

An Analytical Study of Some Aspects of the Technical and Tactical Aspects in the World Cup for Juniors in Field Hockey

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Abstract: This research aims to identify the impact of modified free-hit, by using the self-pass, on the tactic moves of hockey players. Also, it aims to analyze the performance of the German team (first place winner) in this tournament in order to identify the most effective ways for building up, as well as the new roles of playmaker (center half) in the transport and building the attack. The study included a sample of 12 matches for teams of Germany, Netherlands, Singapore and United States in the Juniors World Cup set up in Malaysia, Singapore in 2009. They contained 6 matches for teams of Germany and Netherlands (first and second place in the tournament), 6 games for team of Singapore and United States (before last and last places in the tournament), at the rate of 3 games for each team. The sample chosen for match analysis contained 5 games for the German team (winning the first place) and games of the final and semi final, besides some of the preliminary round matches. The most important result indicated that the second method (pass longissimus) was better than the first method (exchange the ball between the players) in terms of the effectiveness of building up to get the ball to the 25 yards of the competing team, while the first method (exchange the ball between the players) better than the second method (pass longissimus) in the effectiveness of building up to get the ball to the middle of the pitch of the competing team, the more roles the players used in the transport and building up are the roles of playmaker and more roles of playmaker session was a hub mount to lead the attack. The best positions to build the attack for effectiveness of the opposite defense (full press) is the status to use rhombus (1-3), while the best position for effectiveness of attack commonly used to build the opposite defense (3/4 court) is the status to use the form Z (2-2) and the best position to use for effectiveness of attack commonly used to build the opposite defense (have court) is cavity (2-2).

Key words: Technical % Tactical % Hockey

INTRODUCTION

International tournaments represent the highest technical level of hockey in the world and therefore analyzing such tournaments is so important to look at the international technical and tactical aspects to develop the technical and tactical performance of hockey in the Arab Republic of Egypt. Besides, it is the first tournament where the new amendments to hockey law, done by the International Federation circulated to all ages around the world, was applied. The researcher sought to analyze this tournament for two reasons: The first, is the issuance of the International Hockey Federation in 2009 amended an important and vital role in some items of the law represented in the free-hit where the development of the International Hockey Federation changed the self-pass in order to work on the speed of play, which reflects its impact on increasing the actual time of the match and thus increase the number of targets and that this amendment

will be reflected in its impact on speed tactical moves of the players at the time of the attack, which drew the attention of the researcher to analyze the World Cup for Juniors (Malaysia - Singapore, 2009) where she was the first tournament was the application of this amendment, in order to identify the impact of modified free-hit using the self-pass on the tactical moves of hockey players.

Second reason is the evolution in the sport of field hockey, which led to developing and modifying the methods and plans to play either defensive or offensive, leading to the development of plans to play offensive because the team need to multiple ways to build up and special attention to overcome the methods of pressure on the team when building up, represented in the full-press, 3/4 court, have court and this showed different ways for building-up to a converted overcome these ways, which seeks to halt the construction of the attack and there are new roles (center half) in the transport and building attack, which led the researcher to identify the most

effective ways to transfer and build the attack, as well as to identify new roles of playmaker (center half) in the transport and building the attack by analyzing the performance of the German team, who won the first place in this tournament. This research aims to:

First: Identifying the impact of modified free-hit by using the self-pass on the tactical moves of hockey players, by identifying:

- 1 The total number of strikes were carried out using the free self-passing and the total number of strikes used free (pass - hitting) in the sample matches the study.
- 2 Free-hit, which were carried out using the self-pass and free-hit (pass - hitting) in the areas of the pitch.
- 3 Free-hit, which were carried out using the self-pass and free-hit (pass - hitting) for players of different fonts.
- 4 Tactical moves from free-hit, which were carried out self-passing and free-hit are used (pass - hitting).
- 5 Tactical moves of collective and individual for sanctions within the area of the middle and the 25 yard offensive using the slider and strikes a free self-employed (pass - hitting).
- 6 Tactical moves of collective and individual sanctions to get inside the 16 yards using the pass self from inside the 25 yard free-hit using pass - hitting.
- 7 Actual time for the match after amendment of the law strike free (self-pass).

Second: Analyzing the performance of the German team, winning first place in this tournament, in order to identify the most effective ways to build up, as well as to identify new roles of playmaker (center half) in the transport and building the attack by identifying:

A: The most effective ways to build up for the German team of hockey in the implementation of the full pressure of the opposing team by identifying:

- C The most effective way to transport the ball to the 25 yards of the opposing team.
- C The most effective way to transport the ball to own half the opposing team.
- C Less effective ways to transfer the ball from 25 yards for the team.
- C The least effective way to transport the ball to an area with a pitch for the team.

B: Conditions more commonly used and effective in building up through identifying:

- C The status of the cavity (2-2) in the construction of the attack to the face of defense (full press - 3 / 4

court - have court).

- C The status of the form Z (2-2) in the construction of the attack to the face of defense (full press - 3 / 4 court - have court).
- C The status of the rhombus form (3-1) in the construction of the attack to the face of defense (full press - 3 / 4 court - have court).

C: Total players' repetition in the transport and building up through identifying:

- C Total Repetition playmaker in the construction of the attack.
- C Total Repetition defenders in the transfer of the attack.
- C Total Repetition other centers in the transfer of the attack.

D: The roles of playmaker (center half) in the transport and building up through identifying:

- C Total Repetition playmaker Mount hub to lead the attack.
- C Total Repetition playmaker in the transfer of the ball from the sidelines.
- C The role of playmaker in the construction of the attack (the exchange of the ball with defenders).

MATERIALS AND METHODS

The researcher used the descriptive method - analysis of documents - the relevance of the nature of this study. Amendment of the law with respect to the free-hit, the study on some games of World Cup for juniors, set up in Malaysia, Singapore 2009 included a sample of 12 games for teams of Germany (Ger), Netherlands (Neth), Singapore (Sing) and United States (U.S.A). They contain 6 games for teams of Germany and Netherland (first and second places in the tournament) as well as 6 games for teams of Singapore and United States (before last and last places in the tournament), at the rate of 3 games for each team. With regard to analyzing the performance of the German team, Sample analysis included 5 games for the German team winning the first place, has included the final-round matches, semi final matches and some preliminaries.

Data Collecting Tools: With regard to amendment of the law strike free, Video recording was used for the four teams in the final rounds of Germany, Netherland, Singapore and United States. The researcher designed an application for registration data, after its presentation to 3 foreigner experts in the field of hockey, during the international course for trainers set up in Cairo during the

period of 22-25 / 4 / 2010 and who acknowledged using the forms after some modifications. The researcher has identified the most important points to be observed and the data to be unloaded and then played the video tapes more than once, the researcher monitored at a slow pace for ease and accuracy of the data to be discharged.

With regard to analyzing the performance of the German team, the researcher used video recording for the German team in different rounds of the championship. The researcher designed an application form for the data to identify ways to build the attack. It was presented to 3 foreign experts in the field of hockey, during the international course for trainers set up in Cairo during the period of 22-25 / 4 / 2010 and who acknowledged using the forms after some modifications. The researcher obtained the application form for the data from the international conference for trainers in city of Moenchengladbach, Germany in 2006, which included the roles and duties of playmaker in the transfer and building of the attack and after submission to 3 experts in the field of hockey and those who approved the using forms. The researcher has identified the most important points to be observed and the data to be unloaded and then played the video tapes more than once, the researcher monitored at a slow pace for ease and accuracy of the data to be discharged.

The baseline study was conducted to analyze the games and make statistical treatments during the period from 12/5/2010 to 7/8/2010. After gathering research data, the researcher analyzed the data statistically using repetition (R) and percentages.

RESULTS AND DISCUSSION

Modification of Free Kicks in Hokey's Law: Table 1 shows the total number of free strikes, which were carried out using the self pass and the total number of strikes, free used Pass - hitting, where it is clear that the total number of strikes free was 601 free kicks, as it is clear that the total number of blows free, which were carried out using the pass self- was (327) free kick as a percentage of 54.41%, while it is clear that the total number of strikes the free were carried out using (pass - hitting) was 274 free kick as a percentage of 45.59%, as evidenced also from the same table height the proportion of use of the pass self for teams of Germany and Netherlands, where he was 224 free kicks as a percentage of 70.00%, while they use 97 free kicks of free used pass - hitting strikes as a percentage of 30%. Also, there was a decrease in the proportion of using self pass for teams of Singapore and United States, where they use 103 free kicks of self pass

as a percentage of 37%, while the use of free strikes (pass - hitting) was 177 free kicks as a percentage of 63%. The researcher finds higher use of self passing in teams of Germany and Netherlands compared to teams of Singapore and United States, that this difference is one of the teams advanced in the sport of hockey and that they are working to take advantage of the new amendments in the law and try to employ them to take advantage of them and this the percentage used during the games, as this modification works on the speed of play and not to disrupt the attack after the calculation of a free kick on the opposing team.

