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Using Resistance Training To Prevent And Manage Football-Related Injuries In Under-20 Boys At Nyashanu High School In Buhera District.

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A DISSERTATION SUBMITTED IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN SPORTS SCIENCE

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ABSTRACT

Sports injuries are common in football and many players world over miss games and training sessions due to various injuries that include ankles, knees, hamstrings, and the groin. In football, as with most team sports, the most common injuries are ligament sprains (of the ankle and knee) and muscle strains (of the hamstring and groin). It is against such background that an experimental study was carried out to find the effects and prevalence of different types of training methods and how they prevent and manage football-related injuries. A purposive sampling method was used to select participants from a population of 120 under 20 football players who are doing O level, lower six and upper six at Nyashanu High School. A total of 50 football players were selected and 30 coaches were also used. Data were collected using a questionnaire which was administered face-to-face and through observational study. Results of the study showed that the most common type of injury at Nyashanu High School was lower extremity injuries as confirmed by players 39 (78%) and most of the coaches 24 (80%). The observational study showed that muscle strain was the most prevalent type of injury (30.8%). Most of the injuries were minor injuries (53.8%) and these would take mostly 5 to 9 days to heal (46.2%). Most of the players 24 (48%) and coaches 27 (90%) opined that wrong training is the major cause of football-related injuries. Most of the players agreed to the fact that resistance training is the chief controller of football-related injuries and that it should be included in all training sessions 25 (50%). The plyometric training approach was the second most favoured type of training to manage and prevent football-related injuries (38%). This was also confirmed by an observational study (69.2%). It can be concluded that resistance training should be included in the management of football-related injuries. Moreover, the plyometric training approach is the second most recommended approach to training to minimise football-related injuries at Nyashanu High School. From what was gathered through questionnaires and observations, the research recommends the use of the resistance and the plyometric training methods in preventing and managing football related injuries.

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LIST OF ABBREVIATIONS AND SYMBOLS

A’ LEVEL	Advanced Level
FIFA	Federation of International Football Associations
IOC	International Olympic Committee
LTAD	Long-Term Athlete Development
NASH	National Association of Secondary School Heads
O’ LEVEL	Ordinary Level
SPSS	Statistical Package of Social Sciences
NHE	Nordic Hamstring Exercise

GLOSSARY

Resistance Training	Training using weights, same as weight training.
Plyometric Training	Exercises that involve jumping or explosive movements.

CHAPTER 1
THE PROBLEM AND ITS SETTING

1.1 Introduction

Sports injuries are common in football, many players world over miss games and training sessions due to various injuries that include ankles, knees, hamstrings, and the groin. In football, as with most team sports, the most common injuries are ligament sprains (of the ankle and knee) and muscle strains (of the hamstring and groin) (Kirkendall et al., 2020). Pawar (2021) suggested different training methods that could be used to prevent and manage football-related injuries, these include, fartlek, circuit, flexibility, plyometric, aerobic, and resistance or strength training. Knowledge of types of training and training methods help coaches in selecting and designing appropriate training programmes for footballers. If appropriate training methods and strategies are effectively developed and adopted by coaches and players, the risk of injury occurrence can be minimised. Training is what athletes do to improve their performance, build up muscles, and prevent and manage injuries. However, training gains are also specific to the training type and method. Types of training, training methods, and strategies that can be used by football coaches include aerobic training which includes, continuous, Fartlek, interval, and circuit. Anaerobic and interval training complement the list. Flexibility, which involves static, ballistic, dynamic, and Plyometric, and strength training. Most studies suggested two training methods that can be used to improve athletic abilities like speed, agility, strength, and vertical jump which are strength training and plyometric training. However, the aspect of injury prevention and management was not well dealt with in various literature. Strength training is the use of high and low loads in the same training session (Hammami et al., 2019). Strength training improves muscle strength and power with adaptations in neuromuscular function and muscle morphology (Muscle Shape) (Hammami et al., 2019.). This study will evaluate the use of resistance training which some scholars call, strength and conditioning training to prevent and manage football-related injuries at Nyashanu High School in the Buhera district.

1.2 Background to the Study

It cannot be disputed that injuries occur in football and as a contact sport, it can be expected to result in a higher number of injuries than in noncontact sports, such as swimming. However, all sports have potential for injuries, whether from the trauma of contact with other players or from overuse or misuse of a body part.

According to Strategic Market Research, it is believed that soccer causes over 400,000 injuries every year. Ankle sprains, knee injuries, and head traumas are all frequent soccer ailments. Despite these figures coaches and trainers focus on training methods that enhance the performance of footballers while neglecting those that seek to prevent and manage them. In Zimbabwe, such injuries may be career-threatening due to a lack of proper health care. Players like Samson Choruwa, Desmond Maringwa, Ashley Rambanepasi, and Johannes Ngodzo from the Zimbabwean Premier League had injuries that cost them their careers. (Hakata, 2017). The same scenarios happen in schools where the footballers suffer injuries that schools fail to rehabilitate leaving the parents with the burden of paying for hospital fees.

The Federation of International Football Associations (FIFA) 11 injury prevention programme, suggested methods, protocols and activities that soccer players should follow to prevent injuries. The program is comprised of a complete warm-up protocol that aims at injury prevention in soccer players. It included 15 structured exercises. That comprised of core stabilisation, eccentric thigh muscle training, proprioceptive training, dynamic stabilisation, and plyometric exercises (Sadigursky et al., 2017). The reviewed literature did not clearly say the methods of training that can reduce or manage injuries. However, they dwelled much on performance enhancement. In this regard, this study will evaluate the use of resistance training or strength and conditioning training to prevent and manage football-related injuries in the under-20 boys' age group at Nyashanu High School in the Buhera district.

1.3 Statement of the Problem

The increasing number of injury cases in football is a cause for concern. Despite the introduction of different training methods for preventing and managing injuries, several football players get injured every week. According to, Molina and Pons (2020), in high-performance football, approximately nine injuries occur per 1000 hours of participation, taking training and competition into account. In women's football, the rates are 12.6-24 every 1000 h of exposure in matches and 1.2-7 every 1000 h of exposure in training, showing a higher risk of injuries. With these rates of injuries, the football teams are affected by paying players who most of the time are not playing. The medical system is also overwhelmed by patients who need help every week since the games are played weekly.

Talpey and Siesmaa (2017) argue that sports injuries put a burden on the healthcare system and individuals' quality of life. The schools suffer as they take care of injured players and parents put blame on them although indemnity forms will have been filled.

Injuries are prevalent in football and there should be a prescribed training method that has to be followed by coaches and players to produce a resilient athlete.

The FIFA 11+ program suggests activities that have to be done on warm-up to reduce injuries during training and on match games. (Sadigursky et al. 2017). In the past, resistance training sessions were performed by a few individuals. For example, strength athletes and those whose ambition was to gain muscle hypertrophy, such as bodybuilders (Kraemer and Ratamess 2016). This study will establish the extent to which resistance training can prevent and manage football-related injuries in under 20 boys at Nyashanu High School in the Buhera district.

1.4 Significance of the study

The researcher intends to publish the study so that it will benefit all coaches from grassroots to the national football leagues, teachers and any other stakeholder in sport on the training methods that can be used to mitigate football-related injuries. University students and athletes benefit since the research can be accessed on the university library e-platform.

1.5 Conceptual Framework

The study will assess the use of resistance training in preventing football-related injuries in under 20 boys at Nyashanu High School. Buhera district. Nyashanu High School was chosen because the school trains football throughout the year so the researcher could experiment using active subjects and it is closer to the researcher's home. The study bases on the model of etiology in sports injury. Meeuwisse et al. (2017) say that, if coaches and athletes are to understand the etiology of injury and target appropriate prevention strategies, the stakeholders must look beyond the initial set of risk factors that are thought to precede an injury and put into consideration how those risk factors may have changed through preceding cycles of participation, whether associated with the prior injury or not. This model considers the implications of repeated exposure, despite that such exposure produces adaptation, maladaptation, injury, or complete/incomplete recovery from injury. A quantitative approach was used in the current research, and an experimental design was used where two variables were tested, the experimental group was exposed to resistance training for two weeks and the control group was exposed to other training methods, endurance training included. After the training phase, coaches were then asked to record any injury that occurs to both groups.

Athletes, coaches, and administrators filled out Licket scale designed questionnaires. The researcher also used the observation technique to collect data. Data were then analysed using the Statistical Package for the Social Sciences (SPSS) software, thereby providing a summary of statistical tests and producing graphs and tables on variables.

Descriptive statistics, such as, percentages and frequencies were used to summarise the participants' demographics and observations. Inferential statistics such as chi-square and regression analysis were used to examine the relationships between variables such as resistance training and other training methods like plyometric and aerobic training.

1.6 Research questions/ hypothesis

1.6.1 Primary Research Question

How can resistance training be used to prevent and manage injuries among under-20 boys at Nyashanu High School in Buhera District?

1.6.1 Subsidiary Research Questions

1.6.1.1 What injuries are prevalent among under-20 boys at Nyashanu High School in Buhera District?

1.6.1.2 What are the causes of the injuries that are prevalent among under-20 boys at Nyashanu High School in Buhera District?

1.6.1.3 How effective are the methods that are currently being used to prevent and manage injuries among under-20 boys at Nyashanu High School in Buhera District?

1.6.1.4 What resistance training program can be developed to prevent and manage injuries among under-20 boys at Nyashanu High School in Buhera District?

1.7 Research Objectives

1.7.1 To determine football-related injuries that are prevalent in under-20 boys at Nyashanu High School in Buhera District.

1.7.2 To establish the causes of football-related injuries in the under-20 boys age group of Nyashanu High School in Buhera District.

1.7.3 To assess the effectiveness of the methods that are currently being used to prevent and manage injuries among the under-20 boys at Nyashanu High School in Buhera District.

1.7.4 To determine the training program that could be used to prevent and manage injuries among under-20 boys at Nyashanu High School.

1.8 Delimitations of the Study

The study was confined to under-20 football boys at Nyashanu High School in Buhera district, Manicaland. This was because the school practiced football throughout the year, unlike other schools that play football only during the second term of the year where there are National Association of School Heads (NASH) football competitions. The researcher also stays near the school so the costs of conducting the research were minimal.

1.9 Study Outline

The study consists of six chapters, with chapter 1 outlining the background to the study, a statement of the problem, and its significance. The conceptual framework, research questions, and hypothesis were discussed in this chapter. To conclude the chapter, delimitations of the study were outlined. The main concepts of the research were dealt with in Conceptualisation, and the theories that guide the research were discussed in the theoretical framework. The methods used in the reviewed research were discussed and critiqued in Chapter 2. The thematic review where key themes of the research are discussed was done in this chapter. Chapter 3 looked into the research methods that the researcher used. The research paradigm and the methodological choice, the strategy used, the population, sampling procedures, and data collection procedures were outlined in this chapter. Data analysis and presentation and validity and reliability of the research are part of Chapter 3. Chapter 4 presents the response rate, demographic data, and findings linked to the research objectives. Chapter 5 discussed the findings of the research and the new insights from the study. The last chapter concluded and gave recommendations for further studies.

