

ADDIS ABABA UNIVERSITY
COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCES
DEPARTMENT OF SPORT SCIENCE

**ASSESSING THE EXTENT OF STUNTING, UNDERWEIGHT AND
WASTING OF PLAYERS IN SELECTED PRIVATE AND GOVERNMENT
FOOTBALL PROJECTS IN ADDIS ABABA**

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JUNE 2021

ADDIS ABABA, ETHIOPIA

**ASSESSING THE EXTENT OF STUNTING, UNDERWEIGHT AND WASTING OF
PLAYERS IN SELECTED PRIVATE AND GOVERNMENT FOOTBALL PROJECTS IN
ADDIS ABABA**

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DECLARATION

I declare that this thesis is my original work and has not been presented for the degree of master in any another university and that all sources of materials used for the thesis have been duly acknowledged.

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If I was not assured that no tongue, however deep its wisdom, can befittingly magnify His name, nor can the bird of the human heart, however great its longing, ever hope to ascend into the heaven of His Majesty and Knowledge'. I would have devoted pages and pages in praise, honor, and glory to JESUS CHRIST AND HIS MOTHER SAINT MARY who never made me down is my doctor to eliminate my hard pains all of a sudden before I feel hurt, and their blessings and guidance in giving me the strength, courage, and patience to pass this long journey. For all that he has bestowed on me.

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ABBREVIATIONS AND ACRONYM

AAU: – Addis Ababa University

BMI: - Body Mass Index

CHO: - Carbohydrate hydrogen and oxygen

DDS: - Diet diversity score.

EDHS:-Ethiopian Demographic and Health Survey.

FIFA: - Federation of international football association.

HAZ: - Height for age Z-score.

ICT: – Information and Communication Technology.

IQ: - intelligence quotient.

SD: - Standard Deviation.

SPSS: - Statistical package for social sciences.

U-15:- Under Fifteen

WAZ:- Weight for age Z-score.

WHO: - World Health Organization.

WHZ: - Weight for height Z-score.

Abstract

The aim of this study was to assess the extent of stunting, underweight and wasting of players in selected private and government football project in Addis Ababa. Child stunting affects the function and structure of the brain, impeding mental development and possibly affecting human capital and social progress in the long term. Stunting affects every organ in the body when organs do not get adequate nutrients. It can not function normally, from those organs brain is the first to be affected, which means when someone is affected by chronic malnutrition their brain can not function normally and they will be susceptible to mental and cognitive deficits. This study applied a community based comparative cross sectional descriptive research study design which was conducted among in governmental and private football projects in Addis Ababa district from December 10 up to June 2021. Simple random sampling technique was used to select the six U-15 project in Addis Ababa. Pretested and structured questionnaire was used to collect data. Anthropometric indicator, height-for-age, weight-for-age and weight-for-height was determined for players using current WHO growth standards. The data was analyzed by SPSS version 25. Having large family size were common factors significantly associated with stunting in both food secure and insecure households. When we see in stunting both government and private (<-2SD) 19.8% and 17%. When we see in wasting of sever (<-3SD) 5.6% of wasting in government, however there is no sever wasting in private project. The study found that player, household characteristics were significantly associated with stunting and wasting among player under age 15. Resulted differences in mean Z score for height-for-age, weight-for-age and weight-for-height. There was no criterion to recruit new players. In general, based on the major findings of the study youth football projects in Addis Ababa regardless of the types of the projects (government vs private) were recruiting youths with the problem of stunting, wasting and underweight. Moreover, the level of coaches understanding and the attention given to focus and deal with the problem of stunting, wasting and underweight at the time of player selection was very low. Create awareness among coaches about the negative effects of stunting wasting and underweight conditions while working with youth at the age of fast physical and physiological changes. Coaches, technical staff, and all decision-making bodies should consider the status of the trainees (stunting, wasting, and underweight status) regular assessment regarding the growth and development of players.

Keywords: Anthropometry, Stunting, Wasting, Underweight, WHO growth standards: football project in Addis Ababa

CHAPTER ONE

INTRODUCTION

1.1. Background of the study

Football is the world's most popular form of sport, being played in every nation without exception (Inklaar,1994 and Tumilty.1993). Football attracts novice since the fundamental movements such that the beginner finds himself equipped to play the game at the first time he/she tries it.

Nutrition in players', compared to other populations, is critical because childhood is an intense period of mental, physical, cognitive growth and highly predictive of future health. Childhood nutrition and short-term negative health consequences, like, delayed cognitive development, educational achievement and along with the increased risk of metabolic disease. Nutritional status is an important indicator of player's overall health and well-being. Childhood undernutrition results from prolonged and improper treatment of illness and inadequate food intake, and undernourished children are at a greater risk of dying than well-nourished children. Children's nutritional status in the EDHS/Ethiopian Demographic and Health surveys/ was assessed from measurements of their height and weight. From these measurements, three indicators of nutritional status were calculated: height-for-age or stunting measures chronic malnourishment; weight-for-height or wasting measures acute malnourishment; and weight-for-age, a composite index of acute and chronic malnourishment, measures the percentage of children who are underweight (Ethiopia Demographic and Health Survey 2000).

Malnutrition during childhood impedes physical and mental development the player'. The developing Sub-Saharan African countries are experiencing momentous socio-demographic, economic, and nutritional transitions. Stunting is a public health case that increases disease and mortality worldwide. Stunting refers to linear growth retardation resulting from long-term chronic under nutrition manifesting as faltering growth (*Ann Nutr Metab* 2014).

Child stunting affects the function and structure of the brain, impeding mental development and possibly affecting human capital and social progress in the long term. For example, stunting is related to poor football performance and subsequently having low income, high fertility and

providing poor care for children, contributing to the intergenerational transmission of poverty. Stunted players' usually the most socioeconomically disadvantaged population groups and are likely to do poorly in school, have low incomes in adulthood and contribute to the intergenerational transmission of poverty and income inequality (Lancet 2007).

Although chronic undernutrition (stunting) is a public health problem in Ethiopia, there is little documented information on the nutritional status of the youth football project and the impact on their performance in sub-city of Addis Ababa. Recently, the Ethiopian football federation recognized the impact of poor health and nutrition on children's ability to play, their project active participation, and concentration (Nutrition strategy Addis Ababa 2012).

Wasting a sign of 'thinness' that develops as a result of recent rapid weight loss or a failure to gain weight. In players', it commonly measured through the weight for height nutritional index. Underweight body may not be getting the nutrients it needs to build healthy bones, skin, and hair. While if one palyers' may have a genetic background or a medical illness that prevents them from putting on weight, there are interventions doctors can recommend to help a players'. A player is underweight may be stunted or wasted (<http://www.who.int>).

Anthropometric indices the measurement of length and weight compared with the growth standards is used to diagnose underweight, wasting and stunting in children. Monitoring growth on charts generated from the growth standards is used to recognize growth retardation or growth failure and prompt interventions (Sahakk, FrongilloEA etal. 2009).

Currently, enhancement of player performance efficiency is designed upon critical study of human anatomy, physiology, modern way of feeding and scientific way of training based upon a new findings and principles of investigation. This study was highly concentrated on stunting and anthropometric variables under 15 players in private and governmental football projects. The current survey included a health facility component that recorded data on children's vaccinations, which were combined and current level weight and height. In fact, there were many studies regarding to analyzing the exercise and fitness, but to the best of the researcher's knowledge there were no enough researches that studied about stunting and anthropometric variables on Ethiopian youth football players. The general objective of this study aimed to determine stunting, underweight and wasting of players in some selected private and government youth football projects.

1.2 Statement of the problem

In order to become a successful football player, it needs all-rounded physical, mental, social, and psychological development. For example in physical fitness many attributes like muscular endurance, muscular strength, flexibility, speed, agility, skills, and tactical knowledge mandatory in football. Unless problems are not carefully identified and possible solutions are put into action, it is very difficult to be successful in football. Especially when working with young players it is very important to understand the multi-dimensional factors that positively or negatively affect football performance. When young football players engage in football they usually accompanied by the fast changing physiological, psychological, and social dynamics. Amongst the challenges that youth players are facing in the fast growth and development, the age-related changes in emotional and social interaction in order to meet the objectives of coaching young players. In this regard before paying attention to the physical, technical, tactical, and psychological development of young players, it is very important to focus on the physical growth and development of young players.

In Ethiopia's context, the efforts that have been made to pay attention to the role of healthy growth and development in producing competent young players are less. The process of applying the long-term player development model in football demands huge investment, energy, and time. All person pay attention to the contribution of healthy growth and development and thereby considering the extent of stunting, wasting, and underweight in players in all the projects it will be a wastage of time, energy, and resource.

Stunting the nutritional indicator most consistently correlated with mental development. Stunting affects young players and delayed neurosensory integration, low IQ, and school achievement (SM Grantham-McGregor, 1996)

Stunting affects every organ in the body when organs do not get adequate nutrients. It can not function normally, from those organs brain is the first to be affected, which means when someone is affected by chronic malnutrition their brain can not function normally and they will be susceptible to mental and cognitive deficits. The most important factor for the effectiveness of a football player is his mental and cognitive awareness which is affected in a person having stunting So that a person having stunting is going to have cognitive and mental deficiencies and the result poor football players' get it. Children who suffer from stunting or wasting are more likely to suffer

poor health, be at risk from disease, and diet-related conditions. But stunting doesn't only affect a child's health, it also inhibits their future football development.

Selecting football players at an early age was expose them to many repeated training and coaching which help them to master different football tactics at an early age and they also integrate them into their brain easily to make them good performer at their adult age. In addition to this when they start sports training at an early age they become physically fit and healthy which will have a significant positive impact on football performance. The researcher's objective to examining the health of young players to promote the football development of our country by educating the coaches and community about the problem of stunting and wasting that comes with players, and to solve this problem.

1.3 Research question

The research questions that the study tries to answer are:-

1. How does the extent of growth stunt (stunting) in the U-15 category of players in selected Addis Ababa city Administration football projects?
2. Is there any wasting problem of players in Government and private football projects?
3. How does the extent of underweight players in the government and private U- 15 football projects?
4. Are players in the government and private football projects differ in stunting?
5. What do the coaches understands about adolescent growth?

1.4 Objectives of the study

1.4.1 General objective of the study

The purpose of this study was to assess the extent of growth stunt and anthropometric profiles in difference private and government football project in Addis Ababa.

1.4.2 Specific objectives

The specific objectives of the study are:

- ✓ To assess the extent of stunting in players of U-15 football projects.
- ✓ To evaluate the differences in wasting in the selected football projects.

- ✓ To investigate the extent of underweight players in the government and private U-football projects.
- ✓ To identify differences in stunting in players of the selected government and private football projects.
- ✓ To analyse the coaches understand of adolescent growth stunt.

1.5 Delimitation of the study

In order to investigate the stunting and anthropometric variables in private and governmental football project in Addis Ababa, The study was conducted in private and governmental football project & which was delimited to:-

- ✓ Stunting and anthropometric variables in private and governmental football projects.
- ✓ Subjects were selected under 15 in Jan Meda teaching and training center, Sewunet Bishaw football project, Berihane today youth project, Juventus football project, Arada 04 kebele youth football project, Andre football project and Ahedu sports project (based on random sampling methods) to volunteer to participate those activities, like height for age, weight for age, weight for height.
- ✓ This study was delimited only to the issue of growth stunt in private, and governmental football projects. For the youth player stunting, it seems mandatory and invaluable to make the study in the Addis Ababa youth football project. However, because of the resource and financial constraints the researcher has obliged to undertake the study on the under fifty football projects.

1.6 Limitation of the Study

The following were some of the limitations of this study.

- ✓ Update review related literature in the area, and but nutritional factors, sleep, altitude, hot, and cold environment were didn't think so.
- ✓ Scale to measure player weight in different private, and government football projects.
- ✓ Nutrition, habits and rests were beyond the control of the researcher.

1.7 Significance of the study

The significance of the study and the strong belief of the researcher finding of this study must be able to fill the research gaps. Following significances:-

- To give awareness to coach staff and Ethiopian football federation
- The result of this study may have an important contribution to this institution and point out suggestions for the solution.
- Provide proper and fertile ground for football coaches to allot time for growth stunting in youth footballer players when they design a football training program for the improvement of physical fitness,
- Coaches to acquire a deeper insight into their the cause of stunting, underweight and wasting.
- To conduct further research by providing good experiences.
- To date, the nature and extent of the problem in Ethiopian youth footballers has not been researched or reported in the literature. Therefore, the study is original and has the potential to have a significant impact on sports nutrition, dietary, and the effect of growth stunting on Ethiopian football.
- Used as a bridge to other research in the area, Or Serve as a guideline for other researchers who may want to conduct further researches

1.8 Operational definitions of key terms

- ✓ **Adolescence** are described as “the process of developing from a child into an adult”.
- ✓ **Anthropometry**: It is the measurement of the human body used to assess the nutritional status of individuals and population groups and as eligibility criteria for nutrition support program (Baten, Joerg;Komlos, John(2004))
- ✓ **Body mass index** is a number calculated from a person’s weight and height (Lancet 2009).
- ✓ **Football skills**: techniques need that to play football game and it incorporates passing shooting, dribbling and receiving (Chapman,2008).
- ✓ **Malnutrition**: It is the condition that results from an imbalance between dietary intake and requirements that results from less food intake and overload physical exercise (Deconinck H, Bahwere P, Adou P.2010)).

- ✓ **Performance:** - is the use of physical force to injure people or property. (Guilianotti 1999).
- ✓ **Player:** - is an individual who plays in a sporting event (Branscombe and Wann1992).
- ✓ **Physical fitness:** refers to one's ability to perform physical tasks effectively and efficiently relate to sport or occupation (Ahpert,1980).
- ✓ **Stunting** is the impaired growth and development that children experience from poor nutrition, repeated infection,and inadequate psychosocial stimulation.
- ✓ **Underweight:** Moderate <-2SD from median weight for age of reference Players'and severe <-3SD from median weight for age of reference population.
- ✓ **Under** - 11, 13, and 15 age categories players (<http://www.centersoccer.com>).
- ✓ **Wasting:** Moderate and severe—below minus two standard deviations from median weight for height of reference population (<https://www.who.int/childgrowth/>).

1.9 Organization of the study

The content of the research paper organized in to five chapters. Chapter one is an introduction which consists background of the study, statement of the problem, research questions, objectives of the study, delimitation of the study, limitation, significance of the study, operational definition of key words and organization of the study. Chapter two deals about the literature review. Chapter three presents the methodologies adopted for this study and include research design source of data and population of the study sampling techniques and sample size drawn for the study, methods of data collection and analysis. Chapter four focus on the presentation and analysis of the data gathered, and chapter five presents the summar

CHAPTER TWO

REVIEW OF RELATED LITERATURE

2.1 Concept of Youth Academy

A youth academy attempts to provide a high number of talented players with an opportunity towards becoming a professional soccer player either for the local league or to be sold onto a European club. Through focusing on the youth players and their development, instead of using recruitment as the main way of strengthening your human capital has a couple of advantages for the local football academies. The development of academy players could thus be considered a viable prospect for the long-term sustainability of a football club and also that of the national team. Utilization of the above model may provide an insight into a number of critical assets, competencies and capabilities that may influence football development. Sports have never been so heavily packaged, promoted, presented and played as commercial products as they are today (Coakley, 1998). Commercial sports are organized and played for the purpose of generating revenues as entertainment events. As a result of the commercialization of football, more clubs are now being managed according to criteria such as profitability and the maximization of turnover, next to their sporting performance (De Heij et al., 2006), so logically the business of football should evolve to include the integral role of the academy in developing future talent for the professional game. Capital to tap into new markets (De Heij et al., 2006) through identification and talent development remains an integral component for a football club that strives to produce the next generation of football players. Football academies or Centers of Excellence, defined in the broadest terms, are facilities or coaching program designed to produce talent.

2.2 Football and Youth Project

Today, young children who exhibit healthy social, emotional, and behavioral adjustment are more likely to have good academic performance in elementary school (Cohen and others 2005; Zero to three 2004) The development of youth football in the Ethiopia has both benefited. In many ways it has developed backwards in comparison to most Countries youth football development. Improving youth football project coaching has long been viewed as an important factor for the counties to be competent in the international level.

Many people are attracted to the game by the size and the pure athletic ability of the athletes. The hope and determination of the athletic department is to receive monetary returns in the success of their football program. In the last few decades, this edge has been sought through the strength and conditioning programs. Since the game of football is very popular the thought is that there would be a large body of research devoted to this popular sport. However, the reality is that there is very little research available in this area. We have very little direct significance evidence on the physical demands of the sport the recovery process, the effect of long-term participation” (kraemer, 1997)

2.3 Athlete development model in sport

Football Development model is on one sport is inappropriate in terms of physical and game sense development. The goals of any coach working with a young player who is pre-pubescent should include increasing proficiency of physical ability, develop strength, movement and biomechanical standpoint and lastly, diminishing the potentially negative effects of specialized training. In fact, the brain development period, which extends through childhood and into adolescence (Fleck;etal. 2002).

