

# The Effect of Agility Training on Selected Football Techniques of Mehal Meda Kale Hiwot Football Project

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**Abstract:** The purpose of the present study is to determine the effect of agility training on selected football techniques of Mehal Meda Kale Hiwot football project players. To achieve the purpose, Quasi-Experimental design was used. Total experiment population are 30 male football project players of Kale Hiwot were taken census as a sample study their age were 12-13 years. Experimental group (n = 15) performed agility training three days per a week for 10 weeks on Illinois agility run, zig-zag run, 505 agility drill, T-drill and hexagonal obstacle and Control group (n = 15) however, did not perform this selected fitness training, both groups undergone normal football training program; and also both groups had taken pre and post-tests. So, all subjects participated in 5 selected football skill performance tests inside of foot pass, figure 8 dribbling, full instep shooting, instep juggling and anybody part ball control without hands. The data was analyzed and compared with the help of statistical procedures in which arithmetic mean, standard deviation and paired t test was used. The level of  $p \leq 0.05$  considered as significant level. The result showed that on passing test control group MD = .46667 & P = .089 while experimental MD = 4.4 & P = .000, dribbling test control MD = .93333 & P = 0.29 & whereas experimental MD = 6.13333 & P = .000, shooting test control group MD = .33333 & p = 0.136 while experimental group MD = 2.86667 & p = .000, juggling test control group MD = .40000 & p = .028 while experimental group MD = 7.26667 & p = .000 and ball controlling test control group MD = .73333 & P = 0.06 while experimental MD = 2.93333 & P = .000. Agility training for 10 weeks is more effective in increasing the passing, dribbling, shooting, juggling and ball controlling of Mehal Meda Kale Hiwot male football project players. Generally, the present study concluded that agility training had a significant effect on Mehal Meda Kale Hiwot football project players' football techniques performance through the selected football techniques tests.

**Keywords:** Agility Training, Shooting, Juggling, Dribbling, Passing, Ball Controlling

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## 1. Introduction

Soccer is the most popular sport in the world and is performed by men and women, children and adults with different levels of expertise. Soccer performance depends upon a myriad of factors such as technical/biomechanical, tactical, mental and physiological areas. One of the reasons that soccer is so popular worldwide is that players may not need to have an extraordinary capacity within any of these performance areas, but possess a reasonable level within all areas. However, there are trends towards more systematic training and selection influencing the anthropometric profiles of players who compete at the highest level. As with other activities, soccer is not a science, but science may help improve performance. Efforts to improve soccer performance

often focus on technique and tactics at the expense of physical fitness. During a 90-minute game, elite-level players run about 10km at an average intensity close to the anaerobic threshold (80–90% of maximal heart rate). Within this endurance context, numerous explosive bursts of activity are required, including jumping, kicking, tackling, turning, sprinting, changing pace, and sustaining forceful contractions to maintain balance and control of the ball against defensive pressure. Whether this is a result of fewer assessments and training resources, selling the best players, and/or knowledge of how to perform effective exercise training regimens in less well ranked teams, is not known. As there do exist teams from lower divisions with as high aerobic capacity as professional teams, the latter factor probably plays an important role [1].

Training young players is essential for the future of national and international football. Member associations and their clubs therefore have a huge responsibility to develop football in their regions, by creating a training philosophy that is adapted to the characteristics of each country. To support them in this important role, FIFA has created a development program dedicated to youth football [2].

Training is an essential part of preparing for sports competition. If training for soccer is to be effective, it must be related to the demands of the game. Fitness for the sport assumes that the player is capable of meeting these demands; otherwise he or she may not be able to cope with the physiological stress of match-play. In this instance the player has to raise fitness levels or risk not being selected [2-3].

Motor fitness is a term that describes an athlete's ability to perform effectively during sports or other physical activity. An athlete's motor fitness is a combination of five different components, each of which is essential for high levels of performance. Improving motor fitness involves a training regimen in all five components. It refers to how an athlete can perform at his or her sport, and involves a mixture of agility, coordination, balance, power, and reaction time. Improving this form of fitness is an indirect result of training in any of these attributes. All five components of motor fitness are essential for competing at high levels, which is why the concept is seen as an essential part of any athlete's training regime. Various age-appropriate motor experiences support growth, promote motor abilities and improve psychosocial health [4, 8].

According to the United States Soccer Federation (USSF) Coaches Manual explains: It is clear that the coach must plan carefully to achieve goals and objectives, especially in terms of player development [5]. Coaches need to make a plan of action at the beginning of each year or season. By doing so

they have an outline of what they want to achieve by the end of the year and how they intend to accomplish it. Coaching without a plan, especially youth levels often results in players not receiving instruction or practice in areas that are the bases for future development. There is a process by which to teach the kids in order for them to develop, so that with time, they can choose the path they want to take. As a result, youth trainees should be given good guidance, and their training should be appropriate with their age levels with good facilities and equipment's.

