Pill burden ↓

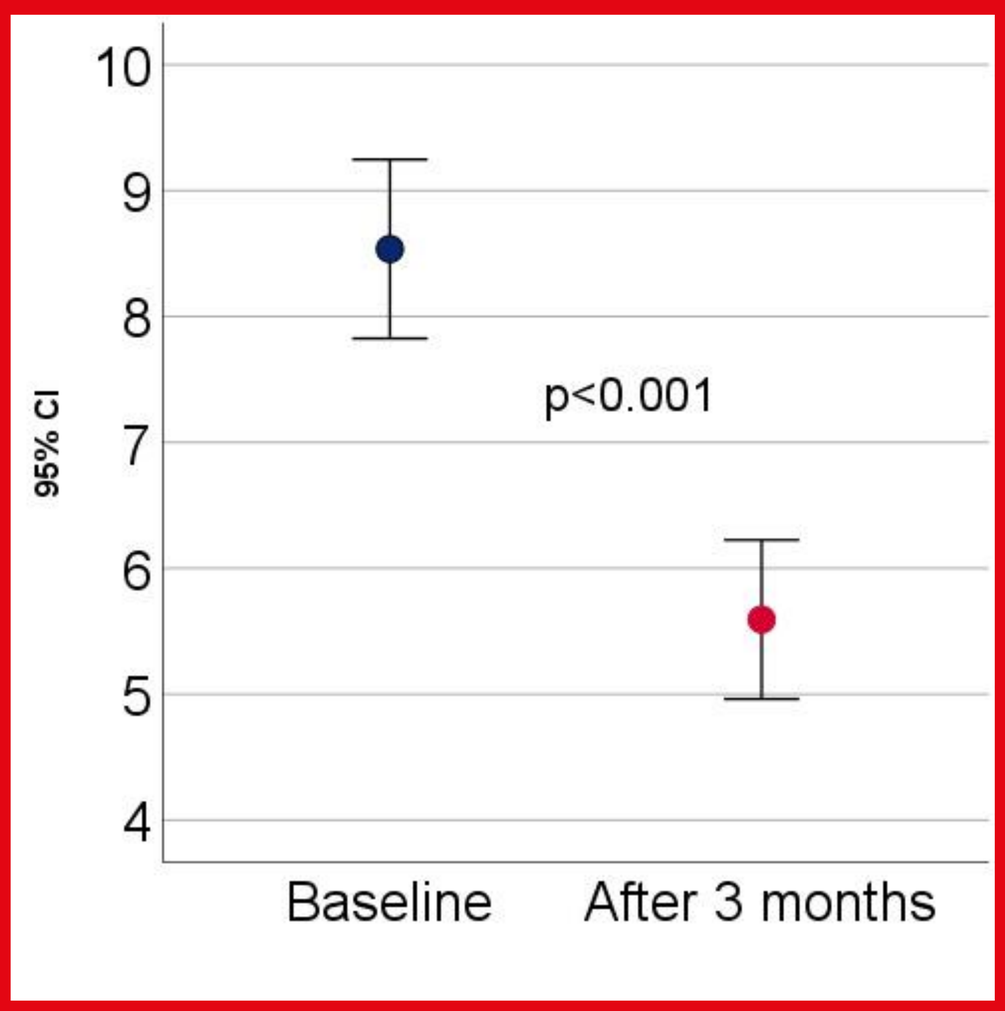

Figure 1. Phosphate-binding medication pill burden at baseline and after 3 months