2.3.1 Football Player Development Model.

The key to modern youth player development can be found in the lessons of the free play era, where children took charge of games, learning and fun. By participating in endless hours of player-centered football, the children of the street football generation developed a life-long. By returning to the ideals of the free play era, youth coaches and youth football can use meaningful football games and football-related activities to unlock the potential of their young players. The Player Development Model are classified in to three way:- those are one is the Primer, which provides general information on coaching methods, training tools and the elements of a healthy football environment. Two, Zone 1: Preteen Age Groups provides information on coaching U-6, U-8, U-10 and U-12 age groups and is organized into separate each of those age groups. Three Zones 2 and 3, Teenagers, discusses the challenges and solutions of working with the U-14, U-16 and U-18+ age group, (Balyli etal;, 2004).

Coaches must understand players, teaching methods, learning styles, psychology and even parental involvement in youth sport. This Player Development Model offers information but not magic formulas for player or coach development. Ultimately, each coach is responsible for their own skills and insights and for the environment created (Rich Meana, 2005).

2.4 Growth and development in youth sport

Players to grow at different rates through varying stages of development. These stages are physical, emotional, mental and impact all areas of a child's academic and athletic life. Sport readiness will vary from players to players and coaches need to be varying in sports programs need to be wide and varied enough to support a diverse range of interests. Each players' cognitive, and social development needs to be taken into account when determining their ability to meet the demands in any given sport. Children who participate in programs that are beyond their developmental capabilities, discouragement and disappointment, leading to giving up sports altogether. 75% of teenagers have dropped out of sports by the age of 15 and, it no doubt plays a part (<http://olinemasters.ohio.edu>). There are many factors to be considered when dealing with growth and development in children and adolescents in the field of sports education. Duration, intensity, and frequency of training sessions must be considered when constructing programs and a wide variety of athletics, sports and physical activities should be utilized. If these aims are met children and adolescents are much more likely to enjoy their time spent on sports and athletics and to continue to participate well into adulthood, creating happier, healthier and more productive adults (Williams CA;2013).

Growth & Maturation

“Growth’ refers to measurable changes such as height, weight and fat percentage, whilst ‘maturation’ refers to more subtle qualitative adaptations, such as cartilage changing to bone.” - Newbery et al, 2014. It is important that growth and maturation is measured because it can assist in deciding which age group is more beneficial for the individual. Additionally, it may help in identifying the optimal time to train specific football movements and skills. Understanding the growth of the individual is also essential for understanding the changes that occur in the physiology of the young athlete because the developmental changes can both inhibit and enhance the changes that occur with training (Newbery et al, 2014).

Academies usually separate growth and maturation into a sections (Viswanath et al, 2016):- 6-11 years (Foundation phase).This stage is characterised by some maturity-related size differences but little physiological differentiation in the performance capacity.- 12-15 years (Developmental phase).

This stage is a period of fast physical and physiological growth (Mazzantini & Bombardieri, 2013) as the onset of puberty and adolescents usually occurs for males between these ages (Malina & Buchard, 1991). This stage is associated with large, maturity related variations in body size that is dependant on individual differences in the specific physiological attributes required for successful football performance.- 16-19 years (Performance phase). This phase is when late developers tend to catch-up with the chronological age and reduces the differences of maturity and variation in size and physical performance.

Adolescents

Adolescents is described as “the process of developing from a child into an adult” (Oxford Dictionary). This is also the time in which the individual goes through their biggest growth spurt (Balyi & Hamilton, 2004), this growth spurt is called the ‘Peak Height Velocity (PHV)’ and is said to be at the point where the individual is at 90% of their adult height (Kaczmarek, 2002).

Knowing the age of the PHV is a good indicator of somatic maturity and can assist in identifying the early and late developers (Viswanath et al., 2016) for the reason that it shows the timing of the maturation event, and the speed of growth provides an indication of tempo (Malina et al., 2004).

The benefits of knowing the individuals PHV means the appropriate training regimes can be monitored and realised (Viswanath et al., 2016). According to Philippaerts et al.,2006) the maximal growth of speed is achieved before PHV starts, whilst maximal growth of aerobic fitness is obtained alongside PHV. Strength is said to be best developed for males a year after PHV is achieved (Balyi & Hamilton, 2004) because insulin levels increase 2-3 fold post PHV, this supports the role of protein and fat metabolism, therefore indicating the readiness of the individual to partake in strength exercises. Therefore, prior to PHV the individual should refrain from doing activities such as resistance or extreme strength training as their systems aren’t fully functioned yet (Meylan et al., 2000).

2.5 Growth and development in adolescent

Participation in sports in relation to adolescent growth and development Somatic growth & maturation. Social support from coaches, peers and parents is monumentally important alongside discipline, resilience, commitment to succeed in a highly competitive situation such as academy football during the adolescence stage (Hofmann et al, 1997).

Coaches and players need to be very cautious of the physical and psychological aspects during the adolescence. Excessive training during the adolescence years can lead to great stresses to the cardio-respiratory system and the musculoskeletal system (Eur J, 2000). Therefore, players at this age need to be monitored and assessed to see if they need to be given a short or prolonged rest. Bone age is the ideal method to assess skeletal maturity. Key elements of these studies, as well as the developmental continuity and interrelatedness are discussed as follows.

Flexibility during early adolescence declines hugely due to the bones growing significantly faster than the muscles (Malina & Bouchard, 1991), consequently flexibility exercises need to be administered during this time (Balyi & Hamilton, 2004). Additionally, these physiological changes may cause the individual to go through some athletic awkwardness as their co-ordination temporarily declines (Quatman-Yates et al., 2006). Therefore, simple motor tasks such as controlling the ball, passing and shooting can be more challenging during the adolescent growth spurt (Largo et al., 2003). To limit the decline in technical and physical attributes during adolescents coaches need well-designed games-based activities which take in to consideration work:rest ratios during practice which will still likely lead to skill acquisition for these players (Fowles, 2000).

2.5.1 Weight

The average weight gain for adolescent males ranges from 6–12.5 kilograms (kg) per year with a peak weight gain of 9 kg per year. Likewise, the average weight gain for adolescent females ranges from 5.5–10.5 kg per year with a peak weight gain of kg per year. In males, the peak growth spurts of height, weight, and muscle occur at the same time in adolescent males, but in females, the growth spurts occur in sequence, in that order respectively (Levin MD, 2000).

2.5.2 Height

The maximal height of player linear growth is known as peak height velocity (PHV). Male adolescents generally reach PHV by 14 years of age during, with an average gain of 9 cm per year with a range of 7–12 cm per year. Male adolescents experience an average growth in height of 8

centimeters (cm) per year, with a range of 6–10.5 cm per year. In general, the progression of linear growth starts in the lower extremities, followed by growth of the torso, and upper extremities (Hofmann AD.1997).

2.5.3 Body composition

Body composition changes during adolescence vary by gender. Body composition is described in terms of fat mass (FM), fat-free mass (FFM), and body fat distribution . During early to middle adolescent years, males to have increases in both FM and FFM . The increase in FM and FFM continues during PHV, however fat accumulation in the extremities may transiently decrease. To continue to gain FM with proportionately more fat concentrated on the lower body. In general, body mass index (BMI), which is calculated as weight in kg divided by stature in meters, has been shown to have a better correlation with FM than with weight in kg. Muscle mass and bone mass also contribute to the numerator in BMI calculation, which can lead to a falsely high BMI value in an individual with low FM and high muscle mass (Malina RM, Bouchard C, 1991).

2.5.4 Physical growth, development and training

PHV (Peak height velocity) timing, rate, and magnitude are not impacted by regular physical training or sports participation, as demonstrated by several research studies. However, regular weight training may positively change the fat mass or fat free mass (FM/FFM) ratio and contribute to increase FFM. Aerobic capacity can be improved by endurance training and muscular strength may be improved by resistance training in children and adolescents. However, gains in strength in pre-pubertal children may not be the result of muscle hypertrophy, rather more of a reflection of neuromuscular adaptation (Smoll FL, Smith RE. 1996)

Physical performance differences are more significantly influenced by age at onset of puberty and environmental conditions than by an individual's chronologic age. Overall development, physical differences, rate of growth progression, and physical skills can vary widely among adolescents, and may contribute to body image concerns in some.. Some experts doubt the clinical significance of this period of incoordination and some doubt the existence of this phenomenon. Most adolescents reach full physical maturity at this stage of development. During this phase gross motor skills continue to grow and skills continue to specialize. Strength, speed, and size are gained for male adolescents during this phase, but at a slower rate compared with earlier development..

Additionally, aerobic capacity and muscular strength can continue to increase into adulthood, albeit at a slower rate than early puberty (Malina RM, 1994).

2.5.5 Implications for sports participation

Entry level competitive sports, such as football are appropriate for most early adolescents. At the other end of the spectrum, adults may try to convey positive messages that may inadvertently cause problems when a precocious athlete is no longer superior to their peers (Gomez JE, 2000).

Middle adolescence (13–15 years)

During middle adolescence, A teen may refuse to move to a higher weight class for fear of losing in a category in which they would be at the lower end of weight limits. For example, adolescents who play football may be encouraged to gain weight, and run, engage in multiple activities, and increase their flexibility and agility in order to be considered competitive by coaches and trainers. Adolescents in this stage are still sensitive to peer pressure and the need to please significant adult figures. Participation in sports activities for recreation, exercise, and fitness, can be enjoyed by all adolescents at this stage (Gomez JE. Growth and maturation.2000).

2.5.6 Neurodevelopment and injuries

An adolescent's growth and development has implications regarding specific risks of sports-related injuries. Growth and development impact short- and long-term complications of sports related injuries. Children may be unintentionally pushed beyond developmental limits when parents or coaches sometimes fail to appreciate an athlete's readiness, which may result in injury. In addition, young athletes may suffer significant long-term cognitive, memory, and fine motor impairment secondary to sports related, mild, traumatic brain injuries (Gomez JE.2000)

The adolescent years are associated with special risks for injuries related to growth and development. From increased force and momentum during collisions, due to the rapid growth during adolescence. During adolescence, the growth cartilage at the epiphyseal plate, joint surface, and apophyses tends to be "the weaker link" in the musculoskeletal system, and is especially susceptible to injuries (Gomez JE, 2000).

2.6 Stunting and wasting in Ethiopia

According to the World Health Organization (WHO), school-age comprises the ages between 6 and 12 years; and it is a pre-adolescent time. School-age players are affected by different nutritional and health problems due to high demand (requirement) for the rapid growth rate and high engagement in physical activity. So, adequate dietary intake is important for the physical and mental development during the primary school years. Due to malnutrition there is a high rate of morbidity and mortality of children in developing countries. Because of malnutrition, the cognitive function will be affected and impaired. Finally this may affect the economy of the household, the community, and the nation at large (Muller O.2003).

Malnutrition refers to deficiencies, excesses, or imbalances in a person's intake of energy and/or nutrients. The term malnutrition addresses 3 broad groups of conditions: undernutrition, which includes wasting (low weight-for-height), stunting (low height-for-age) and underweight (low weight-for-age). Wasting as low weight-for-height. It often indicates recent and severe weight loss, although it can also persist for a long time. It usually occurs when a person has not had food of adequate quality and quantity they have had frequent or prolonged illnesses (<http://www.who.int>).

2.7 The cause of stunting and wasting

Wasting and stunting are often presented as two separate forms of malnutrition. Wasting and stunting are both associated with increased mortality, especially in football players. A reduced muscle mass is characteristic of severe wasting, however there is indirect evidence that it also occurs in stunting. Reduced muscle mass a common mechanism linking wasting and stunting with increased mortality. This to decrease malnutrition-related mortality interventions should aim at preventing both wasting and stunting. In addition, this suggests that treatment interventions should focus on players are both wasted and stunted and therefore to increase deficits in muscle mass, instead of focusing on one or the other form of malnutrition. Young players have a low muscle mass in relation to body weight. Using mid-upper-arm circumference (MUAC) to select players in need of treatment may represent a simple way to target young wasted. A decreased fat mass is frequent, however inconsistent in stunting. Fat secretes multiple hormones, which may have a stimulating effect on the immune system. Depressed immunity resulting from low fat stores may also contribute to observed in wasting. This may wasting and stunting with increased mortality in situations where stunting is associated with reduced fat mass. This may explain why wasted players' with low fat stores have reduced linear growth when their weight-for-height remains low.

It also explain the frequent association of stunting with previous of wasting. Stunting, however, can occur in the absence of wasting and even in underweight players. Thus, food supplementation should be used with caution in populations where stunting is not associated with wasting and low fat stores (Waterlow, JC. Br Med J 1972).

2.7.1 Growth Faltering

Because nutritional inputs are necessary for players' growth, undernutrition is generally characterized by comparing the weights or heights (or lengths) of players' at a specific age and sex with the distribution of observed weights or heights in a reference population of presumed healthy players' of the same age and sex and then calculating z -scores, that are the difference between a players' weight or height and the median value at that age and sex in the reference population, divided by the standard deviation (SD) of the reference population. A players' whose height-for-age is less than -2 SD is considered stunted, because the chances of the child's height being normal are less than 3 percent. A players' whose weight-for-age is less than -2 SD is considered underweight, and one whose weight-for-height is less than -2 SD is deemed wasted. In six months of age, as children transition to foods that are often inadequate in quantity and increased exposure to the environment. Although knowledge about the prevalence of stunting and wasting is preferred, information about underweight is more available globally. The high correlation between stunting and underweight and the low prevalence of wasting mean that the prevalence of underweight directly describes the magnitude of the problem of growth faltering and stunting in young children (<http://www.ncbi.nlm.nih.gov>).

Estimated Prevalence of Selected Nutritional Deficiencies in Children Ages Birth through Four, by Region (percent)

Region	Weight-for-age less than -2 SD	Weight-for-age -2 SD through less than -1 SD	Vitamin A deficiency	Iron deficiency anemia	Zinc deficiency
East Asia and the Pacific	18	29	11	40	7
Eastern Europe and Central Asia	6	21	<1	22	10
Latin America and the Caribbean	6	23	15	46	33
Middle East and North Africa	21	35	18	63	46
South Asia	46	44	40	76	79
Sub-Saharan Africa	32	38	32	60	50
High-income countries	2	14	0	7	5

Sources: Underweight: Fishman and others 2004; vitamin A: Rice, West, and Black 2004; iron: Stoltzfus, Mullany, and Black 2004; zinc: Caulfield and Black 2004.

Malnourished men tend to deliver premature or small babies who are more likely to die or suffer from suboptimal growth and development (Allen, Gillespie 2001). Malnutrition leads to poor school readiness and performance, and reduced productivity. Thus, malnutrition, and ill-health are passed on from generation to generation.

Undernutrition raises the likelihood that a child will become sick and will then die from the disease. Morbidity and mortality are highest among those most severely malnourished; however, given the high prevalence of mild to moderate underweight, the mildly or moderately underweight individuals experience the greatest total burden of disease (Fishman and others 2004).

All individuals are equally likely to become infected if they are unvaccinated and naive. However, 5 to 16 percent of pneumonia, diarrhea, and malaria morbidity is attributable to moderate to severe underweight (Fishman et al., 2004)

Evidence is accumulating that early malnutrition increases the risk of numerous chronic diseases later (Caballero 2001; Gluckman 2004). Associations of early malnutrition with diabetes, hypertension, renal disease, and cardiovascular disease mean that child undernutrition also leads to high adult health care costs.

2.8 Interpret plotted points for growth indicators

Growth indicators are used to assess growth considering age and measurements together. The following growth indicators are used in this study (<http://www.who.int>).

- ✓ Height-for-age
- ✓ weight-for-length/height
- ✓ BMI (body mass index)-for-age

2.8.1 Plot stunting using /height-for-age/

Length/height-for-age reflects attained growth in length or height at the player's age at a given visit. This indicator can help identify players who are stunted (short) due to prolonged undernutrition or repeated illness. Players who are tall for their age can also be identified, but tallness is rarely a problem unless it is excessive and may reflect uncommon endocrine disorders. Charts for length-for-age for younger age groups of the Growth Record. In each of these charts, the x-axis shows age, and the y-axis shows length or height in centimeters (<http://www.who.int>).

To plot length/height-for-age:

- ✓ Plot completed weeks, months, or years and months on a vertical line
- ✓ Plot length or height on or between the horizontal lines as precisely as possible

2.8.2 Plot underweight using (weight-for age)

Weight-for-age reflects body weight relative to the player's age on a given day. This indicator was used to assess whether a player is underweight or severely underweight, but it was not used to classify a player as overweight or obese. Because weight was relatively easily measured, this indicator is commonly used, but it cannot be relied upon in situations where the player's age cannot be accurately determined, such as refugee situations (<http://www.who.int>).

To plot weight-for-age:

- ✓ Plot completed weeks, months, or years and months on a vertical line
- ✓ Plot weight on a horizontal line or in the space between lines to show weight measurement in kg.
- ✓ When points are plotted for two or more visits, connect adjacent points with a straight line to better observe trends.