It is clear from Table 2 that the area most commonly used to self pass is the middle of the pitch as it was used 143 times as a percentage of 23.80%, followed by the the 25-yard defensive terms used 97 times (16.14%) and the 25-yard offensive (87times) as percentage of 14.48%. Also, it is clear that the area most commonly used for the pass - hitting is a region of defensive 25-yard terms (used 143 times, 23.80%), followed by the middle of the pitch (used 76 times as a percentage of 12.65%) and the offensive 25-yard used 55times as a percentage of 9.16%.

The highest rate of using free strikes was for self pass of Germany and Netherlands teams where it was 224 times, 69.79% of using strikes as a whole. The highest rate of using free strikes was for Singapore and U.S.A. teams (pass - hitting), used 177 times as a percentage of 63.22% of the proportion of using free kicks. the pitch's area most in implementation of the self pass to Germany and Netherlands teams is the middle of the pitch (116 hits, a percentage of 36.14%), while the lowest areas, pursuant to self pass is a region of the defensive 25-yard (48 hits with average percentage of 14.96%). Also, it is evident from the table that the areas most used for free strokes (Pass - Hitting) for Singapore and United States were the defensive 25-yard (97 times, 34.65%) followed by the middle of the pitch (used 52times, a percentage of 18.58%) and the 25 offensive yards (used 28times with average percentage of 10.00%).

The researcher finds higher usage of self passing to Germany and the Netherlands than Singapore and United States. The middle of the pitch is the most used areas of the pitch since the attacks start from the defensive 25-yard passing through the middle area down to the offensive 25-yard and that they are experiencing congestion attackers and defenders players, so free-hits increase and most of the players (Germany, the Netherlands) try self pass to complete the attack or the work of the counter attack, as well as the command in the region of the offensive 25-yard, while on the contrary, in the defensive 25-yard as the use of the pass self of the players will be kept to a minimum, as cutting the ball from

Table 1: Total number of free strikes carried out using the self pass (Pass- Hitting) n = 12

| Team | Ger | | Neth | | Total | | Sing | | U.S.A | | Total | | Grand Total Of Team | |
|-----------------------------------|-----|-----|------|-----|-------|-----|------|-----|-------|-----|-------|-----|---------------------|-------|
| | R | % | R | % | R | % | R | % | R | % | R | % | R | % |
| Ways of implementing the free-hit | | | | | | | | | | | | | | |
| self-pass | 116 | 71 | 108 | 68 | 224 | 70 | 55 | 38 | 48 | 36 | 103 | 37 | 327 | 54.41 |
| (hit-push) | 47 | 29 | 50 | 32 | 97 | 30 | 90 | 62 | 87 | 64 | 177 | 63 | 274 | 45.59 |
| Total | 163 | 100 | 158 | 100 | 321 | 100 | 145 | 100 | 135 | 100 | 280 | 100 | 601 | 100 |

The total number of strikes was carried out using the free self-pass = 327 kicks a percentage of 54.41%

Total number of free hits (pass - hitting) = 274 kicks a percentage of 45.59%

Total = 601 strikes of free kick as a percentage of 100%

Table 2: Free-hit using the self pass and free-hit using pass - hitting in the areas of the pitch n = 12

| Team | Areas of the pitch | Ger | | Neth | | Total | | Sing | | U.S.A | | Total | | Total | |
|-------------------------------|--------------------|-----|-------|------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| | | R | % | R | % | R | % | R | % | R | % | R | % | R | % |
| self-pass | 25y | 32 | 19.64 | 28 | 17.73 | 60 | 18.70 | 9 | 6.21 | 18 | 13.34 | 27 | 9.65 | 87 | 14.48 |
| (hit-push) | attack | 14 | 8.59 | 13 | 8.23 | 27 | 8.42 | 18 | 12.42 | 10 | 7.41 | 28 | 10.00 | 55 | 9.16 |
| self-pass | Medal | 65 | 39.88 | 51 | 32.28 | 116 | 36.14 | 16 | 11.04 | 11 | 8.15 | 27 | 9.65 | 143 | 23.80 |
| (hit-push) | court | 11 | 6.75 | 13 | 8.23 | 24 | 7.48 | 26 | 17.94 | 26 | 19.26 | 52 | 18.58 | 76 | 12.65 |
| self-pass | 25y | 19 | 11.66 | 29 | 18.36 | 48 | 14.96 | 30 | 20.69 | 19 | 14.08 | 49 | 17.50 | 97 | 16.14 |
| (hit-push) | defines | 22 | 13.50 | 24 | 15.19 | 46 | 14.33 | 46 | 31.73 | 51 | 37.78 | 97 | 34.65 | 143 | 23.80 |
| Total of Free hit self-pass | | 116 | 71.17 | 108 | 68.36 | 224 | 69.79 | 55 | 37.93 | 48 | 35.55 | 103 | 36.78 | 327 | 54.41 |
| Total of Free hit (hit-push)) | | 47 | 28.84 | 50 | 31.65 | 97 | 30.21 | 90 | 62.07 | 87 | 64.45 | 177 | 63.22 | 274 | 45.59 |
| Total | | 163 | 100 | 158 | 100 | 321 | 100 | 145 | 100 | 135 | 100 | 280 | 100 | 601 | 100 |

the player may lead to a penalty corner or a counter-attack, unlike in the case of cutting the ball from a player in the middle of the pitch or in the region of offensive 25 yards, while returning. The researcher attribute the use of free-hit from pass - hitting by teams of Singapore and United States to poor skill and tactical levels leading to the use of free-hit by passing or beating for trying to send the ball either forward or side to try to reduce pressure on the team.

This is consistent with the findings of Abou El-Maati [1] that the middle of the pitch is one of the most frequent areas of the pitch to beat free. The researcher pointed out that the area most commonly used for free strokes (pass down - hitting) concerning Singapore and United States is a region of the defensive 25 yards because of the low level of skill of the two groups' players and thus they do not use the self pass. The same table shows that although the players do free kicks in the middle of the pitch, the highest performance was for the free strikes (Pass - Hitting) as had been discussed earlier. The results are in line with what referred to Hussein [2] that the skill to push the ball is one of the most commonly used skills within the area of the 25-yard view of the accuracy and ease of use, making it difficult for the other team to get it.

It is clear from Table 3 that the players in the midfield were the most players using the self pass, where they used it 171 times (28.29%), followed by attack players, where they used it 88 times (3.69%) and players of the defense (68times,11.32%).The most players using the free strikes (pass - hitting) are the defense players, where they used it 153times (25.46%), followed by players in the midfield where they used it 67 times (11.15%) and the attack players (54times,8.99%).

As can be seen that the most players' position using self pass in teams of Germany and the Netherlands are the players in midfield where they used it 117 times of 36.45 percentage, followed by attack players, where they used it 64times (19.94%), while the lower players' position is the defense (43times,13.40%).It is also evident from the table that the position where the free kicks(pass-hitting)were used a lot (Singapore and United States teams)was the defense, using them 106 times (37.86%), followed by players in the midfield where they used them 37 times (13.22%) and strikers(used 34times of 12.15%).

