

**HUBUNGAN KECEPATAN BOLA DENGAN INDIKATOR  
VARIABEL KINEMATIKA PITCHER BASEBALL DALAM  
KONDISI KELELAHAN**

**TESIS**

**Diajukan untuk memenuhi Sebagian dari Syarat  
Memperoleh Gelar Magister Pendidikan  
Program Studi Pendidikan Olahraga**



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Magister Pendidikan (M.Pd.) pada Sekolah Pasca Sarjana

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Universitas Pendidikan Indonesia

Juli, 2017

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# **HUBUNGAN KECEPATAN BOLA DENGAN INDIKATOR VARIABEL KINEMATIKA *PITCHER* BASEBALL DALAM KONDISI KELELAHAN**

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## **ABSTRAK**

Tujuan penelitian ini untuk mengetahui hubungan kecepatan bola dengan indikator variabel kinematika pitcher baseball dalam kondisi kelelahan. Sampel dalam penelitian ini adalah enam orang atlet pitcher baseball universitas Pendidikan Indonesia yang sudah berlatih pitcher baseball. Metode yang digunakan dalam penelitian ini adalah deskriptif kuantitatif. Analisis kinematik menggunakan camera Sony 32GB HDR-PJ540, camera Go-pro, untuk melihat kecepatan bola menggunakan Radar Speed Gun. Analisis data menggunakan SPSS versi 21 dengan pengujian hipotesis melalui correlation bivariate. Hasil analisis dan perhitungan data mengungkapkan bahwa dari 19 indikator yang diteliti, hanya dua indikator memiliki hubungan signifikan terhadap kecepatan bola, yaitu sudut *Knee flexion* pada fase lead foot contact dan sudut *Lateral Trunk Tilt* pada fase ball realese.

Kata Kunci : Kinematik, Biomekanika, *pitcher*, baseball

# **RELATIONSHIP BALL VELOCITY WITH INDIKATOR VARIABELS KINEMATIC PITCHER BASEBALL IN THE FATIGUE CONDITION**

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## **ABSTRACT**

The purpose of this study was to study the relationship of speed with variable indicators pitch pitcher baseball. The sample in this study were six baseball pitchers of the Universitas Pendidikan Indonesia who had practiced baseball pitchers. The method used in this research is quantitative descriptive. Kinematic analysis uses a Sony 32GB HDR-PJ540 camera, a Go-pro camera, to see the speed of the ball using the Radar Speed Gun. Data analysis using SPSS version 21 with hypothesis testing through bivariate correlation. The results of the analysis and calculation of the data revealed from the 19 indicators discussed, only two indicators have a significant relationship to the speed of the ball, namely the angle of the Knee flexion in the lead foot contact phase and the angle of the lateral trunk tilt in the realese ball phase.

Keywords: Kinematic, Biomechanics, Pitchers, Baseball

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