Growth monitoring and performance chart in appendix part

2.8.3 Plot wasting using (weight-for-height)

Weight-for-length/height reflects body weight in proportion to attained growth in length or height. Weight-for-height charts help identify player's with low weight-for-height who may be wasted or severely wasted. Wasting caused by a recent illness or food shortage that causes acute and severe weight loss, although chronic undernutrition or illness can also cause of stunting.

Charts for weight-for-height are given. In these charts, the x-axis shows height in centimeters, and the y-axis shows weight in kilograms (<http://www.who.int>).

To plot weight-for-length/height:

- Plot length or height on a vertical line. It will be necessary to round the measurement to the nearest whole centimetre (i.e. round down 0.1 to 0.4 and round up 0.5 to 0.9), and follow the line up from the x-axis to wherever it intersects with the weight measurement.

When interpreting the growth charts, the researcher observation of the player's appearance. A player who is below in weight-for-length may be fine if he appears lean (fleshed out) rather than wasted (too thin).

The signs of marasmus and kwashiorkor require special attention of players. The wasting associated with marasmus will be apparent in the child's graphs for weight-for-age and weight-for-length/height. However, fluid retention associated with kwashiorkor can hide the fact that a player has very low weight. When you plot the weight of a player's who has a feet, it is important to note on the growth chart that the player's fluid retention. A player's with fluid retention of both feet is assumed to have a z-score below and should be referred for specialized care

2.8.4 BMI-for –age

BMI-for-age is an indicator that is especially useful for screening for overweight and obesity (Keys and Brozek.1952).

Moderate and severe thinness: A BMI < 17 indicates moderate and severe thinness in adult populations. It has been linked to clear-cut increae and it is a further reasonable value to choose as a cut-off point for moderate risk. A BMI < 16 is known to be associated with a markedly increased risk for poor physical football performance, lethargy and even death; this cut-off point is therefore a valid extreme limit.

Underweight: The cut-off point of 18.5 for underweight has less experimental validity as a cut-off point for moderate and severe thinness. The proportion of the population with a low BMI that is considered a public health problem is closely linked to the resources available for correcting

the problem, the stability of the environment and government priorities. About 3–5% of a healthy adult population have a BMI < 18.5.

Overweight: Overweight (BMI \geq 25) is a major determinant of many non-communicable diseases, including non-insulin-dependent diabetes mellitus, coronary heart disease and stroke, and increases the risks for several types of cancer, gallbladder disease, musculoskeletal disorders and respiratory symptoms.

Consider all growth charts and observations problem

The important to consider all of player’s growth charts together, particularly if only one of the charts shows a problem. For example, if a player is underweight according to the weight-for-age chart, you must also consider the player’s length-for-age and weight-for-length. Focus more on the weight-for-length/height (<http://www.who.int/index>)

- Height-for-age reflects attained growth in height. Stunting (length/height-for-age below) implies that for a long period the child received inadequate nutrients to support normal growth. A stunted child may have a normal weight-for-height, but have low weight-for-age due to shortness.
- Wasting (weight-for-length/height) usually results from a recent severe event,
- Interpreting Growth Indicators such as drastically reduced food intake and/or illness that caused severe weight loss.

Description and analysis coding plan of the selected study variables

Outcome variable	Description and categorization	Analysis coding
Stunting (height -for-age index)	Height/age standard deviation (new WHO)	0=normal height-for-age/Not – stunted (HAZ-2SD and above) 1=stunted (HAZ<-2SD)
Underweight (weight-for-age index)	Weight/age standard deviation (new WHO)	0=normal weight-for-age/Not-underweight (WAZ-2SD and above) 1=Underweight (WAZ<-2SD)
Wasting (weight-for-height index)	Weight/height standard deviation (new WHO)	0=normalweight-for-height/Not-wasted (WHZ-2SD to +2SD) 1=wasted(WHZ<-2SD)
Player’s height (cm)	Respondents height in centimeters(1decimal)	Constructed as follows 1=normal (> ---m)and 2=short stature (-----m)
Player’s BMI (kg/m2)	Body mass index (continuous, calculated using measured height and weight)	1=underweight (<18.5kg/m2) 2=normal (18.5-24.9kg/m2) 3=overweight (25.0-29.9 kg/m2) 4=obese (\geq 30kg/m2)

2.9 The effect of physical and mental development in youth football.

Players is an important sensitive period for cognitive development for football. We demonstrate the influence of physical activity on health between sports and cognitive functions. Although most players' are involved in sport on a casual or recreational activity, a growing number do devote many hours to intensive physical training and this reflects in part the younger age at which athletes today take part in international competition. Children and adolescents taking part in high-level competition are likely to have undergone several years of intensive training. The effect that intensive training at an early age has on a player's growth and development has a long history. The widespread belief that achieving international success at the senior level requires starting intensive training prior to puberty. Of course, the negative side to this philosophy is the issue of burnout during the pubertal years, where young athletes may retire prematurely from sport because of physical and psychological issues (Feigley, 1984; Smith, Pacewicz, & Raedeke, 2019). It should be emphasised that regular physical training is only one of many factors that can affect growth in the growing child and that it is difficult to define the precise influences that training programs have on growth. Problems arise when attributing growth differences to physical training despite the fact that young athletes are likely to have been selected as much for physique as for skill (Beunen et al., 1988). In this paper, I discuss the physical attributes and normal patterns of growth of young athletes, both competitive and recreational, to illuminate growth factors that influence or result from involvement in sport during the growing years. Specifically, on whether the physical attributes of young athletes are a result of nature or nurture. That is, are young athletes born with physical attributes suited to a sport or does sports training produce these physical attributes. Germane to the selection issue, Stephan (Hall, 2006) published a book entitled "*Size Matters*" in which he argued that although the childhood hierarchy primarily involved age (i.e. who is older) when it came to playing games in the schoolyard, it was size rather than age that mattered. In gender and possibly skin , size is probably the first thing others notice about each other (Hall, 2006). It is also body size matters in sports throughout childhood, as physical size often translates into physical superiority.

CHAPTER THREE

RESEARCH METHODOLOGY

This section of the thesis deals with the research design, sample, and sampling technique and data sources. It also presents the instrument of data collection and method of data analysis.

3.1 Research Methodology

The main objective of this study was to assess the extent of growth stunt and anthropometric variables in private and governmental football projects. Thus, to assess the extent of growth stunt and anthropometric variables a descriptive survey method was used. This method enables to gather of a large variety of data. Descriptive surveys gather at a particular point in time with the intention of describing the nature of existing conditions, or identifying standards against with existing conditions can be compared.

3.2 Study Design and period.

A community-based comparative cross-sectional study design was applied to conduct the study from December 20 to June 2021 to determine the level of stunting and it is associated factors.

3.3 Study area

The study was conducted in Addis Ababa.

Addis Ababa is the capital and largest city of Ethiopia. The estimated population in the city was 5,006,000 at the time of the study (<http://www.macrotrends.net>). The city is a chartered city which is located at 9⁰1'48''N 38⁰44'24''E with an average elevation of 2355m above sea level. The city has a complex mix of alpine climate zones, with temperature differences of up to 10⁰C (18⁰F), depending on elevation and prevailing wind patterns (National statistics 2011).

3.4 Sample Size and sampling techniques

The researcher believed that sampling was the act, process, or technique of selecting a suitable sample. In order to get more information from 200 players, 6 coaches and 2 managers and 1 assistance coach, and 1 finance from the total 210.

No	Name of the project	Number of players	Coaching staff	Total
1	Andre football project	28	3	31
2	Juventus football project	31	1	32
3	Sewunet Bishaw football project	35	3	38
4	Birhan today football project	36	1	37
5	Arada sub city 04 kebele	34	1	35
6	Janmeda teaching and trainer center	36	1	37
Total		200	10	210

There were U-15 football projects in Addis Ababa. Of these were privately owned and the rest government owned football projects. For this research, a random sampling technique was applied to select six football projects in Addis Ababa. Because there is no difference with other projects. Each project on average consisted of 32 players. All players have participated in the study.

3.5 Sources of data

Both primary and secondary sources of data were used to secure sufficient data or information. Primary data were collected from players using questionnaires, anthropometric measurements, and interviews. Secondary data sources were used to gather all the necessary information from different documents-like vaccine card childhood.

3.5.1 Variable of the study

Dependent variables: - Stunting and wasting

Independent variables:- Malnutrition, weight, height, and player age.

3.5.1.1 Dependent variables

The three indicators mostly used for monitoring malnutrition in players are; stunting (low height-for-age); underweight (low weight-for-age); and wasting (low weight-for-height). However, underweight is the composite of stunting and wasting, so this study used stunting and wasting for the analysis (Zerihune. Y, Mossa. E, and Adey.B. 2016). Stunting and wasting are coded as binary variables based on the standard definitions.

3.5.1.2 Independent variables

To analyze the determinants of nutritional status among players with the age of U-15, the study considered the following characteristics as independent variables: Socio-economic and demographic factors: - 1) player characteristics, including age. 2) Educational status (no education, primary, secondary and above). 3) Household characteristics including, number of children, Household income, family size, income source of household, occupation, wealth index, drinking water source availability.

3.6 Data collection instrument

Both quantitative and qualitative data collection techniques/instruments were employed to gather the necessary information. Among those questionnaires, interviews and measurements of height and weight were used in the study.

3.6.1 Questionnaire

A structured questionnaire composed of socio-demographic characteristics, maternal and child health characteristics, deworming supplementations, feeding practices of player, and sanitation information are used to collect the data. The questionnaire was designed to acquire information concerning socio-demographic and economic factors, health care factors, players' feeding practices factors, sanitation, and water factors. The diet diversity score (DDS) indicates the adequacy and quality of the diet for players' growth, development, and health. Questionnaires were implemented to provide quick, inexpensive, efficient and accurate means of assessing information about the player. One set of questionnaires were developed in English, and it was translated into the Amharic language. Amharic version addressed for the respondents. This is due to the fact that it avoids language problems in understanding the questions that help to find clear and pertinent information. In order to collect the necessary data, both questionnaires are constructed based on the review of related literature and research questions. There are two sets of questions, some of them comprise open-ended while most of them consist of close-ended questions, the researcher believes that open-ended questionnaire would help the respondent to write their real feeling about the phenomena they are asked. Every thought it was very difficult to analyze the researcher believes that it gives the respondents much freedom to suggest their subjective thought more appropriately than the second type of question. To satisfy the need for

confidentiality, respondents wouldn't ask to put their names on the questionnaires, instead, they would kindly request to indicate their age, and qualification as far as the background characteristics are concerned. Out of the total questionnaires are distributed to the whole players are 200, and 6 coaches. Totally 200 questionnaires are distributed for players and 6 questioners for the coach. Finally, responses to the overall questionnaire was summarize and analyze in a way of a qualitative and quantitative way.

3.6.2 Interview

According to Catherine Dawson, (2002:23), the most common types of data collection are unstructured, semi-structured interviews. Semi-structured interviewing was perhaps the most common type of interview used in qualitative social research in this type of interview, the researcher wants to know specific information which can be compared and contrasted with information gained in other interviews. As mentioned by Catherine Dawson, (2002:29), Practical Research Methods, structured the interviewer asks you a series of questions and ticks boxes with your response. Structured interviews are used in quantitative research for coaches, in morning 2:30oclock in training areas once time. The researcher was attending seriously the interview by closing mouth because it is important to share things about the researcher's idea, to build trust and get the conversation going. Every effort has made to create a friendly atmosphere of trust and confidence in order that the respondents feel at ease while talking to and discussing every single issue with the interviewer. The data obtained from the interview consist of the response of the coach about their knowledge, experience, opinions, perceptions, and intervention concerning the prospects and challenges of youth football development. The interview was held in the Amharic language to avoid communication gaps and clarity of ideas. This domain has main topics: personal profiles. From the respondents, age of coach, measurement of each player's height and weight. Finally, responses to the overall interview were summarized and analyzed qualitatively.

3.6.3 Anthropometric measurement

Height was measured in evening using the standardized vertical meter measurement. The thick socks, shoes, and jacket clothing of players were removed. A player has stood with his/her back against the measuring surface with feet together flat on the floor, arms at side and knees, and back straight. The Head, heels, buttocks, and shoulder blades of players have touched the measuring surface and a player was looking straight ahead, then the headboard was slid gently down to the

head of the player's, compressing the hair. Measure the distance from the floor to the spot on the wall to find out the height (<http://medicalnewstoday.com>). When the measurer's eyes level with the indicator, the height of the player's was read to the nearest 0.1 centimeters. The comparison was made between the two measurements. Accordingly, if the difference between the two measurement readings were within 0.1 centimeters, the second measurement was recorded. Otherwise, the average of the two measurements was taken. The scale indicator was checked against zero reading after weighing every player. When documents such as vaccination cards were available, So they were used to determine the age of the players. In the absence of documentation, a local seasonal calendar method was used by the team as they were trained on how to assess the age of the players.

3.7 Data collection procedures

The questionnaire was prepared in English and then translated to the Amharic language. I have seen it many times when converted from Amharic to English language no mistake translated. For data collected the researcher gives players a common understanding of the questionnaire, objective of the study, how to interview, and how to perform the anthropometric measurements, and read the various books and asked the medical professional person.

The researcher must introduced himself to the respondent and asking their interested and then describe the objectives of the study before distributing the questionnaire to the respondents, some relevant would be given to the respondent to help them know understanding each item. If the questionnaire, then the procedures by such way, the questionnaire was distributed to the player then the distributed questionnaire was collected. There was strict supervision on the data collection process, consistency, and completeness of questionnaires on a daily basis. The principal investigator controlled the overall data collection process. Filled questionnaires were checked and cleaned and next, the player response was presented in table form. Finally, the table was interpreted and analyzed.

Anthropometric measurements such as height have also been taken based on which z-scores were computed to define player's malnutrition status. The scale indicator was checked against zero reading after weighing every player. Finally, those weights and height enter WHO Anthro software to calculate Z- score to interpreted and analyzed which player is stunted, wasting, and underweight.

3.8 Method of data analysis

In this study, the result has been obtained through using a different method of data collection using both qualitative and quantitative way of data in evening time. After we get the necessary information from different respondents and sources, the collected data was coded and edited. The researchers used descriptive analysis through the tabular form. So the data obtained from the respondent through close-ended questions were analyzed quantitatively and the data through open-ended questions and interviews were analyzed qualitatively. The responses of the respondents of questionnaires and measurement checklists. The collected data were coded cleaned and entered into Epi data version 3.1 and exported to Statistical Package for Social Science (SPSS) version 25 software by the calculating of mean, the standard deviation is the most common ways of summarizing and analyzing data. The WHO Anthro software was used to enter and determine the prevalence of stunting among youth players under 15. Height and age data were used to calculate height-for-age Z-score. To categorize the severity level of stunting based on WHO (<http://www.who.int>). Stunting as low height-for-age at less than -2 SD and severe at less than -3 SD of the median value of the WHO international growth reference. Finally, the data was presented after the completion of the research work.

3.9 Ethical Consideration

The main ethical consideration for this study relates to providing the respondents with information as to the purpose of the study, the issue of confidentiality, the need for honesty in collecting data. Measures were taken to ensure the respect and dignity of each individual participating and to assure confidentiality in the study, also consent letter from players' families and the family signed the letter and sent it to me. The Participants may have that the information to keep confidential and the researcher was not be disclosed to anyone else including anyone in Addis Ababa city.

CHAPTER FOUR

DATA PRESENTATION, ANALYSIS AND DISCUSSION

This chapter presents the appropriate responses for the basic questions raised under the statement of the problem. The data gathered through questionnaires distributed to the football players and coaches. This chapter deals with the presentation and analysis of data that are divided into two main parts. The first part deals with the background information of the respondents and the second, is about the analysis and interpretation of data.

4.1 Demographic characteristics of players

Identifying, analyzing, and interpreting the respondent's characteristics are very important that it provides essential information on the respondent's ability to provide accurate data. The background of information of football players by age, sex, and educational level in person was analyzed and interpreted in the following table.

Table 4.1 Demographic characteristics of players

No.	Items	Age categories	Respondent	
			Frequency	Percent
2	Educational status	Under 11	29	14.5%
		Under 13	112	56%
		Under 15	59	29.5%
		Total	200	100%
		Below grade 4	10	5%
		5	13	6.5%
		6	26	13%
7	50	25%		
8	66	33%		
Above grade 9	35	17.5%		
Total	200	100%		

Source: Survey result 2013

As can be shown in table 4.1- 29(14.5%) of players were, found in the range under 11 years, whereas 112(56%) respondents were categorized under 13 age group. The remaining 59 (29.5 %), players were found in the age group of under 15 years, from this one can understand that the majority of players were found in the under 13 age group. From age group shows the study in which this age group is a very critical age range that can affect growth of players. With regards to educational status 10(5%) were below grade 4 and other, 13(6.5), 26(13%, 50(25%), 66(33%) and

35(17.5%) were students in grade 5, 6, 7, 8 and 9 respectively. From this one can understand that the majority of players for grade 8.