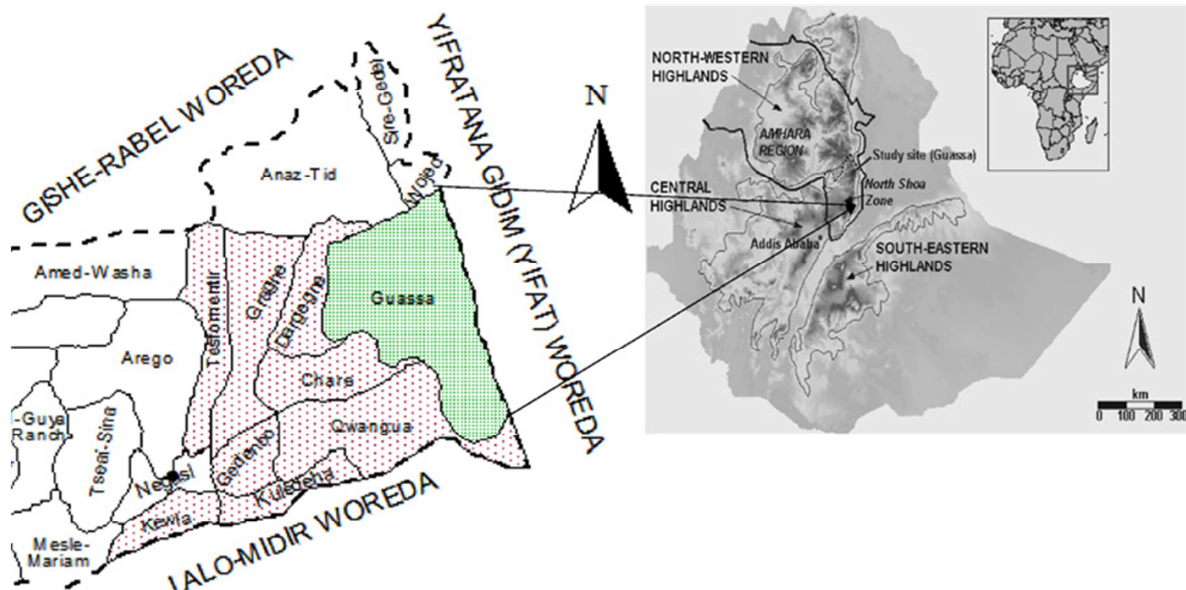
Therefore, in Amhara region we see different none governmental organizations (NGOs); participating in different Woreda's in different aspects one of them is sport. In my Woreda, there is a project called Kale Hiwot project; this project has done different things to this Woreda; one of them is sport (football) project. Therefore, the researcher makes a research on the effect of agility training on selected football techniques of Mehal Meda Kale Hiwot football project.

## 2. Materials and Methods

### 2.1. Description of the Study Area

This research was conducted in North Shoa, Mehal Meda town Kale Hiwot football project for two and half consecutive month starting from April 2019 to June half 2019. The study was conducted in Mehal Meda town Kale Hiwot football project.

Mehal Meda is a town in Ethiopia situated in the North Shoa Zone of Amhara region. It has a geographical coordination's of  $10^{\circ} 18' 0''$  in Northern and  $39^{\circ} 40' 0''$  East, with an altitude of 3132m above sea level. The town is located 152k.m north of Debre Birhan and also 287k.m in the North East of the capital city of Ethiopia that is Addis Ababa.



Adopted from: Menz Gera Midr woreda agriculture office, 2010

Figure 1. Map of study area.

## 2.2. Study Design

This chapter is provided the framework of the intended study; it outlines the methods and procedures utilized to conduct the study. Study design, Source of population, study population, sample size and sampling techniques, data collection and instrumentation, dependent and independent

variables, method of data analysis and training protocol was included.

To this effect, quasi experimental method was employed. This method was selected because it is helpful to identify the football techniques quality with pre-test and post-test of passing, dribbling, shooting, juggling and ball controlling.

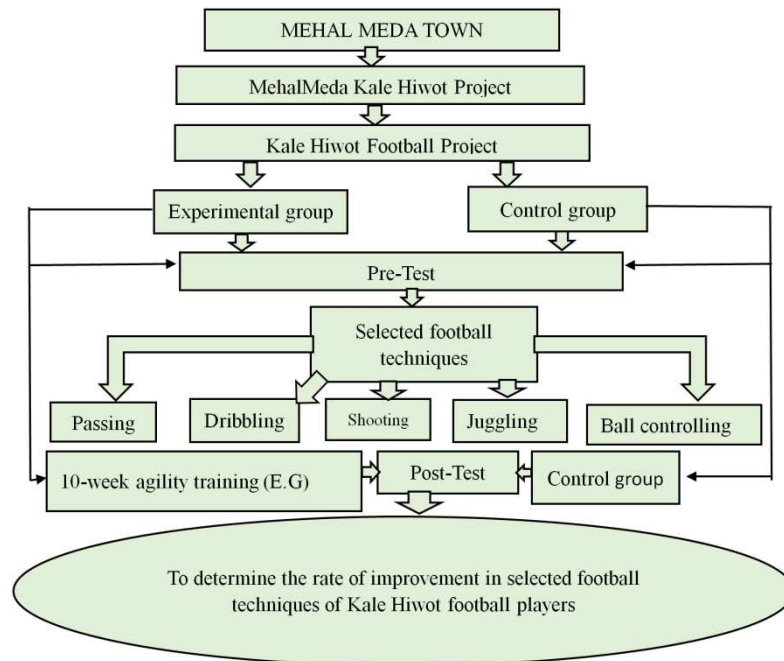


Figure 2. Study design.