1.10 Chapter Summary

This chapter outlined the problem and its setting. The conceptual framework and the research hypothesis were dealt with in this chapter. The next chapter is going to look into the literature and how it influenced the current research.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

This chapter is divided into four sections. The first section focuses on the conceptualisation of the research topic, theoretical framework, methodological review, and thematic review.

2.2 Conceptualisation

Conceptualisation is a construct derived by mutual agreement from mental images to describe something or a situation (Sequeira, 2014) (Onen 2016). A concept is an idea or area of thought formed in the mind of someone (Onen, 2016). The terms 'football', not American football and 'soccer' are regarded as synonyms for the current study. The International Olympic Committee Injury and Illness Epidemiology Consensus group defines injury as; "tissue damage or other derangement of normal physical function due to participation in sports, resulting from rapid or repetitive transfer of kinetic energy." In the current study an injury is any tissue damage that occurs during training and matches observed during the study, resulting in the participant being out of the competition on the day of the injury, causing the player to miss any practices or matches after the day of injury. Resistance training is viewed by the researcher as all the methods that put the load on the player or footballer when training.

2.3 Theoretical Framework

Exposing athletes to workloads to promote positive adaptations while minimising injury risks can be a difficult task on the part of the coaches. Aetiology models have highlighted that preventing injuries in sports, as opposed to reducing injury risk, is likely impossible given our inability to appreciate the interactions of the factors at play. (Windt and Gabbett 2016). With this in mind, coaches need to be able to design, deliver, monitor and evaluate risk management strategies that reduce the risks of injuries in the bid to enhance performance in football. Based on the aetiology model of injuries this study will experiment with the use of resistance training in preventing and managing football-related injuries at Nyashanu High School in Buhera.

2.4 Methodological Review

Table 2.1

Methodological review

Author	Country	Focus	Sample size and type	Research approach	Methodological gaps and their impact on the extent to which they can be used to inform the current study
Beato et al (2021)	United Kingdom	Current Evidence Regarding Strength Training		Quantitative	The study was just a summary of the resistance training method and its types. The traditional resistance training, the flywheel training, the eccentric training. The quantitative approach was used. Professional soccer players were used in the research leaving out generalisations on youths.
Cormie et al (2015)	America	Adaptations In Athletic Performance After Ballistic Power Versus Strength Training	24 subjects were used in three equal groups of 8 Randomized control design used	Quantitative Experimental design	The study used an experimental design which the researcher also intends to use since it is the best on cause-effect relationship. The quantitative approach is used because it allows randomized models of data collection and the results obtained are reliable.
Kucera et al (2022)	America	Annual Survey of Football Injury Research, Keeping the Game Safe	Various football teams were used since it was a longitudinal research	Quantitative Survey	This study used the survey approach which is not common in quantitative research. However, it can inform the current research on data analysis which is quantitative.

. Westcott (2012)	America	Effects Of Strength Training on Health		Quantitative Content Analysis	The study used resistance training on inactive adults so the study results cannot be generalised on under 20 football players. However, the design used can help the researcher in coming up with data that can be generalised for football training.
Bailey (2019)	South Africa	To Determine the Incidence, Nature, and Severity of Injuries Among Male Soccer Players in The First Soccer Team	23 league matches during which injuries were recorded. All the players in the league were used, and no sampling technique was used	Cohort Descriptive Study Was Conducted. Match Records and Questionnaires Were Used	The study may inform the current study on the types of injuries that occur. The quantitative design used can also inform the current research on using observation and match records.
Forsythe (2022)	America	Epidemiology Of Injury Across Multiple Years in Major League Soccer (MLS) Players.	All the MLS teams were used	Descriptive Epidemiology Study	The researcher collected data from a large sample and the percentage of generalisability was high since it was representative of the population.
Molina and Pons (2020)	Spain	Establish Methodological Bases about The Type of Work and The Parameters That Make Up Strength Training Towards Injury Prevention	Related literature from Google Scholar and PubMed	Document Analysis	Document analysis was used and usually, the results of the research may not be generalised as compared to the experimental research that this current research seeks to use.

2.5 Thematic Review

2.5.1 Football Related Injuries

Sports injuries are divided into two broad categories, acute and chronic injuries. Acute injuries occur suddenly, especially when a person falls, receives a blow, or twists a joint, while chronic injuries usually result from overuse of one area or part of the body and develop gradually over time. Likewise, injuries are also classified as chronic and acute. According to the International Olympic Committee Injury and Illness Epidemiology Consensus group, injuries are classified as injuries with a sudden onset, acute injuries or injuries with a gradual onset, or overuse. Most injuries in football involve lower extremities as compared to other sports. The classification of injuries informs this current research as the researcher experiments with footballers to prevent and or manage injuries using resistance training methods.

2.5.2 Lower extremity injuries

Football is a high-contact and high-energy sport. With its repetitive nature and high impact, it can leave players side-lined with a variety of different football injuries that could be acute or chronic. While being a typical lower extremity sport, injuries to the lower parts like the groin, knee, thigh, ankle, and foot are regularly seen in soccer (Van Linschoten, 2015). Several studies indicate that in professional soccer the incidence of an injury may vary between 4 and 8 injuries per 1,000 hours of exposure (Eksrand et al.) in Van Linschoten (2015). The injury rate is a cause for concern in the football fraternity, hence this research seeks to find ways to prevent and manage football-related injuries without relying heavily on the medical route.

2.5.3 The thigh

Musculoskeletal injuries are common on the thigh and resistance training methods can prevent these and or manage musculoskeletal injuries through neural adaptation. According to Sale (2015), strength training is mostly linked to brain adaptation, which includes enhanced prime mover activation and better coordination or learning. Nearly half of all soccer injuries are quadriceps, upper leg muscle contusions, hamstring strains, and other muscular strains (Ekstrand et al., 2022). The hamstring strains are mostly treated with rest and physical treatment.

Different resistance training methods if well administered can also treat hamstring injuries. (Van Linschoten, 2015). The research seeks to experiment with the physical treatment through resistance training.

2.5.4 Knee

Soccer players can sustain acute knee injuries through a variety of methods. The most frequent mechanism involves a valgus-external rotation movement that puts stress on the medial collateral ligament, anterior cruciate ligament, and lateral menisco-capsular structures. (Van Linschoten (2015). Resistance training however can cause overload injuries to the knee. Ekstrand (ibid) says that overload injuries to the knee contribute to around 25% of loss of playing time in soccer.

2.5.5 Lower leg, Ankle, and Foot

Studies suggest that football players must wear shins during training and match days to prevent lower leg fractures. Secondary prevention of ankle sprains is important and scientific evidence supports that (Verhagen and Bay, 2019). Proprioception training and muscle strength training should be stressed during physical rehabilitation. Finch (2008) cited in Talpey (2017) suggested the six stages of translating research into injury prevention practice.

Table 2.2:

Stages of injury prevention practice

The six stages of translating research into injury prevention practice	
Stage No	**Description of stage**
1	Survey injuries
2	Establish the etiology and mechanisms of the injury
3	Develop the preventive measure of injuries
4	Evaluate the science in ideal conditions
5	Describe the implementation context to inform the implementation strategy developed
6	Evaluate the effectiveness of preventive measures in a real-world context

Framework adapted from Finch (2008) cited in Talpey (2017)

The framework informs this current research in the stages to follow so that the researcher comes up with preventive and management measures against football-related injuries at Nyashanu High School.

2.6 Methods for Injury Prevention in Football

2.6.1 Resistance Training

Resistance training is a term that encompasses many methods or exercises. For example, exercises that are bilateral or unilateral, with or without external load, free weight like barbells, dumbbells, and kettlebells or resistance machines, can all fit into this category.

According to Kraemer (2016), over the past 20 years, resistance training has become more and more popular as an exercise modality. This is especially because it helps athletes perform better by enhancing their muscular strength, power, and speed, as well as their muscle hypertrophy, local muscle endurance, motor function, balance, and coordination. According to several writers, exercise has been demonstrated to generally lower sports-related injuries; nevertheless, the training modalities that demonstrated the greatest gains were strength and proprioceptive exercises (Molina and Pons, 2021).

Westcott (2018) says that muscle-building activity known as weight training generally was considered to be the domain of exceptionally strong men who competed in sports such as powerlifting, Olympic lifting, bodybuilding, and American football. Conversely, the endurance required for today's football games means that these players need to possess a great deal of strength and muscularity to succeed in any sport they play. Resistance exercise affects resting metabolic rate in addition to stimulating enhanced muscle protein turnover. First, as a chronic response, resistance training results in greater muscle mass that necessitates more energy at rest for ongoing tissue maintenance (Westcott, 2018).

Coaches should individualise resistance training to achieve individual goals while basing on maximising the training outcomes. The study informs the current research although it focused on the health part of the athletes instead of injury prevention and management. (Nader, 2016)

2.6.2 Eccentric Training

Muscle-lengthening exercises are the main emphasis of eccentric exercise. The muscles in the athlete's legs extend as they descend into a squat. When a person adds more force to a muscle than the muscle can create on its own, the muscle contracts in this way. This increased force in squats is made up of the person's body weight plus any additional weights they may be utilising.

Eccentric actions in the training of football are actions that deviate from the centre of the joint, such actions as flexion of the leg and or flexion of the lower arm.

Tendon stiffness rises more during eccentric training than during concentric training. According to (Nader, 2016), muscle power and performance were more effectively increased when eccentric loads were used without concentric strength. More force is transferred from muscles to bones more effectively by stronger, stiffer tendons.

Sharma et al (2023) in his review of the efficacy of the Nordic hamstring exercise for the reduction of hamstring injuries in soccer and football, says that there is a significant relation between hamstring injuries and Nordic hamstring curl exercise (NHE). Nordic hamstring curl exercise are found to be effective in the prevention and rehabilitation of hamstring injuries in athletes and clinicians should be encouraged to incorporate them into their prevention strategies, and players and coaches should be more aware of and encouraged the use of the Nordic hamstring exercises.

Thus, it seems that eccentric strength training and the Nordic hamstring exercise, in particular, are viable options for the reduction of injuries in soccer players. Beato et al. (2021) argued that eccentric training may produce similar or greater adaptations in the neuromuscular system, including function and cross-sectional area, ultimately leading to increases in performance and injury mitigation. Supporting this claim, Molina and Pons (2020) state that eccentric training appears to help lower muscular injuries linked to the quadriceps and hamstring muscles, which appear to be the muscles most impacted by this sort of injury type among football players. Non-ligamentous injuries seem to be prevented by eccentric training; this has to be proved by the current research as the researcher will experiment with the under-20 boys at Nyashanu High School.

2.6.3 Concentric training

Concentric exercise is the opposite of eccentric exercise. This focuses on movements that shorten the muscles, such as when a person pushes themselves up and out of a squat. During this movement, the muscles shorten as the legs straighten out. Different scholars did not recommend concentric training although it is coupled with eccentric movement, the shortening of the muscles has little effect on injury prevention.

2.6.4 Flywheel training

To promote eccentric overload during strength training, the use of non-gravity-dependent technology, such as inertial flywheel devices, have been introduced. The technology allows the athlete to accentuate eccentric actions by using the energy stored in the flywheel system after a maximal concentric action (Beato et al., 2020).

Wonders (2019) says that flywheel training is a relatively new method that is used to train the human body with continuous resistance and eccentric overload.