4.2 Demographic Characteristics of coaches

From the coach question 1:- It shows 6 (100%) of coaches are male. This shows that football coaching of youth projects is dominated by male coaches. Concerning the age of the coaches, two of the respondents were found between 20-30 years, 2 (33.3%), 3(50%) of coaches found 31-30 and only 1(16.7%) of coaches was above 41 years. Regarding working experience in football coaching as a coach, 2(33.3%) found in the range 0-4 years, 3 (50%) of them were found in the range 5-10 years and 1 (16.7%) found in the range 11-15 years. From this one can understand that the majority of coaches have found in the range 5-20 years. With regards to the level of coaching license, 4(66.6%) of coaches have local first-level coaching license, 1(16.7%) of coaches have local second-level coaching license. And 1(16.7%) of coaches high level of CAF/A/B/C level coaching license. From this, one can understand that the majority of coaches have found at the first level of coaching license. With regard to educational level and qualification, 1(16.7%) of coaches in diploma, 4(66.6) of coaches in degree and 1(16.7%) of coaches master and above. From this can recognize that the majority of coaches are degree.

As shows that 4(66.6%) of coaches specialized in football trainer (coaches) and 2(33.3%) of coaches specialized in teaching physical education and sport. From this one can understand that majority of coaches specialized in football trainers (coach).

4.3 General information about stunting, wasting and underweight from coach

The coaches were asked to respond to the following question.

Did you opportunity the chance to getting a course to upgrade yourself? This shows that 6 (100%) of coaches didn't get a chance to upgrade themselves. From this one understand that there is a shortage of getting a chance for coaches to themselves.

Have you ever had stunting behavior with the players you train? This shows that 2(33.3%) of coaches we seen stunting behavior and 4(66.7%) of coaches do not see stunting behavior. From this conclude most coaches can't see a stunting behavior of a player.

If "yes "question number 3, How far did you go in solving the problem? This shows that the coach going to solve the problems in the following way.

- ✓ Giving out food programs

- ✓ The advise you to follow up it possible with treatment like after training we should be a recovery
- ✓ They ask the players and the family to eat a balanced diet
- ✓ They ask a player if there is a sleep problem and psychological problems to ask a family to confront that way for avoidance of stunting.
- ✓ If there is a family problem, talk to the players secretly.

Have you ever seen wasting on the players you train? It shows that 5(83.3) of coaches can easily identify wasting problems and 1(16.7%) of coaches cannot see the wasting problem.

If “yes “question number 5 can you explain to me what the problem is? It shows that most coaches can see the wasting problem. Therefore, the coach says the following problem is listed, Those problems are

- ✓ Family income was low
- ✓ Malnutrition
- ✓ They after training doesn't eat protein content food to substitute energy that expands
- ✓ Not sleeping properly
- ✓ Not getting enough rest after training. Even so, all coaches they do not know how to solve the problem.

Have you ever seen a player underweight? It shows that 6(100%) of coaches can easily identify under the weight of players by using scales.

If “Yes” question number 7, what lessons did he teach them? It shows that most coaches easily identify weight problem, so the coach to teach the player the following way:-

- ✓ Improper implementation of the instruction given by the coach
- ✓ Sleep properly
- ✓ Getting enough rest after training.
- ✓ After training does not plays football around the environment
- ✓ To eat protein content of food and vegetables.

4.4 Socio-demographic characteristics government and private football project.

Table 4.2 :- Monthly income level of player's parents (father salary).

Response	Government		Private	
	Frequency	%	Frequency	%
Below 1650 birr	42	39.6	2	2.1
1651-5250 birr	32	30.2	5	5.3
5251-7800 birr	17	16.1	11	11.7
7801-10900 birr	10	9.4	22	23.4
Above 10900	5	4.7	54	57.5
Total	106	100.0	94	100.0

Source: Survey result 2013

As table 4.4 – show that the salary of the father of players'42(39.9%) of the government and the salary of father of players'2 (2.1%) of private respondents below 1650 birr respectively. 32(30.2%) and 5(5.3%) of the father salary between 1651-5250 birr, 17(16.1%) and 11(11.7%) of the father salary between 5251-7800 birr, 10(9.4%) and 22(23.4%) of the father salary between 7801-10900 birr, and 5(4.7%) and 54(57.5%) of the father salary above 10900 birr. From this one can understand that the majoritie's father's salary in government below 1650birr but in private majorities above 10900 birr.

Table 4.3 :- Monthly income level of player's parents (mother's salary).

Response	Government		Private	
	Frequency	%	Frequency	%
Below 1650 birr	36	34.0	4	4.3
1651-5250 birr	27	25.5	4	4.3
5251-7800 birr	22	20.8	11	11.7
7801-10900 birr	18	17.0	21	22.3
Above 10900	3	2.8	54	57.4
Total	106	100.0	94	100.0

Source: Survey result 2013

As table 4.5 – shows 36(34%) and 4 (4.3%) of the mother's monthly salary for government and private football trainers below that 1650 birr in the government and private project respectively.

Similarly 27(25.5%) and 4 (4.3%) of the respondents replied that the mothers' salary was found - between 1651-5250 birr, 22(20.8%), and 11(11.7%) of the mother salary between 5251-7800 birr, 18 (17%) and 21 (22.3%) of the mother salary between 7801-10900 birr, and 3(2.8%) and 54 (57.4%) of the mother salary above 10900 birr. From this one can understand that majorities in government players mothers their salary between 5251-7800biree but in private mothers' salary majorities above 10900 birr.

Table 4.4 :-Number of children in the family?

Response	Government		Private	
	Frequency	%	Frequency	%
1	9	8.5	5	5.3
2	46	43.4	11	11.7
3	35	33.0	45	47.9
Above 4	16	15.1	33	35.1
Total	106	100.0	94	100.0

Source: Survey result 2013

As table 4.6 –shows 9 (8.5%) of the government group players and 5 (5.3%) of private players' respondents that the number of children in the family was one, 46(43.4%) the government and 11(11.7%) of private two children in their family. 35(33%) the government and 45 (47.9%) of the private three children in their family, and 16(15.1%) the government and 33 (35.1%) of the private above four children in their family. From this one can understand that in government two children majorities percent in their family, while in private three children majorities in percent.

Table 4.5:- Mother occupation

Response	Government		Private	
	Frequency	%	Frequency	%
Housewife	32	30.2	19	20.2
Government employ	26	24.5	8	8.5
Private employ	25	23.6	12	12.8
Merchant	11	10.4	48	51.1
Others	12	11.3	7	7.4
Total	106	100.0	94	100.0

Source: Survey result 2013

As table 4.9- shows 32(30.2%) of the government group players and 19 (20.2%) of private players' mother were housewife, whereas 26(24.5%) and 8 (8.5%) mother are of government and private

group players' mothers were government employees respectively. 25(23.6%) of the government group and 12(12.8%) of the private group of players' mothers were private employees. From this one can recognize that in government majorities mothers occupation housewife, while in private majorities mothers' occupations are merchant.

Table 4.6:- Father occupation

Response	Government		Private	
	Frequency	%	Frequency	%
Merchant	13	12.3	52	55.3
Private employ	35	33.0	15	16.0
Government employ	28	26.4	10	10.6
Labour	23	21.7	17	18.1
Others	7	6.6	-	-
Total	106	100.0	94	100.0

Source: Survey result 2013

Table 4.10- shows 13(12.3%) of the government group players and 52 (55.3%) of private players' fathers are merchant, whereas 35(33%) and 15(16.0%) father are of government and private group players' father were private employee respectively. 28(26.4%) of the government group and 10(10.6%) private group of players' father were a government employee. From this one can understand that in government, majorities father are private employees, but in private majorities fathers' are merchant.

Table 4.7:- Average monthly family income.

Response	Government		Private	
	Frequency	%	Frequency	%
Less than 5400	38	35.8	2	2.1
5401-10800	34	32.1	8	8.5
10801-16200	18	17.0	11	11.7
16201-32400	12	11.3	25	26.6
Greater than 32401	4	3.8	48	51.1
Total	106	100.0	94	100.0

Source: Survey result 2013

Table 4.13 –shows 38(35.8%) of government group players and 2 (2.1%) of private players' the average monthly family income of less than 5400 birrs'. Whereas 34 (32.1%) government group

and 8 (8.5%) private group of average monthly family income between 5401-10800 birr respectively. From this one can understand that in government the majority of family monthly income less than 5400 birrs, while in private majorities average monthly family income above 32401, so if they have a better income they may have a better food supply, therefore player to get a balanced diet.

4.5 Factor associated with stunting government and private football project.

Table 4.8:-Meal frequency per day

Response	Government		Private	
	Frequency	%	Frequency	%
≤4	81	76.4	10	10.6
≥5	25	23.6	84	89.4
Total	106	100.0	94	100.0

Source: Survey result 2013

From the above table 4.25-show that 81(76.4%) in government and 10 (10.6%) of private the respondent players eaten less than or equal 4 times per day, this result of the study shows the price of cereal crops in general and the price of Teff drastically increased in particular. This forced most poor households in their family, this is one of the causes of malnutrition among players, 25 (23,6%) and 84 (89.4%) of players are eaten greater than or equal 5 per day. From this, one can understand that in government majorities' players less than 4 times eaten per day. From the above responses, players have no taken balanced nutrients. As Youth soccer (Thomas Reilly.etal., 2004), states that the young soccer players a thoughtful attention to diet is important. Players should have an appropriate carbohydrate, protein, fat, vitamins, minerals, and water intake before, during and after the training sessions.

4.6 Interview of the coach check list

The coaches' responses for each interview item are summarized below.

The coaches were asked whether they consider stunting as one of the criteria when recruiting the players. The coaches replied in such a way.

- No, in government coaches said that we don't see players' stunting, they just choose if they have the ability of football skill and their performance. But in private football coaches said that players entering the project will only be able to pay a monthly fee, and some coaches,

however, if some players are talented and poor kids, we will free them. In general, both public and private football coaches do not know how to growth stunting players, and they have neither the meaning nor the knowledge of stunting.

The second interview item deals with the extent of underweight players in the projects. The coaches response for this item is:

- In private football, coaches said that sometimes we measure the weight of players and we know where they are at the level and we also provide them with medical weight loss every month but in government, football coach said that sometimes we order them to be weighted, but we don't give it much space. Although not alone coach told me that, he would ask the players for their weight every month and bring it. In general, most government football coaches do not know the weight of the players, so you don't know the weight loss of players. All coaches only know about football training techniques.

The third interview item deals with the extent of wasting is seen in the players you train? If "yes" how far have you come to solve the problem? The coach response for this item is:

- Both government and private football coaches said that it is also rarely seen. To solve the problem, we called a meeting with Mom and Dad told to feed them properly after training. We always advise you not to play football in residential area after training.

BMI is a simple index of weight-to-height and it is the weight in kilograms divided by the square of the height in meters (kg/m²) (Keys and Brozek,1952).

BMI < 18.5 indicates underweight, percentile <5:Underweight

BMI 18.5–24.9 indicates normal weight, percentile ≥5 and <85:Health weight

BMI ≥ 25.0 indicates overweight, percentile ≥ 85 and <95:At risk of overweight

BMI ≥ 30.0 indicates obesity

Table 4.9- BMI in government football project

Government			Private	
Variables	Nnnumber	Percnt	Number	Percent
<18.5	65	61.3%	42	44.7%
18.5-24.9 (ref.)	41	38.7%	52	55.3%
≥ 25	-	-	-	-
Total	106	100%	94	100%

This study shows that 65 (61.3 %) of government group players and 42(44.7%) of private players with BMI <18.5, This indicate underweight, and some players severe thinness. Whereas 41(38.7%) and 52(55.3%) are government and private group players', BMI 18.5-24.9, this indicates normal BMI.

4.7 Findings of underweight, stunting and wasting in players.

The comparison of the incidence of underweight, stunting, and wasting based on (<http://www.who.int>) standards both governmental and private football project. According to (Birara M, Amsalu F and Bikes D.2014) researcher say that “the prevalence of stunting, underweight and wasting among children age 6 to 59 months were about 47.3%, 25.6%, and 8.9%, respectively. Severe stunting, underweight and wasting (below – 3SD) were about 16.2%, 5%, and 0.9%, respectively, but in my stud, however, it looks like the following.

Table 4.10 Clearly identify underweight, stunting, and wasting

Variables	Under weight			Stunting			Wasting		
	Normal	Moderate <-2SD	Sever <-3SD	Normal	Moderate <-2SD	Sever <-3SD	Normal	Moderate <-2SD	Sever <-3SD
Gov't	89	13	4	77	21	8	88	12	6
% of gov't	84%	12.3%	3.7%	72.6%	19.8%	7.6%	83.1%	11.3%	5.6%
Private	91	2	1	75	16	3	89	5	-
% of prv't	96.8%	2.1%	1.1%	79.8%	17%	3.2%	94.7%	5.3%	-

Source: Survey result 2013

The prevalence estimate for stunting (HAZ < -2 Z-score) in government football projects was 21(19.8%) using (<http://www.who.int>) standards compared to 16(17%) in private football projects. When we see the above table more growth stunt in government football project. This due to prolonged undernutrition or repeated illness. Players who are tall for their age can also be

identified, but tallness is rarely a problem unless it is excessive and may reflect uncommon endocrine disorders

Prevalence estimate for underweight (WAZ < -2 Z-score) in government was 13(12.3%) using ([http:// www.who.int](http://www.who.int)) standards compared to 2 (2.1%) in private football project. When we see the above table more growth stunt in government football project. This player was automatically considered severely undernourished and should be referred for specialized care.

Prevalence estimate for wasting (WHZ < -2 Z-score) in government was 12(11.3%) using (<http://www.who.int>) standards compared to 5(5.3%) in private football projects. When we see the above table more growth stunt in government football project. Wasting is usually caused by a recent illness or food shortage that causes acute and severe weight loss, although chronic undernutrition or illness can also cause this condition.

According to (Hofmann AD, 1997) Male adolescents generally the progression of linear growth starts in the lower extremities, followed by growth of the torso, and upper extremities, However in my finding weight for height the following way!

Government	Stature	Number	Private	Stature	Number
≥5 and < 95	Normal stature	65	≥5 and <95	Normal stature	62
≥95	Tall stature	5	≥95	Tall stature	5
<5	Short stature	36	<5	Short stature	27

Source: Survey result 2013

Table 4.11 Both government and private project weight for height

Age	Range	Government		Private	
		No.	%	No.	%
Under 11	≥ 5 and <95	7	6.6%	5	5.3%
	≥95	4	3.8%	3	3.2%
	<5	4	3.8%	1	1.1%
Under 13	≥ 5 and <95	32	30.2%	23	24.5%
	≥95	1	0.9%	2	2.1%
	<5	19	17.9%	6	6.4%
Under 15	≥ 5 and <95	24	22.7%	35	37.2%
	≥95	1	0.9%	4	4.3%
	<5	14	13.2%	15	15.9%
All players	Total	106	100.0	94	100.0

Source: Survey result 2013

The above table shows 7(6.6%) of government group players' and 5(5.3%) of private players ≥ 5 and < 95 normal stature under 11 years, whereas 32(30%) and 23(24.5%) of government and private group players' were ≥ 5 and < 95 normal stature under 13 years respectively. 24(22.7%) of government group and 35(37.2%) of a private group of players' were ≥ 5 and < 95 normal stature under 15 years. From this one can understand majorities players both government and private projects at a normal level.

Other researchers have reported that (Waterlow, JC. Br Med J 1972;3:566-9) "wasting and stunting are both associated with increased mortality. A reduced muscle mass increases the risk of death during infections and also in many other different pathological situations. It focuses on children who are both wasted and stunted and therefore have the greatest deficits in muscle mass, instead of focusing on one or the other form of malnutrition", However in my finding, we observed a high prevalence of stunting, underweight and wasting for the most part government football group players.

Table 4.12 Government and private football project height –for-age in Z-score

Government			Private	
Age	Frequency	Valid percent	Frequency	Valid percent
Under 11	6	5.7%	5	5.3%
Under 13	62	58.5%	37	39.4%
Under 15	38	35.8%	52	55.3%
Total	106	100.0	94	100.0

Source: Survey result 2013

The above table shows 6(5.7%) of the government group players and 5(5.3%) of private players' were under 11 years, whereas 62(58.5%) and 37(39.4%) of government and private group players' were under 13 years respectively. 38(35.8%) of the government group and 52(55.3%) of a private group of players' under 15 years respectively. From this one can understand that in government group players under 13 years mostly stunting while in private group players' under 15 years were stunted.

CHARTER FIVE

SUMMARY, CONCLUSION AND RECOMMENDATION

This chapter deals with, major findings, conclusion, and recommendations forwarded.

