The aim of this study was to analyse the selected biomechanical factors in penalty corner push-in. Men is awarded, with penalty corner one has greater scoring opportunities area. Depending upon the nature of foul penalty corner for foul committed by the defending team in its own entire 23 corner is one of the most important tactical situations in field plays performed during the game (Patrick 1997). The penalty mechanics is a sciences that examined the internal and external forces acting on a human body and the effects produced by these forces. The push starts with an attacker standing close to the back foot to the front foot. The ball is dragged or pushed a rapid rotation of the hip, shoulders and arms in the direction of the trapper while the body weight is being transferred from the back foot to the front foot. The ball is dragged or pushed over the playing surface by the Hockey stick for some distance and then released in the direction of the trapper. In the artifical surface dragging action is used frequently. The trap phase follows when the ball reaches top of the circles and is trapped by another attacking player just outside the circle the trapper propels the ball back into the circles for the phase three to commence, the phase three consists of a third attacker striking the moving ball towards the goal or another attacking player. Some researchers have focused on penalty corner push-in techniques in field hockey (Kerr and Ness, 2006 and Viswanath and Kalidasan 2012). Push-in part in penalty corner plays critical role in conversion of penalty corner. If push-in is with great speed, the striker has extra time before defender reach the penalty circle. However there is a paucity of research on the kinematics of the penalty corner push-in execution, for this purpose successful execution of the push-in is defined as pushing the ball accurately with in the 0.60 meters line in front of the first post and the unsuccessful execution is defined as ball which deviate beyond the 0.60 meters and limited to 2 meters is referred as a unsuccessful penalty corner push-in. The purpose of the study was to analyse the biomechanical factors in penalty corner push-in.

METHODS
Twenty four Men Hockey players those who represented university were purposively selected from Tamil Nadu state for the study. The age of the subjects ranged from 18 to 28 years. The subjects had past playing experience of at least four years in hockey. To acquire biomechanical data, with the assistance of technical person the high definition camera (Casio EX 10) was used to capture movements of push-in. The camcorder mounted at the height of one meter, placed 6 meters away perpendicular to the trajectory of the ball of the push in. The shutter speed of the camcorder was adjusted at (1/8000 of a second) in order to eliminate the blurring effects while processing the recordings and with a frame rate of 240 frames per second was used. A cage with the dimensions of 1.0x1.0m at 4 control points was used to calibrate the space, in which the push-in was performed. After a 15-minute standard warm-up session, participants perform the push-in from the right side of the field, three successful push-in was recorded that is within 0.60 m each side of the trapper were performed. The accurate trial with the greatest ball speed was deemed as the best push-in trial for each player. Players were told to push the ball as fast as they could, as if they were in actual game conditions. The stance width, relative stance width, ball to front foot distance, Stick angle, drag distance, drag acceleration, stick velocity and ball speed were taken as variable and the collected data was statistically analysed by using descriptive statistics and pearson’s correlation coefficients. The finding reveals that the stance width has significant relationship with ball speed. Among the selected variables stance width and drag distance having highest relationship.

INTRODUCTION
In modern hockey, there is increased in the number of set plays performed during the game (Patrick 1997). The penalty corner is one of the most important tactical situations in field hockey (Laird and Sutherland, 2003; Pineiro, 2008). The Penalty Corner was introduced in 1908. Penalty corner is awarded for foul committed by the defending team in its own entire 23 meters area. Depending upon the nature of foul penalty corner is awarded, with penalty corner one has greater scoring opportunities, because at time of start of penalty corner only live defenders will be permitted within the circle but all the attackers are permitted. The champions of today are seen perfect in the execution of penalty corners. It is seen that different variations in penalty corner are being adopted and executed successfully. This requires lot of understanding among the specialized players. (Viswanath and Kalidasan 2012).

According to Bhangu (1997) stated that highest 35 percentage of the goal were scored through the Penalty corner by the Netherlands team in Atlanta Olympics, which was the highest by a nation. In 1994 world cup the Australian team scored only 4 goals from 28 opportunities when compared to Dutch they have higher conversion of 7 goals form 17 opportunity (Patrick 1997). Penalty corner execution can be separated into three progressive phases: the push-in, the trap and the strike. Kerr and Kevin (2002) opined that all over the entire penalty corner takes about 1.9 seconds and 2.3 seconds respectively for male and female players of national standards of Australia. It is essential that it is performed precisely as it offers an excellent scoring opportunity during the game.

Biomechanics is the study of the mechanics of living things. It demands knowledge of both biology and various branches of physics and engineering which comprises of mechanics. Biomechanics is a sciences that examined the internal and external forces acting on a human body and the effects produced by these forces. The push starts with an attacker standing close to the goal line with at least one foot outside the field of play. The left shoulder points in the direction of the push. The hook of the stick rest against the ball. The push-in movements involves a rapid rotation of the hip, shoulders and arms in the direction of the trapper while the body weight is being transferred from the back foot to the front foot. The ball is dragged or pushed over the playing surface by the Hockey stick for some distance and then released in the direction of the trapper. In the artifical surface dragging action is used frequently. The trap phase follows when the ball reaches top of the circles and is trapped by another attacking player just outside the circle the trapper propels the ball back into the circles for the phase three to commence, the phase three consists of a third attacker striking the
The table 1 explains the mean and standard deviation of biomechanical characteristics and push-in ball speed of university hockey players.

The table 1 shows that the stance width has the highest relationship with ball speed. Among the selected variables stance width and drag distance have a significant relationship with ball speed. Among the selected variables stance width & ball to front foot distance & drag distance, relative stance width & stick angle (SA) has a significant relationship with ball speed. It was evident from the above table –II relationship exists among the Hockey players, the result of the study reveals that the university hockey players, the stance width has significant relationship with ball speed. Among the selected variables stance width and drag distance having high relationship followed by ball to front foot distance & drag distance, relative stance width & ball to front foot distance, drag acceleration & stick velocity.

CONCLUSIONS
From the present study it is concluded that, the stance width has significant relationship with ball speed. Among the selected variables stance width and drag distance having highest relationship.