TANATE KULTATE: RELATIONSHIPS BETWEEN ANGULAR SPEED OF THE BALL, ANGLE OF THE SHOULDER AND THE WRIST JOINT WHILE RELEASING THE BALL WITH VELOCITY OF THE BALL, AND ACCURACY OF THE BALL BY USING THE WIND MILL PITCH OF PITCHER IN THE FAST PITCH SOFTBALL. THESIS ADVISOR ASSIS. PROF. SUNET NAWAGIJGUL, 78 PP. ISBN 974-579-018-4

The purpose of this research was to investigate the relationships between angular speed of the ball, angle of the shoulder and the wrist joint while releasing the ball, the velocity of the ball and the accuracy of the ball, including a study significant variables attributed to pitch the ball by using the wind mill pitch in the fast pitch softball. Subjects were 30 male pitchers. A vediotape recorder and paper recorder were used for collecting data. The obtained data were analyzed by Pearson's Product Moment Cofficient of Correlation, Multiple Correlation and Stepwise Multiple Regression Procedure. The t-test and F-test methods were also used to determine statistical significance.

The results indicated that:

1. The velocity of the ball related to every valiable. The accuracy of the ball did not related to the angle of the wrist joint but it related to another valiables.

2. Angular speed of the ball, angle of the shoulder and the wrist joint could predict the velocity of the ball and the accuracy of the ball which were statistically significant at the .05 level (R=.9355),(R=.5370)

3. The angular speed of the ball and the angle of the wrist joint could predict the velocity of the ball which were statistically significant at the .05 level, the multiple regression equation was as follows:

$$Z'_{(VB)} = .8626\ Z_{(ASB)} + (-.2450)Z_{(AWJ)}$$

4. The angular speed of the ball could predict the accuracy of the ball which were statistically significant at the .05 level, the multiple regression equation was as follows:

$$Z'_{(A)} = .3922\ Z_{(ASB)}$$