

## The Compatibility of the Treatment of Chronic Kidney Disease and Diabetes to the KDOQI-2012 Update Guideline

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### Abstract

**Introduction:** Diabetes mellitus (DM) and chronic kidney disease (CKD) are global growing health problems that can be controlled and avoided. Co-occurrence of DM and CKD makes the treatment of both difficult. This study is conducted to evaluate whether the treatment goals for DM and CKD patients are achieved according to KDOQI-2012 guideline.

**Materials and Methods:** One-hundred sixty patients with stage 3-5 CKD and DM who had been followed in the nephrology department for at least 3 months enrolled. From the medical records of the patients the data about the compatibility with the treatment goals in KDOQI-2012 update guideline for treatment of hyperglycemia (HbA1c levels), hypertension and dyslipidemia were collected, retrospectively.

**Results:** Results are shown in Table 1 and 2. Number of patients that were compatible with the treatment goal for

hyperglycemia (HbA1c level  $\sim 7\%$ ) was 94 (58.8%). No difference was seen between different stages of CKD. Sixty two patients (46.3%) reached the treatment goal for hypertension. The compliance rate decreased with the progression in CKD stages. It is recommended that patients with stage 3-5 CKD who are not on dialysis should take statin and the number of patients compatible with this was 54 (39.9%).

**Conclusion:** Compliance rates to the treatment goals in KDOQI-2012 guideline were still low and compliance rates to hypertension treatment target decreased as the CKD stages progressed. Worst compliance rate was observed in dyslipidemia treatment and it may be because of the negative perception about the dyslipidemia treatment.

**Keywords:** Diabetes mellitus, chronic kidney disease, KDOQI-2012

Table 1. Baseline characteristics of patients.

Gender (male/female) (%)	95/65 (59.4/40.6)
Age (years)	67.6±10.6
Body mass index (kg/m <sup>2</sup> )	29.3±5.4
Systolic blood pressure (mmHg)	133±22
Diastolic blood pressure (mmHg)	74±11
Chronic kidney disease duration (months)	74.9±20.3
Diabetes mellitus duration (year)	14.3±8.4
Creatinin (mg/dL)	2.98±2
LDL cholesterol (mg/dL)	105.4±35.6
HbA1c (%)	7.6±1.6
eGFR (CKD-EPI) (ml/min/1.73 m <sup>2</sup> )	25.5 (4-56)
Patients with stage 3a CKD n (%)	15(9.4)
Patients with stage 3b CKD n (%)	53(33.1)
Patients with stage 4 CKD n (%)	51(31.9)
Patients with stage 5 CKD n (%)	41(25.6)

CKD: Chronic kidney disease.

Table 2. Compliance rates of patients with different stages of CKD to the KDOQI guideline.

	<b>Hba1c levels should Compliant/not compliant (n. %)</b>	<b>Patients with diabetic kidneybe ~7% disease should take statins for cardiovascular prevention Compliant/not compliant (n. %)</b>	<b>Blood pressure should be ≤130/80 mmHg in patients with hypertension Compliant/not compliant (n. %)*</b>
Stage 3a CKD patients	10/5 (66.7/33.3)	7/8 (46.7/53.3)	9/3 (75/25)
Stage 3b CKD patients	31/22 (58.5/41.5)	22/31 (41.5/58.5)	25/20 (55.6/44.4)
Stage 4 CKD patients	27/24 (52.9/47.1)	17/31 (35.4/64.6)	17/28 (37.8/62.2)
Stage 5 CKD patients	26/15 (63.4/36.6)	8/13 (38.1/61.9)	11/21 (34.4/65.6)
Total	94/66 (58.8/41.2)	54/83 (39.9/60.1)	62/72 (46.3/53.7)

CKD: Chronic kidney disease. DM: Diabetes mellitus. \*p=0.034