

Effect of a Modified Renal Diet on Serum Phosphate in Haemodialysis Patients

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INTRODUCTION

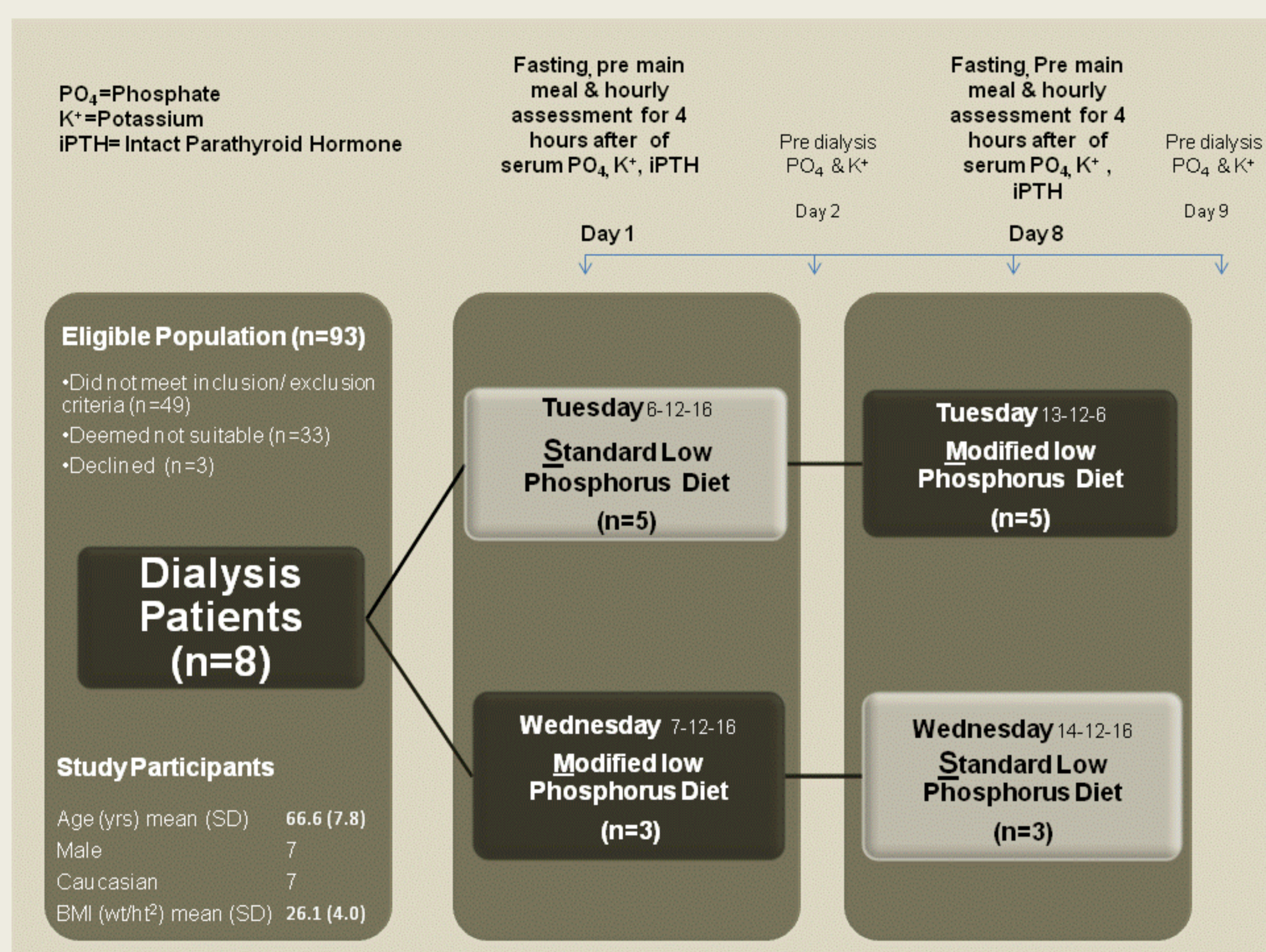
Pulses, nuts and whole grains have traditionally been avoided in an effort to restrict dietary phosphorus (P). The P in these foods is however largely bound to phytate and therefore not available for gastrointestinal absorption.

