

Educational level is associated with ultrafiltration rate, adherence to dietary recommendations and use of phosphate binders in hemodialysis patients

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Introduction

Fluid overload represents an established risk factor for the development of arterial hypertension, left ventricular hypertrophy, and cardiovascular mortality. Additionally, **proper nutritional habits** and use of **phosphate binders** are associated with cardiovascular morbidity and mortality in hemodialysis (HD) population. The aim of this study was to examine the impact of **educational level** on ultrafiltration rate, adherence to dietary recommendations and phosphate binders use.

Methods

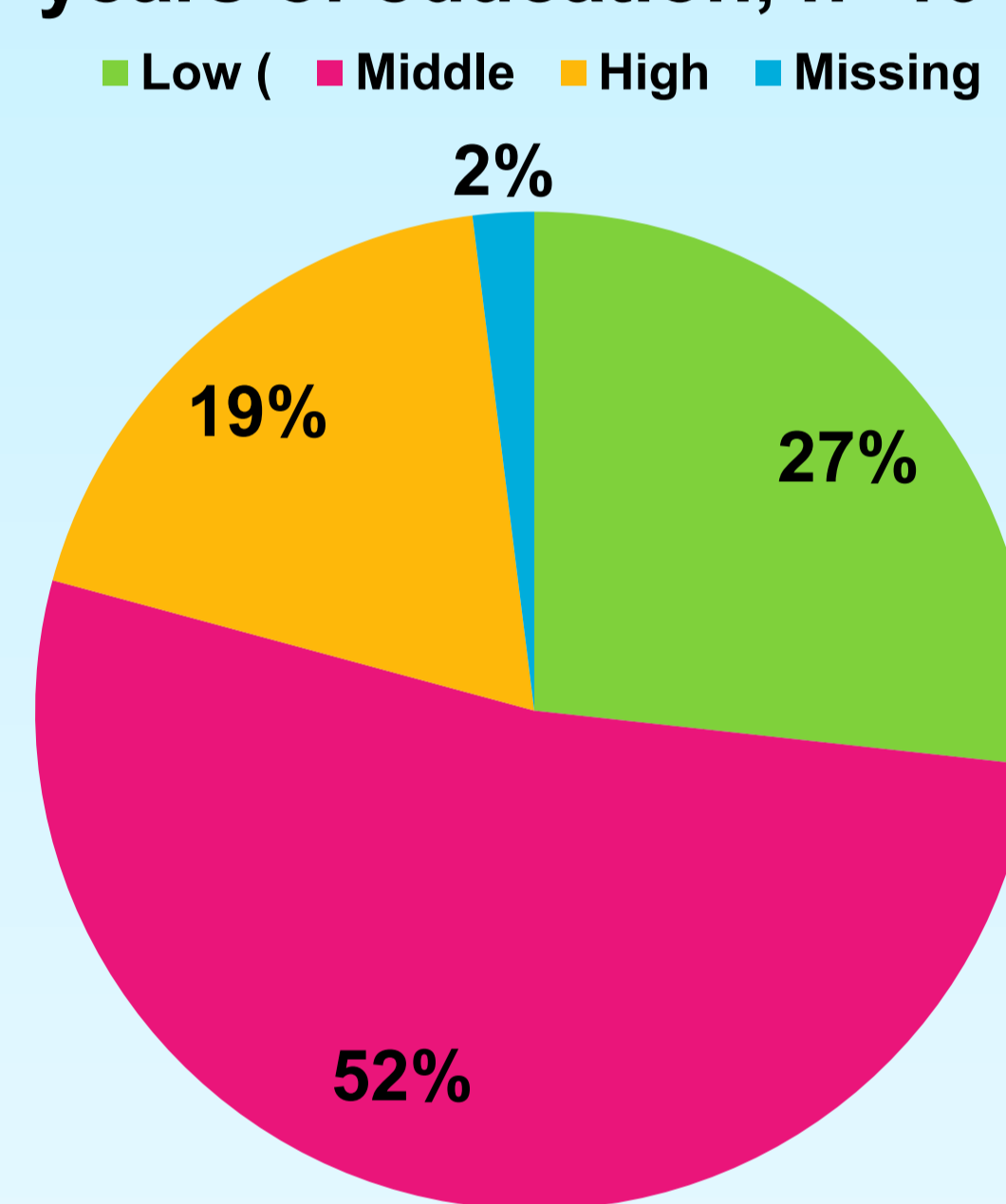
Laboratory and clinical data were obtained from the medical records and charts. **Routine visits** with the aim of nutritional status assessment, examination of nutritional habits and education are performed at our centre **every 6 months**. Patients were divided into **3 groups** regarding educational levels (low, less than 8 years; middle 8-12 years; high, more than 12 years of education).