## 2.3. Study Population

The study of population was Mehal Meda town Kale Hiwot football project. The main reason why this project was selected is that there is no other football project. The total numbers of players in the project were 30 male football project players. The age groups for the participant will be 12 – 13 years.

## 2.4. Sample Techniques and Sampling Size

### 2.4.1. Sampling Techniques

The researcher used the whole population; because the number of the study population is 30 football project players. In this case for this study the researcher implemented census sampling techniques.

### 2.4.2. Sample Size

For this study the researcher used 30 male football project players; i.e 15 for experimental group and 15 for control group based on simple random sampling technique method.

## 2.5. Reliability of Data

To get consistent result, testing personnel, testing period, place and instruments are kept the same for all participants. To ensure reliability, test and re-test method was executed. In

between test and re-test, complete recovery was given to all subjects.

## 2.6. Reliability of Test

Test result ensures reliability of the test.

The subjects from both groups for all selected variables, was measure or test which depend on the researcher testing method for figure 8 dribbling and for juggling 60 second was given to test; and for shooting, passing and ball controlling 10 times repetition was given to test.

## 2.7. Testers' Competency

For all selected variables the measurements were performed by the researcher and the researcher experienced assistants.

## 2.8. Instrument Reliability

To ensure reliability of instruments which was used in this study as much as possible standardize instruments were used. The tools and instruments were calibrated and found to be accurate enough to serve purpose of the study to collected data.

## 2.9. Administration of the Test

1. The researcher was informed the participants about nature of the study and create awareness.

2. Then all the tests and measures were conducted in a proper manner.

### 2.10. Data Collection and Instrumentation

Before conducting the standard tests to collect the data need for this study, informed consent was taken from the subjects and physical activity readiness questioner was fulfilled by each subject. In order to attain the objective of the research regarding to the effect of agility training on selected dependent variables. Quantitative data was collected through the appropriate football test measures. The researcher was used pre-test and post-test of experimental and control groups to collect the data on football techniques performance. After that the collected data from the experimental and control group using the standardize tools at pre and post training programs. For both pre-test and post-test, tests will be administered at the interval of 24 hours among each tests in order to avoid unnecessary fatigues.

## 3. Result

### 3.1. Comparison of Passing Measure of the Group

**Table 1.** Paired sample statistics for passing of the group.

Paired Samples Statistics					
		Mean	N	Std. Deviation	Std. Error Mean
E.G	post-test	7.2000	15	1.08233	.27946
	pre-test	2.8000	15	.77460	.20000
C.G	post-test	3.7333	15	1.16292	.30026
	pre-test	3.2667	15	1.22280	.31573

E.G = experimental group, C.G = control group, N = number of participant.

**Table 2.** Paired sample correlation on passing within the group.

Paired Samples Correlations			
		N	Correlation
E.G	post-test & pre-test	15	.392
C.G	post-test & pre-test	15	.656

As shown in the above table the paired samples statistics in table 1 shows that the pre-test score of the control group was found to be mean of 3.2667 with SD = 1.22280. In the same manner the average post-test score mean of control group was found to be 3.7333 with SD = 1.16292. From the data we can see that the scores in the pre and post-test for control group were very close. One can see that there was still a difference. However, we cannot determine here if this difference was statically significant.

The paired samples statistic in table 1 shows that the results of pre and post-test of experimental group under comparison the experimental group after 10-week agility training program the pre-test and post-test were compared the level of passing techniques performance. Accordingly, the mean score of pre-test was 2.8000 with SD = .77460. On the other hand, the outcome of post-test mean was found to be 7.2000 with SD = 1.08233. This implies that there was mean difference between the pre and post-test, yet it is possible to say there is significant difference of passing between pre and post-test of passing test. Hence a paired sample t-test comparing the pre and post-test score of the groups and which was computed to examine whether this number shows statistical difference between passing techniques performance level of the project football players with in groups the t-test results presented in the table below.

**Table 3.** Paired sample correlation on passing within the group.

Paired Samples Test									
Passing test		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
E.G	post-test - pre-test	4.40000	1.05560	.27255	3.81543	4.98457	16.144	14	.000
C.G	post-test - pre-test	.46667	.99043	.25573	-.08182	1.01515	1.825	14	.089

E.G = experimental group, C.G = control group.

Table 2 in the above displays the test of significance difference between the pre and post-test of control group. According to the data presented in the table above, there was no significance difference between the pre and post-test of control group because the MD = .046667 and  $p = .089$  so  $p > 0.05$ . Which implies that pre and post-test of control group was about the same level. In the other words passing skill performance level of the group within pre and post-test did not show any difference which indicates that comparison at the experimental groups could be possible. Thus, one can understand that passing skill performance of project football players were displayed in the t-test at the same level.