The aim was to investigate the acute post prandial effect of a standard (S) low P diet vs. modified (M) low P diet on serum phosphate [PO₄], potassium [K] and intact parathyroid (iPTH) levels in haemodialysis (HD) patients.

METHODS

- We conducted a **randomised controlled crossover feeding trial** on 8 non diabetic, anuric HD patients

- Both diets were individualised to provide 1.1g protein/kg ideal body weight (IBW) over the day.



Standard (S) Low Phosphorus Diet

Main Meal

Large glass milk
 Salmon & white sauce, potatoes, carrots & broccoli
 Lemon cake



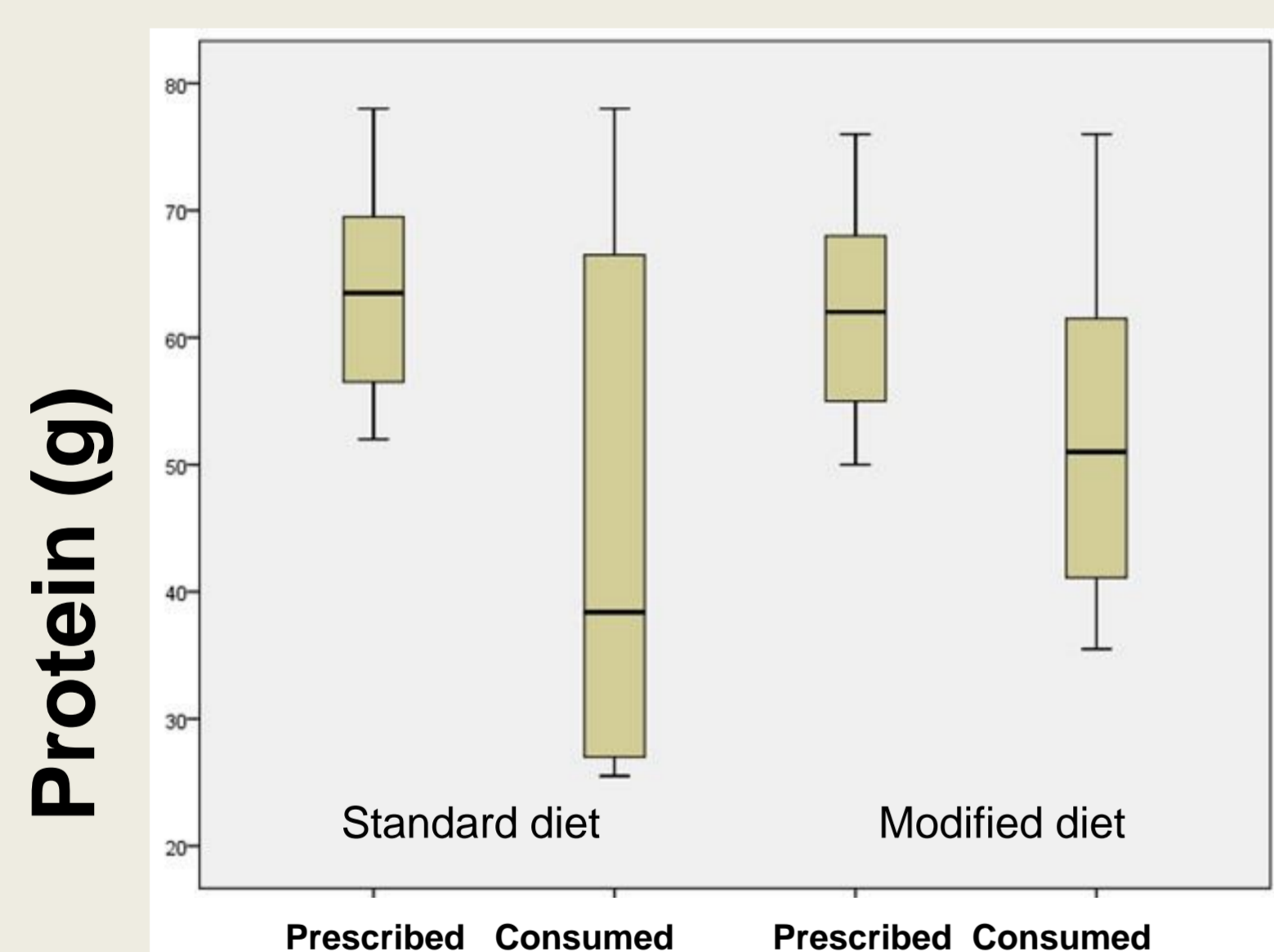
Modified (M) Low Phosphorus Diet

Small glass milk
 Chickpea Soup (100g pulses)
 Beef & gravy, potatoes & carrots
 Meringue with strawberries & cream
 Peanuts (25g)

