

**CAUSE AND PREVALENCE OF ATHLETES INJURY: THE  
CASE OF SOME SELECTED ATHLETICS CLUB OF OROMIA  
REGIONAL STATE IN ASELLA TOWN, ETHIOPIA.**

**MSC THESIS**

**BY**

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Selected Athletics Club of Oromia Regional State in Asella Town,  
Ethiopia**

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**MASTER OF SCIENCE IN SPORT MEDICINE**

**BY**

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## **DEDICATION**

This work has dedicated to my late father, Negash Yadetie Bedasa, of your souls rest in paradise the revered and source of inspirations, the love you shared me when you were still a lives and for showing me the way to school.

## **STATEMENT OF THE AUTHOR**

By my signature below, I declare and affirm that this thesis is my own work. I have followed all ethical and technical principles of scholarship in the preparation, data collection, data analysis and compilation of this thesis. Any scholarly matter that is included in the thesis has been give recognition through citation. I affirm that I have cited and referenced all sources used in this document.

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## **BIOGRAPHICAL SKETCH OF THE AUTHOR**

The author Abay Negash Yadetie was born on May 1984 GC at Arsi Zone Halila Town. He attended his primary school (1-8) in Halila primary school and Secondary Education at Arsi Robe Didea secondary and preparatory school respectively. After he completed secondary and preparatory school, he joined Kotobe College of teachers Education, Department of physical Education in 2004 GC and He got BED in HPE with Minor Biology. He taught physical Education for three year in Siltana Secondary school from 2010 up to 2012 and then in Bekoji secondary and preparatory school by teaching HPE for two year. Then he join Bekoji Athletics training center for four year from 2012 up to 2014 by coaching middle distance trainees and department head coordinator up to 2017. Currently he serving in Arsi Zone sport office as a sport team leader and finally he joined the school of Graduate studies of Haramaya University in 2018 GC in the summer program to pursue MSC in Sport Medicine.

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## ACRONYMS AND ABBREVIATIONS

<b>BMI</b>	Body Mass Index
<b>CF</b>	Change of Force
<b>FDP</b>	Force Distribution Pattern
<b>IAAF</b>	International Association of Athletics Federations
<b>ICCC</b>	Intra class correlation coefficient
<b>ISS</b>	Injury surveillance system
<b>RICE</b>	Rest, Ice, Compression and Elevation
<b>RRIs</b>	Running Related Injuries
<b>MLDR</b>	Middle and Long Distance Running
<b>MDR</b>	Middle Distance Running
<b>SPSS</b>	Statistical Package for Social Science
<b>SRS</b>	Simple Random Sampling
<b>F</b>	Frequency

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## **Cause and Prevalence of Athletes Injury: The Case of Some Selected Athletics Club of Oromia Regional State in Asella Town, Ethiopia**

### **ABSTRACT**

*The main purpose of this study was to assess the Cause and Prevalence of Athletes Injury: The Case of Some Selected Athletics Club of Oromia Regional State in Asella Town, Ethiopia. For the implementation of the Study, a descriptive survey design has employed and the samples for the study were selected using simple random sampling technique and purposive sampling technique. The sample size were 60 trainees, 3 coach, 3 managers and 3 physiotherapist totally 69 respondents has involved out of 129 total study populations of Oromia athletics club in Asella town include as sources of data. The quantitative data they used to analyze by using computerized Statistical package software (SPSS). Frequency and percentage statistical techniques has employed. The qualitative data was first organized into meaningful information and the data should be described both as expressed by open-ended questionnaire, interviewees and observation. This result implies that absence of physiotherapist, training altitude and similarity of training plan, inadequate training facilities and equipment has identified as cause of injury. Generally the finding conclude that the trainees understanding about injury is low and miss of physiotherapy, lack of sport equipment, sport wear, similar training altitude and similar training program of long distance, gender of coach and absence of food menus are the basic cause of injury. Major types of injury identified from the respondents' response of middle distance were hamstring strain, knee injury, muscles sprain, ankle sprain and muscle spasm/benumb respectively with the above cumulative factor indicate that, the prevalence of injury increase in all sport club.*

**KEY WORDS:**-cause, injuries, Prevalence.

# 1. INTRODUCTION

## 1.1 Background of the Study

Running, jumping and throwing are basic sport skills that provide the foundation for most other sports, but they are the focus of the sport of athletics or track and field. The running events vary in distance from short sprints (50, 60, and 100 m ) to distance races (1,500, 5,000, and 10,000 m ), as well as races involving hurdles (110 m hurdles, 400 m hurdles, and steeplechase). Track and Field Injuries 139 The field events consist of throwing events (shot put, discus throw, javelin throw, and hammer throw), horizontal jumps (long jump and triple jump), and vertical jumps (high jump and pole vault). Training and competing in running events involves long periods of repetitive stress on the musculoskeletal system, with the feet striking the ground 1,000 to 1,500 times per mile with forces two to three times body weight. As a result, the majority of running injuries are attributable to overuse of that system Zemper, Eric D (2005).

The famous barefoot marathon victory by Ethiopia's Abebe Bikila at the 1960 Olympic Games in Rome, striding through the night sky to equal the world best time. (IAAF).when we talk about sport and Ethiopia, relatively few but world finest distance runners" just come to our mind .A bit of research on the internet brought me to Bekoji, a small village in Arsi zone in Ethiopia and the birth place of Tirunesh Dibaba her competitor during the race and many other great Ethiopian athletes. Bekoji, with just over 16.000 inhabitants, already produced many gold medals in international competitions.

Running injuries can defined in numerous ways and their treatment suffers from the lack of a consistent set of defining parameters. The scientific literature variously defines a running injury to have occurred when it is severe enough to reduce the volume of miles run and cause the runner to take a medication or see a health care professional. Others define a running injury as an incidence that hampers training for at least one week. Kozinc, Žiga, and Nejc Sarabon. (2017).

When the literature examined to determine the incidence rate of running injuries (in studies of 500 or more participants) the yearly incidence rate ranges from 37% to 56%. Despite the relatively high incidence rate of running injuries per runner per year, this incidence rate is still 2 to 6 times lower than in virtually all other common sports. Runners will reduce or cease their training in about 60% to 90% of all reported injuries, will seek medical care in about 20% to 40% of all running injuries, and will curtail their daily non-running routine in about 85% to 95% of running-related injuries. Most running injuries are muscular-skeletal overuse syndromes related to cumulative overload of the lower extremity. Of all running injuries, 70% to 80% occur from the knee to the foot.

The differential for leg pain is broad skeletal (medial tibia stress syndrome, stress fractures), musculotendinous (tendinosis, myopathy), vascular (exertional compartment syndrome, venous thrombosis, popliteal artery entrapment syndrome, vascular claudication), neurologic (nerve entrapment, lumbosacral radiculopathy, neurogenic claudication), infectious, and neoplastic Wilder RP (2010). The popular quote “no pain no gain” holds no credibility within the sports world. Pain indicates that something is wrong and training should stop immediately to determine the source of the pain. It is important to understand the difference between discomfort felt when training hard, and exercising when injured. When injured, common sense is of prime importance. Injuries are largely preventable and whilst some are due to accidents, others are due to poor training, insufficient warm up, improper equipment, and an athlete being in poor physical condition. By following some simple guidelines, training can be made safer and more effective. Lieberman DE (2010).

Most running injuries are lower extremity injuries, with a predominance for the knee. About 50 to 75% of all running injuries appear to be overuse injuries due to the constant repetition of the same movement. Recurrence of running injuries reported in 20 to 70% of the cases. From the epidemiological studies, it can be concluded that running injuries lead to a reduction of training or training cessation in about 30 to 90% of all injuries, about 20 to 70% of all injuries lead to medical consultation or

medical treatment and 0 to 5% result in absence from work. Fields, Karl B., et al (2010)

The middle distance races are the 800m, the 1500m, and the 1 mile up to 3000m long runs. These races require different skills and tactics to win than the sprints. They rely more on endurance and pacing than just pure speed. In addition, the runners do not stay in a single lane for the entire race. They start out in staggered lanes, to make the distance the same for each runner, but the race soon becomes open with no lanes and the runners must pass around each other to gain the lead Lanham (2005). This event relies both on aerobic and anaerobic energy production systems and depends on different physical qualities: aerobic qualities (VO<sub>2</sub> max), maximum speed, speed endurance, anaerobic endurance, fatigue resistance as well as velocity associated Mechanical Stiffness (2017). Middle distance runners are typically a medium height and have a lean body composition with low body fat levels and good muscle. Next to its beneficial health effects, negative side effects in terms of sports injuries should also be recognized clearly. This optimizes their power to weight ratio to aid with speed and power in racing.

The reasons of the researcher focusing on this particular study topic are running are thus become the preferred choice of physical activity by thousands of people to improve their overall health and means of income in Arsi Asella Ethiopia that I was saw all time. In Arsi Asella there are one federal athletics sport academy, two federal athletics projects, three regional athletics sport clubs, twenty two regional athletics projects, one NGO Athletics sport projects and individually trainees involved in athletics and a total of more than 1000 trainees participated in running every year and there are more than 20 professional athletes were born. Behind this, there is many athletes injured and exposed to different social and economic problems. Therefore, this attract me to focus to study on the cause and prevalence of middle distance trainee's injury OAF (2011).