Table 3 above display the statically test for the variance of the experimental group in the pre and post-test, shows a

statically significance difference (MD = 4.40000,  $p = 0.000$  so  $p < 0.05$ ) which indicated that the group members who had 10 week agility training programed for experimental group were significantly outperformed better than the control group who had participated in their general football training without 10 agility training program in the former table 1 it was seen that the mean score of post-test for experimental group was 7.2 and pre-test 2.8000. There is a huge gap between these two figures. The mean difference as can be seen table 3 above is 4.40000 implying that which existed this much difference between the passing skill performances level of the experimental group pre and post-test. So the post-test had high mean score than the pre-test.

The implication therefore was the effect of agility training

exercise the one had better skill performance level of the project football players passing in football will be seen. The same happened in the study project football players who engaged in agility training showed change significantly in passing than those football project players without agility training.

### 3.2. Comparison of Dribbling Measures of the Groups

*Table 4. Paired sample statistics for dribbling of the group.*

Paired Samples Statistics					
Dribbling test		Mean	N	Std. Deviation	Std. Error Mean
E.G	post-test	19.0667	15	1.83095	.47275
	pre-test	12.9333	15	1.83095	.47275
C.G	post-test	14.4000	15	1.88225	.48599
	pre-test	13.4667	15	1.92230	.49634

E.G = experimental group, C.G = control group, N = number of participant.

The paired sample statistics in table 4 shows that the pre-test score of control group those who didn't take agility training for 10 weeks was found to be mean of 13.4667 with a SD = 1.92230. In the same manner the average post-test score of control group was found to be a mean 14.4000 with SD = 1.88225. From the data we can see that the scores in the pre and post-test for control groups were almost similar. One

can see that there was still difference. However, we cannot determine here if this difference was statically significant.

As shown in the table 4 above the paired sample statistics results of post and pre-test experimental group under comparison after 10-week agility training program the post-test were compared the level of dribbling technique performance of football project players. Accordingly, the outcome was the mean post-test 19.0667, SD = 1.83095. On the other hand, the mean score of pre-test was found to be 12.9333, SD = 1.83095. This implies that, there was mean difference between post and pre-tests, yet it is impossible to tell here if the differences are statistically significant. Hence a paired sample t-test comparing the pre-test and post-test scores of the experimental group and which was computed to examine whether this number show statistical difference between agility training on football technique performance levels of the football project players within pre and post-test of groups the t-test results presented in the following tables.

*Table 5. Paired sample correlation on dribbling in the group.*

Paired Samples Correlations			
Dribbling test		N	Correlation Sig.
E.G	post-test & pre-test	15	.619 .014
C.G	post-test & pre-test	15	.695 .004

*Table 6. Paired sample t-test results of dribbling measure of the group.*

Paired Samples Test									
Dribbling test		Paired Differences					T	df	Sig. (2-tailed)
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower	Upper			
E.G	post-test - pre-test	6.13333	1.59762	.41250	5.24860	7.01806	14.869	14	.000
C.G	post-test - pre-test	.93333	1.48645	.38380	.11017	1.75650	2.432	14	0.29

E.G = experimental group, C.G = control group.

Table 6 In the above displays the test of significant difference between the pre and post-test of the groups. According to the data presented in the table above, there was very close significant difference between the pre and post-tests of control group because the MD = .93333 and  $p = 0.29$  so,  $p > 0.05$ . This implies that the pre and post-test of control group was about the same level. Table 6: on the above displays the statistical test for the variance of the experimental group in the pre and post-test. According to the data presented in the table, the pre-test and post-test of dribbling techniques performance level of the group showed statically significant difference MD = 6.13333,  $p = 0.000$  so,  $p < 0.05$  which indicates that the experimental group members who had 10-week agility training program significantly outer performed than the control group who had participated in regular football project training. In the previous table 4 it was seen that the mean score of post-test was 19.0667 and pre-test was 12.9333. There was of course a huge gap between these two figures. The mean difference as can be seen in table 4 on the above is 6.13333 implying that which existed this much difference between the dribbling technique performance level of the experimental group pre and post-

test. So, the post-test since which was measured in second.

The implication therefore was the effect of agility training exercise is the one which had better football technique level of the football project players dribbling in football will be. The same happened in this study; football project players who had engaged in agility training showed change significantly in dribbling than those football project players without agility training.

### 3.3. Comparison of Shooting of the Groups

*Table 7. Paired sample statics of shooting test measures of the groups.*

Paired Samples Statistics					
Shooting test		Mean	N	Std. Deviation	Std. Error Mean
E.G	post-test	6.4667	15	1.55226	.40079
	pre-test	3.6000	15	1.29835	.33523
C.G	post-test	3.4667	15	.63994	.16523
	pre-test	3.1333	15	.91548	.23637

E.G = experimental group, C.G = control group, N = number of participant.

