

**ABSTRAK**  
**HUBUNGAN ANTARA MODIFIED RODNAN SKIN SCORE DENGAN**  
**KETEBALAN DINDING VENTRIKEL KIRI DAN HIPERTENSI PULMONAL**  
**(Studi Kasus pada Pasien Sklerosis Sistemik di RSUP Dr. Kariadi Semarang)**

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**Latar belakang:** Sklerosis sistemik merupakan penyakit jaringan ikat autoimun yang ditandai dengan disfungsi vaskular dan fibrosis pada kulit dan organ dalam. Keterlibatan jantung dan paru, termasuk hipertrofi ventrikel kiri dan hipertensi pulmonal, sering terjadi dan berkontribusi pada mortalitas. *Modified Rodnan Skin Score* (mRSS) digunakan untuk menilai derajat fibrosis kulit dan berpotensi mencerminkan keterlibatan organ internal.

**Tujuan:** Menganalisis hubungan antara mRSS dengan ketebalan dinding ventrikel kiri dan hipertensi pulmonal pada pasien sklerosis sistemik.

**Metode:** Penelitian ini menggunakan desain belah lintang (*cross-sectional*) di RSUP Dr. Kariadi Semarang, melibatkan 35 pasien sklerosis sistemik yang memenuhi kriteria ACR/EULAR 2013. Penilaian mRSS dilakukan dengan palpasi pada 17 area tubuh. Ketebalan dinding ventrikel kiri (LVPWd dan IVSd) serta probabilitas hipertensi pulmonal diukur menggunakan ekokardiografi transtorakal. Analisis korelasi Spearman digunakan untuk menilai hubungan antar variabel.

**Hasil:** Sebagian besar subjek berjenis kelamin perempuan (97,1%), dengan rerata mRSS 21,60 ± 10,8. Tidak ditemukan hubungan bermakna antara mRSS dengan LVPWd dan IVSd ( $p > 0,05$ ). Namun, terdapat korelasi positif derajat sedang antara mRSS dan hipertensi pulmonal ( $p = 0,015$ ;  $r = 0,409$ ).

**Kesimpulan:** Terdapat korelasi positif antara skor mRSS dengan hipertensi pulmonal, tetapi tidak dengan ketebalan dinding ventrikel kiri pada pasien sklerosis sistemik. Penilaian mRSS dapat menjadi indikator awal untuk memprediksi kemungkinan terjadinya hipertensi pulmonal pada pasien SSc.

**Kata Kunci:** Sklerosis sistemik, Modified Rodnan Skin Score, ketebalan dinding ventrikel kiri, hipertensi pulmonal, ekokardiografi.

## ***ABSTRACT***

### **THE RELATIONSHIP BETWEEN MODIFIED RODNAN SKIN SCORE AND LEFT VENTRICULAR WALL THICKNESS AND PULMONARY HYPERTENSION (A Case Study on Systemic Sclerosis Patients at Dr. Kariadi Central General Hospital, Semarang)**

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**Background:** Systemic sclerosis (SSc) is an autoimmune connective tissue disease characterized by skin and internal organ fibrosis, as well as vascular dysfunction. cardiopulmonary involvement, including left ventricular hypertrophy and pulmonary hypertension, are common and significantly contribute to mortality. The Modified Rodnan Skin Score (mRSS) is used to assess the degree of skin fibrosis and may reflect internal organ involvement.

**Objective:** To analyze the correlation between mRSS and left ventricular wall thickness as well as pulmonary hypertension in patients with systemic sclerosis.

**Methods:** This cross-sectional study was conducted at Dr. Kariadi General Hospital, Semarang, involving 35 patients with SSc who met the ACR/EULAR 2013 classification criteria. The mRSS was assessed through palpation at 17 body areas. Left ventricular wall thickness (LVPWd and IVSd) and the probability of pulmonary hypertension were measured using transthoracic echocardiography. Spearman's correlation analysis was performed to evaluate the relationships among variables.

**Results:** The majority of subjects were female (97.1%), with a mean mRSS of  $21.60 \pm 10.8$ . No significant correlation was found between mRSS and LVPWd and IVSd ( $p > 0.05$ ). However, a moderate positive correlation was observed between mRSS and pulmonary hypertension probability ( $p = 0.015$ ;  $r = 0.409$ ).

**Conclusion:** There is a moderate positive correlation between mRSS and pulmonary hypertension, but no significant correlation between mRSS and left ventricular wall thickness in systemic sclerosis patients. The mRSS may serve as an early indicator for predicting pulmonary hypertension risk in SSc patients.

**Keywords:** Systemic sclerosis, Modified Rodnan Skin Score, left ventricular wall thickness, pulmonary hypertension, echocardiography.