

**Adherence to phosphate binder treatment in chronic dialysis patients:
- What do patients report?
- To what degree does education and counselling enhance adherence?**

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Background: Adherence to phosphate binder treatment is important to prevent high serum phosphate level in chronic dialysis patients. We therefore wanted to investigate patient knowledge, beliefs about and adherence to phosphate binders among these patients and to assess whether one-to-one pharmacist-led education and counselling enhance adherence and lead to changes in serum phosphate levels.

Methods: A descriptive, interventional, single arm, pre-post study was performed at a hospital in Norway, including chronic dialysis patients aged 18 years or more using phosphate binders. The primary end-point was change in the proportion of patients with serum phosphate below 1.80 mmol/L and the secondary end-points included change in the patient's knowledge, beliefs and adherence after the intervention measured by completion of questionnaires 'Patient Knowledge', Medication Adherence Report Scale (MARS-5) and Beliefs about Medicines Questionnaire (BMQ). Data was collected both prior to and after one-to-one pharmacist-led education and counselling about their phosphate binders.

Results: A total of 69 patients were enrolled in the study. After intervention, the probability of serum phosphate being below the target threshold 1.80 mmol/L (5.58 mg/dL) increased, although no significant change in mean serum phosphate levels was seen. On the other hand, the knowledge regarding phosphate binder treatment and the patients' beliefs about the necessity of the treatment increased, while the concerns decreased (BMQ). Self-reported adherence, measured by MARS-5, was high both before and after intervention.

Conclusions: Short term one-to-one individualized pharmacist-led education and counselling about phosphate binders increased the probability of serum phosphate concentrations being below the target threshold level 1.80 mmol/L (5.58 mg/dL), although not statistically significant. However, it did not decrease the mean serum phosphate level or increase the patients' self-reported adherence. The patients increased their knowledge about the phosphate binder and their understanding of adherence, and were less concerned about the side effects of the medication.

References

Hjemås B, Bøvre K, Lindstrøm JC, Bjerknes K. Interventional study to improve adherence to phosphate binder treatment in dialysis patients. *BMC Nephrology* 2019;20:178