## 1.2 Statement of the Problem

According to Yeshtila kassa (2017) cause and management of sport, injury on athletes, performance the use of sport academy training err and injury management were the major cause of their impact seen on athlete's performance.

So that the country has no equivalent coaches to train athletes as their numbers, and sport medicine professionals to examine athlete's status and future, and aware the potential risk of injuries as well as advice how and when it occurs. In addition, help athletes to be treated and rehabilitate, and back to pick performance. The existing problems concerning the causes and prevention of injuries in the long distance events are absence of Sport Medicine professionals to prevent and cure sport injuries and Coaches as well as athletes awareness in the training and its impact Kassa Yeshitila (2017).

As far as the present knowledge of the researcher is concerned, injury has great impact on athletes this study is targeted to fill the gap of athletes knowledge about injury in respective to the field of middle distance athletes in some selected Oromia Region athletics club.

So Arsi Asella is the fountains of athletes, while lack of equivalent coaches to athletes as their numbers, miss of physiotherapist, awareness to injuries and the research conducted as I sow is only on short and long distance events are the basic gab that identifies to conduct this research on middle distance. Contextually in the study area, the athletes has exposed to injuries because of the above factors. Due to this severity injury risk, different athletes incapable of being fruit full in the middle distance. In Oromia Region Athletics club, middle distance runners 'those who found in Asella there is no any research conducted on a title of cause and prevalence athletes' injury before. This is the basic but not the only factors to the research is going to be Assessing the prevalence and causes of athletes injures in selected Oromia Region Athletics club found in Asella town. In light of the above pressing and sensitive issues, the researcher was conducted research in assessing the cause and prevalence of athletes injury in selected athletics club of Oromia region.

### **The research questions:-**

1. What are the major causes of injuries in Oromia Region Athletics club, middle distance runners?
2. What are the common athletes injuries occurred in Oromia Region Athletics club, middle distance runners?
3. How is the prevalence of injuries in Oromia Region athletics club middle distance trainees?

### **1.3 Scope of the Study**

The scope of a given studies was usually looked at from various perspective which could be in terms of area of coverage as a related to the subject matter and view point of geographical reach within a given time and budget limit allocated for the assignment. Accordingly, the study covers three Athletics club established in Oromia Regional State. Thematically the studies concentrated to “Cause and Prevalence of Athletes Injury: The Case of Some Selected Athletics Club of Oromia Regional State in Asella Town, Ethiopia.”

### **1.4 Significance of the Study**

The investigator had decided to under taken survey for Adama, Dandi and Asella Athletics training sport club particularly, because I have seen so many times injured trainees around the town and Arsi Asella is the home of many new born and Elite athletes. Identifying the common sport injuries and their possible causes would help the training athletics Club what measures has taken to manage the existing problems. In addition, the Study plays a very significant role for other Athletics Clubs and Athletics training centers as Well as sport training centers on how to identify the cause of injuries that the athletes’ are facing during engaging on regular training. Appropriate Injury minimizing mechanisms of prevalence would revealed in line with the current actual problem for coaches, athletes, Physicians, managers and athletics federation. Additionally, the result of the study helps the training centers, coaches, and managers to get clear insight about the Coase and prevalence

of injury to gear their effort towards the minimizing incidence of injury rate. It helps other responsible stake holders like Zonal, regional sport sectors to be aware of the extent to which injury is being harm and bring out the challenges of injury in order to take corrective actions and measures of reducing incidence rate of injury. Finally, the study also serves as a source of information for other researchers to conduct further study. In regarding to this,

**The research had the following purposes and Significance.**

- ✓ To find out the cause and prevalence of injuries among the middle distance trainers.
- ✓ To aware the trainees about the cause and prevalence of middle distance injury
- ✓ To incorporate some new result of the findings into the prevention of injuries.

## **1.5 Objectives of the Study**

### **1.5.1 General objective**

The general objective of the research was to study the Cause and Prevalence of Athletes Injury: The Case of Some Selected Athletics Club of Oromia Regional State in Asella Town, Ethiopia.

### **1.5.2 Specific objectives**

1. To identify the common sport injuries of the middle distance runners in each of the athletics club in Asella Town.
2. To find out the major causes of athletes injuries in middle distance events in Asella town.
3. To assess the prevalence of injuries in Oromia Region athletics club middle distance trainees.

## **2. REVIEW OF RELATED LITERATURE**

### **2.1. Risk Factors for Running Injuries**

#### **2.1.1. What is injury**

Running has become a popular form of exercise over the past three decades not only in this country, but worldwide. The numerous health benefits of running and other forms of exercise has well documented. However, injuries frequently occur because of running. Depending on the definition of injury used and the type of population studied, various reports have estimated yearly incidence rates of 37% to 79%. Although traumatic injuries do occur with running (acute muscle strains, ankle sprains, motor vehicle traumas), the vast majority of running injuries are due to what we consider “overuse.” Some of the more common clinical conditions that are often considered related to running include patella femoral knee pain, shin splints or lower leg pain, Achilles tendinopathy, iliotibial band tendinopathy, plantar fasciitis, metatarsal stress fractures, and tibia stress fractures Wen and Dennis Y (2007)

Sports injuries” is a name applied to all types of damage occurring in the course of sporting activities van Mechelen, H, Hilobil and HCCP komper, (1992). Injuries variously defined. The most common definitions they based on time lost from training or competitions, or on medical treatment, defined as injuries requiring treatment by a physician. However, this may or not result in time lost from training or competitions Brooks & Fuller (2006)

The heterogeneity in study populations, in operationalization of both outcomes and risk factors, and time to follow-up prevented us from following a formal meta-analytical approach. Study populations varied from novice runners to recreational runner and competitive runners, outcomes from running-related injuries, overall injuries to lower leg overuse injuries and more localized injuries, e.g. Achilles Tendinopathy, back injuries. Follow-up time points varied from 8 weeks to 6 month. Across the studies different categories of independent variables has used with different cut-off points or injured versus injured runners were compared using

continuous values of risk factors, (e.g. the mean age of injured runners was higher than the mean age of non-injured runners. For these reasons, we refrained from doing a meta-analysis. We therefore choose to present the results using a best evidence synthesis. The various purported risk factors for running injuries has commonly divided into intrinsic and extrinsic risk factors Brooks & Fuller (2006).

Intrinsic risk factors include mostly anatomic and other variables that are innate to the individual, such as gender, age, height, weight, personality type (e.g., aggressive, passive), and anatomic factors such as femoral ante version, genu Varus or valgus, pes planus or caves, bone density, muscular flexibility, and leg-length discrepancies. Extrinsic risk factors include training variables such as mileage, hill running, pace, interval training, equipment (shoes, shoe inserts), and training surfaces. This article reviews the existing literature concerning risk factors for running injuries, summarizes our current knowledge, and highlights the shortcomings in our understanding of this issue. Wen and Dennis Y. (200)

## **2.2 Training Factors.**

### **2.2.1. Training experience**

Five high-quality studies investigated the relationship between running experience and running injuries. Limited evidence they found that more running experience was a risk factor for overall running injuries. There was also limited evidence that running with less (< 1 year) experience was protective for running injuries. Limited evidence has found that more running experience was a risk factor for knee and foot injuries Van Middle Koop et al., (2008).

### **2.2.2. Running**

Five high-quality studies investigated the relationship between training factors and running injuries. The prospective study found increased hours of running per week to be protective against overall injuries (expressed in terms of incidence per mileage or hours run). There was limited evidence that age < 40 years combined with running

$\geq 6$  times a week was a significant risk factor for running injury as there was for age  $\geq 40$  years combined with running  $\geq 6$  times a week. There was also limited evidence that age  $\leq 40$  years combined with running 1–3 times a week and running  $< 10$  miles per week were significant protective factors for running injury and an age  $\geq 40$  years combined with running 1–3 times a week was protective found that interval training was protective against knee injury in men. In contrast, the two high quality studies by found more interval training to be a risk factor for shin injuries. The evidence for interval training being a risk or protective factor was limited. There was also limited evidence that increasing hours of running per week is protective against knee and foot injuries and that a slower training pace was a risk factor for heel injuries Van Middelkoop et al., (2008).

### **2.2.3. Surface**

Frequently recommend running on soft surfaces to reduce injury risk. Little (if any) evidence supports this recommendation (with the possible exception of increased risk among women running on concrete per a prospective, survey-based study including 98 habitual female runners). Recent findings of prospective cohort and retrospective studies are conflicting concerning associations between running surface hardness, hilly or irregular terrain running and injury risk or prior injury among high school runners.<sup>29,30</sup> Runners may adjust gait patterns or lower extremity stiffness/leg compliance in response to changes in running surface hardness.<sup>31,32</sup> Adjustments appear to be unique to each runner. (Schütte, 2016)

### **2.2.4. Distance**

Four high-quality studies analyzed running distance as independent variable for running injuries. There was limited evidence that higher weekly mileage is associated with hip and hamstrings injuries and that a training distance of 0–40 km a week is protective against the incidence of calf injuries Lun V et al., (2004).

### **2.2.5. Race participation**

One high-quality study (limited evidence) found the risk of running injuries to be higher in men who had participated in more than six races in the last year Van Middelkoop, et al., (2008).