5.1 SUMMARY

From the basic questions formulated, the data collected through questionnaires, interviews, and measurements of the player by using scales and meters, and from the findings obtained, the following summaries were made. The data were mainly collected from questionnaires, interviews, and measuring height and weight by using scale and meters was dominantly used. Both primary and secondary data sources were used to carry out the study. The purpose of this study was to assess the difference in growth stunt and anthropometric profile difference between private and government football projects in some selected in Addis Ababa.

In this study, all possible efforts were made to get answers to the basic questions by making a strong review of related literature, collecting relevant information through questionnaires, unstructured interviews, and measurement of players' current states, and refers immunization status.

In the study descriptive survey method was employed in the relevant literature were reviewed and data collecting instruments were designed and used to collect information from different sources. Growth monitoring and promotion chart, Questionnaire, and measurement was the major instrument of data collection. To increase the clarity of questionnaires, check the clarity of language and pilot testing has been carried out.

In this study different analytical techniques were applied including descriptive and statistical techniques like the WHO Anthro calculator. In the description, part analysis were made by making use of SPSS-25version.

After collecting the responses from the respondents, necessary corrections and modifications were made before the distribution of the actual data gathering. Six projects randomly selected in sub city of Addis Ababa (Jan Meda, Arada sub-city 04 Keble, Berhan today, Sewunet Bishaw, Andre, and Juventus) of youth projects in the sub-city of Addis Ababa were included in the sample area of the study. The subjects of the study were selected from six youth football projects' 200 youth players, 6 coaches were included as a source of information to study. These were age, family size,

income, education, health, and social services like water source and house tenure. The main essence of these quantitative descriptions is to provide a qualitative description of the coping and survival practices applied to both government and private football projects.

Basically the study tried to assess valuate and the following basic questions. These are:

1. How does the extent of growth stunt (stunting) in the U-15 category of players in some selected Addis Ababa city Administration football projects?
2. Is there any wasting problem of players in Government and private football projects?
3. How does the extent of underweight among players in the government and private U-15 football projects?
4. Are players in the government and private football projects differ in stunting?
5. What do the coaches understand about adolescent growth?

For the data analysis the major finding obtained are summarized as follows:

1. How does the extent of stunting of players in the selected football projects in some selected projects in Addis Ababa city administration?
 - The finding of this study under 11 age in stunting, government football project 5.7% and private 5.3%.
 - We summarize the data under 13 age in stunting, governmental football project 58.5% and private 39.4%.
 - We summarize the data under 15 age in stunting, government football project 35.8% and private 55.3%
 - The finding of the study under 11 age in stunting, governmental 5.7% and private 5.3%, respectively. Under 13 age in government 58.5% and private 39.4% under 15 age in government 35.8% and in private 55.3%. When we compare in government and private football project more stunting in the age level of under 13 in government and private age level under 15 years respectively. In general governmental football projects, they are much stunting than private football projects.
2. Is there any wasting problem of players in Government and private football projects?
 - When we compare, wasting, normal standard were in government 83.1% and private 94.7% respectively. In moderate wasting (<-2 SD) in government 11.3%

and private 5.3% respectively. In severe wasting ($-3SD$) in government 5.60%, However, there is none in severe in private football project.

3. How does the extent of underweight among players in the government and private U-15 football projects?

➤ Normal underweight in government 84% and private 96.8% respectively. In moderate underweight ($< -2SD$) government 11.3% and private 5.3%. Severe underweight ($< -3SD$) in government (3.7%) and private (1.1%) respectively. So governmental football project is more underweight below standard when we compare private football project (Abbott and Collins .2010)-1920s researchers

4. Are players in the government and private football projects differ in stunting?

➤ The findings of this study revealed that almost half of the study players under the age of 15. When we compare government and private group of players' in stunting, between both projects under 15, were in normal about government 72.6% and private 79.8%, respectively. Moderate stunting ($< -2SD$) was in government 19.8% and private 17%. Severe stunting ($< -3SD$) in government 7.6% and private 1.1% of respectively. So in government more affects growth stunt when compare in private football projects.

5. What do the coach's understand about adolescent growth stunt?

➤ The study showed that all coaches only observe the players by simply estimate or guessing this player just looking at the body stunting and wasting.

➤ All coaches only select players on the skill of the ball especially in government, however in private, only those who have money are trained and they don't care about their health as a child.

➤ Coaches in general they do not have enough knowledge about stunting, wasting, and underweight, so coaches do not know much about adolescent growth stunt.

✓ In this regard, for 189 (94.5%) players the exact age was found from the immunization card registry (family folder), for the rest, 11 (5.5%), age was approximated.

High risk of stunting was observed among in government football project player's to measure weight, height and complementary food / fluid to compare private football project.

5.2 CONCLUSION

Based on the finding of the study; the following conclusions are made.

- In this study, the extent of low height-for-age indicators for stunting based on the world health organization standards in the U-15 youth football projects in Addis Ababa was assessed. As the assessment results revealed moderate and severe signs of stunting were identified among the U-15 players although the degree of stunting difference between the group of players.
- As the findings in stunting, the wasting problem was identified in both groups. The assessment results identified players with wasting problems in some players from the government and private projects every though severe wasting (-3SD) problem was reported in players from the government football projects (5.6%) of players with. However, the extent of wasting in the government players was relatively higher than the players from the private football projects.
- In this study, the body mass index of the youth players was assessed and the finding of this assessment revealed the vast majority of the players both in the government and private groups were identified in the underweight category.
- In comparison to the private players, the extent of stunting was relatively higher in the government players.
- The extent of stunting, wasting, and underweight among youth football players need serious follow by the coaches and other technical staff. Youth coaches also should have the knowledge of how stunting, wasting, and underweight condition affect the development of youngsters/adolescents. Although this is the fact in the current study the coaches' knowledge about stunting, wasting, and underweight is very low.
- According to (de onis etal.2018) sever stuting ($< -3SD$) from standard level. 27.3% the government group of players' at standard level 20 to $< 30\%$ high stunting and 20% of a private group of players at standard level 10 to 20 % medium stunting, whereas 16.9% of government group of players' at standard level $\geq 15\%$ very high wasting and 5.3% of a private group of players' at standard level 5 to 10% medium wasting problem respectively. 16.1% of the government group of players' at standard level $\geq 15\%$ very high underweight and 3.2% of a private group of players' at standard level 2.5 to 5% low underweight respectively.

- In general, based on the major findings of the study youth football projects in Addis Ababa regardless of the types of the projects (government vs private) were recruiting youths with the problem of stunting, wasting, and underweight. Moreover, the level of coaches' understanding and the attention is given to focus and deal with the problem of stunting, wasting, and underweight at the time of player selection was very low.

5.3 RECOMMENDATION

Based on the conclusions derived from the finding of the data analyzed, it made as possible ways of curbing the problems observed so the researcher forwards the following recommendations.

- Further in-depth research ought to be conducted to solve the youth soccer development programs from its roots and to see well-progressed youth soccer in the country.
- The health sector should encourage positive behaviors toward youth players and feeding practices.
- Create awareness among coaches about the negative effects of stunting wasting and underweight conditions while working with youth at the age of fast physical and physiological changes.
- Coaches, technical staff, and all decision-making bodies suggest consider the status of the trainees (stunting, wasting, and underweight status) at the time of player recruitment/selection and implement a continuous and regular assessment regarding the growth and development of players.
- All concerned bodies like Ethiopia football commission, coaches', managers and health sectors in the youth football projects should pay attention to trainees' growth and development through providing well-balanced nutrition that age demands.

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APPENDIX- I
ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCE
DEPARTMENT OF SPORT SCIENCE
MEASUREMENT OF EACH PLAYERS RESULT

2013/2021

Jan Meda sport project under 15, BMI

Number	Name	Age	month	Weight (kg)	Height (m)	BMI	Z – score	%
1	A.B	15	180	49	1.76	15.5	-2.1	1.7%
2	M.C	14.3	171	45	1.53	19.2	-0.0	49.2%
3	A.D	15	180	43	1.63	16.2	-1.9	3.1%
4	S.S	13.1	157	48	1.63	18.1	-0.2	43.3%
5	F. I	12.2	146	52	1.58	20.8	1.0	83.4%
6	S. S	14.6	174	52	1.70	18.0	-0.6	26.4%
7	D. S	14.2	170	52	1.56	21.4	0.7	75.85
8	H. Z	13.1	157	48	1.69	16.8	-0.8	21.5%
9	Y. W	14.6	174	46	1.59	18.2	-0.5	29.8%
10	D. A	13.9	165	48	1.69	16.8	-1.0	15.6%
11	Y. T	14.4	172	50	1.59	19.8	0.2	56.4%
12	D. D	15	180	61	1.74	20.1	0.1	55.2%
13	H. T	14.5	48	48	1.63	18.1	-0.6	28.4%
14	T.G	15	180	59	1.73	19.7	-0.0	48.8%
15	R. S	11.3	135	48	1.63	18.1	0.3	62.6%
16	W. H	13.4	160	58	1.68	20.5	0.6	74.2%
17	K.T	14.8	176	54	1.70	18.7	-0.4	35.9%

18	B.Y	12.6	150	39	1.53	16.7	-0.7	24.8%
19	Z. T	14.7	175	41	1.58	16.4	-1.5	6.2%
20	Y. T	14.8	176	55	1.70	19.0	-0.2	41.7%
21	Y.E	13.6	162	46	1.65	16.9	-0.9	19.2%
22	K.S	13.4	160	43	1.66	15.6	-1.6	5.25%
23	B.S	14.2	170	60	1.64	22.3	0.9	82.6%
24	C. E	14.5	173	50	1.69	17.5	-0.8	19.8%
25	A. A	13.4	160	51	1.58	20.4	0.6	72.9%
26	A. A	14.4	172	56	1.70	19.4	0.0	50.8%
27	H. M	13.2	158	49	1.71	16.8	-0.8	20.0%
28	A. E	9.3	111	34	1.57	13.8	-1.9	3.2%
29	E. E	12.4	148	51	1.58	20.4	0.8	79.7%
30	D. E	14.1	169	45	1.70	15.6	-1.9	2.6%
31	A. K	15	180	68	1.69	23.8	1.1	87.1%
32	D. G	14.2	170	47	1.56	19.3	0.0	51.6%
33	G. G	9.8	116	39	1.70	13.5	-2.3	1.2%
34	Y. A	13.5	161	57	1.68	20.2	0.5	69.8%
35	A. W	14.6	174	48	1.66	17.4	-0.9	17.9%
36	M. D	11.7	139	37	1.48	16.9	-0.3	38.6%

Arada subcity of Addis Ababa,04 kebele sport project, BMI

Number	Name	Age	Month	Weight (kg)	Height (m)	BMI	Z- score	%
1	N. Y	13.2	158	34	1.52	14.7	-2.3	1.2%
2	F. B	11.4	136	29	1.29	17.4	0.0	51.2%
3	B. M	13.5	161	31	1.39	16.0	-1.4	8.7%
4	R. D	14.1	169	39	1.38	20.5	0.5	67.7%
5	Y.C	14.2	170	32	1.46	15.0	-2.4	0.8%
6	Y.M	13.6	162	32	1.45	15.2	-2.0	2.3%

7	D. A	13.7	163	40	1.36	21.6	0.9	81.3%
8	A. A	11.9	141	27	1.30	16.0	-0.8	20.0%
9	T. M	12.5	149	31	1.41	15.6	-1.3	9.5%
10	M.D	12.6	150	39	1.58	15.6	-1.3	9.3%
11	B. G	13.1	157	30	1.41	15.1	-1.9	2.7%
12	N. W	11.4	136	27	1.35	14.8	-1.5	6.4%
13	K. B	12.6	150	28	1.40	14.3	-2.4	0.8%
14	R. N	14.5	173	32	1.45	15.2	-2.4	0.9%
15	A. A	14.6	174	28	1.46	13.1	-4.6	0.1%
16	N. A	13.4	160	29	1.47	13.4	-3.7	0.1%
17	Y. A	14.3	171	36	1.62	13.7	-3.7	0.1%
18	F.W	13.4	160	30	1.49	13.5	-3.5	0.1%
19	A. P	14.2	170	36	1.52	15.6	-2.0	2.4%
20	A. S	14.5	173	40	1.50	17.8	-0.7	23.9%
21	F. S	13.6	162	52	1.57	21.1	0.8	77.9%
22	B. F	13.4	160	50	1.53	21.4	0.9	80.8%
23	M. D	11.5	137	30	1.28	18.3	0.4	64.4%
24	Y. H	12.7	151	35	1.50	15.6	-1.4	8.1%
25	A. D	12.8	152	35	1.49	15.8	-1.3	10.0%
26	Y. E	13.9	165	31	1.45	14.7	-2.5	0.7%
27	S. K	12.5	149	40	1.39	20.7	0.9	81.3%
28	Y. T	12.2	146	38	1.38	20.0	0.7	77.0%
29	A. B	13.1	157	32	1.36	17.3	-0.5	29.8%
30	Y. K	12.2	146	34	1.48	15.5	-1.3	10.2%
31	N. B	13.3	159	32	1.25	20.5	0.6	74.2%
32	F. T	11.4	136	28	1.33	15.8	-0.8	20.9%
33	E.B	8.5	101	29	1.30	17.2	0.6	73.9%
34	A. B	9.6	114	27	1.39	14.0	-1.7	4.2%

Birhane ena selam to day, BMI

Number	Name of player	Age	Month	Weight (kg)	Height (m)	BMI	Z- score	%
1	S. F	14.3	171	39	1.40	19.9	0.2	59.1%
2	F. D	13.4	160	42	1.43	20.5	0.6	74.2%
3	F. M	9.6	114	36	1.38	18.9	1.0	84.8%
4	T. A	12.4	148	30	1.34	16.7	-0.6	27.4%
5	A. M	13.5	161	36	1.28	22.0	1.0	84.1%
6	K. S	15	180	43	1.58	17.2	-1.2	11.5%
7	T. H	12.7	151	38	1.53	16.2	-1.0	16.9%
8	H. T	15	180	46	1.52	19.9	0.0	51.6%
9	A. A	14.9	177	41	1.46	19.2	-0.2	44.0%
10	N. M	14.5	173	43	1.53	18.4	-0.4	33.7%
11	E. H	12.4	148	37	1.62	14.1	-2.5	0.6%
12	R. S	11.2	134	30	1.55	12.5	-4.0	0.1%
13	N. F	13.1	157	40	1.69	14.0	-2.9	0.2%
14	A. D	14.6	174	40	1.48	18.3	-0.5	30.9%
15	D. W	13.5	161	41	1.44	19.8	0.4	65.2%
16	H. H	14.6	174	39	1.50	17.3	-1.0	16.6%
17	E. W	13.4	160	42	1.65	15.4	-1.8	3.9%
18	E. C	13.6	162	46	1.52	19.9	0.4	65.9%
19	Y. S	15	180	50	1.49	22.5	0.8	79.7%
20	B. M	13.1	157	39	1.30	23.1	1.3	90.1%
21	B. A	12.1	145	37	1.52	16.0	-0.9	17.6%
22	T. G	13.2	158	38	1.41	19.1	0.2	58.7%
23	B. M	12.3	147	40	1.45	19.0	0.4	66.3%
24	K. A	9.4	112	37	1.32	21.2	1.6	94.7%
25	L. T	12.2	146	40	1.47	18.5	0.3	60.3%
26	N. Y	13.4	160	35	1.60	13.7	-3.4	0.1%
27	M. K	12.5	149	35	1.46	16.4	-0.8	21.5%

28	H. M	14.6	174	40	1.31	23.3	1.1	86.4%
29	M. A	13.5	161	37	1.44	17.8	-0.4	35.6%
30	A. T	14.4	172	43	1.45	20.5	0.4	65.2%
31	M. K	12.6	150	31	1.50	13.8	-2.9	0.2%
32	D. K	13.5	161	37	1.48	16.9	-0.8	19.8%
33	Y. G	14.5	173	43	1.58	17.2	-1.0	15.9%
34	K. K	13.6	162	37	1.53	15.8	-1.6	6.1%
35	M. K	12.7	151	40	1.48	18.3	0.1	52.0%
36	N. M	13.8	164	37	1.39	19.2	0.1	54.4%

Sewnet Bishaw sport project under 15, BMI

Number	Name	Age	Month	Weight (kg)	Height (M)	BMI	Z- score	%
1	N. M	13.4	160	45	1.55	18.7	0.0	51.6%
2	A. B	14.5	173	49	1.50	21.8	0.8	77.6%
3	S. Y	13.6	162	44	1.60	17.2	-0.7	23.6%
4	L. M	14.5	173	50	1.68	17.7	-0.7	23.0%
5	T. M	12.2	146	39	1.55	16.2	-0.8	20.6%
6	N. F	14.2	170	46	1.65	16.9	-1.1	13.6%
7	Z. T	14.1	169	47	1.65	17.3	-0.9	19.2%
8	N. A	15	180	52	1.67	18.6	-0.5	31.9%
9	M. A	13.5	161	44	1.58	17.6	-0.5	31.9%
10	B. C	12.9	153	41	1.68	14.5	-2.3	1.2%
11	Z. Z	12.1	145	41	1.49	18.5	0.3	60.3%
12	H. M	14.2	170	41	1.53	17.5	-0.8	22.4%
13	M .M	15	180	46	1.58	18.4	-0.6	28.4%
14	A. T	13.6	162	39	1.39	20.2	0.5	69.1%
15	B. T	14.4	172	47	1.69	16.5	-1.4	7.6%
16	M. A	14.2	170	45	1.45	21.4	0.7	79.1%

