

# Pengaruh pemberian tablet ferrous sulfate terhadap six minute walk test, kadar nt-probnp dan serum laktat pada pasien gagal jantung sistolik dengan anemia defisiensi zat besi = The Effects of oral administration of ferrous sulfate on six minute walk test nt probnp and serum lactate in systolic heart failure patients with iron deficiency anemia

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## Abstrak

**Background:** Iron deficiency anemia IDA is commonly found and is associated with worse functional capacity in heart failure HF . Ferrous Sulfate FS tablets are cheap and widely available in Indonesia, but there has not been much research conducted to prove its efficacy in improving iron stores and functional capacity in HF patients with IDA.

**Aim:** To determine the efficacy of FS tablets in improving iron stores and functional capacity in HF patients with IDA.

**Methods:** We conducted a randomized double blind controlled trial RCT enrolling 54 HF patients LVEF 50 with IDA Ferritin 100 ng mL or 100 300 ng mL with Tsat 20 at outpatient clinic of National Cardiovascular Center Harapan Kita from January to July 2016. Patients were randomized 1 1 to received FS or placebo for 90 days, we then evaluated the change in 6MWT distance as primary end point and changes on NT proBNP and post 6MWT serum lactate levels as secondary end points.

**Results:** 41 patients had completed the study Treated Group,n 22 Control Group,n 19. We found not only improvement on Tsat 14,13 9,66 p 0,000, ferritin 114,42 20,52 ng mL p 0,000 and Hb 1,085 0,365 gr dL p 0,005 levels, but also significant improvement in 6MWT distance in treated group 46,23 35,93 meter from baseline p 0,000. As for the secondary end points, there were reductions on NT ProBNP 2236,00 492,00 16476,00 vs. 1439,50 29,00 5027,00 pg mL p 0,011 and serum lactate 1,30 0,70 3,60 to 1,20 0,50 2,30 mmol L p 0,3 levels compared to baseline.

**Conclusion:** Oral administration of FS for 90 days not only improves iron stores but also functional capacity in HF patients with IDA, without significant reductions on NT ProBNP and post 6MWT serum lactate levels.