The paired sample statistics in table 7 was shows that the pre-test score of control group those who didn't take agility

training for 10 weeks was found to be mean of 3.1333 with a SD = 0.91548. In the same manner the average post-test score of control group was found to be a mean 3.4667 with SD = 0.63994. From the data we can see that the scores in the pre and post-test for control were very close. One can see that there was still a difference. However, we cannot determine here if this difference was statically significant. Thus, a paired sample t-test was computed to inspect whether the pre and post-test had statistically significant difference in the control group. The following table shows this test of significance.

As shown in the above table 7 the paired sample statistics results of pre and post-test of experimental group under comparison. After 10-week agility training program the post-test and pre-test were compared the level of shooting technique performance of football project players. Accordingly, the outcome was the mean score of post-test was 6.4667 with SD = 1.55226. On the other hand, the mean

score of pre-test was found to be 3.6 with SD = 1.29835. This implies that, there was mean difference between the post and pre-tests, yet it is impossible to say here if the differences are statistically significant. Hence a paired sample t-test comparing the pre-test and post-test score of the experimental group and which was computed to examine whether this number shows statistical difference between shooting technique performance level of the football project players within pre and post-test of experimental groups. The t-test result presented in the table which follow.

**Table 8.** Paired sample correlation of shooting of the groups.

Paired Samples Correlations				
Shooting test		N	Correlation	Sig.
E.G	post-test & pre-test	15	.560	.030
C.G	post-test & pre-test	15	.496	.060

**Table 9.** Paired sample t-test results of shooting for the groups.

Paired Samples Test									
Shooting test		Paired Differences				T	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference				
					Lower				Upper
E.G	post-test - pre-test	2.86667	1.35576	.35006	2.11587	3.61746	8.189	14	.000
C.G	post-test - pre-test	.33333	.81650	.21082	-.11883	.78549	1.581	14	.136

E.G = experimental group, C.G = control group.

Table 9 in the above displays the test of significant difference between the pre and post-tests of control group. According to the data presented in the above table, there was no significant difference between the pre and post-tests of control group because the MD = 0.33333 and  $p = 0.136$  so,  $p > 0.05$ . This implies that the pre and post-test of control group was almost about the same level. In the other words shooting technique performance level of the group within pre and post-test almost the same which indicates the comparison at the experimental groups could be possible. Thus, one can understand that shooting technique performance of football project players were displayed in the t-test.

Table 9 on the above displays the statistical test for the variance of the experimental group in the post-test and pre-test. According to the data presented in the table, the post-test and pre-test of shooting technique performance level of the group shows a statistically significant difference which is the MD = 2.86667,  $p = 0.00$  so,  $p < 0.05$  which indicates that the group members who had 10 week agility training program for experimental group were significantly outer performed than the control group who had participated in their regular football training program without 10 week agility training program because there was a huge gap between the pre and post-test result of experimental group which is the mean of pre-test was 3.6 and the mean of post-test was 6.4667. The MD = 2.86667 implying that which existed this much difference between shooting technique performance level of the experimental group of pre and post-test.

### 3.4. Comparison of Juggling Measure of the Groups

**Table 10.** Paired sample statics of juggling test measures of the groups.

Paired Samples Statistics					
Juggling test		Mean	N	Std. Deviation	Std. Error Mean
E.G	post-test	18.2667	15	2.49189	.64340
	pre-test	11.0000	15	1.88982	.48795
C.G	post-test	12.6000	15	2.87352	.74194
	pre-test	12.2000	15	2.56905	.66332

E.G = experimental group, C.G = control group, N = number of participant.

As shown in the above table 10 the paired sample statistics juggling results of pre-test of control group those who had didn't take 10-week agility training on juggling was found to be mean 12.2000 with SD = 2.56905. In the same way the mean post-test score of control group was found to be a mean 12.6000 with SD = 2.87352 from the data we can see that the scores in the pre and post-test for control groups were very close.

The paired sample statistics in table 10 results of post and pre-test of experimental group under comparison after 10-week agility training program the post-test were compared the level of juggling technique performance of football project players. Accordingly, the outcome was the mean post-test 18.2667, SD = 2.49189. On the other hand, the mean score of pre-test was found to be 11.0000, SD = 1.88982. This implies that, there was mean difference between pre and post-tests, yet it is impossible to tell here if the differences are statistically significant. Hence a paired



sample t-test comparing the pre and post-tests scores of the experimental group and which was compared to examine whether this number show statistical difference between agility training on football project players within pre and post-test of groups so the t-test results presented in the following tables.

*Table 11. Paired sample correlation of juggling of the groups.*

Paired Samples Correlations				
Juggling test		N	Correlation	Sig.
E.G	post-test & pre-test	15	.743	.001
C.G	post-test & pre-test	15	.979	.000

*Table 12. Paired sample t-test results of juggling measure of the groups.*

Paired Samples Test									
Juggling test		Paired Differences				T	df	Sig. (2-tailed)	
		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower Upper				
E.G	post-test - pre-test	7.26667	1.66762	.43058	6.34317 8.19016	16.877	14	.000	
C.G	post-test - pre-test	.40000	.63246	1.6330	.04976 .75024	2.449	14	.028	

E.G = experimental group, C.G = control group.