### **2.2.6. Shoe use**

Homo sapiens has evolved as a being that is highly specialized in bipedal locomotion and running. In the hunter-gatherer era running was essential for survival and presumably performed barefoot or with minimal footwear. Running is become one of the most popular sports worldwide and represents a milieu, which advocates the use of specific footwear. Since the introduction of the “modern” running shoe in the 1960s and the running boom in the 1970, the running shoe industry has steadily grown into a huge market. Over the years, more and more brands have introduced increasingly sophisticated technological features, among others lightweight materials, an elevated heel, shock-absorptive midsoles for improved cushioning and motion control systems for better foot stabilization. Protection against injury is one of the most often used arguments by shoes manufacturers to justify these technologies, which has recently led to a paradigm shift in evaluating running shoes. Paradoxically, the ‘minimalist’ shoe only introduced about a decade ago possesses none of these features Theisen, Daniel (2016).

## **2.3. Personal Factors**

### **2.3.1. Sex**

One low quality study and five high quality studies assessed sex as risk factor for running injuries. One high-quality studies found men to have a significantly higher risk of running-related injuries than women, and particularly younger men (< 40 years). Thus, there was limited evidence that men are at higher risk of running-related injuries McKean, et al., (2006).

### **2.3.2. Age**

Four low-quality studies and four high-quality studies investigated the relationship between age and running injuries. Only one study found age to have a significant effect on running injuries: When showed that lower age was significantly protective against overall injury. Thus, there was only limited evidence that lower age affects the risk of running-related injuries found higher age to be a significant risk factor for hamstrings injuries and mid portion Achilles tendinopathy, respectively. This indicates that there is limited evidence that age affects the risk of hamstrings injuries and mid portion Achilles tendinopathy Hirsch Muller et al., (2012).

### **2.3.3. Body Mass Index**

Three low-quality studies and three high-quality studies examined BMI as a risk factor for running injuries. BMI was not found to have significant effect on injury risk in runners overall, but found a higher BMI to be a risk factor for back injuries in women and a lower BMI to be a risk factor for foot injuries in men. Thus, there was limited evidence that BMI is a risk factor for back injuries in women and for foot injuries in men Wen et al., (1997).

### **2.3.4. Height**

Four low-quality studies and three high-quality studies investigated height as a risk factor for running injuries found lower height in men to be a significant risk factor for foot injuries, indicating limited evidence Thijs et al., and (2011).

### **2.3.5. Weight**

Three low quality studies and three high-quality study investigated weight as a risk factor for running injuries found higher weight in women and lower weight men to be a risk factor for back injuries and foot injuries, respectively. In the same research group, found higher weight to be protective against foot injuries. Thus there was limited evidence that higher weight in women and lower weight in men were risk

factors for back and foot injuries, respectively. Furthermore, there was limited evidence that a heavier weight protects against foot injuries Hesar et al., (2009).

### **2.3.6. Navicular drop**

One high-quality study investigated the influence of navicular drop on running injuries found runners with a high navicular drop (>10 mm) in the left or right foot were at greater risk for medial exercise-related leg pain. In addition, a navicular drop of more than 10 mm in only the left foot was significantly associated with a higher risk of medial exercise-related leg pain. Thus there was limited evidence that navicular drop (> 10 mm) is a risk factor for running injuries Bennett JE, et al., (2012).

Found a significant decrease in the total posterior anterior displacement of the COF and a laterally directed force distribution underneath the forefoot at 'forefoot flat' as intrinsic gait-related risk factors for Achilles tendinopathy in novice runners demonstrated that runners with a significantly higher vertical peak force underneath the second metatarsal and shorter time to the vertical. Peak force underneath the lateral heel were at higher risk for patella femoral pain syndrome. In conclusion, there was limited evidence that a number of force distribution factors/patterns are risk factors for, or protective against, lower leg injuries, Achilles tendinopathy, and patella femoral pain in runners This Yet al., (2008).

## **2.4. Health and Life-Related Factors.**

### **2.4.1. History of previous injury**

Four high-quality studies investigated the relationship between running injuries and previous injuries found that runners with a history of exercise-related leg pain for a month or a year were at greater risk of a relapse of exercise-related leg pain also found previous injuries to be a risk factor for running injuries. In the high-quality study, lower extremity injury in the previous 12 months has found to be a risk factor for running injury in men. In conclusion, there was strong evidence that previous

injury is a risk factor for running injuries found that a lower extremity injury in the previous 12 months was a risk factor for a knee injury, and that an injury at another location (hip, groin, thigh, knee, ankle, or/and foot) was a risk factor for calf injury. None of the other studies identified risk factors for knee and/or calf injury found that runners with a history of medial exercise-related leg pain lasting longer than 1 month were at greater risk of medial exercise-related leg pain. A history of old shin injuries would found to be a risk factor for shin injuries in one high-quality study. A previous disorder of the Achilles tendon was a significant risk factor for importation Achilles tendinopathy in one high-quality study. In conclusion, there was limited evidence that previous injury is a risk factor for specific running injuries, namely, medial exercise-related leg pain, mid portion Achilles tendinopathy, shin injuries, knee and calf injuries Bennett et al., and (2012).

#### **2.4.2. Sex differences**

Differences between the health of men and women are a major concern to European health authorities. Only five high-quality studies investigated the effect of runner's sex on the risk of running injuries. However, given the small number of studies that investigated this, it was not possible to establish sex-specific profiles for risk factors Ostrowska A, (2012).

Two high-quality studies investigated the relation between previous injury and running injuries and presented data for men and women separately, so that it was possible to calculate a sex ratio. When the criteria of (Van Tulder et al., 2003) used to determine the level of evidence for sex differences, two studies provided moderate evidence those men (< 40 year) had a higher risk of running-related injuries and two studies provided moderate evidence that men had a higher risk of running-related injuries when having a previous injury. The other studies did not provide evidence of sex-related differences in risk of running injuries. However, physical therapists, sports physicians, etc. can provide sex-specific advice for the prevention of running injuries, and trainers and coaches can tailor their training advice to individual runners. More prospective longitudinal studies are necessary and should analyze data

for men and women separately, in order to obtain evidence-based, sex-specific risk profiles Ostrowska A, (2012)

## **2.5. Risk of Bias & Study Limitations**

As risk factors were operationalized as dichotomous, ordinal, or even continuous variables, it was not possible to calculate a meaningful pooled summary of outcomes. Moreover, conclusions made after data pooling might have been of limited value given the heterogeneity in definition of running injury in the various studies.

Quality scoring systems has used in an attempt to address possible methodological shortcomings that could threaten the validity of study results Bongers et al., (2002). We created our quality scale based on the lists used by the Cochrane Collaboration to assess cohort studies and on lists used in previous studies. One of these lists has quantified in a study that evaluated quality-rating systems for observational studies. The scoring list of scored positive on six and partially positive on one out of nine domains for assessing study quality West S, et al,(2002). While the usefulness of quality control a disputed, as it is difficult to determine how to weight each item in an overall quality score, sum scores they considered helpful in a systematic review for distinguishing between studies with a low or a high risk of bias. We evaluated the quality of the included studies in order to gain insight into the risk of bias and therefore to enable us to draw meaningful conclusions. A point of concern is that many of the included studies did not clearly describe the participation rate of the target group, which limits the generalize ability of findings Vanden broucke JP, et al., (2007).

This study had some limitations. All included studies, prospective and retrospective; they assessed using the same quality list. Because it would be better to adjust the list for a retrospective design. A second quality analysis was done for the two retrospective studies reviewed such that item two (“participation rate is at least 80% from the identified target group”) and three (“the participation rate at main moment of follow-up is at least 80% or the non-response is not selective”) were scored as “not applicable” in the scoring list. This did not influence the quality score of these articles

(both remained high quality), and therefore had no influence on the results of our best evidence syntheses.

By our inclusion criteria (e.g. long-distance runners recreational and/or competitive) for selecting the original studies, a broad spectrum in the type of runners (novice, track and field, etc.) has selected. When the inclusion criteria were more strictly defined, our results could be presented stratified for each group of runners. However, the number of studies per type of runners would be too small to give useful information and by choosing a broader spectrum of type of runners, our results are more generalize able to the total adult running population.

Although we performed an extensive literature search, it is likely that both selection and publication bias influenced the results. Future research, in which running injury uniformly defined, may indicate whether the factors found in our review are true risk factors McKean, (2006).

## **2.6. Biomechanics of Running**

There are 3 phases of running gait, stance, swing, and float. As running speed increases, less time spent in the stance phase. Normal running gait begins with lateral heel strike, followed by foot pronation during mid stance, and foot supination during push-off Buist I (2011). Proper running gait critical to absorb the impact of striking the ground; insufficient or excessive pronation or supination alters force dissipation in the kinetic chain (muscles, ligaments, tendons, and bones). In developed countries, most individuals wear running shoes and land on their heels. The rear-foot strike-running pattern facilitated by elevated and cushioned heels of modern running shoes during ground reaction forces reach 1.5 to 3 times body weight. Three common recommendations include (1) motion control shoe for low arches, (2) cushioned trainer shoe for high arches, and (3) stability shoes for normal arches. While these modifications have gained popularity within the running community to combat injury, there are currently limited data to suggest that these measures, based on arch type or foot shape, can reduce injury rates.