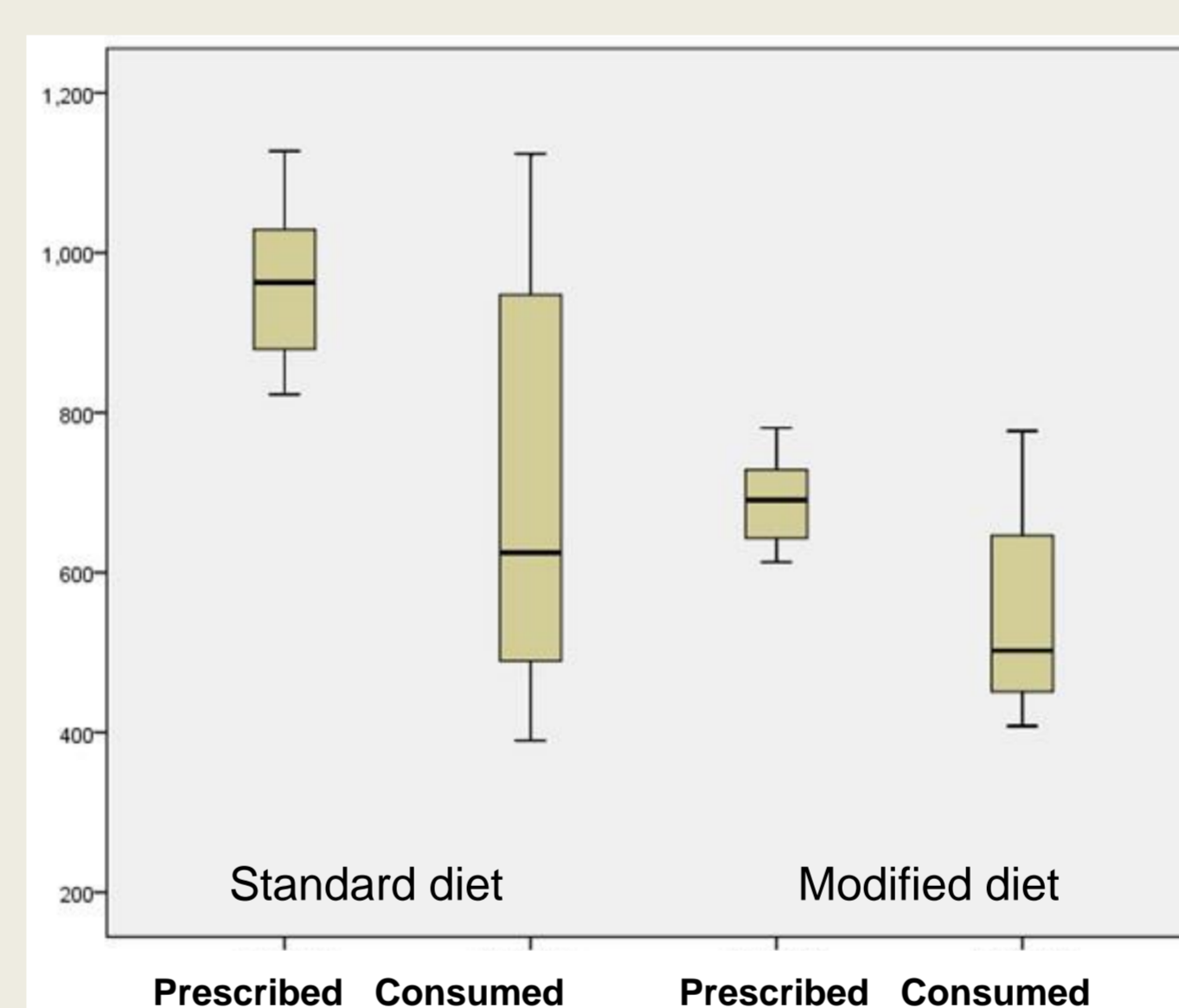


RESULTS