This result agrees with the results of Table 2 as the players in the midfield and the players of the defense prepare more players performance to free strokes (self pass is more than pass-hitting) and that the amendment

Table 3: Free-hit using self pass and free-hit (pass - hitting) for players of different lines n = 12

| Team | Players' positions | Ger | | Neth | | Total | | Sing | | U.S.A | | Total | | Total | |
|------------------------------|--------------------|-----|-------|------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| | | R | % | R | % | R | % | R | % | R | % | R | % | R | % |
| self-pass | Attack | 35 | 21.48 | 29 | 18.36 | 64 | 19.94 | 11 | 7.59 | 13 | 9.63 | 24 | 8.58 | 88 | 3.69 |
| (hit-push) | Players | 11 | 6.75 | 9 | 5.70 | 20 | 6.23 | 19 | 13.11 | 15 | 11.12 | 34 | 12.15 | 54 | 8.99 |
| self-pass | Medal | 62 | 38.04 | 55 | 34.81 | 117 | 36.45 | 31 | 21.38 | 23 | 17.07 | 54 | 19.22 | 171 | 28.29 |
| (hit-push) | players | 14 | 8.59 | 16 | 10.13 | 30 | 9.35 | 20 | 13.80 | 17 | 12.60 | 37 | 13.22 | 67 | 11.15 |
| self-pass | Defenses | 19 | 11.66 | 24 | 15.19 | 43 | 13.40 | 13 | 8.97 | 12 | 8.89 | 25 | 8.93 | 68 | 11.32 |
| (hit-push) | players | 22 | 13.50 | 25 | 15.83 | 47 | 14.65 | 51 | 35.18 | 55 | 40.74 | 106 | 37.86 | 153 | 25.46 |
| Total of free hit self-pass | | 116 | 71.17 | 108 | 68.36 | 224 | 69.79 | 55 | 37.94 | 48 | 35.56 | 103 | 36.79 | 327 | 54.41 |
| Total of Free hit (hit-push) | | 47 | 28.83 | 50 | 31.64 | 97 | 30.21 | 90 | 62.06 | 87 | 64.44 | 177 | 63.21 | 274 | 45.59 |
| Total | | 163 | 100 | 158 | 100 | 321 | 100 | 145 | 100 | 135 | 100 | 280 | 100 | 601 | 100 |

Table 4: Tactical moves from free-hit, which were carried out self-passing and free-hit are used (pass - hitting) n = 12

| Team | Offensive moves | Ger | | Neth | | Total | | Sing | | U.S.A | | Total | | Total | |
|------------------------------|-----------------|-----|-------|------|-------|-------|-------|------|-------|-------|-------|-------|-------|-------|-------|
| | | R | % | R | % | R | % | R | R | % | R | % | R | % | R |
| self-pass | Mass movements | 16 | 9.82 | 14 | 8.86 | 30 | 9.35 | - | 0 | - | 0 | - | 0 | 30 | 5.00 |
| (hit-push) | of 4 players | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 |
| self-pass | Mass movements | 16 | 9.82 | 18 | 11.40 | 34 | 10.60 | 35 | 24.14 | 30 | 22.23 | 65 | 23.22 | 99 | 16.48 |
| (hit-push) | of 3 players | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 |
| self-pass | (2v2) | 38 | 23.32 | 34 | 21.52 | 72 | 22.43 | 15 | 10.35 | 10 | 7.41 | 25 | 6.58 | 97 | 16.14 |
| (hit-push) | | 20 | 12.27 | 18 | 11.40 | 38 | 11.84 | 16 | 11.04 | 20 | 1.49 | 36 | 12.86 | 74 | 12.32 |
| self-pass | (3v2) | 19 | 11.66 | 23 | 14.56 | 42 | 13.09 | 5 | 3.45 | 8 | 5.93 | 13 | 4.65 | 55 | 9.16 |
| (hit-push) | | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 |
| self-pass | (1v1) | 27 | 16.57 | 19 | 12.03 | 46 | 14.33 | - | 0 | - | 0 | - | 0 | 46 | 7.66 |
| (hit-push) | | 27 | 16.57 | 32 | 20.26 | 59 | 18.38 | 74 | 51.04 | 67 | 49.63 | 141 | 50.36 | 200 | 33.28 |
| Total of Free hit self-pass | | 116 | 71.17 | 108 | 68.36 | 224 | 69.79 | 55 | 37.94 | 48 | 35.56 | 103 | 36.79 | 327 | 54.41 |
| Total of free hit (hit-push) | | 47 | 28.83 | 50 | 31.64 | 97 | 30.21 | 90 | 62.06 | 87 | 64.44 | 177 | 63.21 | 274 | 45.59 |
| Total | | 163 | 100 | 158 | 100 | 321 | 100 | 145 | 100 | 135 | 100 | 280 | 100 | 601 | 100 |

introduced by the International Hockey Federation on the free-hit helped the team players to raise their speed and not to disrupt the attack on this turn of the players in the game some times in some areas of the stadium to use the self pass.

The researcher also indicates that the players commonly use the self pass are the players in midfield in teams of Germany and the Netherlands. The midfielders other than their duties in the midfield, they have the role of bomb attacks inside the offensive 25-yard. Performing free-hits inside the offensive 25-yard is among their duties, as free-hits often occur as a result of attacking midfielders in the area of the offensive 25-yard, so the player do self pass to complete the attack, which explains the higher use of the midfielders to the self pass more than the rest players in other positions.

The researcher pointed out that among the players' positions, defense players do more free kicks (pass down - hitting) in the two teams of Singapore and United States because of the low level of skills, specially tactical ones, of the two teams and thus enable their players to use the self pass and therefore this is commensurate with the level of

skill of the players of both teams as shown in Table 3, the area of the defensive 25 yards was the most commonly used for free strokes through pass - hitting. This is consistent with what referred to Hussein [2] that the skill of pushing the ball is one of the most commonly used skills within the area of the 25-yard because of its accuracy and ease of use, making it difficult for the other team to get it.

Table 4 shows the tactical moves from free-hits (self pass and pass - hitting). The highest proportion of the tactical performance using the self pass was by the tactical movement (movements of 3 players), where it was performed 99 times with a percentage of 16.48% followed by the collective plans (2 against 1), where they were performed 97 times (16.14%). The lower performance was of the plans mass movements (4 players) as they have been performed 30 time by 5.00%. It is also evident from Table 4 that the highest proportion of the planed performance of the free strikes (pass - hitting) was the movement through positions (1 against 1) performed 200 times at the rate of 23.28%, followed by the collective plans through the positions (2 versus 1), performed 74 times with a percentage of 12.32%.

Table 5: Tactical of mass and individual moves to get the sanctions within the area of the middle and the 25 yards using the slider and strikes a free self-employed (pass - beaten) N=12

| S | Team Variables | Ger | | | | Neth | | | | Total | | | | Sing | | | |
|-----|--|-----------|-------|---------------------|-------|-----------|-------|---------------------|-------|-----------|-------|---------------------|-------|-----------|-------|---------------------|-------|
| | | self-pass | | Other types of pass | | self-pass | | Other types of pass | | self-pass | | Other types of pass | | self-pass | | Other types of pass | |
| | | R | % | R | % | R | % | R | % | R | % | R | % | R | % | R | % |
| I | Self-pass and other types of pass led to obtain the sanctions within the area of the 25 yards through the "team performance" | | | | | | | | | | | | | | | | |
| A | Play free | 16 | 31.38 | 7 | 24.14 | 20 | 35.09 | 9 | 28.13 | 36 | 33.34 | 16 | 26.23 | 10 | 21.74 | 9 | 16.37 |
| | Other free-hit | 12 | 23.53 | 4 | 13.8 | 7 | 12.28 | 6 | 18.75 | 19 | 17.6 | 10 | 16.4 | 6 | 13.05 | 6 | 10.91 |
| | Total | 28 | 54.91 | 11 | 37.94 | 27 | 47.37 | 15 | 46.88 | 55 | 100 | 26 | 42.63 | 16 | 34.79 | 15 | 27.28 |
| II | Self-pass and other types of pass led to the loss of the ball inside the area 25 yards through the "team performance" | | | | | | | | | | | | | | | | |
| A | A free kick on the team | 5 | 9.81 | 4 | 13.8 | 9 | 15.79 | 4 | 12.5 | 14 | 12.97 | 8 | 13.12 | 7 | 15.22 | 8 | 14.55 |
| | Counter -attack | 3 | 5.89 | 5 | 17.25 | 5 | 8.78 | 3 | 9.38 | 8 | 7.41 | 8 | 13.12 | 4 | 8.7 | 9 | 16.37 |
| | Total | 8 | 15.69 | 9 | 31.04 | 14 | 24.57 | 7 | 21.88 | 22 | 20.37 | 16 | 26.23 | 11 | 23.92 | 17 | 30.91 |
| | All Total | 36 | 70.59 | 20 | 68.97 | 41 | 71.93 | 22 | 68.75 | 77 | 71.3 | 42 | 68.86 | 27 | 58.7 | 32 | 58.19 |
| III | Self-pass and other types of pass led to obtain the sanctions within the area of the 25 yards through the "performance of the individual player" | | | | | | | | | | | | | | | | |
| A | Play free | 5 | 9.81 | 2 | 6.9 | 7 | 12.28 | 3 | 9.38 | 12 | 11.12 | 5 | 8.2 | 8 | 17.4 | 7 | 12.73 |
| | Other free-hit | 6 | 11.77 | 4 | 13.8 | 5 | 8.78 | 4 | 12.5 | 11 | 10.19 | 8 | 13.12 | 5 | 10.87 | 6 | 10.91 |
| | Total | 11 | 21.57 | 6 | 20.69 | 12 | 21.06 | 7 | 21.88 | 23 | 21.3 | 13 | 21.32 | 13 | 28.26 | 13 | 23.64 |
| IV | Self-pass and other types of pass led to the loss of the ball inside the area 25 yards through the "performance of the individual player" | | | | | | | | | | | | | | | | |
| A | A free kick on the team | 3 | 5.89 | 1 | 3.45 | 3 | 5.27 | 2 | 6.25 | 6 | 5.56 | 3 | 4.92 | 4 | 8.7 | 6 | 10.91 |
| | Counter -attack | 1 | 1.96 | 2 | 6.9 | 1 | 1.76 | 1 | 3.13 | 2 | 1.86 | 3 | 4.92 | 2 | 4.35 | 4 | 7.28 |
| | Total | 4 | 7.85 | 3 | 10.35 | 4 | 7.02 | 3 | 9.38 | 8 | 7.41 | 6 | 9.84 | 6 | 13.5 | 10 | 18.19 |
| | All Total | 15 | 29.41 | 9 | 31.03 | 16 | 28.07 | 10 | 31.25 | 31 | 28.71 | 19 | 31.14 | 19 | 41.31 | 23 | 41.81 |
| | The total number of variables | 51 | 100 | 29 | 100 | 57 | 100 | 32 | 100 | 108 | 100 | 61 | 100 | 46 | 100 | 55 | 100 |