Recently, biomechanics research has emerged to support the advantages of “barefoot” running. These runners generate smaller collision forces than individuals wearing standard cushioned running shoes. The ability of “minimalist” runners to absorb impact more efficiently than shod runners may result from adaptations of dense plantar mechanoreceptors; the somatosensory

Feedback likely diminished in shod runners. To date, no clinical studies substantiate the claims of injury reduction using a “minimalist” style.

### **3. METHODS AND MATERIALS**

#### **3.1. Description of Study Area**

The study was conducted in Arsi zone Asella Town. Arsi is bordered on the south by Bale, on the south west by the West Arsi Zone, on the northwest by East Shewa, on the north by the Afar Region and on the east by West Harare. The highest point in Arsi is Mount Chilalo other notable mountains in this zone include Mount Kaka and Mount Gugu. Asella is a town and separated woreda in central Ethiopia. Located in Arsi zone of Oromia region about 175 kilometers from Addis Ababa, this city has a latitude and longitude of 7°57'N39°7'E, with an elevation of 2470 meters; with weather condition of 57°F(14°C), wind SW (south west) at 4 mph (6Km/h), 79% Humidity and has total population of 110,088(2012) Ethiopia's Central Statistical Agency(2005,2007).

#### **3.2. Study Design**

The purpose of the study was to assess the Cause and Prevalence of Athletes Injury: The Case of Some Selected Athletics Club of Oromia Regional State in Asella Town, Ethiopia. To achieve this, the descriptive survey research design is applied. The techniques that has selected to obtain the relevant data had quantitative and qualitative research in the form of a questionnaire, interview and observation.

#### **3.3 Source of Data**

In this study, used all the data as primary data sources in order to collect necessary information. The data source obtained from the respondents such as, coaches, trainees, physiotherapist and managers of the club through questionnaires, interview and observation.

### **3.4 Study Population**

Population is defined as a group of individuals, objects or items from which samples are drawn (Kombo and Tromp, 2006). The study conducted in Oromia regional state Aella town and population of the study has selected purposely because of geographically location of the researcher. So that the population of the study were the Adama, Asella and Dandi athletics club in 2019/2020 academic year trainees, Coaches. Managers and physiotherapist. Generally, the total population of studies sample were 102 male and 18 female trainees, 3 coach, 3 physiotherapist and 3 managers a total of 129 populations.

### **3.5 Sample size and sampling techniques**

Sampling techniques were used for these study was both simple random and purposive sampling techniques. Simple random sampling techniques used to select male trainees and purposive sampling techniques used to select female trainees and staff members because they are small in numbers. The total population of the study was 120 trainees and 9 staff members' 129 participants. From 102 of male trainees 42 were select by simple random samplings technique lottery method while 3 coach, 3 therapist, 3, Managers and 18 female trainees were selected by using purposive sampling technique because small in numbers. Therefore, the target population of this study were 69 participants.

### **3.6 Data Gathering Instruments**

The data gathered from trainees, coaches, physiotherapists and managers' through data collection tools such as observation, questionnaires and interview.

#### **3.6.1. Questionnaire**

Questionnaire is a highly appropriate data collection tool, to get wider information from widely dispersed sample population and make possible an economy of time and expense and it provides a high proportion of usable responses Best and Kahn (2003).

In order to obtain the necessary data, an open-ended and close-ended questions would adopted and prepare to distributed for trainees in three language English, Amharic and Afan Oromo.

### **3.6.2. Observation**

In order to obtained information about Cause and prevalence of injury, the observation would be take place by the researcher for 60 days while 20 day for each sport clubs and 30 minute to 1 hour during each training day. The information obtained through observation is more accurate, more valid, and more reliable than any information gathered through other means As to Best and Kahn (2003),

### **3.6.3. Interview**

Interview is the major tool in which a qualitative evaluator seeks to understand the perceptions, feeling and knowledge of people in programs through in-depth, intensive interviewing Leedy and Ormrod (2005). While the researcher would prepared five interview questions for physiotherapists and managers for three Oromia Athletics Club.

## **3.7. Methods and Procedures of Data Collection**

The study used qualitative and quantitative research methods whereas data was collected through a questioner administered to three athletics club trainees ,coaches and physiotherapist whereas interview was administered to three athletics club managers and observation which was done by attending training session. In order to witness the routine followed by coaches, physiotherapist and managers in conducting training session. Permission was to carry out of the study is obtain from HU and the three athletics club managers before the researcher started collecting data. The main data gathering tools for this study were questionnaire, interview and observation, which are developed based on related literature and basic questions. The research assistants at each athletics club by distributing and collecting the questionnaire from trainees. The distributed 23 questionnaires for 60 trainees, 3 coach, and 3

physiotherapist collects data and from the interview 3 club managers. Coaching field observation checklist also implemented in the three-sampled club. The administrative staff members and trainees were assured of confidentiality of the information collected and security of their job.

### **3.8. Methods of Data Analysis**

In order to achieve the objectives of the study the data obtained from different sources through data gathering instruments such as questionnaire, interview and observation was analyzed based on the nature of the data. Therefore, both quantitative and qualitative techniques have been used to analyze and interpret the obtained data. Quantitative data was analyzed by using computer software SPSS (Statistical package for social Science). Analyzed and interpreted used descriptive statistics such as frequency and percentage and checking the consistency and reliability of data by using scale reliability (Cronbach's alpha). The qualitative data was first organized into meaningful information and the data should be described both as expressed by interviewees and observation by the researcher.

### **3.9. Ethical issues and Consideration**

This study deals with the ethical issues related to the investigation. Individuals who are concerned filled this questionnaire. This study deals with the ethical issues related to the investigation. It can make guarantees and confidentiality of the information that has been given to the study and risk of harm due to participation. Therefore, the study should conduct all actions based on the University rules, code of conduct and policies concerning research ethics. The protocol should be approved by the University guidelines and written consent should be given and inform the concerned bodies.

#### **4. RESULT AND DISCUSSION**

The main findings of this study presented with the help of tables followed by descriptive analysis to give answers for the questions set in the study. In the interpretation, attempts made to describe the findings interpretively to draw conclusions, show implications, and make recommendations. Therefore, data from different sources treated together and integrated in various methods in order to arrive at suitable conclusions and recommendations. Thus, data from the questionnaire, observation and interviews were interpreted and analyzed in the following ways

The target population of the study were 69 respondent. The distributed close and open ended question for 42 male and 18 female middle distance trainees, 3 Coach and 3 Physiotherapists beside this Observation cheek list and Interview question also organized for 60 track events trainees and 3 club Managers so the data was 100% of from Adama, Dandi and Asella athletics sport club found in Asella town.

Regarding the returned response out of the total 45 questioners, observation cheek list and interview items for the Adama, Dandi and Asella Oromia athletics sport club, athletes, coach and managers all properly fulfill the document and returned except physiotherapist. Consequently based on the response from the respondent through questioner, observation and interview they analysis and interpretation of the document organized as follows. The characteristics of the study club population examined in terms of their age, sex, marital status, and educational background and working experience has presented as follows.

#### 4.1 Demographic Characteristics of study Participants

Table 4. 1 Demographic Characteristics of the trainees

Item	Variables	Category	Frequency	%
1	Gender	Male	42	70
		Female	18	30
2	Age	18-24	39	65
		25-29	21	35
3	Educational Status	Below	10	16.8
		Grade 9-	20	33.3
		Grade	15	25
		Diploma	10	16.8
4	Training Experience	Degree	5	8.3
		4-6 year	41	68.3
		7-10 year	19	31.7

**Table 4.1** indicate that out of 60 trainees there are 42 male and 18 female so that the participation of female athletes in Adama Dandi and Asella Athletics training sport club was not equal with male in middle distance event and needs to more attention in all Athletics sport club found in Asella Town. The age of trainees almost all are 18-29, this period of age was the productive and maturity, period to reach high performance really to save from injury. The educational back ground of the trainees were better and requires more attention to help for more education level with their age to join higher education in addition to their field of running.

Table 4. 2 Demographic characteristics of Coaches

Item	Questions	Category	F	%
1	Age	31-40 year	3	100
2	Sex	Male	3	100
	Educational Status	1 <sup>st</sup> Degree	2	66.7
		2 <sup>nd</sup> Degree	1	33.33
4	Coaching Experience	Above 11 year	3	100
		2 <sup>nd</sup> Level	1	33.33
5	Coaching level	IAAF	2	66.66

From table 4.2 personal detail of the coach show that 100% are male it was not faire because there were the female trainees and may some missed information that not shared to a male coach and reason to decline of injury and performance and the participation of female in coaching had disrupted. The age of a coach was between 30 to 40 best times for coaching middle distance to require more concentration and mental thinking. Their educational background well learned and their status was from Diploma up to MSC. Lastly, their level of coaching has above 66.67%IAAF.

Table 4. 3 Demographic Characteristics of Managers and physiotherapist

No	Questions	Types of respondents			
		Manager		Physiotherapy	
			%	No physiotherapist	%
	Sex	Male	100	-	-
	Age	35-45	66.66	-	-
		Above 46	33.33	-	-
	Educational qualification	Diploma	33.33	-	-
		1 <sup>st</sup> Degree	66.66	-	-
	Work Experience	1-5 year	33.33	-	-
		6-11	33.33	-	-
		11 above	33.33	-	-

From the above table 4.3 data collected and tabulated show, Manager are all male and there has no any physiotherapist found in three Oromia athletics club. That how the foundation of athletics training sport club administration is not give attention to a trainees and no care for the safety of trainees and money athletes exposed to injury and decline of athlete's performance is vast.