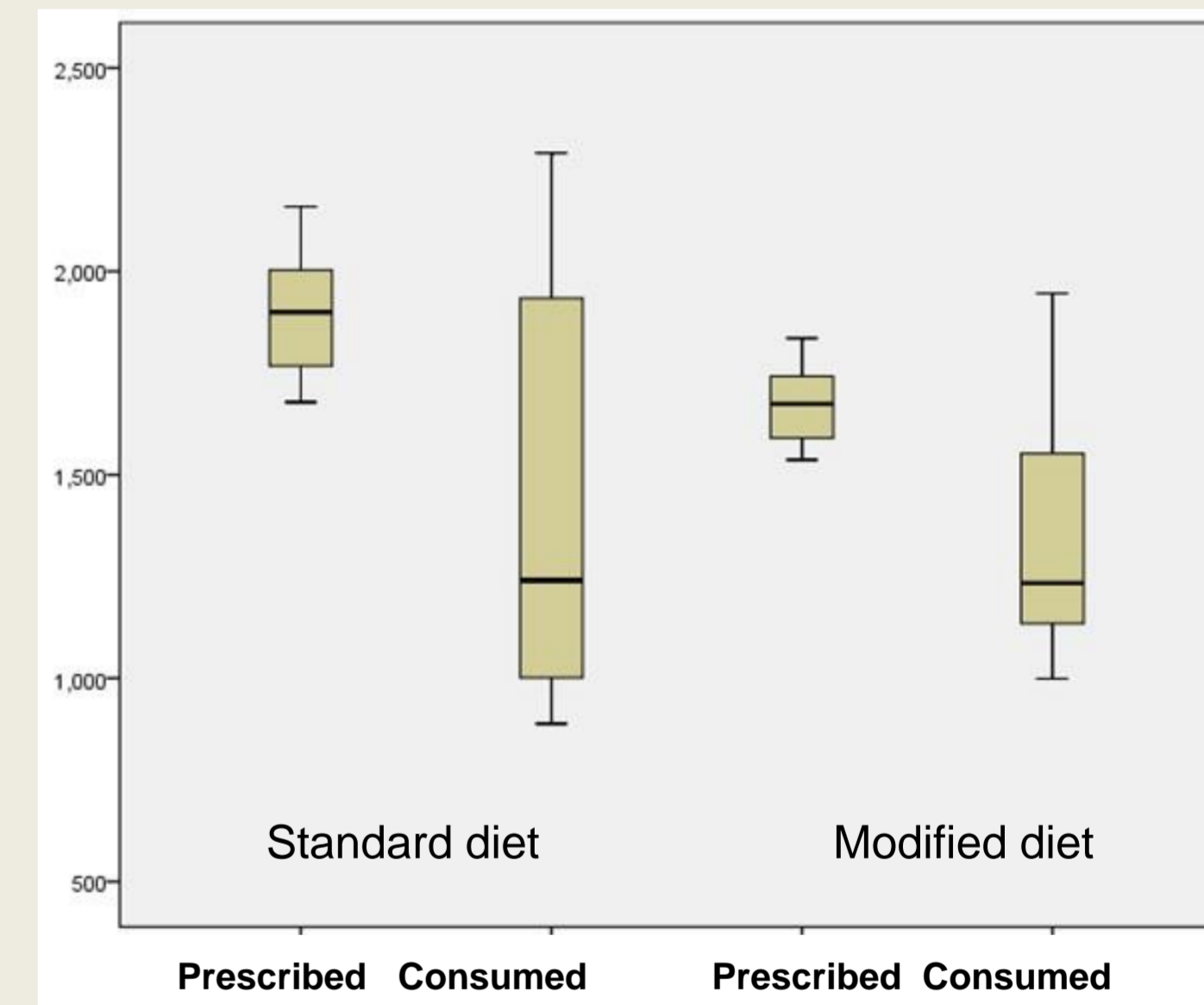
Main Meal Intake Data



Phosphorus (mg)