Table 12 in the above displays the test of significant difference between the pre and post-test of the control groups. According to the data presented in the table above, there was significance difference between pre and post-test because the MD = .40000 and  $p = 0.28$  so,  $p > 0.05$ . This implies that the pre and post-test of control group was almost about very closely the same level. In the other words juggling technique performance level of the group within pre and post-test almost the same which indicates the comparison at the experimental groups could be possible. Thus, one can understand that juggling technique performance of football project players were displayed in the t-test.

Table 12 on the above displays the statistical test for the variance of the experimental group in the post-test and pre-

test. According to the data presented in the table, the post-test and pre-test of juggling technique performance level of the group shows a statistically significant difference which is the MD = 7.26667,  $p = 0.00$  so,  $p < 0.05$  which indicates that the group members who had 10 week agility training program for experimental group were significantly outperformed than the control group who had participated in their regular football training program without 10 week agility training program because there was a huge gap between the pre and post-test result of experimental group which is the mean of pre-test was 11.0000 and the mean of post-test was 18.2667. The MD = 7.26667 implying that which existed this much difference between juggling technique performance level of the experimental group of pre and post-test.

*Table 13. Paired sample statics of ball controlling test measures of the groups.*

Paired Samples Statistics					
Ball controlling		Mean	N	Std. Deviation	Std. Error Mean
E.G	post-test	7.1333	15	1.59762	.41250
	pre-test	4.2000	15	.77460	.20000
C.G	post-test	3.8000	15	.77460	.20000
	pre-test	3.0667	15	1.09978	.28396

E.G = experimental group, C.G = control group, N = number of participant.

### 3.5. Comparison of Ball Controlling Measure of the Groups

As shown in the above table the paired samples statistics in table 13 shows that the pre-test score of the control group was found to be mean of 3.0667 with SD = 1.09978. In the same manner the average post-test score mean of control group was found to be 3.8000 with SD = 0.77460. From the data we can see that the scores in the pre and post-test for control group were close. One can see that there was still a difference. However, we cannot determine here if this difference was statically significant.

The paired samples statistic in table 13 shows that the results of pre and post-test of experimental group under comparison the experimental group after 10-week agility training program the pre-test and post-test were compared the level of ball controlling techniques performance. Accordingly, the mean score of pre-test was 4.2000 with SD

= .77460. On the other hand, the outcome of post-test mean was found to be 7.1333 with SD = 1.59762. This implies that there was mean difference between the pre and post-test, yet it is possible to say there is significant difference of ball controlling between pre and post-test of ball controlling test. Hence a paired sample t-test comparing the pre and post-test score of the groups and which was computed to examine whether this number shows statistical difference between ball controlling techniques performance level of the project football players with in groups the t-test results presented in the table below.

*Table 14. Paired sample correlation of ball controlling of the groups.*

Paired Samples Correlations				
Ball controlling		N	Correlation	Sig.
E.G	post-test & pre-test	15	.785	.001
C.G	post-test & pre-test	15	.604	.017

**Table 15.** Paired sample t-test results of ball controlling measure of the groups.

Paired Samples Test		Paired Differences				T	df	Sig. (2-tailed)
Ball controlling		Mean	Std. Deviation	Std. Error Mean	95% Confidence Interval of the Difference Lower Upper			
E.G	post-test - pre-test	2.93333	1.09978	.28396	2.32429 3.54237	10.330	14	.000
C.G	post-test - pre-test	.73333	.88372	.22817	.24395 1.22272	3.214	14	0.06

E.G = experimental group, C.G = control group.

Table 15 in the above displays the test of significance difference between the pre and post-test of control group. According to the data presented in the table above, there was significance difference between the pre and post-test of control group because the MD = .73333 and  $p = 0.06$  so  $p > 0.05$ . This implies that pre and post-test of control group was about the same level. In the other words ball controlling skill performance level of the group within pre and post-test did not show any difference which indicates that comparison at the experimental groups could be possible. Thus, one can understand that ball controlling skill performance of project football players were displayed in the t-test at the same level.

Table 15 above display the statically test for the variance of the experimental group in the pre and post-test, shows a statically significance difference (MD = 2.93333,  $p = 0.000$  so  $p < 0.05$ ) which indicated that the group members who had 10 week agility training programed for experimental group were significantly outperformed better than the control group who had participated in their general football training without 10 agility training program in the former table 13 it was seen that the mean score of post-test for experimental group was 7.1333 and pre-test 4.200. There is a huge gap between these two figures. The mean difference as can be seen table 15 above is 2.93333 implying that which existed this much difference between the ball controlling skill performances level of the experimental group pre and post-test. So the post-test had high mean score than the pre-test.

The implication therefore was the effect of agility training exercise the one had better skill performance level of the project football players ball controlling in football will be seen. The same happened in the study project football players who engaged in agility training showed change significantly in ball controlling than those football project players without agility training.