Table 5continue

| S | Team Variables | U.S.A | | | | Total | | | | Grand Total | | | | |
|-----|--|-----------|-------|---------------------|-------|-----------|-------|---------------------|-------|-------------|-------|---------------------|-------|--|
| | | self-pass | | Other types of pass | | self-pass | | Other types of pass | | self-pass | | Other types of pass | | |
| | | R | % | R | % | R | % | R | % | R | % | R | % | |
| I | Self-pass and other types of pass led to obtain the sanctions within the area of the 25 yards through the "team performance" | | | | | | | | | | | | | |
| A | Play free | 8 | 22.86 | 5 | 10.21 | 18 | 22.23 | 14 | 13.47 | 54 | 27.28 | 30 | 18.19 | |
| B | Other free-hit | 6 | 17.15 | 7 | 14.29 | 12 | 14.82 | 13 | 12.5 | 31 | 15.66 | 23 | 13.94 | |
| | Total | 14 | 40.00 | 12 | 24.49 | 30 | 37.04 | 27 | 25.97 | 85 | 42.93 | 53 | 32.13 | |
| II | Self-pass and other types of pass led to the loss of the ball inside the area 25 yards through the "team performance" | | | | | | | | | | | | | |
| A | A free kick on the team | 5 | 14.29 | 7 | 14.29 | 12 | 14.82 | 15 | 14.43 | 26 | 13.14 | 23 | 13.94 | |
| B | Counter -attack | 3 | 8.58 | 10 | 20.41 | 7 | 8.65 | 19 | 18.27 | 15 | 7.58 | 27 | 16.37 | |
| | Total | 8 | 22.86 | 17 | 34.7 | 19 | 23.46 | 34 | 32.7 | 41 | 20.71 | 50 | 30.31 | |
| | All Total | 22 | 62.86 | 29 | 59.19 | 49 | 60.5 | 61 | 58.66 | 126 | 63.64 | 103 | 62.43 | |
| III | Self-pass and other types of pass led to obtain the sanctions within the area of the 25 yards through the "performance of the individual player" | | | | | | | | | | | | | |
| A | Play free | 5 | 14.29 | 5 | 10.21 | 13 | 16.05 | 12 | 11.54 | 25 | 12.63 | 17 | 10.31 | |
| B | Other free-hit | 3 | 8.58 | 6 | 12.25 | 8 | 9.88 | 12 | 11.54 | 19 | 6.6 | 20 | 12.13 | |
| | Total | 8 | 22.86 | 11 | 22.45 | 21 | 25.93 | 24 | 23.08 | 44 | 22.23 | 37 | 22.43 | |
| IV | Self-pass and other types of pass led to the loss of the ball inside the area 25 yards through the "performance of the individual player" | | | | | | | | | | | | | |
| A | A free kick on the team | 2 | 5.72 | 3 | 6.13 | 6 | 7.41 | 9 | 8.66 | 12 | 6.06 | 12 | 7.28 | |
| B | Counter -attack | 3 | 8.58 | 6 | 12.25 | 5 | 6.18 | 10 | 9.62 | 7 | 3.54 | 13 | 7.88 | |
| | Total | 5 | 14.29 | 9 | 18.37 | 11 | 13.58 | 19 | 18.27 | 19 | 9.6 | 25 | 15.16 | |
| | All Total | 13 | 37.14 | 20 | 40.81 | 32 | 39.5 | 43 | 41.34 | 63 | 31.82 | 62 | 37.58 | |
| | The total number of variables | 35 | 100 | 49 | 100 | 81 | 100 | 104 | 100 | 198 | 100 | 165 | 100 | |

The researcher finds that the use of mass movements plans (3 players) are the most commonly used for mass movements, as this reflects the tactical integrated performance, especially between the midfield line of attack and defense, so the tactical performance is integrated between the three midfielders and the three-strikers after the middle of the pitch or from inside the 25 offensive yards, as the player does not disrupt the attack by passing to himself, getting benefit from the law's changes leading to a swift counter-attacks using the movements of the players.

The use of collective plans through the position of 2 against 1 recorded the highest frequency that it is up to the principles of modern tactics which are always based on the creation of the positions where attackers number overcomes that of the defenders and they always rely on the use of attitudes (2 against 1, 3 against 2, 4 against 3). The applications of such attitudes depend on the awareness of tactics and high fitness besides to aware mass movement between the lines. The teams using this strategy make a good use of the changes of the law, such as in free kicks a player winning a free kick off the ball and then pass to himself quickly to try to skip his rival or to complete the attack before the return of the defender of the rival team using the offensive support from his colleagues to try to overcome the opponent, which explains why teams of Germany and the Netherlands used self-passing in the performing the free-hits.

This is consistent with what was indicated by Taha *et al.* [3] that the modern tactical performance in general depends on direct mass performance, as well as the speed of action and decision-making in situations faced by the player during the game.

Results of this study agree with the study of Ezz El-Din [4] as he recommended the need for attention to the movements of the players and tactical plans commensurate with the ways to play, this result agree with the findings of Abu El-Maati [5], which reached to that the positions of (2 against 1) is widely used in games.

Table 5 shows the tactical individual and mass movements to gain sanctions within the area of the midfield and the 25 yards using the self pass and pass hitting free-hits. Teams under study had 85 sanctions (54 play free and 31 other free kicks), while the sanctions of other hits, 53 pass - hitting (30 free play and 23 other free kicks), As can be seen from the table, the teams of the study sample had 44 sanctions resulting from the self pass using individual performance has led to obtain and was distributed as follows (25 free play and 19 other free

kicks), while the sanctions of other hits, using pass - hitting (32 penalty distributed as 12 games free, other 20 free strikes).

As can be seen from the table, teams of Germany and Netherlands obtained 55 sanctions due to the self pass using mass movements, distributed as 36 free plays and 19 free kicks. The sanctions due to using pass - hitting was 26 sanctions (16 play free and 10 other free strikes). Teams of Germany and Netherlands got 23 sanctions (12 free play and 11 other free kicks) due to self pass using individual performance, while other hits, using pass - hitting caused 13 sanctions (5 play free and 0.8 other free kicks).

As is also clear that teams of Singapore and United States accessed 30 sanctions (18 free play and 12 other free strikes) from the self pass using mass movements, while the sanctions obtained by other types of hits (pass - hitting) were 27 sanctions (14 free play and 13 other free kicks). As seen from the Table 5, teams of Singapore and the United States achieved sanctions due to the self pass using individual performance (21 sanctions distributed as 13 free play and 0.8 other free strikes), while the sanctions of other types of hits, pass - hitting caused 19 sanctions distributed as 9 free play and 0.10 other free kicks.