### **Responses related to the prevalence of trainees injury by athletes**

Table 4. 4 Descriptive Analysis of trainee's response the prevalence of injured body part

No	Question	Name of Clubs	Response			
			Lower extremities		Upper extremities	
			F	%	F	%
<b>1</b>	States your injured body part most of the time on training.	Adama	15	25		
		Dandi	18	30	1	<b>2</b>
		Asella	16	27		
		Total	49	82	1	<b>2</b>

**Key:** - F = Frequency, percentage, percent.

As Table 4.4 question 1 from sample respondents of Adama 15 (F) (25%), Dandi 18(F) (30%) and Asella 16(F) (27%) with a total of the F. value 49 and 82 % indicate that the respondents of all club responded the injury occurred highly at lower extremities in different body parts. Therefore, the coach of Middle distance field should give more attention to the thigh, knee, ankle, foot, sole, tie and other body part.

**Table 4. 5 Analysis of trainee’s response for prevalence of injury in absence of therapist**

No	Question	Name of Clubs	Response							
			High		Medium		Low		Very low	
			F	%	F	%	F	%	F	%
2	To What extent the absence of massage therapist affects the prevention of injury	Adama	19	32	1	2				
		Dandi	17	28	3	5				
		Asella	17	28	3	5				
		Total	53	88	7	12				

As Table 4.5 Question 2 result indicate that all most all of the respondent responded frequency of 53 with 88% reveal that, the absence of physiotherapist was highly exposed them to injury and the prevalence/incidence rate of trainee’s injury increased.

**Table 4. 6 Analysis of trainee’s response for prevalence of injury with time.**

No	Question	Name of Clubs	Response					
			during Training		during computation		other time	
			F	%	F	%	F	%
3	When did the injury occur at most	Adama	17	28	3	5		
		Dandi	16	27	4	7		
		Asella	19	32	1	2		
		Total	52	87	7	12		

According to Table 4.6 Question 3 a total response of all clubs a total idea from respondent’s tabulated that a F of .52 with 82% most of the time on middle distance trainee’s injury were occurred during training period more than at computation season.

**Table 4. 7 Analysis of trainee's response for prevalence of injury with types of injury.**

N	Question	name	Response											
			of		hamstring		knee		muscles		Muscle		dislocation	
			clubs		injury		sprain		spasm					
			F	%	F	%	F	%	F	%	F	%		
4	what types of injury you face at more	Adam	7	12	8	13	4	7	1	2				
		Dandi	6	10	7	12	4	7	2	3	1	2		
		Asella	11	18	5	8	3	5	1	2				
		total	24	40	20	33	1	1	4	7	1	2		

According to Table 4.7 question 4 the respondents responded in general show that the types of injury occurred were hamstring F.24 with 40%, Knee injury F.20 with 33% muscles sprain F.11 with 18% and muscle spasm respectively are the dominant types of injury and dislocation has the minor injury occurred in all clubs.

### Responses related to cause of trainees injury by athletes.

**Table 4. 8 Descriptive Analysis of trainee's response for cause of injury to sport equipment**

N	Question	Name	Response							
			Very		Comfortabl		uncomfortabl		undecide	
			e		e		e		d	
			F	%	F	%	F	%	F	%
5	What do you say about your sport wear, such as shoes, shorts, socks	Adam			2	3	18	30		
		Dandi			1	2	19	32		
		Asella					20	33		
		Total			3	5	57	95		

The result in Tables 4.8 question 5 value of F. 57 with 95% response show that, the respondent agree with the statement and equipment's and sport wear supplied by each club are uncomfortable and also the quality of each and every materials supplied were no similar agreement and lack of sport wear was the cause of injury in this event.

**Table 4. 9 Analysis of trainee's response for cause of injury running middle distance**

No	Question	Name of Clubs	Response							
			V. interested		Interested		uninterested		Other force	
			F	%	F	%	F	%	F	%
6	How do you interested to run the middle	Adama	15		4				1	
		Dandi	14		5		1		1	
		Asella	11		4		3		2	
		Total	40	67	13		4		4	

As Table 4.9 the result in question 6 generally indicates that the value of F. 40 with the 67% the reason to select the middle distance was V. interested and join this club by choose enhancing money to serve their lives and famous runner in events for future.

**Table 4. 10 Analysis of trainee's response for cause of injury in balance diet.**

No	Question	Name of Clubs	Response							
			Always		Some times		rarely		none	
			F	%	F	%	F	%	F	%
7	As the middle distance runners, have you enhanced balance	Adama			20					
		Dandi					20	33		
		Asella					20	33		
		Total			20	33	40	67		

In Table 4.10 Question 7 results revealed that the F. value of 40 with 67% and F. value of 20 with 33% respondent responded show that no more attention were given for the way of eating according to nutrition science recommended rarely and sometimes respectively at the time of computation they enhance balance diet.

**Table 4. 11 Analysis of trainee's response for cause of injury and factors.**

No	Question	Name of Clubs	Response							
			Warm up		Over training		Altitude		Under training	
			F	%	F	%	F	%	F	%
8	As the middle distance runners, what exposed you to injury during training?	Adam			11		6		3	
		Dandi			14		3		3	
		Asella			17		3			
		Total			42	70	12	20	6	10

As Table 4.11 Question 8 results indicate that most of the respondents responded that over training F. value 42 of 70% with surface, F. value of 12 of 20% reveal that over training and under training F. Value of 6 with 10% was the major causes for the occurrence of injury in middle distance trainees but not the only factors.

Table 4.12 Analysis of trainee's response major problem hinder during training session

### **Responses related to prevalence of trainees injury by Coach**

Table 4. 12 Analysis of coach response for the prevalence of injury related to motivation

No	Question	Name of Clubs	Response							
			frequentl y		Some times		Rarely		Not at all	
			F	%	F	%	F	%	F	%
1	Do you motivate your athlete to prevent from injury while exposed	Adam	1	100						
		Dandi	1	100						
		Asella	1	100						
		Total	3	100						

Table 4.12 question 1 of the F. value 3 with 100% coach response indicate that almost all coach should continuously motivate the trainees to recuperate from injury when they were exposed to injury. However, the understanding of coach about injury were limited.

Table 4. 13 Analysis of coach response for the prevalence of injury related to feedback

No	Question	Name of Clubs	Response									
			frequently		Some times		Rarely		Not at all			
			F	%	F	%	F	%	F	%	F	%
2	Do you provide feedback about injury before and after daily training	Adam	1	33								
		Dandi	1	33								
		Asella			1	33						
		Total	2	67	1	33						

In Table 4.13 question 2 result show the F. Value of 2 with 67% coach give feedback frequently while F .Value 1 with 33% of coach give feedback sometimes about the effect of injury on athletes performance, so the understanding of coach about injury by itself is not enough to prevent trainees from any risk,

Table 4. 14 Analysis of coach response for the prevalence of injury due to facilities

No	Question	Name of Clubs	Response									
			More than adequate		Adequate		inadequate		Deficiently		none	
			F	%	F	%	F	%	F	%	F	%
3	Are there adequate equipment and facilities for training	Adama					1	33.3				
		Dandi					1	33.3				
		Asella					1	33.3				
		Total					3	100				

As Table 4.14 question 3 of the cumulative responses of coach F. value of 3 with 100% response, describe that in Adama, Dandi and Asellaa athletics sport training club no sufficient equipment access in all sport facilities given from clubs as their field of training.

Table 4. 15 Analysis of coach response for prevalence of injury related to incidence rate

No	Question	Name of Clubs	Response									
			High		Moderate		low		V. Low		none	
			F	%	F	%	F	%	F	%	F	%
4	How the prevalence of athletes injury	Adam	1	33.								
		Dandi	1	33.								
		Asella	1	33.								
		Total	3	100								

In Table 4.15 of question four result reveal that, the F. value of 3 with 100% result collected concerning the prevalence/incidence of athletes' injury from coach show that there is the increment of athletes' injury especially on indirect type's injury because of lack of materials, well diet and absence sufficient treatment.

### Responses related to Cause of trainees injury by Coach

Table 4. 16 Analysis of coach response for cause of injury related to physiotherapist

No	Question	Name of Clubs	Response									
			yes		No							
			F	%	F	%	F	%	F	%	F	%
5	Is there physiotherapist in your Athletic Club	Adama			1	33.3						
		Dandi			1	33.3						
		Asella			1	33.3						
		Total			3	100						

Table 4.16 Question 5 Based on the F. value of three with 100% were indicate that no any physiotherapist in Adam, Dandi and Asella Athletics sport club. This indicate that huge problems during training and after training process to save trainees from injury.

Table 4. 17 Analysis of coach response for cause of injury related to physiotherapist

No	Question	Name of Clubs	Response											
			V. high		High		Mediu m		Low		None			
			F	%	F	%	F	%	F	%	F	%		
6	Do you have conceived situation for injury prevention	Adam							1	33.				
		Dandi							1	33.				
		Asella							1	33.				
		Total							3	100				

Table 4.17 Question 6 result of F. 3 with 100% result imply that the middle distance coach concerning conceived situation of injury prevention were low attention would give by club administration for preventing injury while the athletes save their self by different mechanisms.