The performed exercises result in improvements in strength and power, hypertrophy, muscle activation, muscle length, and tendon stiffness. This current study however will not use the flywheel training since it is going to be conducted in a rural environment where the school cannot afford the expensive equipment and hiring is also beyond the researcher's reach.

2.6.5 Isometric, Isotonic, and Isokinetic Strength Training

Isometric exercise is a low-impact type of exercise that activates muscles without movement. In isometric exercises, the muscles tense up, but the joints stay static (Kennedy, 2021). A good example of isometric training is the plank position. This training can be used on players who are recovering from injury.

Isometric exercises are exercises that contract and engage the muscles without moving them, it engages the muscles without moving the joints it creates maximal force-generating capacity of skeletal muscle cross-sectional area. This training exercise is valid in injury rehabilitation so for this research, it will be adopted and used as one of the activities for the experimental group. The isotonic training involves exercises that put a constant amount of weight or tension on the muscles while moving joints through a full range of motion. Push-ups, Pull-ups, and Squats are isotonic exercises. Isokinetic training uses specialised equipment.

Kennedy (ibid) says that isokinetic training is a type of workout that involves specialised machines and is not often used by the average person. "It is mostly used to train athletes to improve their running or throwing by improving the speed at which they can move their limb/body or weight. The researcher is not going to use this training exercise because expensive equipment is used and they cannot be accessed in a rural setting.

2.6.6 Periodisation and Resistance Training

Planning and prescribing a well-designed resistance training program is very essential in optimising skeletal muscle hypertrophy and strength. One of the strategies is periodisation. Plisk and Stone (2003) cited by Evans (2019) defined periodisation as, "the planned manipulation of training variables to optimise performance at appropriate time points, manage fatigue, and prevent stagnation." A periodisation plan can be implemented in three ways which are; linear, reverse linear, and undulating periodisation.

The most common periodisation model is the traditional or “linear” periodisation model. This model initiates with high training volumes and low intensities and gradually progresses towards low training volumes and high intensities over several months (Fleck, 2019). The reverse linear begins with low training volumes and high intensities. The Undulating Periodisation model entails more frequent variations in loading than the previous two models. Specifically, loading zones may vary on a daily, weekly, or bi-weekly basis Buford et al., (2017) in Evans (2019). In professional football, management of load and periodisation strategies play a crucial role both in performance and prevention of injuries.

Not surprisingly, periods of high fixture congestion are associated with higher injury risks (Bengtsson et al., 2018; Carling et al., 2016) cited in Dellal, Chamari, and Owen (2018). In preparing the experimental group the researcher used the undulating periodisation strategy as it has loading variations which may help in performance and injury prevention.

2.7 Conclusion

Section A of this chapter discussed the conceptualisation of the study, highlighting some of the concepts that were used in the research, section B, the theoretical framework that informed the study was discussed and Section C reviewed the methodologies used in various literature. The thematic review of the literature covering the research questions of the study on resistance training was also discussed. Chapter three provides an overview of the study's objectives, methodology, research design, population and sampling techniques. Data collection and analysis processes, research philosophy, research approach, time horizons, and ethical considerations were also discussed.

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CHAPTER 3
METHODOLOGY

3.1 Introduction

The chapter discusses the research methodology used in the study and provided a general framework for this research. It presented the study's Research Purpose, Research Philosophy, Research Approach, Research Design, Time Horizons, Population and Sampling Procedures. Data Collection and analysis procedures and Ethical Considerations were highlighted in this chapter.

3.2 Research Purpose

The research is explanatory. Saunders et al. (2023) viewed explanatory studies as studies that establish causal relationships between dependent and independent variables. When using this method, the research purpose is to make causal inferences (Shadish et al., 2019). The study evaluated the extent to which resistance or strength training can prevent and manage football-related injuries in under-20 boys. It will establish relationships between resistance training methods and other training methods like plyometric in injury prevention and management. This explanatory research will answer how and why resistance training methods prevent injuries in young under-20 footballers. Although explanatory studies are based on large samples, the study can be generalised if the conditions are well-managed. (Johnson and Christensen, 2014). Using a representative sample can be the only way to generalise the results to the population as a whole.

3.3 Research Paradigm

The study's philosophical foundation determines what knowledge is sought, how it can be found, and how to transform the facts or information gathered into the knowledge that is needed. The research paradigm clearly outlines the path to investigate the topic. This brings clarity to the study and improves the quality of the methods and analysis. This study followed the Positivist paradigm whose proponents believe that there is a single reality that can be measured and understood. It, therefore, used quantitative methods to inquiry. The research process for positivist paradigm studies tends to propose an empirical hypothesis, which is then supported or rejected through data collection and analysis. Rather than seeking the qualitative explanation for the quantitative links between variables, positivists use an objective approach to research and use statistics to examine the presence of such relationships.

Scholars who follow this paradigm also think that findings from one study can be applied to related circumstances. Physical scientists, whose research methodology centres on the gathering and examination of numerical data, are the primary users of positivist paradigms. Due to the emphasis it places on theory and hypothesis testing, the quantitative research technique essentially adheres to the confirmatory scientific method. Stating one's ideas and then testing them with empirical data to see if they are supported are considered to be the most important steps in the research process by quantitative researchers (Johnson and Christensen, 2020). The current study seeks to establish the relationships between resistance or strength training and other training methods. Positivist philosophy believes that the results of one study can be used for another of a similar kind, even if they are done in a different setting and under varied circumstances. However, the generalisability of positivist research is questionable when using artificial environments.

3.4 Approach to Theory Development

The study used the deductive approach to theory development where it deduces a hypothesis that informs it. A hypothesis or hypotheses are derived from a study based on theoretical considerations and what is known about a given domain. These must then be empirically investigated and tested. (Bryman, 2021).

Data from coaches and athletes was gathered using a questionnaire with a Likert scale. To get further data, the researcher also employed quantitative observational techniques. For the deductive technique to generate generalisations, more samples are needed. Positivists think that even if two studies are conducted in distinct settings and with different variables, the findings from one can be applied to another of a similar kind.

3.5 Methodological Choice

The study followed a quantitative approach to research. The methodology provides the guidelines by which the researchers approach and perform activities. Research methodology gives dictates, guidelines, and principles for organising, planning, designing, and conducting good research. Hence, it is the science and philosophy behind all research (Legesse, 2016). Melnikovas (2018) citing Saunders et al. (2016) says, research choices are the use of quantitative and qualitative research methods, as well as the simple and or complex mix of both or the use of mono methods. Quantitative research methods have their base on numbers and mathematical operations, while qualitative methods imply the collection of vast descriptive data.

The research used the mono method as suggested by Saunders et al, (2016). On the contrary, the mono method approach does not cater to all the variables since it collects only numerical data leaving feelings and emotions, hence difficult to generalise to a larger population.

A single method of measuring a particular construct (regardless of whether the construct is the dependent or independent variable) might also jeopardise its construct validity. This is due to the possibility of bias introduced by the methodology, which could alter the scores on the independent or dependent variable. It is known as the mono-method bias.

To reduce the threat subjected by the mono-method bias, it is imperative to use more than one method when measuring a given construct, then assess the convergent validity of the two methods to check if they are measuring the same construct, and this helps to strengthen the construct validity.

3.6 Primary Research Strategy

The study used the quantitative research strategy which involves numerical analysis of the relationship between variables, which are the resistance training method and the other training methods which include plyometric and aerobics. Saunders et al. (2016) suggested experiment, survey, archival research, case study, ethnography, action research, grounded theory, and narrative inquiry to be the main strategies for research. However, research strategies for future studies can be distinguished in a slightly different manner. For the current research, a field experiment combined with naturalistic quantitative observation is used to understand the football players as they are involved in training and the game itself. For naturalistic observations, they happen directly in the environment where the phenomenon occurs. The observations were made as unobtrusively as possible with the researcher not directly interacting with the subjects in any way (Bryan, ibid). The benefit of the quantitative observational study is that it allows the researcher to see events first-hand in a natural environment and can yield novel insights not possible with other approaches. Deductive reasoning and structured questionnaires with closed questions and experiments are used to produce data that can be analysed through descriptive statistical measures, cross-tabulations, and other statistical tests to produce results that can be expressed numerically and generalised to an entire population. The Statistical Package of Social Sciences (SPSS) software was used to analyse data. The quantitative approach was used because it allows randomised models of data collection and the results obtained are reliable (Lind et al., 2018).

3.7 Time Horizons

The study is going to be cross-sectional and it is going to run for 4 months since time and resources are limited. One month for chapters 1, 2, and 3. Data collection is going to run for 2 months and 1 month for data analysis and recommendations.

3.8 Choosing Research Participants

3.8.1 Population

A population is described as a collection of people who have at least one trait in common that sets them apart from other people (Lind et al., 2018). The whole set of cases from which the researcher's sample is drawn is called the population. The research participants were drawn from all the boys under-20 football players and coaches from Nyashanu High School in Buhera district, Manicaland

3.8.2 Sampling Procedure

To address the research questions, the researcher must first form a sample to gather data from, and not all of the cases. According to Lind et al. (2018), researchers employ a sample, which is a subgroup of the population, to gather data about and make conclusions about the population of interest. The study used purposive sampling targeting athletes who are boys and who are 18 to 19 years old. Moreover, the study also purposively sampled all the coaches at Nyashanu High School. Creating a sampling frame beforehand and selecting a sample from it using a computer program that generates random numbers is one method of conducting random sampling (Zikmund, 2017). The samples comprised 50 under-20 football players at Nyashanu High School and 30 coaches from Nyashanu High School. According to Babbie (2018), the ultimate goal of sampling is to choose a subset of elements from a population so that the elements' descriptions fairly represent the entire population from which the elements are drawn.

The researcher used purposive sampling because it was cheap and easy to use depending on the time frame and proximity to the participants who happened to be at the same school with the researcher.

According to Bluman (2016), using a sample allows researchers to obtain more specific information that might not be available, while also saving a significant amount of time and money.

3.8.3 Sample Size Determination

According to Kibuacha (2021), sample size is a research word that refers to the number of subjects included in a study to reflect a population. The overall number of respondents included in a study is referred to as the sample size. To ensure that the sample as a whole represents the entire population, the total number of respondents is frequently divided into subgroups based on factors like age, gender, location and or region. The size of the whole population, the researcher wishes to examine is another crucial factor to take into account when choosing the sample size.

A population is the entire group that the researcher wants to conclude on. A sample is selected, from the population using either probability or non-probability samples. When determining sample size there are several considerations. Confidence interval and confidence level, standard deviation, and other statistical tests. In the current study, no formula was employed as all the participants under the study were included in the study.

3.9 Data Collection Procedures

The study used face-to-face questionnaires and quantitative observations as instruments for data collection. These instruments are appropriate for quantitative research since they do not solicit feelings.

3.9.1 Pilot Study

A small-scale administration of data gathering tools prior to the main administration is referred to as a pilot study. Pilot studies, according to O'Donoghue and Longville (2015), enable any unforeseen issues to be encountered and resolved prior to the start of data collection. The pilot study involving the questionnaire to ascertain its validity is of great importance and gives the researcher an understanding of whether the research questions are answered. The researcher uses the pilot study to ascertain the reliability and validity of the questionnaire designed and to validate whether the field study design or quantitative naturalistic observational collected data such as the number of injuries for every training session that the football players take.