## 4. Discussion

The present study investigated on the effect of agility training on selected football techniques of Mehal Meda Kale Hiwot football project. The study aimed for there was only one football project in Mehal Meda town, which hold 30 players, then the researcher used this project as a whole for the study part. Subjects participated throughout the treatment period and cooperated for the success of collection of necessary data. Both groups were performing activities of normal daily living and agreed not to change or increase their current exercise habits during the course of the study. The

experimental or training group participated in a 10-week training program performing the agility exercises designed to the football project players, while the control group did not participate in this selected agility exercises. The subjects of experimental & control groups were to instruct not to start any programs during the 10-week period and only perform their daily living & regular football training. Prior to the study, procedures and guidelines had presented orally and Subjects were agreeing to participate.

Training is essentially a preparation of an individual's athlete so that he can with stand competition stress when he encounters and perform to maximum effectiveness. A high level of football technique demand is required to match play, which involves passing, dribbling, shooting, juggling, ball controlling and others. So that many previous investigators showed [6] "evaluating skill based on sport specific test between pre and post-test training are vital in planning and developing a training programs" cited in Belet, N., 2015 [7].

Modern football requires the players to have high quality physical fitness has become one of the main pillar in training plan either daily, weekly, seasonally & annually. Players skills significantly increased in the world in recent years & years ago, we found that their physical fitness quality have grown in a remarkable way [4, 8].

The researcher did show documental profile of the participants. As it can be seen from table 3 and 4  $N = 15$  for experimental group and  $N = 15$  for control group all candidates were male football project players, the age of the participant of experimental group were the mean of 12.4667 with SD = 0.51640, for control group the mean was 12.5333 with SD = 0.51640, experimental group project players experience mean was 2 with SD = 0.000, for control group project players experience mean was 2 years with SD = 0.000, and the grade level of experimental group mean was 6.4667 with SD = 0.51640 and the control group grade level mean was 6.5333 with SD = 0.51640. Subjects were relatively had the same age, project experience and grade level at the beginning of exercise.

The finding of the study showed that in the case of agility training for passing, dribbling, shooting, juggling and ball controlling of experimental group was improved their own football technique performance. But in control group it is observed that in passing test the pre-test score of control group was found the mean 3.2667 with SD = 1.22280 similarly the average post test score of control group was found the 3.7333 with SD = 1.16292 from this data the score in the pre-test & post-test for the group were relatively the



same and there was no significant difference on agility training and passing on control group. Because of ( $MD = 0.46667$ , and  $p = .089$ , so  $p > 0.05$ ).

The experimental group paired sample statistics results of the pre-post-test were also considered as follows. The group had three days per a week for 10-week agility training and pre-post-test was compared for the level of passing technique performance. Accordingly, it was found that the mean score of pre-test was 2.8000,  $SD = 0.77460$ ; mean while the mean score of post-test was found to be 7.2000 with a  $SD = 1.082333$ . One can understand that these numbers are different & the post-test had high mean score than pre-test of passing test, the technique performance levels of experimental group showed statistically significant difference. Because of the  $MD = 4.40000$ , &  $p = 0.000$  so,  $p < 0.05$ ) indicated that the group members who had a 10-week agility training significantly outperformed. Therefore, we have enough evidence to accept the hypothesis there is significant change between agility training & passing, there is significant change in passing techniques between experimental and control group and there is a positive relationship between agility and passing technique due to 10-week agility training. Since, the subjects in the experimental group show significant improvement than control groups. Thus, a 10-week agility training program was a better in passing technique performance. The same happen in this study; Mehal Meda Kale Hiwot football project players who were engaged in agility training program (experimental group) excelled significantly than control groups.

Accurately passing the ball to a team mate is an essential ability required by soccer players and many researchers have devised tests to examine this aspect [9].

In the control group it is observed that the dribbling test the pre-test score of control group was found the mean 13.4667 with  $SD = 1.92230$  similarly the average post test score of control group was found the 14.4000 with  $SD = 1.88225$  from this data the score in the pre-test & post-test for the group were relatively the same and there was no significant difference on agility training and passing on control group. Because of ( $MD = .93333$ , and  $p = .029$ , so  $p > 0.05$ ).

The experimental group paired sample statistics results of the pre-post-test were also considered as follows. The group had three days per a week for 10-week agility training and pre-post-test was compared for the level of dribbling technique performance. Accordingly, it was found that the mean score of pre-test was 12.9333,  $SD = 1.83095$ ; mean while the mean score of post-test was found to be 19.0667 with a  $SD = 1.83095$ . One can understand that these numbers are different & the post-test had high mean score than pre-test of dribbling test, the technique performance levels of experimental group showed statistically significant difference. Because of the  $MD = 6.13333$ , &  $p = 0.000$  so,  $p < 0.05$ ) indicated that the group members who had a 10 week agility training significantly outperformed. Therefore, we have enough evidence to accept the hypothesis there is significant change between agility training & dribbling, there is

significant change in dribbling techniques between experimental and control group and there is a positive relationship between agility and dribbling technique due to 10-week agility training. Since, the subjects in the experimental group show significant improvement than control groups. Thus, a 10-week agility training program was a better in dribbling technique performance. The same happen in this study; Mehal Meda Kale Hiwot football project players who were engaged in agility training program (experimental group) excelled significantly than control groups.