Table 4. 18 Analysis of coach response for cause of injury related to physiotherapist

N	Question	Name of Clubs	Response											
			Pre		During		Post		No					
			training	Training	training	discussio								
			F	%	F	%	F	%	F	%	F	%	F	%
7	What the means of communication between coaches. Trainees and manage injury to	Adam			1	33.								
		Dandi			1	33.								
		Asella			1	33.								
		Total			3	100								

The table 4.18 of question 7 F. value of 4 with 100% indicates that there is discussion concerning the reduction of injury but only talking during training and there is huge gaps are there in Adama, Dandi and Asella athletics club to take action for allocating the physiotherapist and injury preventing Aids.

## **4.2 The Open Ended Questions**

That has delivered to the Adama, Dandi and Asella Athletics Sport Club Trainees are Interpreted and Summarized As Follows

The mechanism to minimize injury while facing trainees during the daily training session and computation are, avoid poor training, fulfill of sport wear, and reduce lack sufficient training equipment and to hire physiotherapist was the main one,

As the information I collected from the three sports club concerning the factors of the occurrence of sport injury during training and computation show that are lack of equipment and facility, the fluctuation of computation program, lack of physiotherapists,

## **4.4 Summary Analysis of Open Ended Questions for Trainees**

That has delivered to the Adama, Dandi and Asella Athletics Club Coaches interpreted and summarized as Follows

The summary of an open-ended question 9-value results show that, the major problems of coach's face during the daily training session were insufficient sport equipment and facility, loose of physiotherapist, lack of injury privation aid and a mismatch of proper nutritional menus with daily training programs are the major one.

The summary of open-ended question 10- value as collected and tabulated from Athletics sports club show, the occurrence of sport injury during training and computation would, lack of training. Equipment and facility, the fluctuation of computation schedule, miss of physiotherapists, influence of weather condition, over and under training because of fraud athletes profile are the main challenge of coach.

#### **4.5 Summary Analysis of Interviews for Managers**

Present the Interviews responses that has prepared for Managers of the Adama Dandi and Asella Athletics Sport Club Should as below.

The summary of data collected from interview question indicate that there is miss of physiotherapist and problem of budget and material so there is no smooth relationship between manager, coach and trainees to perform integration and also regional sport commotion and regional federation. The selection criteria of trainees were not as science recommend instead by one season computational and ones affinity.

**Table 4. 19 Observation Check List for Trainees**

Date of observation October 1/2/2019 –December 30/3/2020

No	Contents	1	2	3	4	5
		Not at all	Rarely	Fair	Most time	Always
<b>1</b>	<b>Running surface</b>					
	track			12/36		
	Asphalt			12/36		
	hill					
	Warm area		3/36			
	Forest				12/36	
	Grass land			5/36		
<b>2</b>	<b>Training related</b>					
	Warming up					36/36
	stretching					36/36
	Cool down					36/36
	Low intensity			8/36		
	Moderate intensity			8/36		
	High intensity				24/36	
	Technical error			4/36		
<b>3</b>	<b>Nutrition related</b>					
	Meal menu		4/36			
<b>4</b>	<b>Environment</b>					
	high altitude					36/36
	Low altitude		4/36			
	Medium altitude			10/36		
	Rain fall				10/36	

#### **4.6 Summary of Observation Check List for Trainees**

Generally on the above observation check list as the data observed show that concerning the running surface low participation of trainees on training program at hot area and most of the time they dominated by the long distance training techniques and have no sufficient training materials are supplied as the events and there are lack of equipment's on events. The training related problems are technical error such as the time allowed for warming up, always do training at morning on high altitude and no nutritional menus in Adama Dandi and Asella Athletics training sport club and concerning the training environment most of the time focused on high altitude.

#### **4.7 Discussion**

The main objective of this research was to identify the major cause and prevalence of injury in middle distance trainees of Oromia region found in Asella town. Thus, this part of study discuss the findings of the study; compare similarity and difference observed in previous study.

Running contributed positively to an individual health, while there are some concern about high incidence of running injury that could occurs Van gent et al., (2007).

According to the response of the respondents gathered reveal that, the trainees understanding about injury is low and miss of physiotherapy, lack of sport equipment and wear, similar training altitude and absence of food menus are the basic cause of injury. Major types of injury identified from the respondents of middle distance are hamstring strain, knee injury, muscles sprain, muscle spasm/benumb and ankle sprain respectively. Therefore, the coach, the manager and physiotherapist are, support each other to minimize the incidence of injury in Adama, Dandi and Asella athletics sport club. These results are in accordance with the results of the studies by Kluiten berg, Bas, et al (2015).

According to Van der Worp, Maarten P, et al (2015), the identification of the cause of the injury together with the risk factors (both intrinsic and extrinsic) is important

to determine optimal injury prevention in sports. In this study, information regarding the anthropometric measurements, demographic data, running experience, running environment, training habits, lifestyle factors and history of previous running injuries were important to determine the possible cause of the injuries. So the researcher state that the trainees understanding about injury is low and miss of physiotherapy, lack of sport equipment and wear, similar training altitude, gender of coach and absence of food menus are the basic cause of injury.

Running contributes positively to an individual's health; however, there are some concerns about the high incidence of running injuries that could occur (Van Gent et al., 2007). Several prospective and retrospective studies has done to determine the prevalence and incidence of injuries in runners, although these studies have predominantly conducted in international, developed countries. To date there are few studies at a national level that have investigated the prevalence and incidence of running injuries, which identifies a gap in the study

Baseline literature. Thus, in the current study, the prevalence of previous running injuries and the incidence of injuries over the period of 16 weeks were determined to fill this gap on a national level. Generally, the study state that, the trainees understanding about injury has low and miss of physiotherapy, lack of sport equipment and wear, similar training altitude and absence of food menus are the basic cause of injury. Major types of injury identified from the respondents as data collected and tabulated show that, hamstring strain, knee injury, muscles sprain, muscle spasm/benumb and ankle sprain respectively. With the above cumulative factor the prevalence of injuries was increase in Adama, Dandi and Asella athletics sport club.

## 5. SUMMARY, CONCLUSION AND RECOMMENDATION

### 5.1 Summary

The purpose of this study was to assess the cause and prevalence of athlete's injury. To end this, descriptive survey research design was adopted to carry out the study. In addition, the study was utilized mixed method approach through collecting and analyzing both qualitative and quantitative data. In order to address the mentioned problems the following basic questions were raised in the study:

1. What are the major causes of injuries in middle distance runners?
2. What are the common athlete's injuries occurred in middle distance runners?
3. How is the prevalence of injuries in middle distance athletes?

Accordingly, in order to answer the question, the descriptive research method was applied. The relevant data for the study were gathered through questionnaire, interview and field observation. There are 69 respondents involved in this study. These are 60 trainees, 3 coaches, 3 physiotherapists and 3 managers of the club. The data obtained were analyzed using descriptive frequency techniques and statistically described through frequency and percentile to analyze the outcome. Finally based on the analyzed data the following major results were obtained from the findings.

- ❖ The study identifies that, there was a lack of physiotherapy, lack of sport equipment and wear, similar training altitude and absence of food menus are the basic cause of injury in Adama, Dandi and Asella Oromia athletics club found in Asella town.
- ❖ Due to lack of physiotherapist, while athletes exposed to injury were not properly treated even go to cultural physiotherapist who has no sufficient knowledge about the therapy science and the trainees were not quickly cured from injury.
- ❖ Generally, the findings related to causes of injury show that the trainees' understanding about injury is low.
- ❖ So the responses collected and tabulated reveal that because of lack of physiotherapist, lack of food menus, lack of sport equipment and clothes, similar

altitude training at morning and similar session plan format the prevalence of injury were increase.

❖ Major types of injury identified from the respondents response collected and tabulated reveal that athletes of middle distance was hamstring strain, knee injury, muscles strain, muscle spasm/benumb and ankle sprain respectively.

## 5.2 Conclusion

Based on the result from questioner, observation and interview of the study the researcher obtained and analyzed the following basic point were drown as conclusion as follows.

- The finding of this study enhance miss of physiotherapist, unfair service of food, high altitude training at morning, lack sufficient sport wear and equipment were the cause of injury in Oromia region athletics sport club found in Asella town. Therefore, this indicate that the athletes highly exposed to injury. When injury occurred, the athletes not cure from it with a short time. The motivation of athletes and coach for work is weak and the effectiveness of the club had reduced.
- The primary purpose of the study was to assess the Coase and prevalence of middle distance runners. Middle distance runners and their staff member report “miss of physiotherapist” as a major causes for running injury, while a majority of the respondents reported “materials and equipment’s” and “high altitude training at morning and lack of menus” to be associated with the factors to the occurrence of injury in middle distance athletes.
- The finding related to prevalence of injury in a factors miss of physiotherapist, lack of sport equipment and cloth, training high altitude at morning, lack of food menus indicate that the incidence rate/prevalence rate of injury increase in Adama,Dandi and Asella Athletics club.
- The finding related to prevalence of injury reveal that the profile of injured athletes where not recorded and stored in each athletics club. Therefore, this is a gap to refer the background of athletes’ profile.