The researcher finds that the high ratio of sanctions within the area of the 25 yards through teamwork as a result of the self pass is higher than through individual performance. The teams under study represented high levels of skills and planning in hockey, their performance emphasized that hockey is a team game not an individual game and therefore players turn into individual solutions only in situations that require that. The high proportion of sanctions from free-hits more than the rest kinds of sanctions is because this is one of the powerful international tournaments as all the participating teams have a high level and thus it is difficult to obtain sanctions (such as corner strike criminal and penalty) and this result agrees with the findings of Abu El-Maati [1] who reached the fact that the free-hit is one of the sanctions more frequently during the games.

It is clear from Table 6 that tactical mass and individual movements access to sanctions within the area of 16 yards using the self pass from inside the 25 yard and free-hits (pass - hitting). The study sample accessed a proportion of sanctions due to self pass using mass movements (61 penalties distributed as 10 goals and 0.19 penalty corner and 0.32 corner), while the sanctions of other types of hits (Pass - Hitting) were 34 penalties and

Table 6: Tactical moves of collective and individual sanctions to get inside the 16 yards using the pass self- Self-pass from inside the 25 yard free-hit used (pass - hitting) n = 12

| S | Team Variables | Ger | | | | Neth | | | | Total | | | | Sing | | | |
|-----|--|-----------|-------|---------------------|-------|-----------|-------|---------------------|-------|-----------|-------|---------------------|-------|-----------|-------|---------------------|-------|
| | | self-pass | | Other types of pass | | self-pass | | Other types of pass | | self-pass | | Other types of pass | | self-pass | | Other types of pass | |
| | | R | % | R | % | R | % | R | % | R | % | R | % | R | % | R | % |
| I | Self-pass and other types of pass led to obtain the sanctions within the area of the 25 yards through the "team performance" | | | | | | | | | | | | | | | | |
| A | Gool | 6 | 9.23 | 2 | 11.12 | 4 | 7.85 | - | 0 | 10 | 8.62 | 2 | 5.56 | - | 0 | - | 0 |
| B | p.c | 9 | 13.85 | 3 | 16.67 | 7 | 13.73 | 2 | 11.12 | 16 | 13.8 | 5 | 13.89 | 1 | 6.25 | 2 | 5.72 |
| C | p.s | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 |
| D | l.c | 18 | 27.7 | 2 | 11.12 | 10 | 19.61 | 6 | 33.34 | 28 | 24.14 | 8 | 22.23 | 1 | 6.25 | 7 | 20 |
| | Total | 33 | 50.77 | 7 | 38.89 | 21 | 100 | 8 | 44.45 | 54 | 64.56 | 15 | 41.67 | 2 | 12.5 | 9 | 25.72 |
| II | Self-pass and other types of pass led to the loss of the ball inside the area 25 yards through the "team performance" ³ | | | | | | | | | | | | | | | | |
| A | f.p | 14 | 21.54 | 4 | 22.23 | 10 | 19.61 | 3 | 16.67 | 24 | 20.69 | 7 | 19.45 | 2 | 12.5 | 5 | 14.29 |
| B | f.h.a | 6 | 9.23 | 2 | 11.12 | 4 | 7.85 | 2 | 11.12 | 10 | 8.62 | 4 | 11.12 | 3 | 18.75 | 6 | 17.15 |
| | Total | 20 | 30.77 | 6 | 33.34 | 14 | 27.45 | 5 | 27.78 | 34 | 29.31 | 11 | 30.56 | 5 | 31.25 | 11 | 31.43 |
| | All Total | 53 | 81.54 | 13 | 72.23 | 35 | 68.63 | 13 | 72.23 | 88 | 75.87 | 26 | 72.23 | 7 | 43.75 | 20 | 57.15 |
| III | Self-pass and other types of pass led to obtain the sanctions within the area of the 25 yards through the "performance of the individual player" | | | | | | | | | | | | | | | | |
| A | Gool | 2 | 3.08 | - | 0 | 1 | 1.96 | - | 0 | 3 | 2.59 | - | 0 | - | 0 | - | 0 |
| | p.c | 3 | 4.62 | 2 | 11.12 | 4 | 7.85 | 2 | 11.12 | 7 | 6.04 | 4 | 11.12 | 2 | 12.5 | 4 | 11.43 |
| | p.s | - | 0 | - | 0 | - | - | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 |
| B | l.c | 3 | 4.62 | 1 | 5.56 | 3 | 5.89 | 1 | 5.56 | 6 | 5.18 | 2 | 5.56 | 2 | 12.5 | 3 | 8.58 |
| | Total | 8 | 12.31 | 3 | 16.67 | 8 | 100 | 3 | 16.67 | 16 | 13.8 | 6 | 16.67 | 4 | 25 | 7 | 20 |
| A | f.p | 2 | 3.08 | 1 | 5.56 | 5 | 9.81 | 1 | 5.56 | 7 | 6.04 | 2 | 5.56 | 2 | 12.5 | 5 | 14.29 |
| B | f.h.a | 2 | 3.08 | 1 | 5.56 | 3 | 5.89 | 1 | 5.56 | 5 | 4.31 | 2 | 5.56 | 3 | 18.75 | 3 | 8.58 |
| | Total | 4 | 6.16 | 2 | 11.12 | 8 | 15.69 | 2 | 11.12 | 12 | 10.35 | 4 | 11.12 | 5 | 31.25 | 8 | 22.86 |
| | All Total | 12 | 18.47 | 5 | 27.78 | 16 | 31.38 | 5 | 27.78 | 28 | 24.13 | 10 | 27.77 | 9 | 56.25 | 15 | 42.85 |
| | All Total | 65 | 100 | 18 | 100 | 51 | 100 | 18 | 100 | 116 | 100 | 36 | 100 | 16 | 100 | 35 | 100 |

Table 6 continue

| S | Team Variables | U.S.A | | | | Total | | | | Total Of Team | | | | |
|-----|--|-----------|-------|---------------------|-------|-----------|-------|---------------------|-------|---------------|-------|---------------------|-------|--|
| | | self-pass | | Other types of pass | | self-pass | | Other types of pass | | self-pass | | Other types of pass | | |
| | | R | % | R | % | R | % | R | % | R | % | R | % | |
| I | Self-pass and other types of pass led to obtain the sanctions within the area of the 25 yards through the "team performance" | | | | | | | | | | | | | |
| A | Gool | - | | - | 0 | - | 0 | - | 0 | 10 | 6.9 | 2 | 1.84 | |
| B | p.c | 2 | 15.39 | 3 | 7.9 | 3 | 10.35 | 5 | 6.85 | 19 | 13.11 | 10 | 9.18 | |
| C | p.s | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | - | 0 | |
| D | l.c | 3 | 23.08 | 7 | 18.43 | 4 | 13.8 | 14 | 19.18 | 32 | 22.07 | 22 | 20.19 | |
| | Total | 5 | 38.47 | 10 | 26.32 | 7 | 24.14 | 19 | 26.03 | 61 | 42.07 | 34 | 31.2 | |
| II | Self-pass and other types of pass led to the loss of the ball inside the area 25 yards through the "team performance" | | | | | | | | | | | | | |
| A | f.p | 3 | 23.08 | 7 | 18.43 | 5 | 17.25 | 12 | 16.44 | 29 | 20 | 19 | 17.44 | |
| B | f.h.a | 1 | 7.7 | 4 | 10.53 | 4 | 13.8 | 10 | 13.7 | 14 | 9.66 | 14 | 12.85 | |
| | Total | 4 | 30.77 | 11 | 28.95 | 9 | 31.04 | 22 | 30.14 | 43 | 29.66 | 33 | 30.28 | |
| | All Total | 9 | 69.23 | 21 | 55.27 | 16 | 55.18 | 41 | 56.17 | 104 | 71.73 | 67 | 61.47 | |
| III | Self-pass and other types of pass led to obtain the sanctions within the area of the 25 yards through the "performance of the individual player" | | | | | | | | | | | | | |
| A | Gool | - | 0 | - | 0 | - | 0 | - | 0 | 3 | 2.07 | - | 0 | |
| | p.c | 1 | 7.7 | 3 | 7.9 | 3 | 10.35 | 7 | 9.59 | 10 | 6.9 | 11 | 10.1 | |
| B | p.s | - | 0 | - | 0 | - | 0 | - | 0 | 0 | 0 | 0 | 0 | |
| | l.c | 1 | 7.7 | 4 | 10.53 | 3 | 10.35 | 7 | 9.59 | 9 | 6.21 | 9 | 8.26 | |
| | Total | 2 | 100 | 7 | 18.43 | 6 | 20.69 | 14 | 19.18 | 22 | 15.18 | 20 | 18.35 | |
| A | f.p | - | 0 | 6 | 15.79 | 2 | 6.9 | 11 | 15.07 | 9 | 6.21 | 13 | 11.93 | |
| B | f.h.a | 2 | 15.39 | 4 | 10.53 | 5 | 17.25 | 7 | 9.59 | 10 | 6.9 | 9 | 8.26 | |
| | Total | 2 | 15.39 | 10 | 26.32 | 7 | 24.14 | 18 | 24.66 | 19 | 13.11 | 22 | 20.19 | |
| | All Total | 4 | 30.77 | 17 | 44.73 | 13 | 44.82 | 32 | 43.83 | 41 | 28.28 | 42 | 38.54 | |
| | All Total | 13 | 100 | 38 | 100 | 29 | 100 | 73 | 100 | 145 | 100 | 109 | 100 | |