The result of this study is in agreement with the study conducted by Zoran et. Al on the effects of a 12-week conditioning program involving speed & agility training, and its effect on agility with the ball performance in young soccer players showed significant improvement [10]. And similarly other study was conducted by Haghighi [11]. Their result showed the time of dribbling test improved significantly after agility training ( $P < 0.05$ ). This study also reported that the skill of dribbling had a significant improvement due to agility training on soccer players. In harmony of this study, the present finding significantly improved dribbling ability of male football players due to agility training.

In this study carried out to investigate the effect agility training on football project players shooting technique performance. As it can be seen on table 8 which stated that the pre-test mean score of control group is 3.1333,  $SD = .91548$  and post-test mean 3.4667,  $SD = 0.63994$  from this results of the study showed that there was a no significant change of control groups for shooting technique performance because  $MD = 0.33333$ ,  $p = 0.136$  so  $p > 0.05$ , and also on the experimental group the mean pre-test was 3.6000 with  $SD = 0.129835$  and the post-test mean of experimental group was 6.4667, with  $SD = 1.55226$  from this results of the study showed that there was a significant change of experimental group for shooting technique performance because  $MD = 2.86667$ ,  $p = 0.000$  so  $p < 0.05$ . Therefore, we can conclude that we have enough evidence to accept the hypothesis there is significant change between agility training & dribbling, there is significant change in dribbling techniques between experimental and control group and there is a positive relationship between agility and dribbling technique due to a 10-week agility training. Since, the subjects in the experimental group show significant improvement than control groups. Thus, a 10-week agility training program was a better shooting performance.

Haghighi et al. in an only available study reported PT had no significant effect on accuracy of shooting in young soccer players [11]. Additional research is needed to examine the effects of Post-test on the accuracy of shooting in the soccer players.

The finding of the study showed that in the case of agility training for juggling of experimental group was improved their own football technique performance. But in control group it is observed that in juggling test the pre-test score of control group was found the mean 12.2000 with  $SD = 2.56905$  similarly the average post-test score of control group

was found the 12.6000 with SD = 2.87352 from this data the score in the pre-test & post-test for the group were relatively the same and there was no significant difference on agility training and juggling on control group. Because of (MD = .40000, and  $p = .028$ , so  $p > 0.05$ ).

The experimental group paired sample statistics results of the pre-post-test were also considered as follows. The group had three non-continulative days per a week for 10-week agility training and pre-post-test were compared for the level of juggling technique performance. Accordingly, it was found that the mean score of pre-test was 11.0000, SD = 1.88982; mean while the mean score of post-test was found to be 18.2667 with a SD = 2.49189. One can understand that these numbers are different & the post-test had high mean score than pre-test of juggling test, the technique performance levels of experimental group showed statistically significant difference. Because of the MD = 7.26667, &  $p = 0.000$  so,  $p < 0.05$ ) indicated that the group members who had a 10-week agility training significantly outperformed. Therefore, we have enough evidence to accept the hypothesis there is significant change between agility training & juggling, there is significant change in juggling techniques between experimental and control group and there is a positive relationship between agility and juggling technique due to 10-week agility training. Since, the subjects in the experimental group show significant improvement than control groups. Thus, a 10-week agility training program was a better in passing technique performance. The same happen in this study; Mehal Meda Kale Hiwot football project players who were engaged in agility training program (experimental group) excelled significantly than control groups.

Present study revealed that there was significant improvement in ball controlling among experimental group in the football training group after 10-week agility training intervention. But in control group there is no significant difference. Which is showed that E.G pre-test of mean of 4.2000, SD = 0.77460 and post-test mean of 7.1333, SD = 1.59762 (significance difference MD = 2.93333,  $p = 0.000$  so  $p < 0.05$ ) for control group pre-test of mean 3.0667, SD = 1.09978 and post-test of mean 3.8, SD = .77460 (significance difference MD = .73333,  $p = 0.06$  so  $p > 0.05$ ).

## 5. Conclusion

Based on the analysis of data, interpretation of results, and discussion of findings as well as possible limitations of the study the following points were stated as conclusions.

1. In all football techniques of experimental group there is significant difference pre and post-test i.e. 0.00, but still there is paired statistic difference mean between pre and post-test of control group.
2. The present study has revealed that 10-week agility

training had positive effect in selected football techniques performance (passing, dribbling, shooting, Juggling and ball controlling) in Kale Hiwot football project players of 12 to 13 year age.

3. There is significant progress in football techniques between experimental and control group after 10-week agility training.
4. There is significant change in football techniques as a result of agility training.
5. Generally, the result of this study showed that significant changes was found on passing, dribbling, shooting, juggling and ball controlling after 10-week specific football training in the experimental group.

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