

## Fat free mass index as parameter for nutritional status in non-dialysis chronic kidney disease patients stage 3, 4 and 5

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### Abstrak

Tujuan penelitian ini untuk memperoleh parameter komposisi tubuh yang dapat mendeteksi kecenderungan terjadinya MEP pada penderita PGK-ND. Penelitian dilakukan dengan rancangan potong lintang. Subyek penelitian terdiri dari 45 pasien PGK-ND dan 45 subyek sehat yang disepadankan jenis kelamin, usia, tinggi badan (TB) dan indeks massa tubuh (IMT). Status nutrisi dikelompokkan dalam status nutrisi kurang, normal dan lebih berdasarkan IMT, WHO, 1995. Secara antropometri massa bebas lemak (MBL), indeks-MBL (I-MBL), massa lemak (ML) dan persen ML pasien PGK-ND tidak berbeda bermakna dengan subyek sehat. Berdasarkan BIA didapatkan MBL, dan I-MBL pasien PGK-ND lebih rendah bermakna dibandingkan subyek sehat ( $p < 0,05$ ). Massa bebas lemak (MBL), I-MBL dan ML pasien PGK-ND berbeda bermakna antara ketiga status nutrisi ( $p < 0,001$ ). Nilai MBL, I-MBL dan ML mempunyai linearitas dengan klasifikasi status nutrisi berdasarkan uji trend analysis. Massa bebas lemak, I-MBL, ML dan persen ML PGK-ND tidak berbeda bermakna di antara ketiga stadium PGK. Terdapat derajat kesesuaian yang baik antara I-MBL dengan IMT untuk penilaian status nutrisi pasien PGK-ND. Dengan uji Receiver Operating Curve didapatkan titik potong I-MBL sebesar 14,23 kg/m<sup>2</sup> untuk membedakan status nutrisi kurang dan baik. Penelitian ini menunjukkan bahwa Indeks MBL dapat membedakan derajat status nutrisi pasien PGK-ND dan mempunyai korelasi dengan IMT. Indeks-MBL dapat digunakan sebagai prediktor untuk skrining status nutrisi pasien PGK-ND.

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<b>Abstract</b><br>

The aim of this study is to obtain body composition parameters for early detection of PEM in non dialysis CKD (ND-CKD) patients. The study was carried out using the cross sectional design. The subjects of the study consist of 45 ND-CKD patients and 45 healthy subjects matched for age, gender, height and body mass index (BMI). The nutritional status of patients and healthy subjects were classified based on BMI (WHO, 1995) into low, normal and high nutritional status groups. Fat free mass (FFM), FFM-index (FFM-I) and percentage of fat mass (FM percentage) in patients measured by anthropometric technique showed no significant difference with healthy subjects. Using the BIA method, FFM and FFM-I were significantly lower in the ND-CKD patients compared to the healthy subjects ( $p < 0,05$ ). Significant difference in FFM, FFM-I, FM and FM percentage was observed between the patients with different nutritional status. ( $p < 0,001$ ). Trend analysis statistical test showed that there is linear correlation of FFM, FFM-I and FM with nutritional status classification. FFM, FFM-I, FM and FM percentage in ND-CKD patients were not significantly different between the three stages of CKD. There was an acceptable degree of agreement between BMI with FFM-I for nutritional assessment in ND-CKD patients. The Receiver Operating Curve test showed the cut off points of FFM-I 14.23 kg/m<sup>2</sup> to differentiate undernutrition and normal nutritional status in ND-CKD patients. This study showed FFM-I has good correlation with BMI and can be used to differentiate degrees of nutritional status in stage 3, 4 and 5 ND-CKD patients. FFM-I considered predictor

parameters for nutritional status screening in ND-CKD patients.