The researcher observed 1-hour long training sessions twice per week for eight weeks and 2-hour long friendly games and competitions.

The experimental group did the resistance training using free weights and machine weights with isotonic, isometric, and isokinetic strength training methods. Variables like the number of injuries, type of injury, and time taken to heal were observed and quantified for proper analysis.

The researcher used naturalistic quantitative observations and was not involved in the training hence participants were not aware that they were being observed thereby limiting chances of faking injuries during the training sessions and or during game situations.

3.9.2 Main study

3.9.2.1 Questionnaires

In sport-related research, questionnaires are the most often utilised data collection tool. A questionnaire is described by Gratton and Jones (2020) as a standardised series of questions intended to elicit information from the subjects. The researcher can use the three categories of this instrument.

The postal, online, telephone, and the face-to-face questionnaires. Questionnaires are accessible if the sample group is geographically dispersed and if well-designed it has the potential of reducing researcher bias. For this research and considering its design, a face-to-face questionnaire was used since the participants and the researcher live in the same location.

Closed-ended Likert scale questionnaires were employed since they give the researcher access to data in an easily analysed manner and in the simplest possible format. Respondents can express how much they agree or disagree with a message using a Likert scale (Gratton and Jones, 2020). Respondents find these types of questionnaires easier to complete and need less time. Jones and Gratton, 2020). Likert Scale questionnaires have the advantage that they do not expect a simple yes or no answer from the respondent but rather allow for degrees of opinion and or no opinion at all. Therefore, quantitative data is obtained, which means that the data can be analysed easily.

Offering anonymity on self-administered questionnaires further reduces social pressure hence reducing social desirability bias. However, the information collected through the questionnaire cannot be said to be very reliable or valid. If the subject misinterprets a question or gives an incomplete or indefinite response very little can be done to connect such response. To mitigate this a face-to-face questionnaire was used.

3.9.2.2 Observations

Naturalistic observations are mostly used in qualitative research, but if taken as a field experiment they can fit in quantitative research. Nevertheless, it is challenging to confirm results and show their dependability because uncontrollable factors cannot be manipulated as they can in a laboratory.

Specifically, individuals may act differently than they otherwise would if they are aware that they are being watched. Extrapolating the results of naturalistic investigations to other contexts could prove to be challenging.

Quantitative observation objectively focuses on gathering information that emphasises numbers or measurements while basing results on statistics and numeric analysis. Observations can however be subjective and may include human error. To mitigate the subjectivity of the observation the researcher designs an observation guide that does not solicit feelings and emotions. In the current study, the observations lasted one to two hours.

There were two training sessions in which these observations were made, the morning session from 1000h to 1100h and the afternoon from 1400h to 1500h. Friendly games and NASH competitions in which the selected players were participating were also observed and statistics of the injuries recoded.

3.10 Data analysis and presentation procedures

Data alone cannot give answers to the research questions, it needs to be interpreted, organised, and analysed so that it becomes meaningful and answers the research questions (Gratton and Jones 2020). Since the positivist paradigm forms the basis of the investigation, quantifiable data were created and gathered. Data was processed and analysed using the Statistical Package for the Social Sciences (SPSS), which resulted in the production of graphs and tables on the variables as well as a summary of statistical tests. The demographic information and observations of the individuals were compiled using descriptive statistics like percentages and frequencies. Pearson Chi-square was employed to examine the relationships between variables such as resistance training and other training methods like plyometric and aerobic training. Questionnaires with unrelated data and incomplete were discarded before analysis.

3.11 Quality Assurance and Compliance

3.11.1 Validity and Reliability

The two most crucial and essential characteristics in assessing any measuring device or tool for quality research are reliability and validity (Haradhan, 2017). Saunders et al., (2019) suggested that a thorough evaluation of the validity and reliability of any secondary data necessitates an analysis of the data collection techniques.

In clinical practice, research, education, and administration, these offer a good relationship for interpreting scores from psychometric instruments such as symptom scales, questionnaires, education tests, and observer ratings. (Cook and Beckman, 2016). The research instruments used were well structured, and the questionnaire was designed following the Licket scale which has a laid down format that enables it to be valid and reliable when collecting data. Utilising many instruments for data collection contributes to the research's increased validity and reliability. A measurement instrument's integrity and quality can only be guaranteed by the presence of validity and reliability proof (Mohajan 2017).

3.11.2 Ethical Considerations

Ethical considerations are sets of values and principles that address questions of what is good or bad (moral or immoral) in human affairs. Ethics vary or differ from society to society. According to Norman (2015), ethics search for reasons for acting or refraining from acting or for approving or not approving conduct, for believing or denying something about virtuous or vicious conduct, or for good or evil rules. Ethics seek to resolve questions of human morality by defining concepts such as good and evil, right and wrong including justice and crime. It is a moral philosophy that deals with issues of wrong or right conduct, (Mellish, 2017). Burgess (2016) observes that ethics in research have to be considered in carrying out the research. The current study is informed by the deontological approach to ethics that ethical issues must be judged based on some universal code. The researcher got consent from the Provincial Education Director, District Schools Inspector, Headmasters of the schools, coaches, and athletes involved.

The participants signed consent forms as well as confidentiality forms, allowing the researcher to use information gathered in the research. The athletes were assured that the information gathered from the research was not going to be divulged to anyone and only codes were used instead of their names. Data collected were stored securely and anonymised to ensure confidentiality. Questionnaires were destroyed after the data analysis and the information stored in soft copy was deleted completely after the research analysis.

3.12 Chapter Summary

The chapter explored the research methodology where the research paradigm, the strategy, the chosen design, and the study methods were all examined in this chapter. Sampling techniques and population samples were also covered. This chapter covered data collection techniques, research instrument descriptions, study validity and reliability, and ethical considerations. Chapter four focuses on data collection, presentation, analysis, and interpretation.

CHAPTER 4
Results

4.1 Introduction

The previous chapter outlined the research methodology used in the study. This chapter presents and discusses findings on the causes and prevalence of football-related injuries at Nyashanu High School. Data were collected through face-to-face questionnaires and quantitative observations. Data from these sources were combined under a sub-heading that was based on each of the study's research topics. As a result, this chapter served to present the research's conclusions. Tables, graphs, and percentages were used to present, analyse, and display the data.

4.2 Response Rate

The response rate for the study was 100% meaning all the targeted coaches 30 and players 50 responded to research questions. According to Girden (2017), there is disagreement about what constitutes a sufficient response rate. Nonetheless, according to Kothari (2016), response rates of 50% are sufficient for analysis, although 60% and 70% are considered good and very good, respectively. Tripathi (2018) considers a response rate of below fifty percent to be poor and anything above ninety percent to be excellent. The current study got a response rate of 50 athletes and 70 coaches (100%). The response rate obtained in this study was therefore considered adequate to make unbiased analysis, interpretations, conclusions, and meaningful recommendations.

4.3 Demographic Information

4.3.1 Player's Demographic Information

Most of the players were 19 years old (70%, n=35) while the other remaining percentage were aged 18 (30%, n=15). The results are shown in table 4.1.

Table 4.1

Players' Age

Response	Percentage
18 years	30
19 years	70
Total	100

For the level of education, most of the players were lower six (46%, n=23), followed by those who are the Upper six (38%, n=19), and lastly, those who were “O” level (Table 4.2)

Table 4.2:

Players' Academic Level

Response	**Percentage**
O Level	16.0
Lower Six	46.0
Upper Six	38.0
Total	100.0

The results of the study also outlined that, in terms of history in sports, most of them had five years of experience (58%,n=29), these were followed by those with 5 years to nine years (30%,n=15). Ten percent of the participants had less than 5 years of experience in sports (10%, n=5). Only one participant had more than 10 years in the sporting field (Table 4.3)

Table 4.3

Players' Sporting History

Response	Percent
Less than 5 years	10
5 years	58
More than 5 years	30
10 and above	2
Total	100

The results showed that 96.0%, (n=48) of the respondents stated that they had not received formal instruction or training on football injury prevention and management.
Two of the 2 respondents (4.0%) reported that they have received such training or education (Table 4.4).

Table 4.4

Formal Training on Injury Management and Prevention

Response	Percentage
No	96
Yes	4

4.3.2 Coaches' Demographic Information

The results of the study indicate that out of the total of 30 respondents, 20 (66.7%) identified as male, while 10 (33.3%) identified as female (Table 4.5)

Table 4.5

Respondents' Gender

Gender	Percentage
Males	66.7
Females	33.3
Total	100

Participants' ages were distributed across various categories as follows: 21-25 Years (16.7%), 26-30 Years (6.7%), 31-35 Years (23.3%), 36-40 Years (26.7%), 41-45 Years (16.7%), 46-50 Years (3.3%), and 51 and above (6.7%) (Table 4.6).

Table 4.6

Respondents' Age

Age Groups	**Percentage**
21-35 years	16.7
26-30years	6.7
31-35years	23.3
36-40years	26.7
41-45years	16.7
46-50years	3.3
51 and above	6.7
Total	100

Participants' marital status was distributed as follows: Married (73.3%), Single (16.7%), Divorced (3.3%), and Widowed (6.7%) (Table 4.7).

Table 4.7

Respondents' Marital Status

Marriage status	Percentage
Married	73.3
Single	16.7
Divorced	3.3
Widowed	6.7
Total	100

Participants' academic qualifications were distributed as follows, Secondary (3.3%), Diploma (33.3%), Graduate (46.7%), and Postgraduate (16.7%) (Table 4.8).

Table 4.8

Respondents' Academic Qualifications

Academic Qualifications		Percent
	Secondary	3.3
	Diploma	33.3
	Graduate	46.7
	Postgraduate	16.7
	Total	100.0

Participants' sporting career history was distributed as follows: Less than 5 Years (10.0%), 5 Years (10.0%), more than 5 Years (23.3%), and Ten Years and above (56.7%).

Participants' perceptions regarding the statement "Wrong training methods cause injuries in under-20 football at Nyashanu High School" were as follows: Neutral (10.0%), Agree (50.0%), and Strongly Agree (40.0%) (Table 4.9).

Table 4.9

Respondents' Sporting Career History

Years in sports	Percent
Less than 5 Years	10.0
5 Years	10.0
More than 5 Years	23.3
Ten Years and above	56.7
Total	100.0

4.4 Presentation and Analysis of Data Linked to the Research Objectives

4.4.1 Prevalence of football-related Injuries at Nyashanu High School

4.4.1.1 Players' response

The results of the study revealed that a significant proportion of participants agreed or strongly agreed with the statement that lower extremity injuries are more frequent at the school, indicating a high perceived prevalence of lower extremity injuries among under-20 football players at Nyashanu High School. Specifically, 24 (48.0%) of participants strongly agreed, while 15 (30.0%) agreed, totalling 38 (78.0%) of respondents agreed with the statement. Four percent of the participants disagreed with the statement and 1 (2%) strongly disagreed (Table 4.10).