was distributed as 2 goals, 0.10 penalty corner strikes and 0.22 corner). As seen from the table, the study sample's proportion of access to sanctions of the self pass using individual performance has led to obtain 22 penalties and was distributed as 3 goals, 0.10 corner penal strike and 0.9 corner strike, while the sanctions due to other types of

hits (pass - hitting) were 20 penalties and was distributed as 11 penalty corners and 0.9 corner strike). Concerning teams of Germany and Netherlands, the percentage of sanctions of the self pass using mass movements has led to obtain 54 penalties (10 goals, 0.16 penalty corner, 0.28 corner), while the sanctions of other types of hits

Table 7: Real-time used of the match and its percentage of different teams under study.n = 12

| Time of games Team | Total time for the match 70M | Time the actual games | | | | | | Grand Total To three times Games (210 M) | |
|-----------------------|------------------------------------|---|-------|-----------------|-------|----------------|-------|---|-------|
| | | The first game | | The second game | | The third game | | Real-time | % |
| | | Real-time | % | Real-time | % | Real-time | % | | |
| Ger | | 55M | 78.58 | 48M | 68.58 | 52M | 74.29 | 155M | 73.81 |
| Neth | | 53M | 75.72 | 51M | 72.86 | 47M | 67.15 | 151M | 71.91 |
| | | The total of all the times of matches Germany, the Netherlands | | | | | | 306 | 72.86 |
| Sing | | 42M | 60.00 | 45M | 64.29 | 40M | 57.15 | 127M | 60.48 |
| U.S.A | | 44M | 62.86 | 38M | 54.29 | 35M | 50.00 | 117M | 55.72 |
| | | The total of all the times of matches in Singapore, the United States | | | | | | 244 | 58.10 |

The actual total times to my team Germany, the Netherlands = 306 s (72.86%) of the total time for a total of n = 6 games (420 minutes)

The actual total times to my team in Singapore, the United States = 244 s (58.10%) of the total time for a total of n = 6 games(420 minutes)

Total actual times for the teams in the study sample = 550 s (65.48%) of the total time for a total of n = 12 games (840 minutes)

(pass-hitting) were 15 penalties (2 goals of 0.5 penalty corner strikes and 0.8 corner strike), as it is also clear that teams of Germany and Netherlands got sanctions of the self pass using individual performance (16 penalties of 3 goals,0.7 corner strike penalties and 6 corner hits), while the sanctions from other hits (pass - hitting) were 6 penalties (4 penalty corner strikes and 0.2 corner).

It is also clear that Singapore and United States teams obtained the sanctions of the self pass using mass movements (7sanctions, distributed as follows:3 penalty corner strikes and 0.4 corner strikes), while the sanctions of other hits types (pass- hitting) were 19 penalties (5 penalty corner strikes and 0.14 corner).As seen from Table 6, Singapore and United States teams obtained 6 sanctions using the self pass through individual performance (3 corner penalties strikes and 3 corner hits), while the sanctions obtained by other hits (pass - hitting) were 14 penalties (7 penalty corner strikes and 0.7 corner).

The researcher finds high ratio of sanctions in collective performance than in the individual performance of the self pass because hockey is a team sport and every player in the team has specific duties on the pitch throughout the game, all the teams notified the modifications in law while putting plans of the team. As the modification of the free strike (self pass) goal is to increase the speed of playing and not to disrupt the attack, the players commit a free kick to complete the attack after being disrupted by the players from the opposing team and this means that there is a collective action before the error occurs, after the error occurs the players complete the move as a result of collective self-passing, which explains the high ratio of sanctions with collective tactical performance more than with individual performance.

It is clear from Table 7 that the total of the actual time of the matches used by teams of the study sample was 550 minutes as a percentage of 65.48% of the total time for all matches (840 minutes).It is also clear that the total time of the German team's matches was 155 minutes as a percentage of 73.81% as the highest rate for the use of time during the three games. The real time used by the United States was 117 minutes, as a percentage of 55.10% (lower time used through three games).It is evidenced also from Table 7 that the total actual time used by teams of Germany and Netherlands was 306 minutes as a percentage of 72.86% of the total time of their games (420 minutes) and equally was the total actual time of teams of Singapore and United States (244 minutes as a percentage of 58.10% of the total time for their games,420minutes).

The researcher found that the proportion of real-time used of the game for teams of Germany and the Netherlands was higher than the percentage of actual time used by teams of Singapore and United States because teams of Germany and the Netherlands are high leveled in hockey and always take advantage of new innovations in hockey. There is no doubt that the amendment of the law of the free-hit and the consequent speed of the attack helped them to benefit from every minute of the match, speed up and avoid the disruption of the ball or disabling the attack.On contrary were teams of Singapore and United States, which did not benefit from this amendment because of their low level and that they often work to disable the attack hopping a draw or decreasing their loss, which reflects on decreasing the percentage of actual time they used of the match less than teams of Germany and Netherlands.

Table 8: Repetition and percentages of the effective building up situations of the German team (n = 5)

| Effectiveness of the building up | Building Up led to the arrival of the ball to the | | | | Building Up did not result in the ball leaves the area | | | | Total | |
|---|---|-------|-----------------------------|-------|--|-------|----------------|-------|-------|-------|
| | 25 yards of the competing team | | Mid-field the opposing team | | 25 yards for the team | | Mid-field team | | | |
| | R | % | R | % | R | % | R | % | R | % |
| Ways to build Up | | | | | | | | | | |
| The first way (exchange the ball between the players) | 19 | 20.43 | 28 | 30.11 | 12 | 12.90 | 34 | 36.56 | 93 | 61.59 |
| The second method (Vertical Pass) | 28 | 48.28 | 15 | 25.86 | 6 | 10.34 | 9 | 15.52 | 58 | 38.41 |
| Total | 47 | 31.13 | 43 | 28.48 | 18 | 11.92 | 43 | 28.48 | 151 | 100 |

This is consistent with what referred to Poole [6] that the irregularities diverse require yet calculated, the conditions for legal re-Played where you must move away to players of the opposing team a distance of not less than 5 yards from the ball must be re-playing the ball from the place of the error occurs, all this also affects the time lost from the match, where the amendment introduced by the International Hockey Federation on free-hit allows the player to pass the ball to himself led to work on the speed of play and thus the speed of the attack.

Result of this research agreed with the result of Ezz El-Din [4] that the time of possession of the ball was equivalent to 45.61% and with the result obtained by Abou El-Maati [5] that time possession of the ball was equivalent to 38.57%. The researcher attributes the differences between those times and the times of the current study for two reasons: first, that the study sample in these matches was clubs not teams. Second reason was that these matches were analyzed before the International Federation modified the free-hit, which demonstrates that the modification of the free-hit has led to increasing the real-time used of the match. Based on this, the researcher refers to the need to take advantage of the time of the match and not succumbing to waste the time of the opposing team through the speed of the ball through mass movements for the rest of the players and taking advantage of the modified free-hit.