Medication adherence phosphate-binding medication ↑

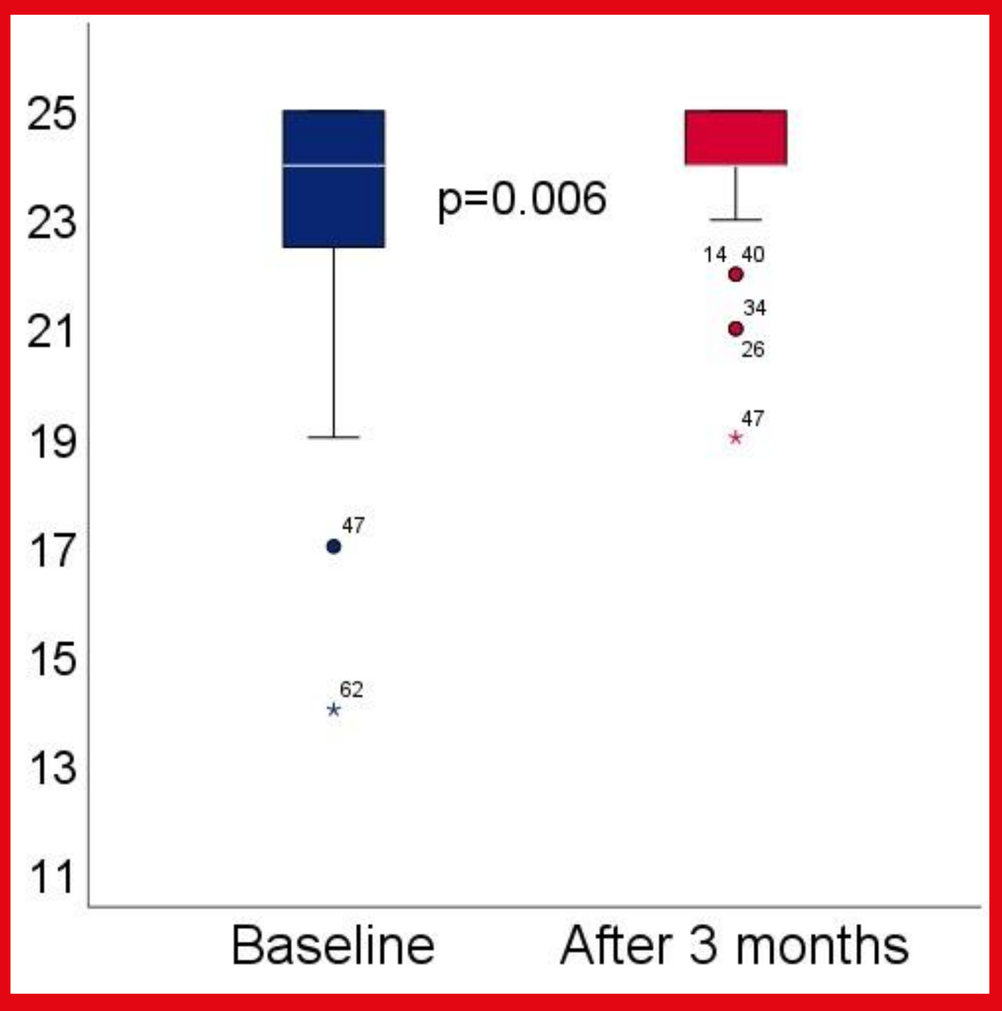

Figure 2. Medication adherence at baseline and after 3 months

A COMPLEX, ADHERENCE-IMPROVING PHARMACIST INTERVENTION TO REDUCE HYPERPHOSPHATEMIA IN HEMODIALYSIS PATIENTS

BACKGROUND

- Approximately 50% of hemodialysis patients still suffer from hyperphosphatemia, notwithstanding treatment with the three Ds: diet, dialysis, and drugs (phosphate-binding medication, PBM)
- Hyperphosphatemia contributes to cardiovascular morbidity and mortality in hemodialysis patients

- Adherence to PBM is challenging. Major barriers to adherence to PBM are forgetfulness, the complex treatment scheme, and the high pill burden
- Higher pill burden is associated with lower medication adherence
- This study aimed to investigate the effects of a complex, adherence-improving pharmacist intervention, combined with a dose reduction of phosphate-binding drugs, on adherence to PBM and phosphate concentrations

METHODS

- Prospective study in 75 hemodialysis patients from the Franciscus Gasthuis Vlietland Hospital, with hyperphosphatemia (phosphate concentration >1.50 mmol/L and ≥ 6 tablets PBM)
- Complex pharmacist intervention: **3 visits in 3 months** with discussion of **barriers to medication adherence** (QBS, Quick Barrier Scan), **self-reported medication adherence** (MARS-5, Medication Adherence Report Scale), **health literacy** (RALPH, Recognizing and Addressing Limited Pharmaceutical Literacy), combined with a **dose reduction of PBM**
- Primary outcome: **mean phosphate concentration** in the **3 months before** versus **3 months after start of the intervention**
- Secondary outcomes: self-reported **medication adherence** (MARS-5) and **pill burden of PBM**
- Statistical analysis: paired T-test (phosphate concentration and pill burden); Wilcoxon-signed rank test (MARS-5); SPSS 28.0

RESULTS

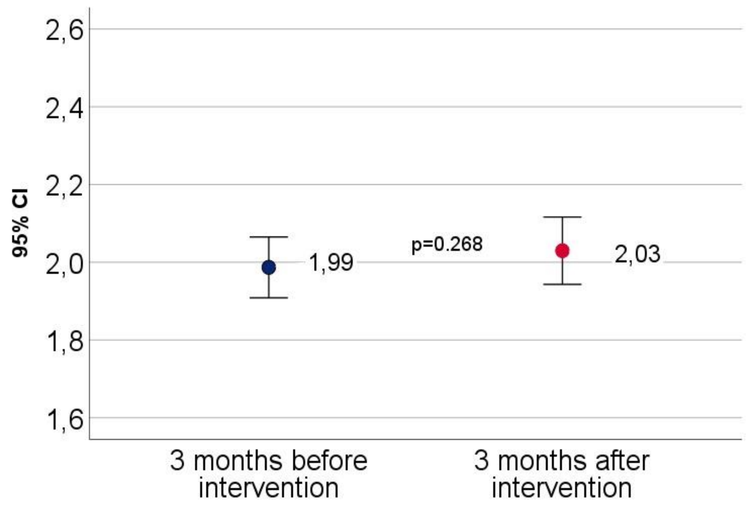

Figure 2. Mean phosphate concentration (mmol/L) before and after the intervention

CONCLUSION AND DISCUSSION

- This complex intervention did not lower phosphate concentrations but did lead to more effective use of PBM
- Adequate treatment of hyperphosphatemia remains challenging. Discussion of patient barriers and patient preferences may be helpful to optimize PBM treatment.
- Patients appreciated the pharmacist consultations and the information provided during these consultations
- Total follow-up is not yet complete, so it is unknown what the long-term effect on medication adherence will be

INTERESTING FACTS

- During this study, patient information leaflets were developed for this specific population. These leaflets contained plain language and pictograms.

- In this study, barriers to adherence were lack of knowledge (for 67% of the patients), negative beliefs (49%), forgetfulness (43%), practical problems, such as a complex treatment scheme (33%), and side effects (28%)
- Patients overestimated their medication adherence
- Problems with health literacy occurred in >80% of the patients
  - Knowledge ≠ skills: patients were familiar with PBM user instructions but the actual intake does not correspond with these instructions
  - 33% of the patients had difficulties with shared-decision making
  - Only 45% of the patients searched for information themselves
  - Patients found it difficult to critically appraise information
  - Patients relied on nephrologists and informal care providers for information and decision-making

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