Table 4.10

Players' Response to Lower Extremity Injuries

Response	Percent
Strongly Disagree	4.0
Disagree	8.0
Neutral	10.0
Agree	30.0
Strongly Agree	48.0
Total	100.0

4.4.1.2 Coaches' response

The results from the coaches in this aspect showed some similar trends to those of the players. Most of the coaches strongly agreed (43.3%, n=13) with the fact that lower extremity injuries are prevalent at Nyashanu High School. (Table 4.11)

Table 4.11

Lower Extremity Injuries are Prevalent in Under-20 Football at Nyashanu High School.

Response	Percentage
Disagree	3.3
Neutral	16.7
Agree	36.7
Strongly Agree	43.3
Total	100.0

4.4.1.3 Observational study

The observational study showed that the most prevalent type of injury is muscle strain (30.8%), followed by back pains and hamstring (15%) These were followed by hip points (7.7%) and dislocations. The patella tendinitis has the least prevalence (7.1%). The unconsolidated injuries had a 7% prevalence (Figure 4.1).

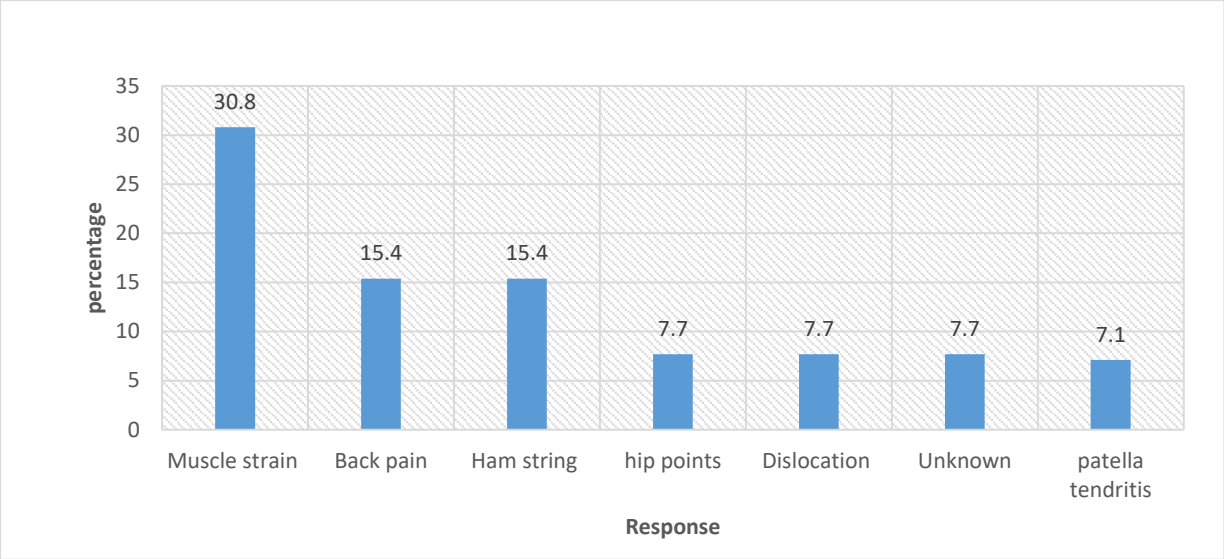

Figure 4.1

Frequency of Different Injuries at Nyashanu High School

In terms of severity of the injuries, in the duration of the observations, most of the injuries were minor (53.8%) while the serious ones only accounted for about 38.5% of the injuries. The other unclassified took the remaining percentage (7.7%) (Figure 2).

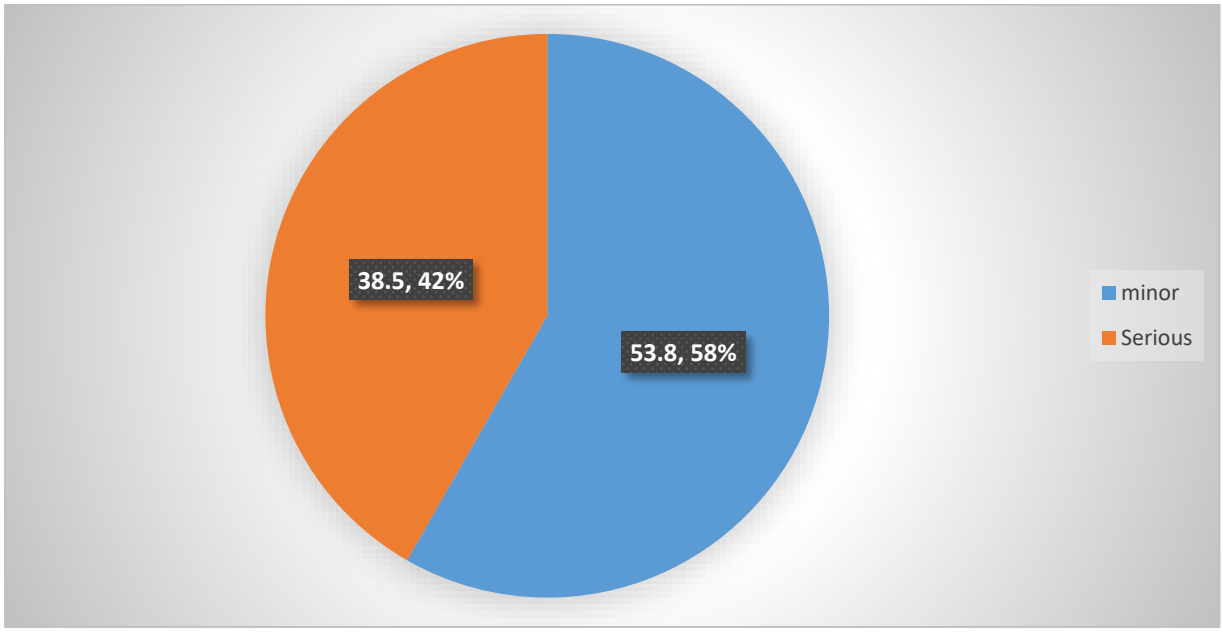

Figure 4.2

The Severity of the Injuries

In terms of the time taken for someone to recover from a certain injury, most of the injuries took 5 to 10 days to heal (46.2%).

These were followed by some injuries that took 10 days (15.4%) and 15 days (15.4%) to heal. Few injuries took less than 5 days (7.7 %^) or 5 days to heal (7.7%).

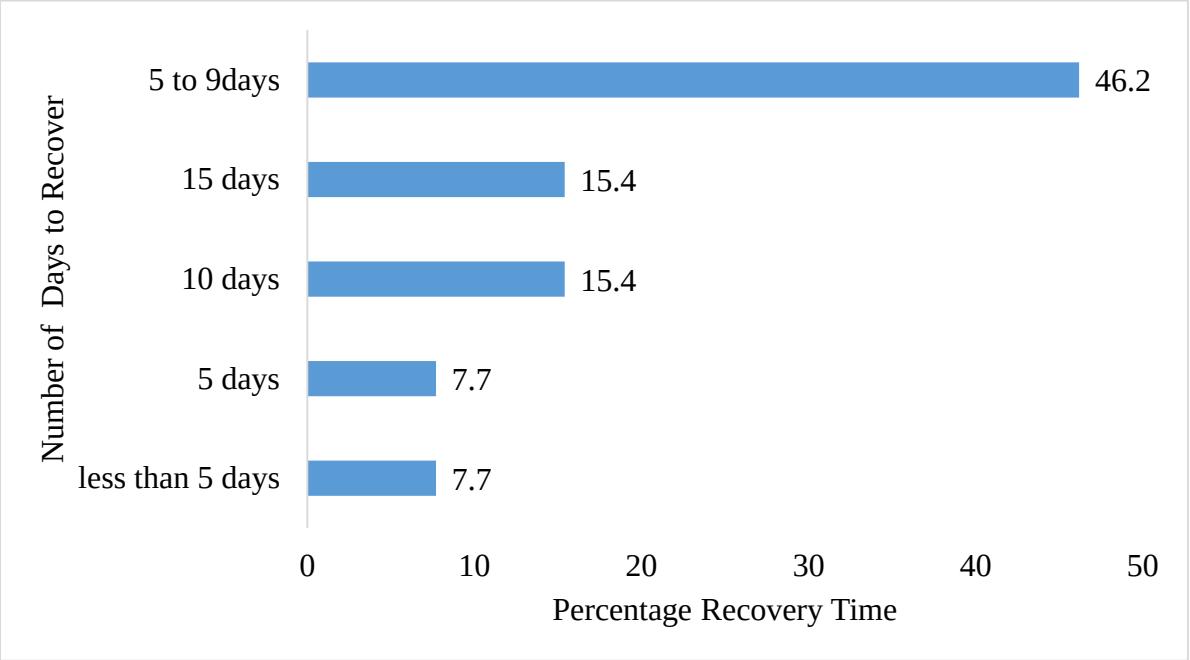

Figure 4.3

Time Taken for Injuries to Heal

4.4.2 Causes of football-related injuries in under 20 boys age group of Nyashanu High School in Buhera District

4.4.2.1 Players' response

In total, out of the 50 respondents, 3 (6.0%) expressed a neutral stance regarding the assertion that **w**rong training methods cause injuries in under-20 football at Nyashanu High School, while 24 (48.0%) disagreed with it. Conversely, 23 respondents (46.0%) strongly agreed with the statement (Table 4.12).

Table 4.12

Wrong Training Methods Cause Injuries in Under-20 Football at Nyashanu High School.

Response	Percent
Neutral	6.0
Disagree	46.0
Strongly Agree	48.0
Total	100.0

4.4.2.2 Coaches' response

From the coaches' perspective, most of them were of the view that wrong training is the main cause of football-related injuries (40%, n=15, and 50%, n=15). Only a few were neutral on the responses (10%, n=3) (Table 4.13)

Table 4.13

Wrong Training Methods Cause Injuries in Under-20 Football at Nyashanu High School.

Response	Percent
Neutral	10.0
Agree	50.0
Strongly Agree	40.0
Total	100.0

4.4.3 Effectiveness of the methods that are currently being used to prevent and manage injuries among the under-20 boys at Nyashanu High School in Buhera District

4.4.3.1 Player's response

The analysis indicates a strong consensus among participants regarding the effectiveness of resistance training in reducing and managing injuries among under-20 football players at Nyashanu High School. Specifically, 26 (52.0%) of respondents strongly agreed, while an additional 22 (44.0%) agreed, totalling 48 (96.0%) of participants who agreed with the statement. The remaining percentage (4%) were neutral in their response.