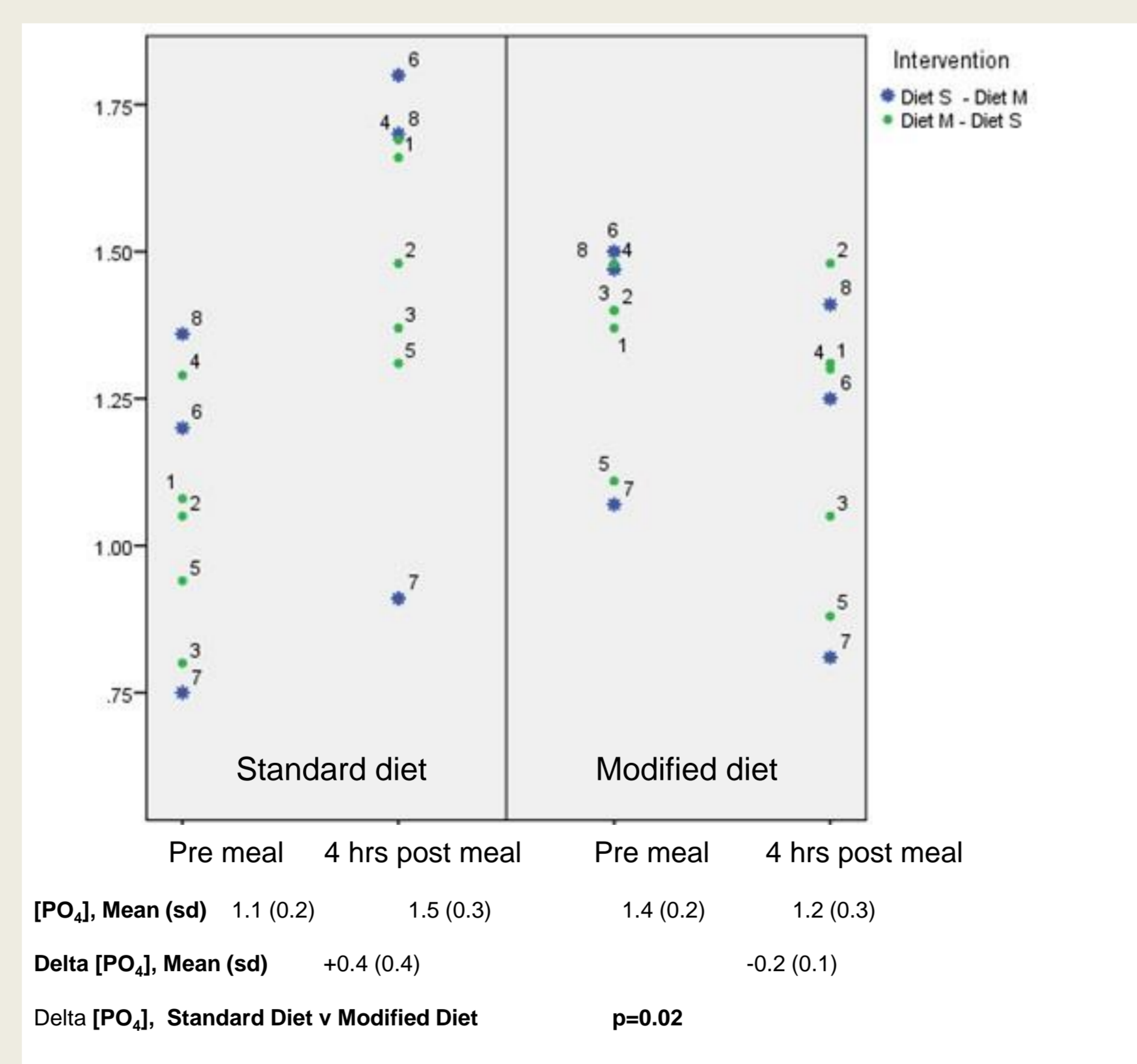
Potassium (mg)



