	19.700	.907	.917
Q28	16.00	23.500	.923	.924

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	1.978	1.600	2.600	1.000	1.625	.104	9

Appendix E3

Results of Pilot study both Athletic and coach Respondents

Cronbach's Alpha and item total statistics for cause of short distance athletic injuries and impact in theirtrainingScale(CSDAI&ITS)

Reliability Statistics

Cronbach's Alpha	*N of Items*
.971	*28*

Appendix F

Reliability of the Main Study Result

Appendix E1 Results of Athletic Respondents

Cronbach's Alpha and item total statistics for cause of short distance athletic injuries and impact in theirtrainingScale(CSDAI&ITS)

Reliability Statistics

Cronbach's Alpha	*N of Items*
.974	*19*

Item-Total Statistics

	Scale Mean if Item Deleted	*Scale Variance if Item Deleted*	*Corrected Item-Total Correlation*	*Cronbach's Alpha if Item Deleted*
Q1	31.30	103.774	.810	.973
Q2	31.23	101.534	.891	.972
Q3	31.16	100.754	.884	.972
Q4	31.23	101.269	.909	.972
Q5	31.38	104.944	.880	.972
Q6	31.13	99.527	.941	.971
Q7	31.45	105.045	.944	.972
Q8	31.28	102.555	.864	.972
Q9	31.26	103.402	.815	.973
Q10	31.22	101.114	.906	.972
Q11	31.45	105.633	.892	.972
Q12	31.42	105.306	.678	.974
Q13	31.41	104.892	.866	.972
Q14	31.49	106.960	.942	.972
Q15	31.39	104.448	.768	.973
Q16	31.64	108.440	.748	.974
Q17	31.70	110.068	.591	.975
Q18	31.58	106.924	.738	.974
Q19	31.90	113.534	.304	.977

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	1.744	1.246	2.014	.768	1.616	.039	19

Appendix F2

Reliability of the Main Study Result

of Coach Respondents

Cronbach's Alpha and item total statistics for cause of short distance athletic injuries and impact in theirtrainingScale(CSDAI&ITS)

Reliability Statistics

Cronbach's Alpha	*N of Items*
.954	*9*

Item-Total Statistics

	Scale Mean if Item Deleted	*Scale Variance if Item Deleted*	*Corrected Item-Total Correlation*	*Cronbach's Alpha if Item Deleted*
Q20	13.40	23.378	.903	.944
Q21	13.40	23.378	.903	.944
Q22	13.90	27.211	.800	.951
Q23	13.70	26.456	.954	.946
Q24	13.90	28.544	.540	.960
Q25	13.60	25.378	.876	.946
Q26	13.70	24.900	.734	.954
Q27	13.10	21.656	.943	.944
Q28	13.70	26.456	.954	.946

Summary Item Statistics

	Mean	Minimum	Maximum	Range	Maximum / Minimum	Variance	N of Items
Item Means	1.700	1.400	2.200	.800	1.571	.068	9

Appendix F3

Reliability of the Main Study Results both Athletic and coach Respondents

Cronbach's Alpha and item total statistics for cause of short distance athletic injuries and impact in theirtrainingScale(CSDAI&ITS)

Reliability Statistics

Cronbach's Alpha	*N of Items*
.978	*28*