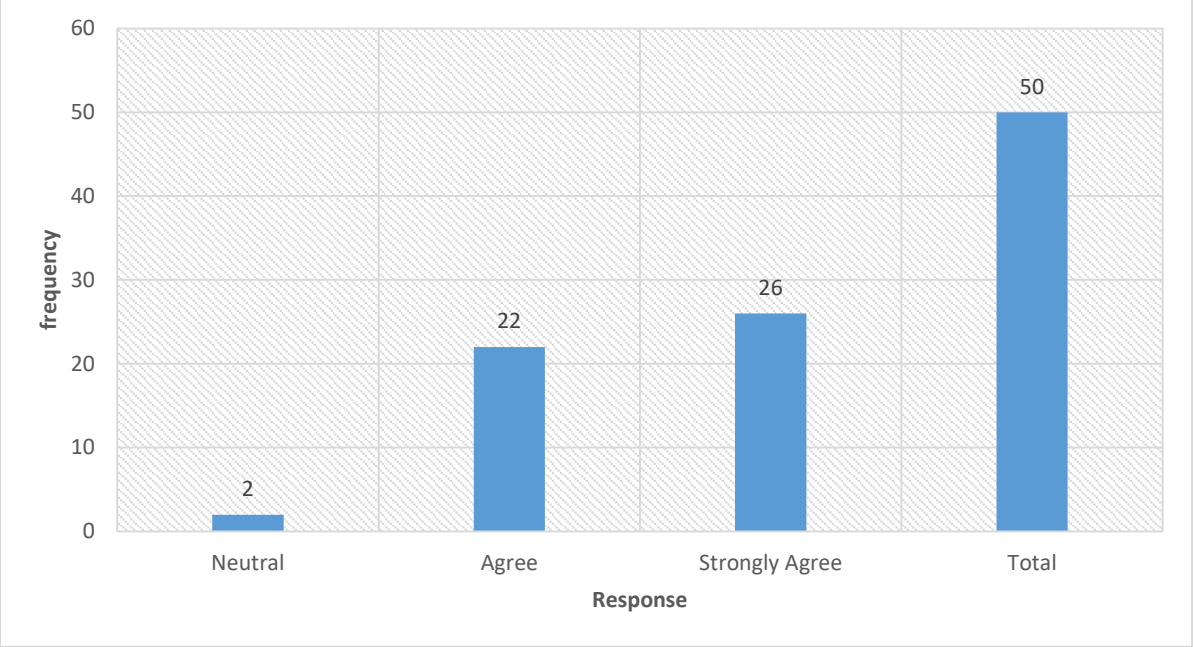

Figure 4.4

Effectiveness of Methods Currently Used

The findings of the study revealed that Plyometric Training was utilised by 19 (38.0%) of the participants, making it the second most common training method. Aerobic Training was reported by 5 (10.0%) of the players. However, Resistance Training emerged as the most frequently employed method, with 26 (52.0%) of the participants indicating its use (Table 4.14).

Table 4.14

Appropriate Methods in Preventing and Managing Injuries in Under-20 Football at Nyashanu High School

Variable	Percentage
Plyometric Training	38
Aerobic Training	10
Resistance Training	10
Total	100

4.4.3.2 Observational study

The observational study showed that most athletes who used plyometric training had the highest injury rate (69.2%) and resistance training (30.8%).

4.4.4 Resistance training program that can be used to prevent and manage injuries among under-20 boys at Nyashanu High School

4.4.4.1 Players' responses

The analysis indicates a substantial agreement among participants regarding the influence of resistance training on injury rates and types among athletes at Nyashanu High School. Specifically, 29 (58.0%) of respondents strongly agreed, while an additional 12 (24.0%) agreed, totalling 41 (82.0%) of participants who agreed that resistance training should be used in preventing and managing football-related injuries (Table 4.15).

Table 4.15

Differences in Injury Rates and Types between Athletes Who Participate In Resistance Training

Response	Percentage
Strongly disagree	6
Disagree	4
Neutral	8
Agree	24
Strongly agree	58
Total	100

The analysis demonstrates overwhelming support among participants for the inclusion of resistance training in all football training programs for injury prevention and management. Specifically, 35 (70.0%) of respondents strongly agreed, while an additional 14 (28.0%) agreed, totalling 49 (98.0%) of participants who agreed with the statement (Table 4.16).

Table 4.16

All football training programs should include resistance training for injury Prevention and management

Response	Percentage
Neutral	2
Agree	28
Strongly agree	70
Total	100

The results from chi-square test revealed that there is no association between history in sports and the method prescribed to manage injuries [χ^2=6.84, DF=6; p=0.336]. There was also no association between the age of the respondents, and the level of education with all the other variables in the study (p > 0.05). The response on resistance training inclusion and method of training to reduce injuries had no association [χ2=3.140; DF=4; p=0.533).

Injury rate and type of injury were significantly associated with the perception that resistance training should be included in all programs (χ^2=15.18, DF=8; p=0.05].

4.4.4.2 Coaches response

The coaches also agreed to the fact that resistance training is the most appropriate method of preventing and managing injuries (63.3%, n=19), followed by plyometric training (20%, n=6), followed by anaerobic training (10%, n=3). Flexibility and aerobic training were less favoured by the coaches, with both having two percent of the respondents favouring them (Table 4.17).

Table 4.17

Which Training Method Do You Think Is The Most Appropriate In Preventing And Managing Injuries In Under-20 Football At Nyashanu High School?

Training Type	Percentage
Plyometric training	20
Aerobic training	3.3
Resistance training	63.3
Anaerobic training	10
Flexibility	3.3
Total	100

The coaches' opinions on whether "The use of resistance training effectively reduces and manages injuries in under-20 football at Nyashanu High School" were varied. A minority disagreed (13.3%), while a larger portion remained neutral (43.3%). However, a significant percentage agreed (26.7%), and a smaller yet notable portion strongly agreed (16.7%) with the statement, that the use of resistance training effectively reduces and manages injuries in under-20 football players at Nyashanu High School (Table 4.18).

Table 4.18

The Use of Resistance Training Effectively Reduces and Manages Injuries in Under-20 Football at Nyashanu High School

Response	Percentage
Disagree	13.3
Neutral	43.3
Agree	26.7
Strongly agree	16.7
Total	100

4.5 Chapter Summary

Chapter Four presented, analysed, and presented data collected concerning findings on the perspectives of players and coaches on causes of football-related injuries, their frequency, and effective methods of controlling the injuries. The data were collected through face-to-face questionnaires and direct observation by the researcher.

Results were outlined in the form of tables and descriptive text. From the findings, it is clear that there are much more increased lower extreme injuries and favour of resistance training to be included in all physical training.

CHAPTER 5
DISCUSSION

5.1 Introduction

The study's findings illuminate various aspects of under-20 football at Nyashanu High School, encompassing demographic characteristics, educational backgrounds, sporting experiences, and perspectives on injury management among both players and coaches. Understanding these facets holds paramount importance in refining training programs and injury prevention strategies tailored to youth football. This introduction delineates the key insights garnered from the study, providing a foundation for comprehending the subsequent analysis and discussion.

5.2 Demographics

The results of this investigation provide insight into the demographic traits, educational backgrounds, sporting experiences, and perspectives on injury management among both players and coaches involved in under-20 football at Nyashanu High School. Understanding these aspects is crucial for enhancing the effectiveness of training programs and injury prevention strategies in youth football.

5.2.1 Demographic Characteristics of Players

Most players were 19 years old, indicating a concentration of participants around this age group. This may suggest a trend of older players participating in under-20 football, potentially influenced by factors such as academic year or physical development. Additionally, a significant proportion of players were enrolled in Lower Six, followed by Upper Six and O Level, implying that a substantial portion of participants were at the secondary school level. This distribution highlights the importance of tailoring training programs to accommodate the educational commitments and academic levels of the players.

5.2.2 Sporting Experience

The distribution of players' sporting experience revealed that a considerable proportion had five years of experience, followed by a smaller fraction with 5 to 9 years. However, a notable finding was the limited number of participants with formal training or education in injury prevention and management.

The overwhelming majority reported not receiving such training, suggesting a potential gap in the preparation of players to address injuries effectively. Addressing this gap is imperative to ensure the safety and well-being of players during training and matches.

5.2.3 Demographic Characteristics of Coaches

The demographics of coaches revealed a predominance of male representation, consistent with broader trends in sports coaching. The age distribution of coaches varied across different categories, with a substantial proportion falling within the 36-40 years range.

This age group might reflect a balance between experience and contemporary coaching techniques. Most coaches were married, with diverse academic qualifications ranging from diplomas to postgraduate degrees. This diversity in educational backgrounds among coaches could potentially enrich coaching methodologies and approaches.

5.2.4 Sporting Experience and Perceptions on Injury Management

The coaches exhibited a significant amount of experience in sports, with over half having ten years or more of sporting experience. This extensive background may contribute to their insights and effectiveness in training young players. Furthermore, coaches' perceptions regarding the role of training methods in causing injuries revealed a consensus among a majority who either agreed or strongly agreed. This underscores the importance of adopting appropriate training methodologies to mitigate injury risks effectively.

The prevalence and nature of injuries among under-20 players at Nyashanu High School are of significant concern, as they can impact player performance, well-being, and long-term participation in the sport. This discussion compares the current research findings with existing literature and explores potential implications for injury prevention and management strategies.

5.3 Prevalence of football-related injuries

5.3.1 Players' Perception of Injury Prevalence

The study revealed a high perceived prevalence of lower extremity injuries among players, with 78% agreeing with the statement lower extremity injuries are prevalent in football-related injuries at Nyashanu High School. This finding aligns with previous research indicating that lower extremity injuries, such as muscle strains and ligament sprains, are common in football players, particularly at the youth level (Hägglund et al., 2018).

The players' perception of injury prevalence underscores the importance of implementing comprehensive injury prevention programs tailored to address specific risk factors in this population.

5.3.2 Coaches' Perception of Injury Prevalence and Observational Study

Similarly, coaches also acknowledged the prevalence of lower extremity injuries, with 80% expressing agreement or strong agreement. This finding is consistent with studies highlighting the role of coaches in recognizing and addressing injury risks in youth football (McLeod et al., 2014). Coaches play a pivotal role in implementing preventive measures and modifying training techniques to minimize injury occurrence, emphasizing the need for coach education and support in injury prevention strategies. The observational study identified muscle strains as the most prevalent injury type, followed by back pain, hamstring injuries, and hip injuries. These findings corroborate existing literature reporting muscle strains as a common injury in football, attributed to factors such as overuse, improper warm-up, and inadequate conditioning (Waldén et al., 2015). The predominance of minor injuries in the severity assessment suggests that while injuries are prevalent, they are often of low to moderate severity. However, it is essential to address even minor injuries promptly to prevent exacerbation and long-term consequences.

5.4 Causes of Injuries

Understanding the causes of injuries among under-20 players at Nyashanu High School is essential for developing targeted injury prevention strategies. This discussion compares the responses of players and coaches regarding the role of wrong training methods in injury occurrence and explores potential implications for injury prevention interventions.

5.4.1 Players' Perception of Training Methods and Injury Causation

Most players expressed agreement (46%) or strong agreement (48%) with the assertion that wrong training methods cause injuries in under-20 football at Nyashanu High School. This finding suggests a high level of awareness among players regarding the potential impact of training methods and techniques on injury risk.

It aligns with previous research highlighting the association between improper training methods, such as inadequate warm-up, overtraining, and improper technique, and increased injury rates in football players (Al Attar et al., 2016).

Players' perceptions underscore the importance of implementing evidence-based training protocols and providing education on injury prevention principles to mitigate injury risk effectively.

5.4.2 Coaches' Perspective on Training Methods and Injury Causation

Similarly, most coaches attributed injuries to wrong training methods, with 40% agreeing and 50% strongly agreeing with the assertion. This alignment between players' and coaches' perspectives emphasizes the critical role of the coaching staff in injury prevention efforts. Coaches play a central role in designing and implementing training programs, making their understanding of injury causation crucial for implementing preventive measures effectively. The coaches' recognition of the impact of training methods on injury risk underscores the importance of coach education and training in evidence-based injury prevention strategies (Rössler et al., 2014). The findings of this investigation align with earlier studies, demonstrating the association between improper training methods and increased injury risk in football players. Studies have shown that factors that include excessive training volume, insufficient rest periods, and poor biomechanics contribute to musculoskeletal injuries in football players across various age groups (Fousekis et al., 2011; Gabbett et al., 2016). The consensus among players and coaches regarding the role of wrong training methods in injury occurrence is supported by existing literature, highlighting the universality of this issue in football settings.