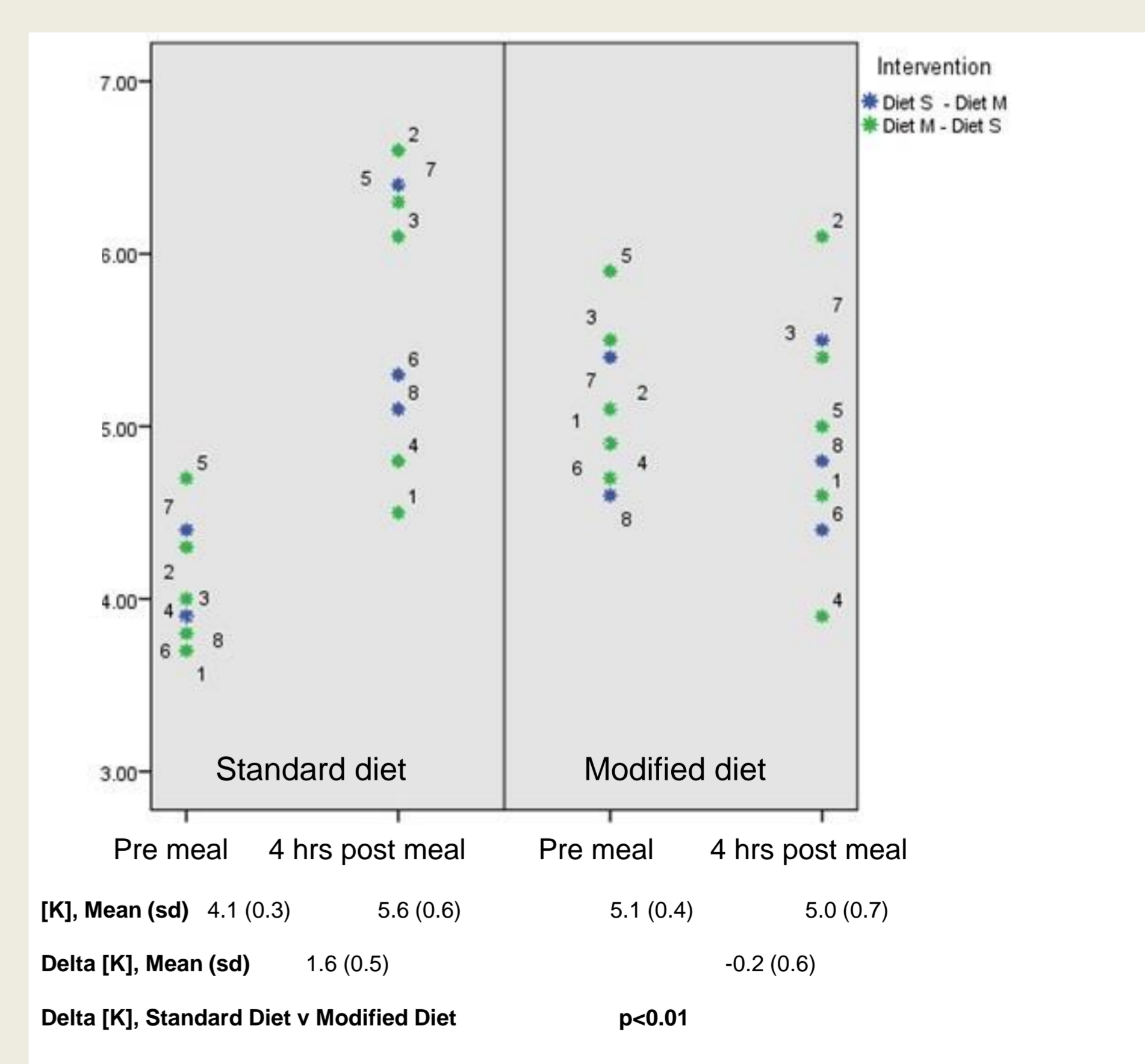
Biochemical Data

- The mean change in serum [PO₄] (post meal [PO₄] minus pre meal [PO₄]) was smaller at all 4 post meal time points, on the modified diet.

Serum Phosphate mmol/L



Serum Potassium mmol/L



CONCLUSION

A modified low P diet resulted in significant reductions in postprandial [PO₄] and [K] levels as compared to standard dietary recommendations.