17	N. M	15	180	57	1.70	19.7	-0.0	48.8%
18	E. G	15	180	49	1.55	20.4	0.2	58.3%
19	K. T	15	180	60	1.69	21.0	0.4	65.9%
20	B. A	9.6	114	30	1.33	17.0	0.3	61.8%
21	A. A	13.4	160	41	1.50	18.2	-0.2	43.3%
22	K. G	14.5	173	39	1.55	16.2	-1.6	5.4%
23	A. F	14.6	174	41	1.49	18.5	-0.4	34.5%
24	N. G	15	180	50	1.58	20.0	0.1	53.2%
25	T. A	14.8	176	40	1.44	19.3	-0.1	45.6%
26	S. A	9.9	117	32	1.46	15.0	-0.9	18.1%
27	K. E	13.5	161	39	1.45	18.5	-0.1	47.6%
28	M. A	14.6	174	39	1.45	18.5	-0.4	35.6%
29	A. B	14.5	173	41	1.52	17.7	-0.7	23.6%
30	K. Y	15	180	50	1.51	21.9	0.7	75.2%
31	L. Y	12.7	151	43	1.49	19.4	0.5	67.7%
32	N. M	14.8	176	45	1.53	19.2	-0.1	44.8%
33	N. E	15	180	48	1.58	19.2	-0.2	41.3%
34	Z. E	15	180	57	1.70	19.7	-0.0	48.8%
35	W. A	15	180	50	1.55	20.8	0.4	63.7%

Andre football academy BMI

Number	Name of player	Age	Month	Weight (kg)	Height (m)	BMI	Z-score	%
1	O. M	11.4	136	48	1.63	18.1	-0.3	61.8%
2	R. A	13.2	158	58	1.68	20.5	0.7	75.5%
3	S. Y	14.5	173	54	1.70	18.1	-0.3	38.6%
4	N. S	12.6	150	39	1.53	16.7	-0.7	24.8%
5	M. G	14.5	173	41	1.58	16.4	-1.5	6.9%
6	L. M	14.6	174	55	1.70	19.0	-0.2	43.6%
7	F. T	13.4	160	46	1.65	16.9	-0.8	20.6%
8	A. B	14.2	170	50	1.68	17.7	-0.7	25.5%

9	D. Z	13.1	157	45	1.65	16.5	-0.9	17.1%
10	K. D	12.3	147	51	1.57	20.7	0.9	82.1%
11	B. E	13.4	160	57	1.68	20.2	0.5	70.5%
12	Y. Y	13.5	161	58	1.65	21.3	0.8	80.0%
13	E. Y	14.6	174	60	1.70	20.8	0.4	67.4%
14	E. Y	14.2	170	45	1.59	17.8	-0.6	26.8%
15	M. L	13.1	157	59	1.68	20.9	0.8	78.8%
16	E. S	14.1	169	45	1.45	21.4	0.7	76.7%
17	B. Y	15	180	57	1.70	19.7	-0.0	48.8%
18	L. N	15	180	49	1.55	20.4	0.2	58.3%
19	N. B	15	180	60	1.69	21.0	0.4	65.9%
20	F. S	11.9	141	40	1.62	15.2	-1.3	9.2%
21	D. K	13.8	164	43	1.57	17.4	-0.6	26.1%
22	H. A	13.6	162	47	1.57	19.1	0.1	54.8%
23	A. M	14.7	175	56	1.69	19.6	0.0	51.6%
24	E. R	14.6	174	54	1.65	19.8	0.1	55.6%
25	E. T	15	180	48	1.65	17.6	-1.0	16.6%
26	F. M	13.4	160	46	1.68	16.3	-1.2	12.1%
27	M. A	15	180	47	1.48	21.5	0.5	70.9%
28	N. E	12.2	146	39	1.46	18.3	0.2	56.7%

Juventus football project, BMI

Number	Name of player	Age	Month	Weight (kg)	Height (m)	BMI	Z-score	%
1	A. A	13.5	161	48	1.68	17.0	-0.8	21.5%
2	A. B	15	180	59	1.70	20.4	0.2	58.7%
3	B. A	15	180	50	1.55	20.8	0.4	63.7%
4	E. I	15	180	60	1.69	21.0	0.4	65.9%
5	J. M	11.8	140	45	1.67	16.1	-0.7	23.6%
6	K. I	13.9	165	45	1.50	20.0	0.4	64.8%
7	K. Y	14.4	172	39	1.55	16.2	-1.6	5.8%

8	K. F	14.5	173	43	1.49	19.4	-0.0	49.6%
9	M. S	15	180	50	1.58	20.0	0.1	53.2%
10	N. S	14.7	175	40	1.44	19.3	-0.1	46.8%
11	R. A	9.8	116	33	1.46	15.5	-0.6	28.8%
12	L. M	14.7	172	44	1.60	17.2	-1.0	16.1%
13	K. M	12.2	146	41	1.68	14.5	-2.0	2.1%
14	L. Y	13.3	159	48	1.54	20.2	0.6	71.9%
15	M. A	14.4	172	41	1.53	17.5	-0.8	20.9%
16	S. S	15	180	46	1.58	18.4	-0.6	28.4%
17	Y. G	13.6	162	39	1.45	18.5	-0.1	46.8%
18	Y. M	14.7	175	47	1.69	16.5	-1.5	6.4%
19	A. S	12.8	152	35	1.49	15.8	-1.3	10.0%
20	L. T	13.9	165	36	1.45	17.1	-0.8	20.3%
21	M. S	14.9	177	40	1.39	20.7	0.4	64.4%
22	S. G	12.8	157	38	1.38	20.0	0.6	73.2%
23	H. H	13.7	163	39	1.36	21.1	0.7	77.0%
24	C. B	15	180	45	1.48	20.5	0.3	60.3%
25	D. G	13.5	161	35	1.25	22.4	1.1	86.4%
26	B. G	11.4	136	38	1.33	21.5	1.3	90.1%
27	M. T	8.2	98	34	1.32	19.5	1.5	93.2%
28	N. T	9.3	111	27	1.39	14.0	-1.7	4.7%
29	H. T	12.4	148	28	1.40	14.3	-2.3	1.0%
30	E. A	14.6	174	32	1.45	15.2	-2.4	0.8%
31	B. M	14.5	173	34	1.50	15.1	-2.4	0.7%

APPENDIX -II

Height for age in Z-score for under 15 football players

Jan meda football project height for age in Z-score

No	Name	Age (month)	Height(m)	Z-score	Percentile
1	A. A	180	1.76	0.77	≥ 5 and < 95 Normal stature
2	Y. M	171	1.53	- 1.55	≥ 5 and < 95 Normal stature
3	B. L	180	1.63	- 0.89	≥ 5 and < 95 Normal stature
4	S. S	157	1.63	0.75	≥ 5 and < 95 Normal stature
5	F. L	146	1.58	1.00	≥ 5 and < 95 Normal stature
6	S. S	174	1.70	2.44	≥ 5 and < 95 Normal stature
7	D. S	170	1.56	- 1.14	≥ 5 and < 95 Normal stature
8	H. Z	157	1.69	1.50	≥ 5 and < 95 Normal stature
9	Y. W	174	1.59	-1.04	≥ 5 and < 95 Normal stature
10	D. A	165	1.69	0.84	≥ 5 and < 95 Normal stature
11	Y. T	172	1.59	- 0.91	≥ 5 and < 95 Normal stature
12	D. D	180	1.74	0.50	≥ 5 and < 95 Normal stature
13	H. T	173	1.63	- 0.49	≥ 5 and < 95 Normal stature
14	T. G	180	1.73	0.37	≥ 5 and < 95 Normal stature
15	R. S	135	1.63	2.44	≥ 95 Tall stature
16	W. H	160	1.68	1.13	≥ 5 and < 95 Normal stature
17	K. T	176	1.70	0.20	≥ 5 and < 95 Normal stature
18	B. Y	150	1.53	0.04	≥ 5 and < 95 Normal stature
19	Z. T	175	1.58	- 1.22	≥ 5 and < 95 Normal stature
20	Y. T	176	1.70	0.20	≥ 5 and < 95 Normal stature
21	Y. E	162	1.65	0.58	≥ 5 and < 95 Normal stature
22	K. E	160	1.66	0.88	≥ 5 and < 95 Normal stature
23	B. S	170	1.64	- 0.16	≥ 5 and < 95 Normal stature
24	C. E	173	1.69	0.26	≥ 5 and < 95 Normal stature
25	A. A	160	1.58	- 0.13	≥ 5 and < 95 Normal stature
26	A. A	172	1.70	0.45	≥ 5 and < 95 Normal stature
27	H. M	158	1.71	1.67	≥ 95 Tall stature
28	A. E	111	1.57	3.34	≥ 95 Tall stature
29	E. E	148	1.58	0.85	≥ 5 and < 95 Normal stature

30	D. E	169	1.70	0.66	≥5 and <95 Normal stature
31	A. K	180	1.69	- 0.15	≥5 and <95 Normal stature
32	D. G	170	1.56	- 1.14	≥5 and <95 Normal stature
33	G. G	116	1.70	4.79	≥95 Tall stature
34	Y. A	161	1.68	1.04	≥5 and <95 Normal stature
35	A. W	174	1.68	0.07	≥5 and <95 Normal stature
36	M. D	139	1.48	0.16	≥5 and <95 Normal stature

Arada sub city of Addis Ababa, 04 kebele, height for age in Z-score

No	Name	Age(month)	Height(m)	Z- score	Percentile
1	N. Y	158	1.52	- 0.72	≥5 and <95 Normal stature
2	F. B	136	1.29	- 2.37	<5 Short stature
3	B. M	161	1.39	- 2.56	<5 Short stature
4	R. D	169	1.38	- 3.13	<5 Short stature
5	Y. S	170	1.46	- 2.30	<5 Short stature
6	Y. M	162	1.45	- 1.90	<5 Short stature
7	D. A	163	1.36	- 3.04	<5 Short stature
8	A. A	141	1.30	- 2.51	<5 Short stature
9	T. A	149	1.41	- 1.48	≥5 and <95 Normal stature
10	M. D	150	1.58	0.69	≥5 and <95 Normal stature
11	B. G	157	1.41	- 2.05	<5 Short stature
12	N. W	136	1.35	- 1.49	≥5 and <95 Normal stature
13	K. B	150	1.40	- 1.68	<5 Short stature
14	R. N	173	1.45	- 2.58	<5 Short stature
15	A. A	174	1.46	- 2.52	<5 Short stature
16	N. A	160	1.47	- 1.50	≥5 and <95 Normal stature
17	Y. A	171	1.62	- 0.48	≥5 and <95 Normal stature
18	F. W	160	1.49	- 1.26	≥5 and <95 Normal stature
19	A. P	170	1.52	- 1.61	≥5 and <95 Normal stature
20	A. S	173	1.50	-2.02	< 5 Short stature

21	F. S	162	1.57	- 0.42	≥ 5 and < 95 Normal stature
22	B. F	160	1.53	- 0.76	≥ 5 and < 95 Normal stature
23	M. D	137	1.28	- 2.58	< 5 Short stature
24	Y. H	151	1.45	- 1.08	≥ 5 and < 95 Normal stature
25	A. D	152	1.49	- 0.63	≥ 5 and < 95 Normal stature
26	Y. E	165	1.45	- 2.10	< 5 Short stature
27	S. K	149	1.39	- 3.35	< 5 Short stature
28	Y. T	146	1.38	- 1.68	< 5 Short stature
29	A. B	157	1.36	- 2.69	< 5 Short stature
30	Y. K	146	1.48	- 0.32	≥ 5 and < 95 Normal stature
31	N. K	159	1.25	- 4.19	< 5 Short stature
32	F. T	136	1.33	- 1.78	< 5 Short stature
33	E. B	101	1.30	- 0.09	≥ 5 and < 95 Normal stature
34	A. S	114	1.39	0.41	≥ 5 and < 95 Normal stature

Birhane ena selam to day, height for age in Z-score

No	Name	Age(month)	Height(m)	Z- score	Percentile
1	S. F	171	1.40	- 3.01	< 5 Short stature
2	F. D	160	1.43	- 2.00	< 5 Short stature
3	F. M	114	1.38	0.26	≥ 5 and < 95 Normal stature
4	T. A	148	1.34	- 2.38	< 5 Short stature
5	A. M	161	1.28	- 3.90	< 5 Short stature
6	K. S	180	1.58	- 1.49	≥ 5 and < 95 Normal stature
7	T. H	151	1.53	- 0.03	≥ 5 and < 95 Normal stature
8	H. T	180	1.52	- 2.18	< 5 Short stature
9	A. A	177	1.46	- 2.68	< 5 Short stature
10	N. M	173	1.53	- 1.68	< 5 Short stature
11	E. H	148	1.62	1.36	≥ 5 and < 95 Normal stature
12	R. S	134	1.55	1.44	≥ 5 and < 95 Normal stature
13	N. F	157	1.69	1.50	≥ 5 and < 95 Normal stature
14	A. D	174	1.48	- 2.30	< 5 Short stature

15	D. W	161	1.44	- 1.95	<5 Short stature
16	H. H	174	1.50	- 2.08	<5 Short stature
17	E. W	160	1.65	0.75	≥5 and <95 Normal stature
18	E. C	162	1.52	- 1.04	≥5 and <95 Normal stature
19	Y. S	180	1.49	- 2.51	<5 Short stature
20	B. M	157	1.30	- 3.46	<5 Short stature
21	B. A	145	1.52	0.29	≥5 and <95 Normal stature
22	T. G	158	1.41	- 2.12	<5 Short stature
23	B. M	147	1.45	- 0.79	≥5 and <95 Normal stature
24	K. A	112	1.32	- 0.55	≥5 and <95 Normal stature
25	L. T	146	1.47	-0.45	≥5 and <95 Normal stature
26	N. Y	160	1.60	0.12	≥5 and <95 Normal stature
27	M. K	149	1.46	- 0.80	≥5 and <95 Normal stature
28	H. M	174	1.31	-4.08	<5 Short stature
29	M. A	161	1.44	-1.95	<5 Short stature
30	A. T	172	1.45	-2.52	<5 Short stature
31	M. K	150	1.50	-0.35	≥5 and <95 Normal stature
32	D. K	161	1.48	-1.45	≥5 and <95 Normal stature
33	Y. G	173	1.58	-1.09	≥5 and <95 Normal stature
34	K. K	162	1.53	-0.91	≥5 and <95 Normal stature
35	M. N	151	1.48	- 0.69	≥5 and <95 Normal stature
36	N. M	161	1.39	-2.56	<5 Short stature

Sewunet Bishaw football project height for age in Z-score

No	Name	Age(month)	Height(m)	Z-score	Percentile
1	N. M	160	1.55	-0.51	≥5 and <95 Normal stature
2	A. B	173	1.50	-2.02	<5: Short stature
3	S. Y	162	1.60	-0.04	≥5 and <95 Normal stature
4	L. M	173	1.68	0.13	≥5 and <95 Normal stature
5	T. M	146	1.55	0.61	≥5 and <95 Normal stature

6	N. F	170	1.65	-0.04	≥5 and <95 Normal stature
7	Z. T	169	1.65	0.03	≥5 and <95 Normal stature
8	N. A	180	1.67	-0.40	≥5 and <95 Normal stature
9	M. A	161	1.58	-0.21	≥5 and <95 Normal stature
10	B. C	153	1.68	1.71	≥95 Tall stature
11	Z. Z	145	1.49	-0.11	≥5 and <95 Normal stature
12	H. M	170	1.53	-1.49	≥5 and <95 Normal stature
13	M. G	180	1.58	-1.49	≥5 and <95 Normal stature
14	A. T	162	1.39	- 2.62	<5:Short stature
15	B. T	172	1.69	0.32	≥5 and <95 Normal stature
16	M. A	170	1.45	-2.41	<:Short stature
17	N. M	180	1.70	-0.02	≥5 and <95 Normal stature
18	E. G	180	1.55	-1.84	<Short stature
19	K. T	180	1.69	-0.15	≥5 and <95 Normal stature
20	B. A	114	1.33	-0.52	≥5 and <95 Normal stature
21	A. S	160	1.50	-1.13	≥5 and <95 Normal stature
22	K. G	173	1.55	-1.45	≥5 and <95 Normal stature
23	A. F	174	1.49	-2.19	<Short stature
24	N. G	180	1.58	-1.49	≥5 and <95 Normal stature
25	T. S	176	1.44	-2.84	<5:Short stature
26	S. N	117	1.46	1.27	<5:Short stature
27	K.E	161	1.45	-1.83	<5:Short stature
28	M. A	174	1.45	-2.63	<5:Short stature
29	A. B	173	1.52	-1.79	<5:Short stature
30	K. Y	180	1.51	-2.29	<5:Short stature
31	L. Y	151	1.49	-0.56	≥5 and <95 Normal stature
32	N. M	176	1.53	-1.85	<5:Short stature
33	N. E	180	1.58	-1.49	≥5 and <95 Normal stature
34	Z. G	180	170	-0.02	≥5 and <95 Normal stature
35	W. A	180	155	-1.84	<5: Short stature