### 5.3 Recommendation

From the major findings of the study and the conclusions, the following recommendations were as drawn:-

- Professional workshop, seminar and training for the club administration, coach athletes and for each and all athletics club member is the primary agenda to make awareness to reduce prevalence of athletes injury.
- All most all of the time, training at high altitude with the same long distance training program at morning time was among the cause of injury in Asella athletics club. So it is advisable to the coach was programed training session according to the weather condition either morning or afternoon and facilitate low altitude training and the session plan were prepared separately according to the running event.
- Generally the researcher applied the above methods to solve the problems that faced during the training process and practicing the techniques of athletics in all athletics club. Therefore, the researcher recommended that the Manager, the coach, the trainees and sport physiotherapist should take responsibility to solve such problems in the environment in order to improve the performance of the trainees and their skills in middle distance running.
- The researcher recommends that each of the prevalence and cause of athletics injury in Oromia athletics training club should require farther study.

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## **7. APPENDICES**

## **Appendix - I**

### **7.1 Questionnaire to be filled by middle distance runner**

#### **Dear Respondents!**

The questionnaire we designed to collect data for the study aimed to assess Coase and prevalence of athletes' injury in Oromia region athletics clubs in focus on the sustainability of the athlete. The data collected using this questionnaire used only for academic purpose and all information gathered from the respondents will be helpful to get pertinent findings and to forward timely and sound recommendation. Your responses are confidential and are not use for any other purpose rather than this study. Therefore, in order to obtain relevant and reliable information that would contribute to the success of this study, I kindly request your cooperation to answer all the questions frankly, as you fill.

**Thank you in advance!**

#### **Note:**

- ✓ No need of writing your name
- ✓ Reply to questions based on instruction given to each part.

#### **Part One: Back Ground Information**

Instruction: Please you kindly respond for the following questions by circling the number of your choice or writing complete answer on the space provided.

Your club name \_\_\_\_\_.

1.1 Sex:           A. Male                           B. Female

1.2 Age A. 18-24   B. 25-29 C. 31-35       D.36 and above.

1.3 Educational back ground   A /grade 9-10   B/grade 11-12   C/ Diploma  
D/Degree

1.4 Training experience: A. 1-3 B. 4-6 C. 6-10 D. 11 and above

**PART 2:** The following questions aimed to assess your background regarding over all awareness of and opinion about “Cause and Prevalence of Athletes Injury: the Case of Adama city, Oromia Road construction and Asella city Administration Athletics Clubs in Oromia Region, Ethiopia”.

## Section 1

### I. Questions related to the prevalence of trainees injury

1. States your injured body part most of the time on training.

A/lower extremities. B/ Upper extremities C/Both

2. To What extent the absence of massage therapist affects the prevention of injury.

A/ high B/medium C/ low D/ V. low

3. When did the injury occur at most? A/during Training B/ During Competition.

C/both

4. What types of injury you face at more? A/ muscle spasm B/Hamstring strain

C/ Knee injury D/ Muscle stain E/ muscle spasm F/ Dislocation

## Section 2

### II. Questions related to cause of trainees injury

5. What do you say about your sport wear, such as shoes, shorts, socks?

A/Very comfortable

B/Comfortable

C/Uncomfortable

D/Undecided

6. How do you interested to run the middle distance?

A/Very interested

B/ Interested

C/Uninterested

D/Because of others' forces

7. As the middle distance runners, have you enhanced balance diet?

A/always

B/sometimes

C/rarely

D/ none

8. As the middle distance runners, what exposed you to injury during training?

A/lack of proper warming up

B/Over training

C/under training

D/surface

9. In your athletics club how is the prevalence of injury in middle distance training?



Case of Some Selected Athletics Club of Oromia Regional State in Asella Town, Ethiopia”.

### Section one

#### 2.1 Questions related to prevalence of Athletics injury

1. Do you motivate your athlete to prevent from injury while exposed? A/frequently  
B/ sometime C/rarely D/Not at all
2. Do you provide feedback about injury before and after daily training?  
A/frequently B/ Sometime C/ rarely
3. Are there adequate equipment and facilities for training? A/More Than Adequate  
B/ Adequate C/Inadequate D/ Very Deficiently E/Almost None
4. What possible solution would you suggest to alleviate the problem related to athletic injury? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_
5. How the prevalence of athletes injury? A/High B/moderate C/low D/very low

### SECTION TWO

#### 2.2 Questions related to cause of Athletics injury

6. Is there physiotherapist in your Athletic Club? A/Yes B/No
7. Do you have conceived situation for injury prevention? A/V. high B./high  
C./medium D/low E/V. low
8. What the means of communication between coach, and administrative staff to manage injury? A/pre training discussion B/during training discussion  
C/post training discussion E/no discussion
9. What are the major problems that hinder during the implementation of coaching process?  
\_\_\_\_\_  
\_\_\_\_\_



of Some Selected Athletics Club of Oromia Regional State in Asella Town, Ethiopia”.

## **Section one**

### **3.1 Questions related to prevalence of Athletics injury**

1. Which of trainee has body part injured most of the time in your club? A/Upper extremities B/ Lower Extremities C/Axial body part.
2. How the prevalence of athletes injury? A/High B/moderate C/low D/very low

## **Section 2**

### **3.2 Questions related to cause of Athletics injury**

1. When athletes face injuries in your club, do you have adequate equipment for treatments. A/More than Adequate B=Adequate C/Inadequate D/ Very Deficiently E/Almost None
2. Is the treatment given for an athlete in your club is sufficient? A/very sufficient B/sufficient C/insufficient D/ No sufficient
3. What the causes of middle distance athlete’s injuries commonly seen in your Athletics club?

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Case of Some Selected Athletics Club of Oromia Regional State in Asella Town, Ethiopia”.

### **Section one**

#### **4.1 Questions related to prevalence of Athletics injury.**

##### **Interview Questions**

1. Do you observe any injured athletes in your club?
2. To what extent the injury occurred on trainee at your athletics club is during training or competition.
3. How to overcome if any injury occurred in your athletics club occurred?
4. Is sufficient types of injury protection aid found in your club?
5. Is the prevalence of injury in your club were increase or reduced from time to time?

## Appendix-V

### 7.5 Observation Check List for Trainees

Date of observation December 1/1/2019 -30/3/2020

Table 4.1.11:-Summary of training surface, training related, nutrition related and environment

No	Contents	1	2	3	4	5
		Not at all				
<b>1</b>	<b>Running surface</b>					
	track					
	Asphalt					
	hill					
	Warm area					
	Forest					
	Grass land					
<b>2</b>	<b>Training related</b>					
	Warming up					
	stretching					
	Cool down					
	Low intensity					
	Moderate intensity					
	High intensity					
	Technical error					
<b>3</b>	<b>Nutrition related</b>					
	Meal menu					
<b>4</b>	<b>Environment</b>					
	high altitude					
	Low altitude					
	Medium altitude					
	Rain fall					

### መግለጫ አንድ

#### 7.6 በመካከለኛ ሯጮች የሚሞላ የአማራጭ መጠይቅ ቅጽ

##### ዋናው አላማ

ከአሮሚያ በተመረጡና አሰላ ከተማ ውስጥ በሚገኙ የአትሌቲክስ ማሰልጠኛ ክለቦች ውስጥ በመካከለኛ ሯጭ ተሳታፊ አትሌቶች ላይ የሚከሰተውን የሯጭ ጉዳት መረጃ ለማሰባሰብ የተዘጋጀ መጠይቅ ነው። የቀረቡት ትያቄዎች በሙሉ ለዝህ ጥናት ብቻ የሚያገለግሉ መሆኑን መግለጽ እፈልጋለሁ። የሚሰጠው መረጃ በሙሉ ምስጢራዊነቱ የተጠበቀ ነው። ስለዝህ ትክክለኛውን መረጃ ከለስጋት መስጠት ለዝህ ጥናት መሳካት ትልቅ ትርጉም አለው።

##### ማሳሰቢያ

- ✓ በዝህ መጠይቅ ላይ ስም መጻፍ ግድ አይደለም
- ✓ ለሁሉም ትያቄዎች መልስ መስጠት ወሳኝነው

##### ክፍል አንድ

##### የግል መረጃ

- ✓ ዕድሜዎ/ሽ ስንት ነው U/ 18-24 ለ/ 25-29 ሐ/ 30-35 መ/ 36 በላይ
- ✓ ጾታ U/ወንድ ለ/ሴት
- ✓ የጋብቻ ሁኔታ U/ያገባ ለ/ላገባ ሐ/የፈታ
- ✓ የስልጠና ቆይታ U/ 0-5 ለ/ 6-10 ሐ/ 11-15 መ/ 15 በላይ
- ✓ የትምህርት ድረጃ U/ 1-4 ለ/ 5-8 ሐ/ 9-10 መ/ 11-12 ሰ/ዲፕሎማ ረ/ድጊሪ