Technical Analysis for the German Team's Performance: Table 8 shows that the German team performed 151 attacks' building up, the total repetitions of the first method (exchange the ball between the players) was 93 times, while the total repetitions of the second method (vertical pass) were 58 times, it is also evident that the highest proportion of occurrence (34 times, 36.56%) in

the first way for the benefit of a building up did not lead to the exit of the ball from the middle of the pitch of the team. The researcher attributed that to that this tournament represents the highest level of hockey in the world and therefore all the participating teams represent the highest physical, skillful, tactical, psychological and mental levels and hence, all the matches are with comparable levels. on this basis, the German team used the way of building up the attack, relying on building up from the defense line to reach 25 yards area of the other team, to deliberate some difference in some times of the match to fulfill full press depending on reducing the areas of the pitch and play man to man. But this resulted in difficulty to control the play areas and moving the ball between the German team members smoothly and this is why the highest percentage was in favor of building up an attack which did not exit the ball out of the middle of the pitch of the team, as players of other teams disrupted the German attack by committing a free kick, or trying to put pressure on the German players to extract the ball from them or to obtain a free kick in their favor. This is confined by the success of the German team to transfer the attack to 25 yards area of the competing team was the least (12 times as a percentage of 12.90%). The table shows that the highest proportion of repetitions in the second way was for the benefit for based attack led to the arrival of the ball to the 25 yards of the competing team (28 times, percentage of 48.28%). The researcher finds that the increase in this ratio in the second way was due to longitudinal balls by the German team in the construction of the attack, either through beating – flick), where he baptized the German team in this way to play the ball in the free spaces in the area of the 25-yard of the competing team and through the exchange of the ball between the defenders from the right side to left side and then move

Table 9: Frequencies and percentages for the more building up situations commonly used to the face pressure of full press - 3 / 4 court and have court. n = 5

| Effectiveness of the building up | Types | Building Up led to the arrival of the ball to the | | | | Building Up did not result in the ball leaves the area | | | | Total | |
|----------------------------------|-------|---|-------|-----------------------------|-------|--|-------|--------------------------------|-------|-----------------------------|-------|
| | | 25 yards of the competing team | | Mid-field the opposing team | | 25 yards for the team | | 25 yards of the competing team | | Mid-field the opposing team | |
| | | R | % | R | R | % | R | R | % | R | R |
| The status of the cavity (2-2) | | | | | | | | | | | |
| Have court | | 9 | 19.15 | 12 | 27.91 | - | 0 | - | 0 | 21 | 56.76 |
| 3 / 4 Court | | - | 0 | 2 | 4.66 | 1 | 5.56 | 9 | 20.93 | 12 | 32.43 |
| Full press | | - | 0 | - | 0 | 1 | 5.56 | 3 | 6.98 | 4 | 10.81 |
| Total | | 9 | 19.15 | 14 | 32.56 | 2 | 11.12 | 12 | 27.91 | 37 | 24.50 |
| The status of the form Z (2-2) | | | | | | | | | | | |
| Have court | | 5 | 10.64 | 3 | 6.98 | - | 0 | - | 0 | 8 | 15.69 |
| 3 / 4 Court | | 9 | 19.15 | 9 | 20.93 | 4 | 22.23 | 4 | 9.31 | 26 | 50.98 |
| Full press | | 1 | 2.13 | 2 | 4.66 | 2 | 11.12 | 12 | 27.91 | 17 | 33.33 |
| Total | | 15 | 31.92 | 14 | 32.56 | 6 | 33.34 | 16 | 37.21 | 51 | 33.78 |
| The status of the rhombus (3-1) | | | | | | | | | | | |
| Have court | | 2 | 4.26 | 5 | 11.63 | - | 0 | - | 0 | 7 | 11.11 |
| 3 / 4 Court | | 1 | 2.13 | 2 | 4.66 | 5 | 27.78 | 10 | 23.26 | 18 | 28.57 |
| Full press | | 20 | 42.56 | 8 | 18.61 | 5 | 27.78 | 5 | 11.63 | 38 | 60.32 |
| Total | | 23 | 48.94 | 15 | 34.89 | 10 | 55.56 | 15 | 34.89 | 63 | 41.72 |
| All Total | | 47 | 100 | 43 | 100 | 18 | 100 | 43 | 100 | 151 | 100 |

the ball forward, that the players in the line of attack evacuate this area, before passing the ball to them and then running suddenly and move towards the ball to try to control it before for players of the opposing team and this is what confirmed that the lower the proportion of duplicates was to build the attack did not lead the ball to leave the 25 yards area for the team (6 times only as a percentage of 10.34%). This percentage referred to pressure of the players of the opposing team on the defender before he kicks the ball, so they oblige him to play the ball on the ground and exchange with a colleague. This is consistent with what refers to the Australian Federation [7] of that play long and sent the ball to areas of the stadium front is effective in reaching the circle rival in less time and in a manner easy to obtain sanctions from inside the 25 yard opponent.

Table 9 shows the more building up situations commonly used in the construction of the attack to face the defense (full press - 3 / 4 court - have court) where it is clear that the status of the cavity (2-2) have been used 37 times, while form Z (2-2) was used 51times, while the rhombus form (1-3) have been used 63times, the researcher finds that the situation most used and effective

is position cavity (2-2),used 21 times to face the defense (have court) where the opposing team defenders are in their own half,so the players intended to move the ball from right to left or vice versa to upset the defense of the opposing team.

The author also suggests that the form Z (2-2) was used a lot, 26 times and effectively to face the defense (3/4court) where the players are in the form of the letter Z to try to pass the ball between the three defenders and the playmaker to create space and disturbance of attack discount to move the ball to the front or side of the sheet and therefore this position is suited to meet the defense (3/4court).

The author also suggests that rhombus (1-3), used 38times, was the most effective to face the defense (full press) where the team is working to increase the number of players over the players of the opposing team to overcome the pressure on him. If the opposing team attacks with three attacker, the team in the building up benefit from (1-3) position to increase his number like playing 4 against 3 to try to move the ball between the four players against the other three and therefore this position is suited to meet the defense (full press).

Table 10: Frequencies and percentages of total roles 'repetitions of players in the transfer of the attack. n = 5

| S | The roles of players in the construction of the attack | R | % |
|---|--|-----|-------|
| 1 | The roles of playmaker in the construction of the attack | 76 | 50.33 |
| 2 | The roles of defenders in the transfer of the attack | 58 | 38.41 |
| 3 | The roles of other centers in the transfer of the attack | 17 | 11.26 |
| | Total | 151 | 100% |

Table 11: Frequencies and percentages of the duties of playmaker in the transfer and building up. n = 5

| S | Duties of the playmaker | R | % |
|---|---|----|-------|
| 1 | The role of playmaker as a hub to lead the Mount attack | 38 | 50.00 |
| 2 | The role of playmaker in the transfer of the ball to the side lines | 25 | 32.89 |
| 3 | The role of playmaker in the construction of the attack (exchange of the ball with defenders) | 13 | 17.11 |
| | All Total | 76 | 100% |

This is consistent with the opinion of Ikram [8] that the team must be aware of more than one way when building up to suit the different offensive ways of the opposing team during the game.

Table 10 shows the total number of iterations was 151 times, as can be seen that the total repetitions of the role of the playmaker in the transfer of the attack was 76 times, it is also evident that the total repetitions of the role of the defenders in the transfer of the attack was 58 times. It is apparent that the total repetitions of the roles of other centers in the transfer of the attack was 17 times. The researcher finds high rate of repetitions of the roles of playmaker in the transfer of the attack to the importance of the role of playmaker in the transfer of the attack, which illustrates the importance of reliable maker games, which will be discussed in Table 11. The researcher finds that the roles of the other centers were less iterations due to the adoption of the difference in the construction of the attack on the quartet line of defense and playmaker in terms of reliance on passing the ball between them and transfer to other lines, because when you build the attack there are other roles for the rest of the team members represented in the open gaps to pass the ball from them or take the offensive centers to receive the ball after the 25-yard line or middle of the pitch. This is consistent with what referred to Martens [9] that each player in the team should have a specific role, whether in attack or defense.

It is clear from Table 11 that the total repetitions of the roles of playmaker in the transferring and building up was 76 times, the highest percentage in favor of the role of playmaker to lead and build the attack, which represents receiving the ball and playing the ball alternately with his colleagues of both halfway line or up front, followed by the role of playmaker in the transfer of the ball to the line side (25times) which means that after receiving the

playmaker of the ball, he opens the pitch on the sides to transfer the ball forward and came second in the latter the role of playmaker in the construction of the attack to exchange the ball with defenders (11times), which means that the playmaker is top of the triangle with the defenders to receive the ball of them and then pass the ball to them again to the defender passes the ball either forward or side, which clarifies the role of the play maker in leading maker and build the attack.