Andrey football project height for age in Z-score

No	Name	Age(month)	Height(m)	Z-score	Percentile
1	O. M	136	1.63	2.37	>95:Tall stature
2	R.A	158	1.68	1.30	≥5 and <95 Normal stature
3	S. Y	173	1.70	0.39	≥5 and <95 Normal stature
4	N. S	1.50	1.53	0.04	≥5 and <95 Normal stature
5	M. G	173	1.58	-1.09	≥5 and <95 Normal stature
6	L. M	174	1.70	0.32	≥5 and <95 Normal stature
7	F. T	160	1.65	0.75	≥5 and <95 Normal stature
8	A. B	170	1.68	0.34	≥5 and <95 Normal stature
9	D. Z	157	1.65	1.00	≥5 and <95 Normal stature
10	K. D	147	1.57	0.79	≥5 and <95 Normal stature
11	B. E	160	1.68	1.13	≥5 and <95 Normal stature
12	Y. Y	161	1.65	1.04	≥5 and <95 Normal stature
13	E. Y	174	1.70	0.32	≥5 and <95 Normal stature
14	E. Y	170	1.59	-0.78	≥5 and <95 Normal stature
15	M. L	157	1.68	1.38	≥5 and <95 Normal stature
16	E. S	169	1.45	-2.35	Short stature
17	B. Y	180	1.70	-0.02	≥5 and <95 Normal stature
18	L. N	180	1.55	-1.84	≥5 and <95 Normal stature
19	N. B	180	1.69	-0.15	≥5 and <95 Normal stature
20	F. S	141	1.62	1.68	≥95:Tall stature
21	D. K	164	1.57	-0.58	≥5 and <95 Normal stature
22	H. A	162	1.57	-0.42	≥5 and <95 Normal stature
23	A. M	175	1.69	0.13	≥5 and <95 Normal stature
24	E. R	174	1.65	-0.31	≥5 and <95 Normal stature
25	E. T	180	1.65	-0.65	≥5 and <95 Normal stature
26	F. M	160	1.68	1.13	≥5 and <95 Normal stature
27	M. A	180	1.48	-2.62	<Short stature
28	N. E	146	1.46	-0.59	≥5 and <95 Normal stature

Juventus football project height for age in Z-score

No	Name	Age(month)	Height(m)	Z-score	Percentile
1	A. A	161	1.68	1.04	≥5 and <95 Normal stature
2	A. B	180	1.70	-0.02	≥5 and <95 Normal stature
3	B. A	180	1.55	-1.84	<:Short stature
4	E. I	180	1.69	-0.15	≥5 and <95 Normal stature
5	J. M	140	1.67	2.60	≥95:Tall stature
6	K.B	165	1.50	-1.50	≥5 and <95 Normal stature
7	K. Y	172	1.55	-1.38	≥5 and <95 Normal stature
8	K. F	173	1.49	-2.13	<5:Short stature
9	M. S	180	1.58	-1.48	≥5 and <95 Normal stature
10	N. S	175	1.44	-2.79	<5:Short stature
11	R. A	116	1.46	1.34	≥5 and <95 Normal stature
12	L. M	172	1.60	-0.79	≥5 and <95 Normal stature
13	K. M	146	1.68	2.27	≥95 Tall stature
14	L. Y	159	1.54	-0.55	≥5 and <95 Normal stature
15	M. A	172	1.53	-1.62	≥5 and <95 Normal stature
16	S. S	180	1.58	-1.49	≥5 and <95 Normal stature
17	Y. G	162	1.45	-1.90	<5:Short stature
18	Y. M	175	1.69	0.13	≥5 and <95 Normal stature
19	A. S	152	1.49	-0.63	≥5 and <95 Normal stature
20	L. T	165	1.45	-2.10	<5:Short stature
21	M. S	177	1.39	-3.41	<5:Short stature
22	S. G	152	1.38	-2.09	<5:Short stature
23	H. H	163	1.36	-3.04	<5:Short stature
24	C. B	180	1.48	-2.62	<5:Short stature
25	D. G	161	1.25	-4.26	<5:Short stature
26	B. G	136	1.33	-1.78	<5:Short stature
27	M. T	98	1.32	0.49	≥5 and <95 Normal stature

28	N. T	111	1.39	0.62	≥5 and <95 Normal stature
29	H. M	148	1.40	-1.54	≥5 and <95 Normal stature
30	E. A	174	1.45	-2.63	<5:Short stature
31	B. M	173	1.50	-2.02	<5:Short stature

Appendix iii

Weight for age in Z-score and percentile for under 15 football players

Jan meda football project weight for age in Z-score

No	Name	Age(month)	Weight(kg)	Z-score	Percentile
1	A. A	180	49	-0.82	20.611%
2	Y. M	171	45	-0.87	19.215%
3	B.L	180	43	-1.65	4.947%
4	S. S	157	48	0.19	57.535%
5	F. L	146	52	1.05	85.314%
6	S. S	174	52	-0.20	42.074%
7	D. S	170	52	-0.01	49.601%
8	H. Z	157	48	0.19	57.535%
9	Y. W	174	46	-0.90	18.406%
10	D. A	165	48	-0.20	42.074%
11	Y. T	172	50	-0.32	37.448%
12	D. D	180	61	0.41	65.91%
13	H. T	173	48	-0.60	27.425%
14	T. G	180	59	0.24	59.483%
15	R. S	135	48	1.18	88.1%
16	W. H	160	58	0.95	82.894%
17	K. T	176	54	-0.08	46.812%
18	B. Y	150	39	-0.54	29.46%
19	Z. T	175	41	-1.66	4.846%
20	Y. T	176	55	0.02	50.798%

21	Y. E	162	46	-0.28	38.974%
22	K. S	160	43	-0.54	29.46%
23	B. S	170	60	0.71	76.115%
24	C. E	173	50	-0.37	35.569%
25	A. A	160	51	0.34	63.307%
26	A. A	172	56	0.29	61.409%
27	H. M	158	49	0.24	59.483%
28	A. E	111	34	0.77	77.935%
29	E. E	148	51	0.88	81.057%
30	D. E	169	45	-0.76	22.363%
31	A. K	180	68	0.96	83.147%
32	D. G	170	47	-0.57	28.434%
33	G. G	116	39	1.16	87.698%
34	Y. A	161	57	0.83	79.673%
35	A. W	174	48	-0.65	25.785%
36	M. D	139	37	-0.23	40.905%

Arada sub city of Addis Ababa, 04 kebele weight for age in Z-score

No	Name	Age(month)	Weight(kg)	Z –score	Percentile
1	N. Y	158	34	-1.81	3.515%
2	F. B	136	29	-1.52	3.51%
3	B. M	161	31	-2.61	0.453%
4	R. D	169	39	-1.62	5.262%
5	Y. S	170	32	-3.02	0.126%
6	Y. M	162	32	-2.46	0.695%
7	D. A	163	40	-1.11	13.35%
8	A. A	141	27	2.31	1.044%
9	T.M	149	31	-1.85	3.216%
10	M. D	150	39	-1.54	29.46%
11	B. G	157	30	-2.57	0.508%

12	N. W	136	27	-2.01	2.222%
13	K. B	150	28	-2.60	0.466%
14	R. N	173	32	-3.24	0.1%
15	A. A	174	28	-4.36	0.1%
16	N. H	160	29	-3.01	0.131%
17	Y. A	171	36	-2.27	1.16%
18	F. W	160	30	-2.77	0.28%
19	A. P	170	36	-2.20	1.39%
20	A. S	173	40	-1.70	4.457%
21	F. S	162	52	0.35	63.683%
22	B. F	160	50	0.25	59.871%
23	M. D	137	30	-1.35	8.851%
24	Y. H	151	35	-1.21	11.314%
25	A. D	152	35	-1.27	10.204%
26	Y. E	165	31	-2.88	0.199%
27	S. K	149	40	-0.35	36.317%
28	Y. T	146	38	-0.46	32.276%
29	A. B	157	32	-2.14	1.618%
30	Y. K	146	34	-1.10	13.567%
31	N. B	159	32	-2.26	1.191%
32	F. T	136	28	-1.75	4.006%
33	E. B	101	29	0.44	67.003%
34	A. S	114	27	-0.72	23.576%

Birhane ena selam to day football project weight for age Z-score.

No	Name	Age(month)	Weight(kg)	Z-score	Percentile
1	S. F	171	39	-1.74	4.093%
2	F. D	160	42	-0.67	25.143%
3	F. M	114	36	0.89	81.327%
4	T. A	148	30	-2.00	2.275%

5	A. M	161	36	-1.63	5.155%
6	K. S	180	43	-1.65	4.947%
7	T. H	151	38	-0.74	22.965%
8	H. T	180	46	-1.21	11.314%
9	A. A	177	41	-1.78	3.754%
10	N. M	173	43	-1.25	10.565%
11	E. M	148	37	-0.72	23.576%
12	R. S	134	30	-1.18	11.9%
13	N. F	157	40	-0.78	21.77%
14	A. D	174	40	-1.76	3.92%
15	D. W	161	41	-0.86	19.489%
16	H. H	174	39	-1.93	2.68%
17	E. W	160	42	-0.67	25.143%
18	E. C	162	46	-0.28	38.974%
19	Y. S	180	50	-0.70	24.196%
20	B. M	157	39	-0.92	17.879%
21	B. A	145	37	-0.56	28.774%
22	T. G	158	38	-1.13	12.924%
23	B. M	147	40	-0.24	40.517%
24	K. A	112	37	1.11	86.65%
25	L. T	146	40	-0.19	42.465%
26	N. Y	160	35	-1.75	4.006%
27	M. K	149	35	-1.10	13.567%
28	H. M	174	40	-1.76	3.92%
29	M. A	161	37	-1.47	7.078%
30	A. T	172	43	-1.14	12.714%
31	M. K	150	31	-1.91	2.807%
32	D. K	161	37	-1.47	7.078%
33	Y. G	173	43	-1.25	10.565%
34	K. K	162	37	-1.52	6.426%

35	M. N	151	40	-0.45	32.636%
36	N. M	161	37	-1.65	4.947%

Sewunet Bishaw football project weight for age in Z-score.

No	Name	Age(month)	Weight(kg)	Z-score	Percentile
1	N. M	160	45	-0.29	38.591%
2	A. B	173	49	-0.48	31.561%
3	S. Y	162	44	-0.52	30.153%
4	L. M	173	50	-0.37	35.569%
5	T. M	146	39	-0.32	37.448%
6	N. F	170	46	-0.69	24.51%
7	Z. T	169	47	-0.51	30.503%
8	N. A	180	52	-0.47	31.918%
9	M. A	161	44	-0.47	31.918%
10	B. C	153	41	-0.43	33.36%
11	Z. Z	145	41	-0.01	49.601%
12	H. M	170	41	1.37	8.534%
13	M. G	180	46	-1.21	11.314%
14	A. T	162	39	-1.21	11.314%
15	B. T	172	47	-0.67	25.143%
16	M. A	170	45	-0.81	20.897%
17	N. M	180	57	0.05	51.994%
18	E. G	180	49	-0.82	20.611%
19	K. T	180	60	0.33	62.93%
20	B. A	114	30	-0.06	47.6%
21	A. S	160	41	-0.80	21.186%
22	K. G	173	39	-1.87	3.074%
23	A. F	174	41	-1.60	5.48%
24	N. G	180	50	-1.70	24.196%
25	T. A	176	40	-1.89	2.938%

26	S. N	117	32	0.14	55.567%
27	K. E	161	39	-1.15	12.507%
28	M. A	174	39	-1.93	2.68%
29	A. B	173	41	-1.54	6.178%
30	K. Y	180	50	-0.70	24.196%
31	L. Y	151	43	-0.07	47.25%
32	N. M	176	45	-1.13	12.924%
33	N. E	180	48	-0.95	17.106%
34	Z. G	180	57	0.05	51.994%
35	W. A	180	50	-0.70	24.196%

Andrey football project weight for age in Z-score

No	Name	Age(month)	Weight(kg)	Z –score	Percentile
1	O. M	136	48	1.144	87.286%
2	R. A	158	58	1.03	84.849%
3	S. Y	173	54	0.05	51.994%
4	N. S	1.50	39	-0.54	29.46%
5	M. G	173	41	-1.54	6.178%
6	L. M	174	55	0.11	54.38%
7	F. T	160	46	-0.18	42.858%
8	A. B	170	50	-0.22	41.294%
9	D. Z	157	45	-0.14	44.433%
10	K. D	147	51	0.92	82.121%
11	B. E	160	57	0.87	80.785%
12	Y. Y	161	58	0.91	81.859%
13	E. Y	174	60	0.55	70.884%
14	E. Y	170	45	-0.81	20.897%
15	M. L	157	59	1.14	87.286%
16	E. S	169	45	-0.76	22.363%
17	B. Y	180	57	0.05	51.994%

18	L. N	180	49	-0.82	20.611%
19	N. B	180	60	0.33	62.93%
20	F. S	141	40	0.07	52.79%
21	D. K	164	43	-0.75	22.663%
22	H. A	162	47	-0.16	43.644%
23	A. M	175	56	0.16	56.356%
24	E. R	174	54	0.01	50.399%
25	E. T	180	48	-0.95	17.106%
26	F. M	160	46	-0.18	42.858%
27	M. A	180	47	-1.08	14.007%
28	N. E	146	39	-0.32	37.448%

Juventus football project weight for age in Z-score

No	Name	Age(month)	Weight(kg)	Z-score	Percentile
1	A. A	161	48	-0.01	49.601%
2	A. B	180	59	0.24	59.483%
3	B. A	180	50	-0.70	24.196%
4	E. I	180	60	0.33	62.93%
5	J. M	140	45	0.68	75.175%
6	K. I	165	45	-0.55	29.116%
7	K. Y	172	39	-1.80	3.593%
8	K. F	173	43	-1.25	10.565%
9	M. S	180	50	-0.70	24.196%
10	N. S	175	40	-1.82	3.438%
11	R. A	116	33	0.36	64.058%
12	L. M	172	44	-1.05	14.686%
13	K. M	146	41	-0.06	47.608%
14	L. Y	159	48	0.09	53.589%
15	M. A	172	41	-1.49	6.811%

16	S. S	180	46	-1.21	11.314%
17	Y. G	162	39	-1.21	11.34%
18	Y. M	175	47	-0.82	20.611%
19	A. S	152	35	-1.27	10.204%
20	L. T	165	36	-1.88	3.005%
21	M. S	177	40	-1.95	2.559%
22	S. G	152	38	-0.79	21.476%
23	H. H	163	39	-1.26	10.383%
24	C. B	180	45	-1.35	8.851%
25	D. G	161	35	-1.81	3.515%
26	B. G	136	38	0.06	52.392%
27	M. T	98	34	1.39	91774%
28	N. T	111	27	-0.55	29116%
29	H. M	148	28	-2.47	0.676%
30	E. A	174	32	-3.32	0.1%
31	B. M	173	34	-2.80	0.256%

Age wise perfect height for boys

Age	Perfect height	
	In centimeters	
	Minimum height	Maximum height
6 month	63 cm	72cm
1 year	71 cm	80 cm
1 years 6 month	77 cm	87 cm
2 years	82 cm	94 cm
2 years 6 month	85cm	98cm
3 years	89cm	103cm
3 years 6 month	92cm	106cm
4 years	95.5cm	111cm
4 years 6 month	97cm	115cm
5 years 6 month	102cm	122.5cm
6 years	104cm	126.5cm
6 years 6 month	105.5cm	129.5cm
7 years	109cm	132.5cm
7 years 6 month	112cm	135.5cm
8 years	114cm	139cm
8 years 6 month	116cm	142cm

9 years	119cm	145.5cm
9 years 6 month	121cm	148cm
10 years	123.5cm	151.5cm
10 years 6 month	126cm	154.5cm
11 years	128cm	157cm
11years 6 month	130.5cm	160.5cm
12 years	133cm	163.5cm
12 years 6 month	136cm	166.5cm
13 years	138cm	170cm
13 years 6 month	141cm	173cm
14 years	143cm	175.5cm
14 years 6 month	146cm	177.5cm
15 years	148cm	179.5cm
15 years 6 month	150cm	181.5cm
16 years	152cm	183cm
16 years 6 month	153cm	184cm
17 years	155cm	184cm
17 years 6 month	156.5cm	186cm
18 years	158cm	186.5cm

The cut-off classification lines presented on the charts are:

- ✓ Weight-for-age:-3 SD, -2 SD, +2 SD and +3 SD
- ✓ Length/height-for-age: -3 SD, -2 SD, +2 SD and +3 SD
- ✓ BMI-for-age: -3 SD, -2 SD, -1 SD, +1 SD, +2 SD and +3 SD

Indicator	Prevalence cut-off values for public health significance
Stunting	<2.5%: very low 2.5 to < 10%: low 10 to < 20 %:medium 20 to < 30 %: high ≥30% :very high
Wasting	<2.5%: very low 2.5 to <5%: low 5 to 10% :medium 10 to <15:high ≥15%:vryhigh
underweight	<2.5%: very low 2.5 to <5%: low 5 to 10% :medium 10 to <15:high ≥15%:vryhigh

Source de onis etal.2018

APPENDEX –IV
ADDIS ABABA UNIVERSITY
SCHOOL OF GRADUATE STUDIES
COLLEGE OF NATURAL AND COMPUTATIONAL SCIENCES
DEPARTMENT OF SPORT SCIENCE
QUESTIONNAIRE (ENGLISH VERSION)
2013/2021

Questionnaires to be filled by football player

Introduction

Dear respondents!

