

# Analisis Faktor yang Mempengaruhi Luaran Klinis dan Radiologis Fraktur Distal Radius di RSUPN Cipto Mangunkusumo Tahun 2014-2018 = Analysis of Factor Affecting Clinical and Radiological Outcome of Distal Radius Fracture at RSUPN Cipto Mangunkusumo in 2014-2018

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## Abstrak

Latar Belakang: Fraktur distal radius merupakan salah satu fraktur yang paling sering terjadi pada berbagai kelompok usia. Terdapat berbagai faktor yang mempengaruhi luaran fraktur distal radius. Studi mengenai epidemiologi dan faktor-faktor yang mempengaruhi luaran fraktur distal radius pada populasi Asia, terutama Indonesia, masih sangat minim. Penelitian ini bertujuan untuk mengetahui faktor yang mempengaruhi luaran klinis dan radiologis fraktur distal radius.

Metode: Dilakukan studi potong lintang pada 84 subjek yang mengalami fraktur distal radius dan menjalani tindakan di RSCM pada Januari 2014-Desember 2018. Dilakukan pengumpulan profil usia, jenis kelamin, tingkat pendidikan, mekanisme cedera, keterlibatan sendi, klasifikasi fernandez, jenis fiksasi, presensi fisioterapi. Hasil kemudian dihubungkan dengan luaran radiologis (radial height, radial inclination, ulnar variance, palmar tilt), luaran klinis objektif (ROM), dan subjektif (PRWE).

Hasil: Dari 84 subjek (40 laki-laki dan 44 perempuan) didapat median usia 55,5 tahun (rentang 19 - 88 tahun), yang menjalani tindakan cast sebanyak 71 subjek (84,5%) dan plate and screw sebanyak 13 subjek (15,5%). Berdasarkan analisis bivariat, terdapat hubungan antara jenis kelamin dengan luaran radiologis radial height dan ulnar variance, serta mekanisme cedera dengan palmar tilt. Terdapat pula hubungan tingkat pendidikan dan keterlibatan sendi dengan luaran objektif ROM supination, jenis fiksasi dengan ROM extension, dan presensi fisioterapi dengan ROM ulnar deviation. Terdapat korelasi antara luaran radiologis ulnar variance dengan luaran objektif ROM radial deviation, serta antara radial height dengan luaran subjektif skor PRWE. Dilakukan analisis multivariat, didapatkan korelasi antara luaran objektif ROM wrist flexion dan radial deviation dengan luaran subjektif PRWE.

Diskusi: Jenis kelamin dan mekanisme cedera mempengaruhi luaran radiologis, sedangkan tingkat pendidikan, keterlibatan sendi, jenis fiksasi dan presensi fisioterapi mempengaruhi luaran objektif berupa ROM. Terdapat korelasi antara luaran radiologis dengan luaran objektif dan subjektif. Terdapat pula korelasi antara luaran objektif dan luaran subjektif (PRWE).

.....Background: Distal radius fracture is one of the most common fracture among various age groups. Several factors affect the functional outcome of distal radius fracture. Studies regarding the epidemiology and factors affecting the outcome of distal radius fracture on Asian population, especially Indonesia, are still very limited. This study aims to find out factors related with clinical and radiological outcome of distal radius fracture.

Methods: A cross sectional study was done on 86 subjects who had distal radius fracture and underwent surgical or non-surgical treatment at RSCM during January 2014-December 2018. Demographic (age, gender, and education) and clinical profiles (mechanism of trauma, joint involvement, fernandez classification, fixation type, presence of physiotherapy) was collected. The results were than compared with

the radiological outcome (radial height, radial inclination, ulnar variance, palmar tilt) objective clinical outcome (ROM) and subjective outcome (PRWE).

Results: 84 subjects (40 male and 44 female) with median age 55,5 (range 19-88 years old), underwent cast about 71 subject (84,5%) and plate and screw 13 subject (15,5%). Based on bivariate analysis, there was association between gender and radial height with radiological outcome ulnar variance, also between mechanism of injury with palmar tilt. There was association between level of education and articular involvement with objective outcome (ROM) supination, fixation type with ROM extension and presence of physiotherapy with ROM ulnar deviation. There was a correlation between ulnar variance with ROM radial deviation, and radial height with PRWE. Based on multivariate analysis, there was correlation between ROM wrist flexion and radial deviation with PRWE score.

Discussion: Gender and mechanism of injury affect the radiological outcome of distal radius fracture. Level of education, articular involvement, fixation type and presence of physiotherapy affect the objective clinical outcome (ROM). There was correlation between radiological outcome, ROM and PRWE score.