ABSTRACT

UTILIZATION STUDY OF CALCIUM BASED PHOSPHATE BINDERS IN CHRONIC KIDNEY DISEASE PATIENTS UNDERGOING HEMODIALYSIS
(Study was performed at Hemodialysis Instalation of Dr. Soetomo Hospital Surabaya)

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Chronic Kidney Disease is a progressive and irreversible condition that ultimately led to a decrease in mineral homeostasis. One of the kidney function which impaired due to CKD is phosphate excretion, thus the phosphate retention in CKD patients leading to increased serum phosphate levels. This condition is called hyperphosphatemia. Phosphate binder therapy is given to treat hyperphosphatemia. Phosphate binder reduce phosphate absorption by bind phosphate intake at gastrointestinal tract. Patients with CKD more vulnerable to drug related problem because they accept multiple drug combination.

This study was aimed to describe the serum phosphate level based on phosphate binder therapy in CKD patients underwent hemodialysis and identify the DRPs. Data was collected in CKD patients underwent hemodialysis at Hemodialysis Instalation of Dr. Soetomo Hospital Surabaya. This study used time limited sampling method in the period March until May 2015 to collect data.

In this study, calcium based phosphate binder used was calcium carbonate 500 mg. From 22 patients with CKD underwent hemodialysis that use calcium carbonate, 54.55% observed a decrease of serum phosphate levels, 40.91% an increase of serum phosphate levels and 4.55% had remain serum phosphate levels. Phosphate levels < 3.5 mg/dL was observed in 18.18% patients, 3.5-5.5 mg/dL in 36.37% patients and > 5.5 mg/dL in 45,45% patients CKD underwent hemodialysis that use calcium carbonate. The DRPs identified in this study was potential drugs interactions include $CaCO_3$-amlodipin, $CaCO_3$-nifedipin, $CaCO_3$-bisoprolol, $CaCO_3$-lisinopril, and $CaCO_3$-allopurinol.

Keywords : Chronic Kidney Disease, calcium based phosphate binders, phosphate level, drug utilization study.