5.5 Implications for Injury Prevention

The alignment between players' and coaches' perspectives on the role of training methods in injury causation provides a valuable foundation for implementing targeted injury prevention interventions. By addressing identified shortcomings in training techniques, such as improper warm-up procedures, inadequate conditioning, and technical errors, stakeholders can effectively reduce injury risk among under-20 football players at Nyashanu High School. Comprehensive injury prevention programs should incorporate elements such as neuromuscular training, flexibility exercises, and education on proper technique to address modifiable risk factors and promote long-term player health and performance.

5.5.1 Effectiveness of the methods that are currently being used to prevent and manage injuries among the under-20 boys

Understanding the effectiveness of current injury prevention and management methods is crucial for optimizing player safety and performance in under-20 football at Nyashanu High School.

5.5.1.2 Player Perception of Effectiveness of Resistance Training

The analysis revealed a strong consensus among players regarding the effectiveness of resistance training in reducing and managing injuries, with 96% of participants expressing agreement or strong agreement with the statement. This finding underscores the perceived value of resistance training as a preventive measure against injuries among under-20 players. It aligns with previous research highlighting the benefits of resistance training in improving strength, muscle endurance, and injury resilience in football players (Hammami et al., 2018). Players' positive perception of resistance training suggests a high level of acceptance and adherence to this training modality within the school football program.

5.6 Utilisation of Training Methods

The study identified resistance training as the most frequently utilised method among players, with 52% of participants reporting its use. Plyometric training emerged as the second most common method, utilised by 38% of players, followed by aerobic training, reported by 10% of participants. These findings reflect a diversity of training approaches employed within the school football program, with resistance training being the predominant method.

The utilisation of resistance training aligns with current recommendations for the prevention of injuries and performance enhancement in football players, emphasising the importance of strength and conditioning training in youth athlete development (Lloyd et al., 2012). The observational study corroborated the prevalence of resistance training as the most commonly used method among players, with 31% of observed training sessions incorporating this modality. Plyometric training was also prominent, accounting for 69% of observed sessions. These findings offer empirical backing for the utilisation of resistance and plyometric training in the school football program, indicating alignment between players' reported practices and observed training methodologies.

The high prevalence of these training methods suggests a concerted effort by coaching staff to incorporate evidence-based strategies for injury prevention and performance enhancement into training regimes. The alignment between players' perceptions of resistance training effectiveness and the utilisation of resistance training in practice underscores the importance of evidence-based training approaches in promoting player safety and performance. Coaches and sports scientists should continue to emphasise the importance of resistance training and plyometric exercises in injury prevention and performance enhancement programs. Additionally, ongoing monitoring and evaluation of training practices can help identify areas for improvement and ensure the effectiveness of injury prevention initiatives.

5.7 Resistance training programme

Understanding the effectiveness of resistance training programs in preventing and managing injuries among under-20 players at Nyashanu High School is critical for optimising player safety and performance.

5.7.1 Players' Perception of Resistance Training

The analysis revealed a strong consensus among players regarding the positive impact of resistance training on injury rates and types, with 82% of participants expressing agreement or strong agreement. This finding underscores the perceived effectiveness of resistance training as a preventive measure against injuries among under-20 players. It aligns with previous research demonstrating the benefits of resistance training in improving strength, muscular endurance, and injury resilience in athletes (Haff et al., 2016).

Players' overwhelming support for the inclusion of resistance training in all football training programs emphasises the importance of integrating evidence-based strength and conditioning protocols into practice regimes.

5.7.2 Coaches' Perspective on Resistance Training

Similarly, coaches identified resistance training as the most appropriate method for preventing and managing injuries, with 63% of respondents favouring this modality. This finding reflects the recognition among coaching staff of the importance of resistance training in enhancing players’ physical capabilities and reducing injury risk.

While opinions regarding the effectiveness of resistance training varied among coaches, a significant proportion agreed or strongly agreed with its efficacy in injury prevention and management. Coaches have a crucial role in designing and implementing training programs, making their endorsement of resistance training crucial for its successful implementation within the school football program.

5.8 Comparison with Other Training Methods

The preference for resistance training over other modalities, such as plyometric, anaerobic, flexibility, and aerobic training, highlights the perceived effectiveness of resistance-based interventions in injury prevention and management. Plyometric training emerged as the second most favoured method among coaches, suggesting recognition of its potential benefits in enhancing explosive power and agility in football players. However, the predominant endorsement of resistance training underscores its status as a cornerstone of injury prevention and or performance enhancement programs in youth football.

The lack of association between variables, such as age, education level, and sporting history, with participants' perceptions of resistance training and injury management methods, suggests that these perceptions are consistent across different subgroups within the player population.

However, the association between injury rates/types and the perception on resistance training inclusion in all programs highlights the importance of injury experiences in shaping attitudes towards preventive measures.

5.9 Limitations of the study

It is fundamental to acknowledge the limitations of the study, such as its focus on a single school and the reliance on self-reported data from players and coaches. The research focused only on a single school so the results may be difficult to generalise. The researcher only used two instruments of data collection which may have limitations in soliciting adequate data on the training methods that can be generalised to a larger population. Future research could employ more comprehensive injury surveillance methods, including medical assessments and follow-up evaluations. Longitudinal studies tracking injury trends over multiple seasons would provide valuable insights into the effectiveness of injury prevention initiatives and help identify emerging injury patterns.

Additionally, investigating the role of environmental factors, such as playing surface and weather conditions, in injury occurrence could further inform preventive strategies tailored to the specific context of Nyashanu High School.

5.10 Chapter Summary

The chapter discussed the results and gave them their meaning. The chapter discussed and compared the findings of the current study results with other findings from studies. It covered various aspects including demographic characteristics, educational backgrounds, sporting experiences, and perspectives on injury management among both players and coaches. Understanding these aspects is crucial for enhancing training programs and injury prevention strategies tailored to youth football. In terms of demographics, most players were 19 years old, concentrated around this age group, with a significant portion enrolled in Lower Six. This highlights the significance of considering educational commitments in training programs. While many players had several years of sporting experience, most lacked formal training in injury prevention and management. Coaches were predominantly male, with diverse academic qualifications. They exhibited extensive sporting experience, which could contribute to their effectiveness in training young players. Both players and coaches recognised the prevalence of lower extremity injuries, with muscle strains being the most common type.

Both players and coaches attributed injuries to wrong training methods, highlighting the need for evidence-based training protocols. Resistance training was perceived as effective in reducing and managing injuries by both players and coaches. It was also the most frequently utilised training method, along with plyometric training.

The chapter emphasises the importance of evidence-based approaches in the prevention and management of injuries. It acknowledged the limitations of the study, including its focus on a single school and reliance on self-reported data.

CHAPTER 6
CONCLUSION AND RECOMMENDATIONS

6.1 **Introduction**

This research focused on understanding football-related injuries among under-20 boys at Nyashanu High School in Buhera District, Zimbabwe. It aims to identify the common injuries, their causes, and current prevention methods, and develop a resistance training program to improve injury prevention and management. This chapter aims to provide comprehensive results that answer the research questions raised in the study. Furthermore, it will highlight recommendations based on the study findings and future practices.

6.2 Conclusion

The lower extremity injuries are the most prevalent injuries. This was confirmed by both the coaches and the players to be more specific, the observational study showed that the muscle strain injuries were the most prevalent in the current study. In terms of the causes of injuries, the study showed that wrong training is the chief cause of football-related injuries according to the current study. The results of the study showed that there is consensus on the fact that resistance training is effective in the management of football-related injuries. This led to the conclusion that resistant training should be included in all training sessions to reduce football-related injuries.

6.3 Recommendations

Future research could employ more comprehensive injury surveillance methods, including medical assessments and follow-up evaluations. Longitudinal studies tracking injury trends over multiple seasons would provide valuable insights into the effectiveness of injury prevention initiatives and help identify emerging injury patterns. Additionally, investigating the role of environmental factors, such as playing surface and weather conditions, in injury occurrence could further inform preventive strategies tailored to the specific context of Nyashanu High School.

6.3.1 Implications for Practice

Based on the recommendations above, here's a breakdown of the implications for practice:

6.3.1.1 Enhanced Injury Prevention Protocols

Implement objective measures like video analysis and biomechanical assessments to validate player and coach perceptions of training methods and injury causes. Utilize longitudinal studies to track injury rates and training practices over multiple seasons. This will help identify recurring injuries, their causes, and the effectiveness of implemented prevention strategies.

6.3.1.2 Targeted Resistance Training

Develop and integrate comprehensive strength and conditioning programs specifically tailored for under-20 football players. Ensure systematic implementation of these programs across all training sessions.

6.3.1.3 Education and Training

Provide continued education and training for coaches on evidence-based injury prevention strategies. This will improve player safety and long-term athletic development.

6.3.1.4 Lower Extremity Injury Focus

Implement targeted prevention measures for lower extremity injuries, such as neuromuscular training programs, proper warm-up protocols, and education on technique and equipment.

6.3.1.5 Comprehensive Rehabilitation

Develop and implement comprehensive rehabilitation protocols to facilitate a timely and effective return to play for injured athletes, minimizing the risk of recurrence.

6.3.1.6 Collaborative Approach

Foster collaboration between players, coaches, medical professionals, and school administrators. This ensures adherence to evidence-based injury prevention strategies within the school football program.

6.3.2 Implications for Theory

While the implications for practice focus on actionable strategies, the following points highlight the theoretical contributions of the research:

6.3.2.1 Deepening Understanding of Youth Football Injuries

The research findings can contribute to a deeper understanding of football-related injuries specific to under-20 boys. Analysing the identified injury patterns and risk factors can inform future research on youth football injuries.

6.3.2.2 Refining Injury Prevention Strategies

Studying the effectiveness of the implemented resistance training program can refine theoretical knowledge on how such programs prevent and manage football injuries in young athletes. This knowledge can be used to develop more effective training protocols in the future.

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Appendix 1: QUESTIONNAIRE FOR COACHES

QUESTIONNAIRE GUIDE

Introduction

My name is Machongwe Lewis a student of Bindura University of Science Education doing a Masters of Sports Science (MSc SS). I am carrying out a research study on the topic "Using resistance training to prevent and manage football-related injuries in under-20 boys at Nyashanu High School in Buhera District." You have been selected randomly to take part in this study. Please assist by completing this questionnaire. Your responses will be kept in strict confidentiality and will be used for this study only and nothing else. I kindly ask you to spare some time to complete this questionnaire. It will only take a few minutes.

Instructions:

a) Read and understand the information in all sections carefully.

b) Be as honest as possible when giving your responses.

c) For inquiries please don't hesitate to contact me.

d) Do not write your name on this questionnaire.

e) Tick in the correct box.