This questionnaire is designed to collect relevant information on the “stunting and anthropometric variables in different private and governmental football project in Addis Ababa”. The information collected through this questionnaire will be treated confidentially and be used only for academic purpose. Your genuine contributions will be greatly essential for the success of the study. Thus, you are kindly requested to fill the questionnaire carefully and honestly. The information collected will not be used for any other purpose and will be confidential.

Not :- No need to write your name.

Instruction :-

1. Use tick mark or circle to select the appropriate answer and also there are some open ended question so write your answer on the space provided
2. The answer of the question will be kept secret from other and your privacy will be best maintained.
3. Please answer the question with honesty.

Part one :- Basic household characteristics

Personal information

For the following items encircle the response that you fill correct (for item no and write your response in the space provided).

1. Age (year and month) _____year and _____month.
2. Grade level.
1.< 4 2. 5 3. 6 4. 7 5. 8 6. > 8
3. Project type. 1. Government 2. Private 3. Others
4. Name of project: _____

Part two Economic Characteristics

1. How much do you think the father's monthly income is?
1. Below 1,650 birre 2. From 5,251-7,800bire 5. over 10900 birre
3. From 1,651-5,250bire 4. 7,801-10,900bire
2. How much do you think the mother's monthly income is?
1. Below 1,650 birre 3. From 5,251-7,800birre 5. over 10,900 birre
2. From 1,651-5,250birre 4. 7,801-10,900birre
3. Mothers occupation
1. House wife 3. private employee
2. Government employee 4. Others
4. Father occupation
1. Private employee 4. Merchant
2. Government employee 5. Others
5. What is the source of your family income ?
1. Private business 2. Handicraft
3. House rental 4. Own workers
5. Non ag wage labourer 6. Other (specify) _____
6. Meal frequency per day
1. ≤ 4 times 2. ≥ 5 times

Expenditure / consumption

7. How much the average monthly family income?
1. <5400 3. 10801-16200
2. 5401-10800 4. 16201-21600
5. 21601-32400 6. >32401

APPENDIX-V

አዲስ አበባ ዩኒቨርሲቲ

የድህር ምርቃ ትምህርት ክፍል

የተፈጥሮ እና ቀመር ሳይንስ ኮሌጅ

ስፖርት ሳይንስ ክፍል

2013/2021

በተጨማሪዎች (በስልጣኞች) የሚሞላ የጽሁፍ መጠየቅ

ይህ መጠየቅ የተዘጋጀው በአዲስ አበባ ውስጥ በተለያዩ የመንግስትና የግል ፕሮጀክት በእግር ኳስ ጭዋታ ታቅፍው ለሚገኙ ታዳጊ ወጣቶች ላይ የመቀንጨር ባህሪ(stunting and anthropometric variables in private and governmental football project) በሚል አርስ ላይ ጥናትና ምርመራ ላይ መርጃ ለመሰብሰብ የተዘጋጀ ነው። የመጠየቁ ምላሽ ሚሲጥራዊነቱ የተጠበቀ ነው። የእርሶዎ ምላሽ ለጥናቱ ስኬት ከፍተኛ አስተዋጽኦ ስለሚኖረው እባክዎን በጥንቃቄና በሀላፊነት ይሙሉ።

ለምታደርጉልኝ ትብብር ሁሉ በቅድሚያ ከልብ አመስግናለሁ።

መመሪያ :-

1. በመጠየቁ ወርቀት ላይ ስምዎን መጻፍ አያስፈልግም
2. ምርጫ ላላቸው ጥያቄዎች ትክክለኛ መልስ የያዘውን ፊደል በማክበክ መልሱ ።
3. ምርጫ ለሌላቸው ጥያቄዎች ምላሻችሁን በግልጽ በሆነ መንግድ ይጻፍ።

መመሪያ አንድ:- የግል መርጃ

1. እድሜ (ዓመት እና ወር)-----ዓመት እና -----ወር
2. የትምህርት ደረጃ:-
 U. ከ4ኛ ክፍል በታች ለ. 5 ሐ. 6 መ. 7 ሠ. 8 ር. ከ9ኛ በላይ
3. የፕሮጀክቱ አይነት:- U. የመንግስት ለ. የግል
4. የፕሮጀክታችሁ ስም:------

መመሪያ ሁለት:- አጠቃላይ መርጃ።

1. የአባት የወር ገቢ ምን ያህል ነው ብለህ ትገምታለህ ?
 U. ከ 1,650 ብር በታች ሐ . ከ 5251-7,800ብር ሠ ከ 10,900 ብር በላይ
 ለ. ከ 1,651-5,250ብር መ. ከ7,801-10,900 ብር
2. የእናት የወር ገቢ ምን ያህል ነው ብለህ ትገምታለህ?
 U. ከ 1,650ብር በታች ሐ. ከ 5,251-7800ብር ሠ. ከ 10,900 ብር በላይ
 ለ. ከ 1,651-5250ብር መ. ከ 7,801- 10,900ብር

3. የእናታችሁ የስራ አይነት ምንድን ነው?
 - U. የቤት እመቤት ሐ. የግል ተቀጣሪ ሠ. ሌላ ስራ-----
 - ለ. ነጋዴ መ. የመንግስት ተቀጣሪ
4. የአባታችሁ የስራ ዓይነት ምንድን ነው?
 - U. ነጋዴ ለ. የግል ተቀጣሪ ሐ. የመንግስት ተቀጣሪ መ. የቀን ስራ ሠ. ሌላ ስራ ----
5. የቤተሰብ የገቢ ምንጭ ምንድን ነው?
 - U. የግል ስራ ለ. የእጅ ስራ ሐ. የቤት ክራዩ
 - መ. ጥቃቁን ንግድ ሠ. የጉልበት ስራ ሩ. ሌላ ካለ ይገልጹ-----
6. አማካይ ወርሀዊ የቤተሰብ ገቢ ስንት ነው?
 - U. <5400 ሐ . 10801-16200 ሠ . 21601- 32400
 - ለ. 5401-10800 መ. 16201- 21600 ሩ. >32401
7. በቀን ምን ያህል ግዜ ትመገባላችሁ?
 - U. ≤ 4 ለ. ≥ 5

APPENDIX -VI
ADDIS ABABA UNIVERSIT
SCHOOL OF POST GRADUATE PROGRAM
COLLEGE OF NATURAL AND COMPUTITIONAL SCIENCE
DEPARTMENT OF SPORT SCIENCE
QUESTIONNAIRE (ENGLISH VERSION)

2013/2021

Interview of youth football project coaches

Dear coaches:-

The objective of these interview is to collect data on the stunting of youth football projects professional levels of coaches, coaching style, system of selecting players and in the project.

The information will only be used for solving problems and to complete MSC thesis and to find out the growth stunting youth football project.

In improvement coach's professional development, coaching style, scientific methods to select the player and diet of players and after training which can help the achievement of the projects. So your genuine participation in providing objective data is very help full to both the successful completion of the study and addressing the problem under investigations.

I therefore, kindly requests your earnest effort to complete each items of questionnaire objectively. Do not write your name. Please, read carefully and respond to the questions honestly.

Thank you in advance for your contribution.

Part one general information

Direction one:

Personal information

Name of your project (team):-_____

1. Sex

A. M

B. F

2. Age (year and month) _____year and _____month
3. How many years of experience do you have in coaching.
- A. ≤ 4 years B.5-10 year C. 11-15 year D.above 15 year
4. What is your current level of coaching license?
- A. Local first level B. Local second level D. (CAF) A/B/C level
- If any place write it: _____
5. What is your educational level and qualification?
- A.Below grade 10 D. Diploma
- B. Grade 11 and 12 complete E. Degree
- C. Certificate level F. Master and above
6. Did you have a chance of getting a football-coaching course to upgrade yourself?
- A. Yes B. No

7. If your answer is yes for question number 7, describe what was the reason?

8. What is your relationship with your players?
- A. As a teacher B. As manager C. As a friend D. As a leader
9. Have you ever had a stunting Behavior with the players you train?
- A. Yes B. No
10. If yes question no 11, how far did you gain solving the problem.

11. Have you ever seen wasting on the players you train?
- A. Yes B. No
12. If “yes” question number 13, can you explain to me what the problem is?

13. Have you ever seen player underweight?
- A yes B. No
14. If “yes ” question number 16, What lessons did he teach them?

ለ. የአገር ውስጥ ሁለተኛ ደረጃ

መ. ሌላ የተለየ ካለውት ይፋፋልኝ:-----

6. የትምህርት ደረጃዎ ምን ያህል ነው?

U. ከ 10 ኛ ክፍል በታች

ሐ. ዲፕሎማ

ለ. 11 ኛ ወይም 12 ኛ ክፍል በታች

መ. ድግሪ

ሠ. ማስተር እና ከዝያ በላይ

7. የትምህርት ደረጃዎ ዲፕሎማ እና ከዝያ በላይ ከሆነ ልዩ ሙያው ምንድን ነው?

U. የእግር ኳስ ማሰልጠን

ሐ. ሌሎች የስፖርት ዘርፎችን ማሰልጠን

ለ. የሰውነት ማጎልመሻ ትምህርት ማስተማር

መ. ሌላ ከሆነ ይገለጽ-----

8. የራስዎን ማንነት ለማሻሻል የሚያስችል የእግር ኳስ ስልጠና አግኝተው ያውቃሉ?

U. አወ

ለ. የለም

9. ለጥያቄ ቁጥር 10 መልስዎ አወ ከሆነ በምን ምክንያቱ እንዳገኙ ያብራሩ?

10. ከተጨማሪ ጋር ያለውት ግንኙነት ምን ይመስላል?

U. ልክ እንደ መምህር

ሐ. ልክ እንደ ጋደኛ

ለ. እንደ አሸልጣኝ

መ. ልክ እንደ መሪ

11. የምታሰለጥናቸው ልጆችህ ወይም ተጨማሪ የመቀንጨር ባህሪ አሳይተው ያውቃሉ?

U. አወ

ለ. አላውቅም

12. አወ ካላችሁ ችግሩን ለመፍታት እስከየት ድርስ ሂደዎል?

13. በምታሰለጥናቸው ልጆች ላይ የሰውነት ቅጥነት አይታችሁ ታውቃላችሁ?

U. አወ

ለ. የለም

14. አወ ካላችሁ የምኝ ችግሩ እንደሆነ ብታብራሩልኝ?-----

15. የልጆች ክብደት መቀነስ አይታችሁ ታውቃላችሁ?

U. አወ

ለ. አላውቅም

16. አወ ካላችሁ ለልጆች ምን አይነት ትምህርት አስተምርዎቸዎል?-----

figure 1: Before to measurement height and weight as introduction way.





Figure 2: players to measurement height and weight



Figure 4:Jan meda football project

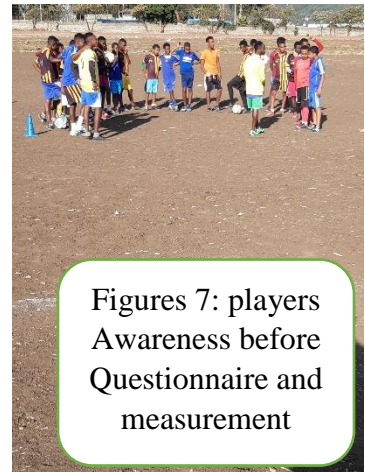


Figure 5:Sewunet Bishaw football project.

Figure 3: players' fathers answer their question



Figure 6: players to measure to recording



Figures 7: players Awareness before Questionnaire and measurement

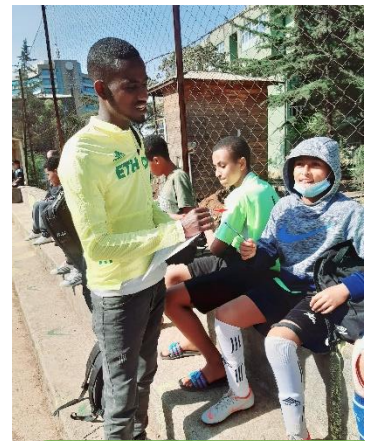


Figure 8: Awareness before to start weight and height.

figure 9: Coaches during answering the question.



Arda sport project in June meda



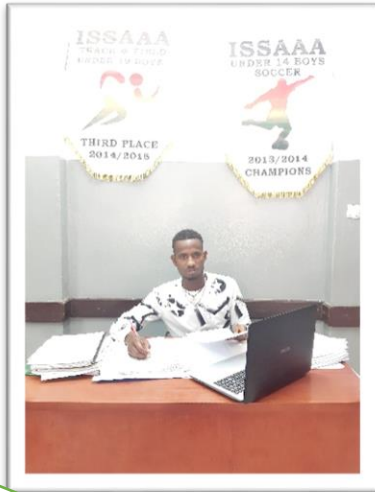


Figure 9: Data organization, analysis and interpretation

Figure 10: Andre football project

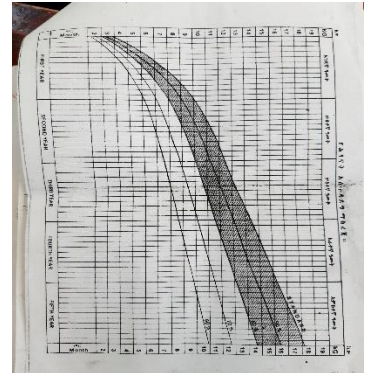
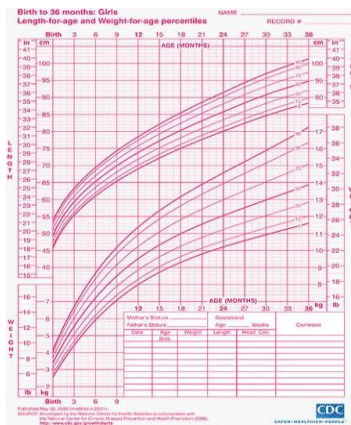
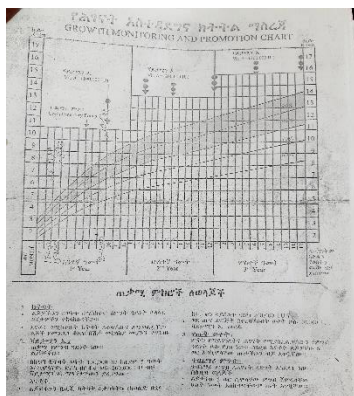
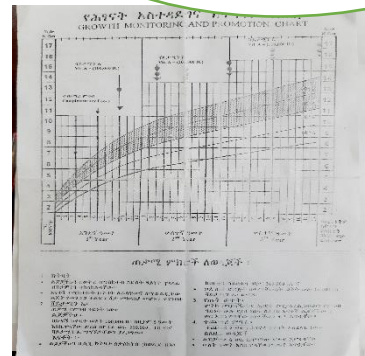
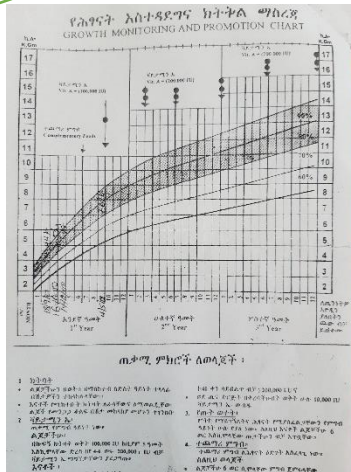
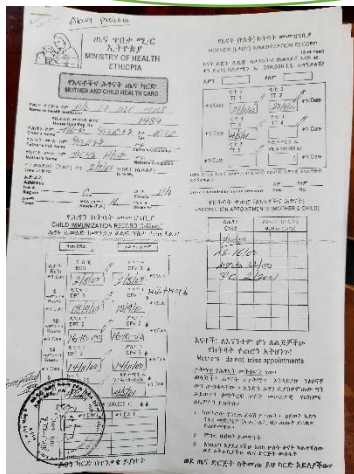


FIGURE 11:-GROWTH MONITORING AND PROMOTION CHART