##### ክፍል ሁለት

ከዚህ በታች ለቀረቡት ትያቄዎች ትክክል ነው የምትለውን መልስ ፍይሉን በመምረጥ አክብቦት

1. የአትሌቶች አካል በናንተ ክለብ ውስጥ በተደጋጋሚ ለጉዳት የሚጋለጠው የቱ ነው ?  
U/ላይኛው ክንፈ አካል ለ/ታችኛው ክንፈ አካል ሐ/ሁሉም
2. የአግሻ በክለባችሁ አለመኖር ጉዳት አለው ብለህ ታምናለህ ? U/ከፍተኛ ለ/መካከለኛ  
ሐ/ዝቅተኛ መ/በጣም ዝቅተኛ
3. ጉዳት በውድድር ግዜ ነው ዌስ በስልጠና ወቅት ነው በብዛት ሚያጋጥማችሁ? U/ ውድድር  
ለ/ ስልጠና ወቅት ሐ/ሁሉም
4. እንደመካከለኛ ሯጭ ብዙ ግዜ በተደጋጋሚ የሚያጋጥማችሁ የጉዳት አይነት የቱነው?  
U/ጡንቻ መሳብ ለ/ ወለምታ ሐ/ ጉልበት ህመም መ/ ቅጥቅጥ ሰ /ስብራት
5. የስፕርት ትጥቅና መርጃ መሳርያ በበቂ ሁኔታ በክለባችሁ ይቀርብላችዋል ? U/ በጣም በቂ  
ነው ለ/በቂ ነው ሐ/በቂ አይደለም መ/አላውቅም
6. የመካከለኛ ፍጭ ለመሳተፍ ምን አነሳሳህ ? U/ስለምወደው ለ/ገንዘብለማግኘት  
ሐ/በሌላግፊት
7. እንደ መካከለኛ ሯጭ አመጋገባችሁ ምን መስላል U/በቂ ነው ለ/በቂ ኤደለም ሐ/አልፎ አልፎ  
መ/የለም
8. የመካከለኛ ሯጭ እንደመሆንህ መጠን በክለባችሁ ለጉዳት ምትጋለጡበት ምክንት  
በአንተ ግምት ምንድነው ብለህ ታስባለህ U/በጭና ብዛት ለ/የማማቅ ችግር ሐ/ስልጠና  
በታ መ/ከአቅም በታች ስልጠና
9. የመካከለኛ ሯጭ እንደመሆናችሁ መጠን በስልጠናና ውድድር ወቅት የሚደርስባችሁ  
የጉዳት ስርጭት እንዴት ታየዋለህ ግለጽ -----  
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## IBSA I

### 7.7 Gaafilee Atileetootan guutamu kan Afaan Oromiffaa

#### Kayyoon gaaffii kana

Kilabii Nannoo oromiyaa keessaa filatamanirratti atileetoota fiigicha jidugaleessaa irratti rakkoo hubaati qaama irra gahu odeefannoo funanufi. Gaafileen dhiyaatan hundi qorannoo kana duwwadhaf oolu. Odeefannoon kennamu hundi iccitin isaani eegamadha. Kanafuu ragaa sirrii kennuun qorannoo kanaaf gahe guddaa qaba.

#### Hubaachisa

- ✓ Gafannoo kanaratti maqaa barreesun hin barbaachisu
- ✓ Gaafilee hundaaf deebii kenna.

#### Kutaa 1

##### Ragaa dhunfaa

- ✓ Umriin kee woggaan A/18-29 B/ 30-41 C/ 42-54 D/55-ol
- ✓ Saaala A/Dhi B/Dub
- ✓ Haala ga'eelaa A/kan fuudhe/heerume B/kan hinfunee/heerumne C/kan hike
- ✓ Woggaa meeqaaf leenjirra turte A/0-5 B/6-10 C/11-15 D/ 16ol
- ✓ Sadrkaa Barnoota A/ 1-4 B/ 5-8 C/ 9-10 D/11-12 E/ Diplooma F/Digrii

#### Kutaa 2

Tokko tokkon gaafilee armaan gadiitiif deebii sirridha jettu qubee inni cinatti barra'e filachuun yaada kee agarsiisi.

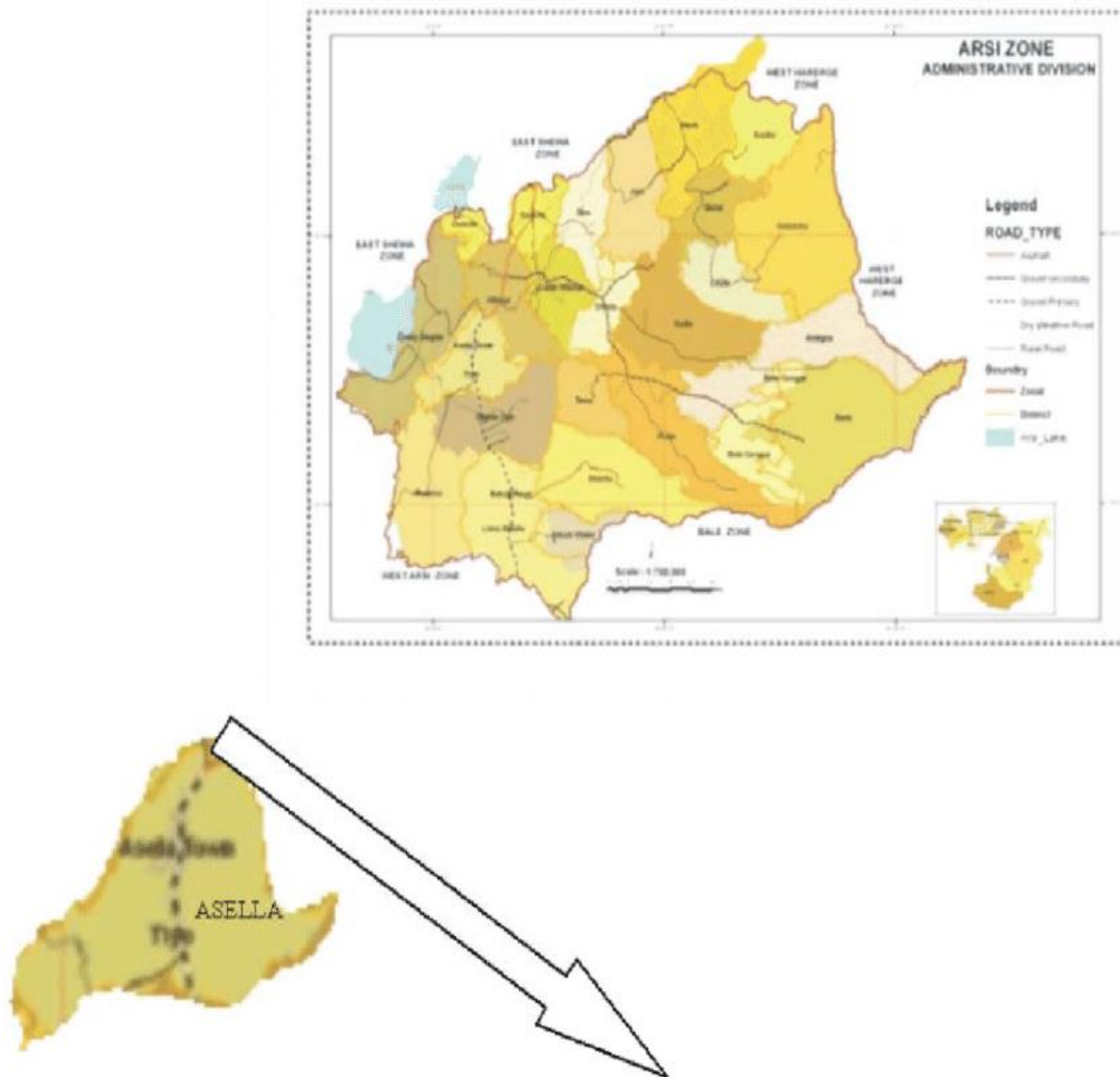
1. Qaamni atileetoota isin biratti yeroo baay'ee midhaaf saxilamu kami? A/.Mudhi oli B/Mudhi Gadi C/Hunda

2. Ogeessi yaala sukummaa kilabii keessaan yoo jirachu baate midhan atileetoota mudatu ni dabala jettee yaada? A/ol-aanadha B/J-Galeessa C/Gadi-aanadha D/Bay'ee gad aanaadha
3. Yeroo kam isin midhaa fiigichaan dhufuuf saaxilamtu? A/Yeroo Shaakala B/Yeroo Dorgommii C/ yeroo lachuu
4. Midhaan irra deedebiin isin mudatu kami? A/Butamu hiddaa B//Miliquu C/Qixqixii D/Jilbi buqa'u
5. Hidhannoo shaakalaf barbaachisan Kan akka kophee fi ufata ispoortii isinii guutame jira? A/Baay'ee mijata dha. B/Mijatadha. C/Gahaamiti. D/adda hin baasne
6. Fiigicha jiddugaleessa irraa qooda fudhachuuf maalif murteesite? A/Waan na gammachisuuf B/Badhaasaf C/Dhiibbaa Birootiin
7. Dhiheessii soorata keessani akkamitti ilaaltu? A/mijatadha B/Darbee darbee C/gahamitti D/hin jiru
8. Sababni midhan fiigicha j/galleessa irratti yeroo shaakalafi dorgommiii sinqunamuf maali jettee yaada? A/Shaakala human olii B/haalaqama ho'isnu c/iddoo shaakala D/shaakala human gadii
9. Faca'insii miidha qaamaa isin irra gahu akka dorgomaa Figicha G/galeessatitti mal fa'a ibsa?

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## APPENDIX VI

### 7.8 Map of Study Area



From Wikipedia, the free encyclopedia: <https://en.wikipedia.org/wiki/Asella>

**Figure: 1 1 Map of Study Area Asella Town.**

Source: Oromia National Regional State, Office of the President