1. Gender Male ☐

Female ☐

2. Age 21 to 25 ☐ 26 to 30 ☐

31 to 35 ☐ 36 to 40 ☐

41 to 45 ☐ 46 to 50 ☐

51 and above ☐

3. Marital status

Married ☐ Single ☐

Divorced ☐ Widowed ☐

4. Academic qualifications

Secondary ☐ Diploma ☐

Graduate ☐ Postgraduate ☐

Other ☐

5. Sporting Career history

<5 Years ☐ 5 Years ☐

> 5 Years ☐ 10 Years and above ☐

6. Which training method do you think is the most appropriate in preventing and managing football-related injuries in under-20 football at Nyashanu High School?

Plyometric training ☐ Aerobic training ☐

Resistance training ☐ Anaerobic training ☐

Flexibility training ☐

7. Indicate the extent to which you agree with the following statements by ticking in the appropriate box.

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Lower extremity injuries are prevalent in under-20 football at Nyashanu High School.					
Wrong training methods cause injuries in under-20 football at Nyashanu High School.					
The use of resistance training effectively reduces and manages injuries in under-20 football at Nyashanu High School.					
All football training programs should include resistance training for injury prevention and management.					

Appendix 2 ***QUESTIONNAIRE FOR PLAYERS***

QUESTIONNAIRE GUIDE

Introduction

My name is Machongwe Lewis a student of Bindura University of Science Education doing Masters of Sports Science (MSc SS). I am carrying out a research study on the topic "Using resistance training to prevent and manage football-related injuries in under-20 boys at Nyashanu High School in Buhera District." You have been selected randomly to take part in this study. Please assist by completing this questionnaire. Your responses will be kept in strict confidentiality and will be used for this study only and nothing else. I kindly ask you to spare some time to complete this questionnaire. It will only take a few minutes.

Instructions:

a) Read and understand the information in all sections carefully.
b) Be as honest as possible when giving your responses.
c) For enquiries please don't hesitate to contact me.
d) Do not write your name on this questionnaire.
e) Tick in the correct box.

1. Gender Male ☐
Female ☐

2. Age 18 ☐
19 ☐

4. Level in school

O' Level ☐ Lower Six ☐
Upper six ☐ Other ☐

5. Sporting History

<5 Years ☐ 5 Years ☐
> 5 Years ☐ 10 Years and above ☐

6. Have you received any formal training or education regarding injury prevention and management in football?

Yes ☐ No ☐

7. Which training method do you think is the most appropriate for preventing and managing football-related injuries in football at Nyashanu High School?

Plyometric training ☐ Aerobic training ☐

Resistance training ☐ Anaerobic training ☐

Flexibility training ☐

8. Indicate the extent to which you agree with the following statements by ticking in the appropriate box.

Statement	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree
Lower extremity injuries are prevalent in under-20 football at Nyashanu High School.					
There are significant differences in injury rates and types between athletes who participate in resistance training and those who do not at Nyashanu High School.					
Wrong training methods cause injuries in under-20 football at Nyashanu High School.					
Resistance training effectively reduces and manages injuries in under-20 football at Nyashanu High School.					
All football training programmes should include resistance training for injury prevention and management.					

Appendix 3: ***QUANTITATIVE OBSERVATION GUIDE***

Observation period: 30 hours, 2 hours per week for 15 weeks.

Date:

Time:

Purpose:

Session number:

Game number:

Player number:

Position:

Date	Time of injury	Training method used	Type of injury	Severity	Time taken to heal

Training methods

1. Aerobic training
2. Anaerobic training
3. Flexibility training
4. Plyometric training
5. Resistance training

Type of injury

1. ACL/PCL (Anterior/Posterior Cruciate Ligament)
2. ACJ (Acromioclavicular Joint)
3. Ankle sprains
4. Back pain
5. Fractures
6. Groin injury
7. Hamstring
8. Hip points
9. Patellar tendinitis (knee pain)
10. Muscle strains

Appendix 4 ***CONSENT FORM***

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Phone: +263773706113 or +263712594845

E-mail: lmachongwe@gmail.com

Supervisor: Dr B Khumalo

Phone: +265991594220

E-mail: bkumalo46@gmail.com

CONSENT

1. Upon signing this consent form, I agree to take part in the research conducted by Machongwe Lewis and any other persons assisting or associated with the study.
2. By participating in this study, I understand the importance of being as honest as possible in all responses to the questions.
3. I understand that my participation in this project is voluntary and I may refuse to participate at any time throughout the survey process.
4. I realize the results of this study could be published, but I understand that I will not be identified individually in any such population.
5. If there is a question I feel strongly about not completing, I understand I have the right to leave it unanswered.

Participant Name……Signature ……Date……

Witness Signature ……..

Appendix 5 ***LETTER OF APPROVAL***

Nyashanu Primary School
P Bag 3614
Murambinda

01 November 2022

The Provincial Education Director
Buhera District
PO Box 146
Manicaland

RE: SEEKING PERMISSION TO CONDUCT RESEARCH, AND GAIN INFORMATION FROM YOUR SCHOOLS FOR SUBMISSION FOR ACADEMIC PURPOSES.

The above matter refers; I am Machongwe Lewis a student at Bindura University of Science Education studying towards a Master's degree in Sports Science seek permission to conduct research at Nyashanu High School. My research topic is on using resistance training to prevent and manage football-related injuries in under 20 boys at Nyashanu High School in Buhera District.

Your assistance in this matter will be greatly appreciated.

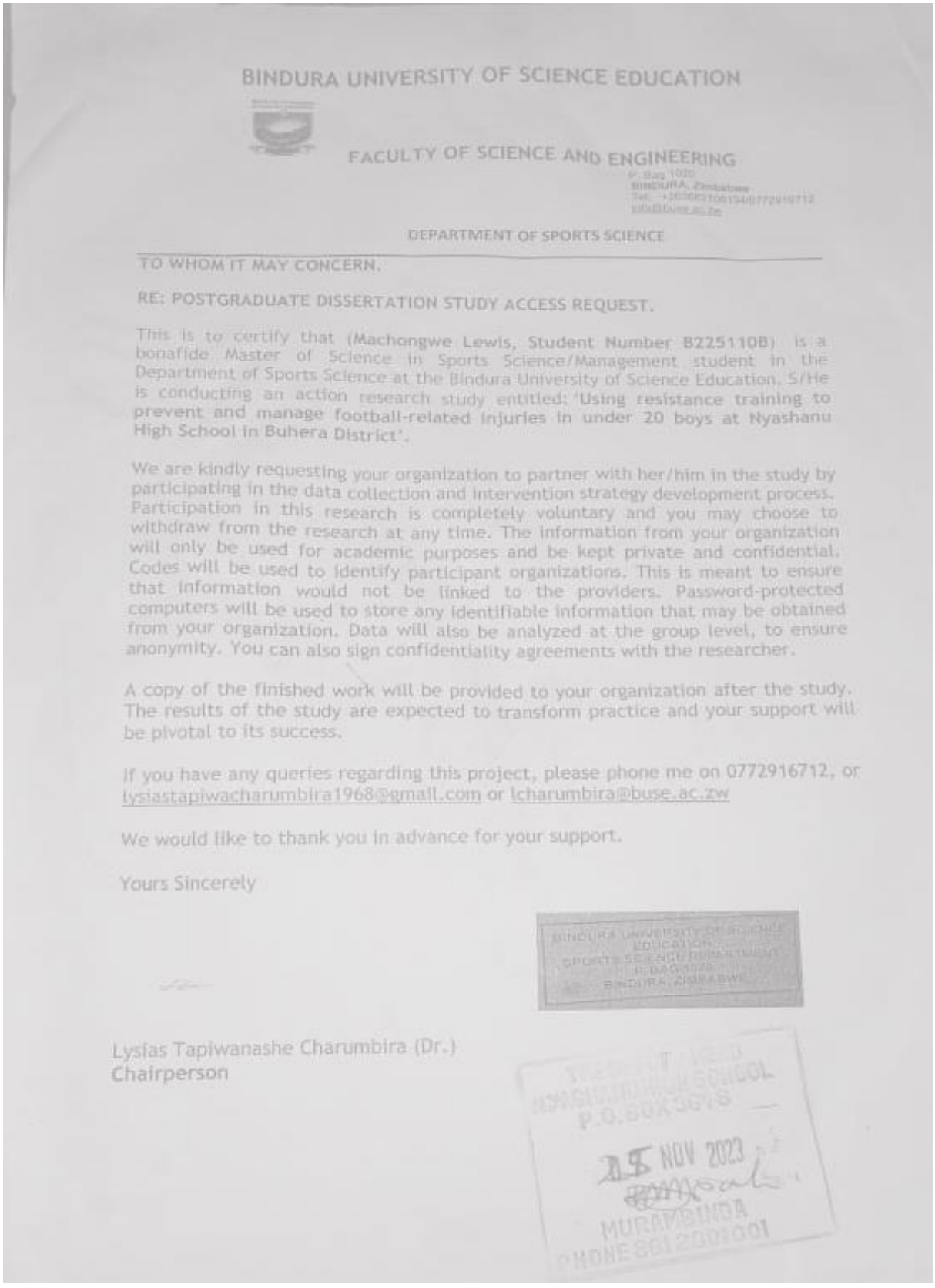
Yours faithfully

Machongwe Lewis

E-mail: lmachongwe@gmail.com

Cell: +263773706113/ +263712594845

Appendix 6 ***DISSERTATION STUDY ACCESS REQUEST***



BINDURA UNIVERSITY OF SCIENCE EDUCATION

FACULTY OF SCIENCE AND ENGINEERING

P. Bag 1020
BINDURA, Zimbabwe
Tel: +263(0)2506134/0772916712
info@buse.ac.zw

DEPARTMENT OF SPORTS SCIENCE

TO WHOM IT MAY CONCERN.

RE: POSTGRADUATE DISSERTATION STUDY ACCESS REQUEST.

This is to certify that (Machongwe Lewis, Student Number B225110B) is a bonafide Master of Science in Sports Science/Management student in the Department of Sports Science at the Bindura University of Science Education. S/He is conducting an action research study entitled: 'Using resistance training to prevent and manage football-related injuries in under 20 boys at Nyashanu High School in Buhera District'.

We are kindly requesting your organization to partner with her/him in the study by participating in the data collection and intervention strategy development process. Participation in this research is completely voluntary and you may choose to withdraw from the research at any time. The information from your organization will only be used for academic purposes and be kept private and confidential. Codes will be used to identify participant organizations. This is meant to ensure that information would not be linked to the providers. Password-protected computers will be used to store any identifiable information that may be obtained from your organization. Data will also be analyzed at the group level, to ensure anonymity. You can also sign confidentiality agreements with the researcher.

A copy of the finished work will be provided to your organization after the study. The results of the study are expected to transform practice and your support will be pivotal to its success.

If you have any queries regarding this project, please phone me on 0772916712, or lysiastapiwacharumbira1968@gmail.com or lcharumbira@buse.ac.zw

We would like to thank you in advance for your support.

Yours Sincerely

BINDURA UNIVERSITY OF SCIENCE EDUCATION
SPORTS SCIENCE DEPARTMENT
P. BAG 1020
BINDURA, ZIMBABWE

Lysias Tapiwanashe Charumbira (Dr.)
Chairperson

P.O. BOX 3615
25 NOV 2023
MURAMBINDA