The researcher conducted that high rates of repetitions of the roles of playmaker is because the international teams depend on the play maker in the transfer of the attack to help defenders when building the attack, where the role of playmaker here is the center of the play in terms of receiving the ball from defenders and then do transfer line, the middle or an attacker or to the side of the pitch as all international teams seek playmakers having good vision of the stadium, high level of individual skills, high creativity and harmony and high physical abilities, this was confirmed by Arch [10] and many of the trainers in hockey around the world at the International Conference of Trainers(FIH final Coaching Seminar) at Mönchengladbach [11] where Rullent Ooltmans (coach of the Dutch hokey team) indicated that the roles of playmaker in his position are to control the ball, control the speed and rhythm of the game, while his roles of playmaker other than his position are deciding and leading the pressure on the opponent. Colin Batch, coach of German hockey team, pointed out that the roles of the playmaker in his position are good visibility of the stadium and proficiency skills in receiving ball, while the role of playmaker out of his position is his leadership of the pressure process on the opponent. Also, Sergio Vigil (Argentinean team coach for hockey) indicates that the role of playmaker in his position is leadership of the

movement of players, while he pointed out that the role of the playmaker out of his position is in his leadership of the pressure process on the opponent. Maurits Hendriks (Spanish team coach for the hockey) referred the roles of playmaker in his position to his participation in all the longitudinal balls and special critical moments, while noted that the role of playmaker out of his position is in his leadership of the defense system. Bernhard Peters (coach of German hockey team) said that the role of the playmaker in his position is in the protection of the ball and the right vision, while he noted that his role out of his position is his leadership of the defense system. Through the previous opinions of the coaches of international teams in hockey, it is clear the important role of the playmaker during the game through his leadership of the team during the attack or during the defense.

CONCLUSIONS

In light of the objectives and research questions the researcher concluded the following:

The Findings for the Free-kick Modification of the Law:

- C Free-hits using self pass was done 327times with a percentage of 54.41%, while the implementation of free-hits hit – beating was performed 274times (45.59%) and the total free hits for teams under study were 601 free kicks.
- C The parts of the pitch commonly used for self pass is the center of the pitch where it was used 143times (23.8%), followed by the defensive 25-yard (used 97times, 16.14%), then came the offensive 25-yard (87times, 14.48%).
- C The players' positions commonly used for self pass are the midfield (used 171times, 28.29%) followed by players in attack (88times, 3.69%) and players of defense (68times by a percentage of 11.32%).
- C The highest rate of tactical plans using the self pass was the tactical movements with 3 players, performed 99 times with a percentage of 16.48%, followed by the collective plans through the position2 against 1, where they were performed 97 times (16.14%), while the lower performance was of the mass movements plans (4 players), performed 30 times (5.00%).
- C The teams of the study sample had sanctions by the self pass using mass movements (85 penalties distributed as 54 free play and 31 other free kicks), while the sanctions because of other types of hits, using pass – hitting were 53 penalties and was distributed as 30 free play and 23 other free

kicks).The sanctions by self pass using individual performance has led to obtain 44 penalties and was distributed as 25 free play and 19 other free kicks, while sanctions with using other types of strikes (pass – hitting) were 32 penalties distributed as 12 free play and 20 other strikes.

- C The teams of the study sample had sanctions due to the self pass using mass movements,they obtained 61 penalties (10 goals,0.19 corner penalty and 0.32 corner), while the sanctions from other types hits (pass - hitting) were 34 penalties (2 goals, 0.10 penalty corner strikes and 0.22 corner) and the sanctions of the self pass using individual performance has led to obtain 22 penalties (3 goals,0.10 corner penalty strikes and 0.9 corner strikes), while sanctions of using other types of strikes (pass - hitting) were 20 penalties (11 corner penalty strikes and 0.9 corner strikes).
- C Total actual time used of the match time by the teams of the study sample was 550 min. as a percentage of 65.48% of the total time for all matches (840 min.), the total actual time of matches of the German team was 155 minutes as a percentage of 73.81% (the highest rate for the use of time during three games), while the real-time used by the team of the United States was 117 min. as a percentage of 55.10% as the least used time in three games.
- C There is a relationship between the use of the self pass from free-kick and the outcome of matches, where teams that have used the self pass got the first and second places in the tournament, unlike teams that did not use the self pass by high proportions where they earned the last and before last places, as the self pass led to improving the rate of the sanctions within the 25 yard area and the 16 yards, as well as increasing the actual time of the game for the teams using the self pass, unlike the other teams.

Analysis of Technical Performance of the German Team:

- C Total sum of building up the attack was 151times as a percentage of 100%.
- C The second method (vertical pass) was better than the first method (exchange the ball between the players) in terms of the effectiveness of building up the attack to get the ball to the 25 yards of the competing team, while the first method (exchange the ball between the players) was better than the second method (vertical pass) in effectiveness of the building up to send the ball to the middle the pitch of the competing team.

- C The best position of building up the attack to face full press defend of the competing team effectively was the rhombus (1-3) position, while the best position of building up the attack to face 3/4 court defend of the competing team effectively was the form Z (2-2) and the best position of building up the attack to face have court defend of the competing team effectively was the cavity (2-2).
- C Roles of the players more commonly used in the transport and building up the attack were those of the playmaker.
- C Role of the playmaker more commonly used was leading the attack.

RECOMMENDATIONS

In light of the objectives and questions of the research, the researcher recommends the following:

Recommendations for Benefiting from the Free-kick Modification of the Law by the International Hockey Federation:

- C Training the players to take advantage of this modification in the speed of play.
- C Training the players on the mass movements to take advantage of self-passing and special moves (2 against 1 and the mass moves with 3 players).
- C Training the players on the individual performance after getting a free kick for the team and especially inside area of 25 yards to get sanctions from inside the area of 16 yards.
- C Conducting a similar study on the World Cup for adults to know the results of using self-pass by the high level teams.

Recommendations Concerning Analysis of Technical Performance of the German Team:

- C Training on different ways to buildup attack to face full press - 3 / 4 court and have court defenses.
- C Learning the advantages and disadvantages of the positions of building up the attack (cavity mode (2-2), form Z (2-2) and the rhombus form (1-3) and when to use them in the match.
- C Taking care of selecting the playmakers because of their vital and effective role in the game as a whole or during transporting and building the attack. They should have good vision, high individual skills and high physical abilities.

- C Performing further studies, which represent how to attack to overcome the building up positions.

REFERENCES

1. Abou El-Maati, M.T., 1997. Effect of method of training on plans for the strikes within the free zone of 25 yards. M.Sc. Thesis, Faculty of Physical Education, Helwan University, Egypt, pp: 126.
2. Hussein, P.M., 1991. An analytical study of the work offensive to some of the ways to play within the area of the 25 yards of high levels of hockey players. Ph.D. Thesis, Faculty of Physical Education for Boys, Alexandria University, Egypt, pp:112.
3. Taha, I., A. Abo El-Magd and I. Shaalan, 2002. Football between theory and practice, Dar Alfikr Alarabi, Cairo, pp: 75.
4. Ezz El-Din, H.M., 1992. Relationship of time of possession of the ball the results of hockey games. The scientific journal, Faculty of Physical Education, Helwan University, 5: 8.
5. Abou El-Maati, M.T., 2006. An Analytical Study of the objectives recorded in the six-party session and technical performance as an indicator to guide Tactical performance of the hockey team. The scientific journal of physical fitness and sports, Faculty of Physical Education, Menoufia University, Egypt, 9: 32.
6. Poole, G., 2006. Better Hockey for boys. Kaye and Ward, London, pp: 105.
7. Australian Hockey Coaching, Association, 2007. The Australian way, remvick pride. Pty, Jtd, Melbourne.
8. Ikram, T., 2008. Youth Coaching Courses Guidelines for the Course Conductors, Cairo, Egypt.
9. Martens, R., 2002. Successful Coaching. Human Kinetics, Champaign, pp: 118.
10. Arch, P., 2006. The New Role Of The Center Half In High Performance Hockey, "FIH Final Coaching Seminar" Mönchengladbach, Germaine.
11. FIH, 2006. Development and Coaching Committee, "FIH Final Coaching Seminar" Mönchengladbach, Germany.