Results

Patients' characteristics	Value
Sex M:F (n)	57:44
Age (years)	60.8 (21-87)
Hemodialysis vintage (months)	67 (3-479)
Main diagnosis (%)	
Glomerulonephritis	27.72
Diabetic nephropathy	21.78
Nephroangiosclerosis	14.85
Other	35.65
Ultrafiltration (kg)	2.637 (0.5-5)

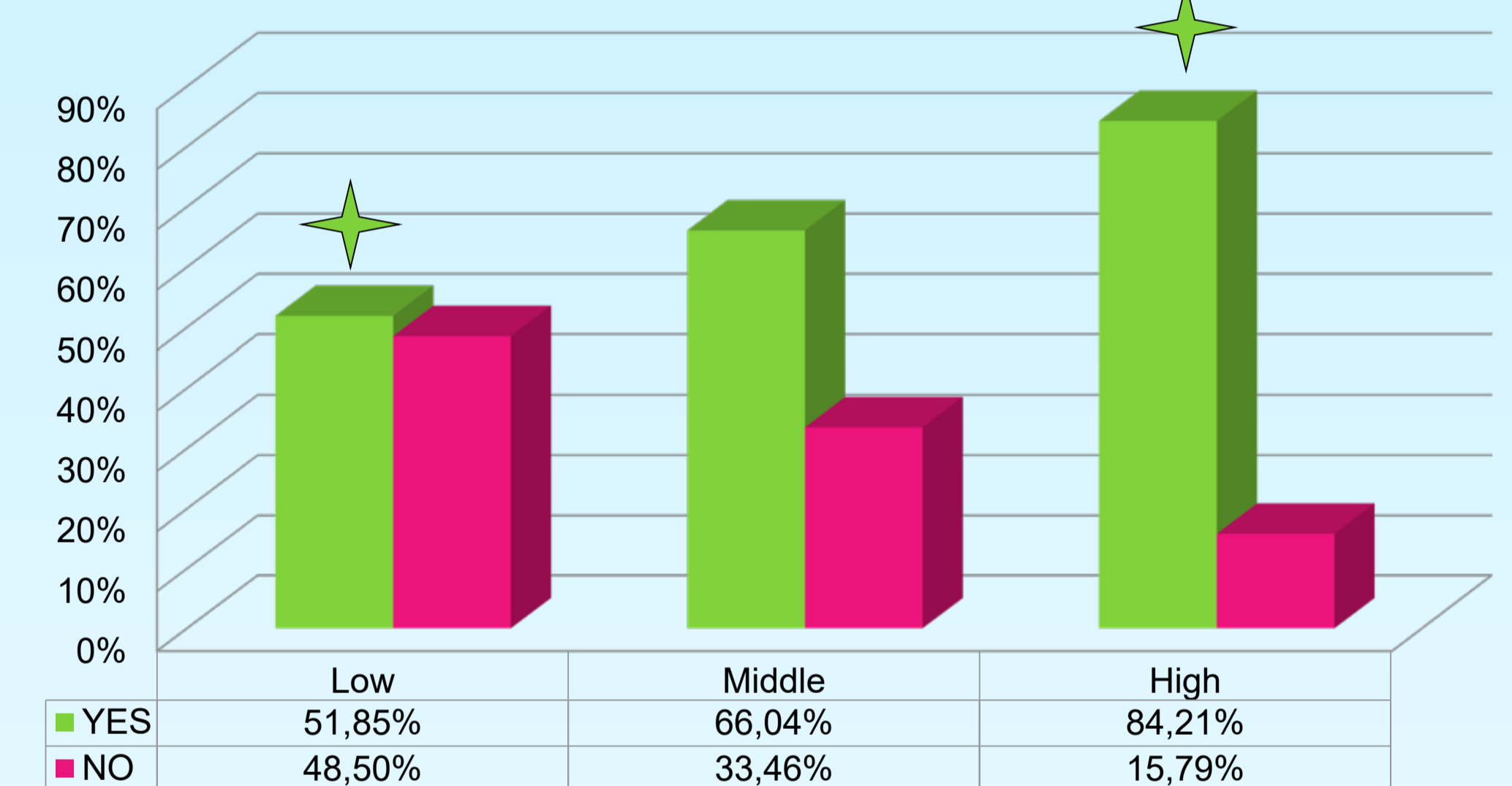
- Gender did not influence educational status
- Ultrafiltration was significantly influenced by educational status - middle-educational level group had the highest ultrafiltration, followed by low and high educational group
- Discrepancy between self-reported and doctor-evidenced phosphate binders usage was found in 21 patients - 52.5% of patients from the low, 42.9% from the middle, and only 4.8% from the high educational level group
- Self-reported major problem was appetite in the low group, while both middle and high educational level group emphasized phosphorus control

Educational status estimated by years of education, n=101

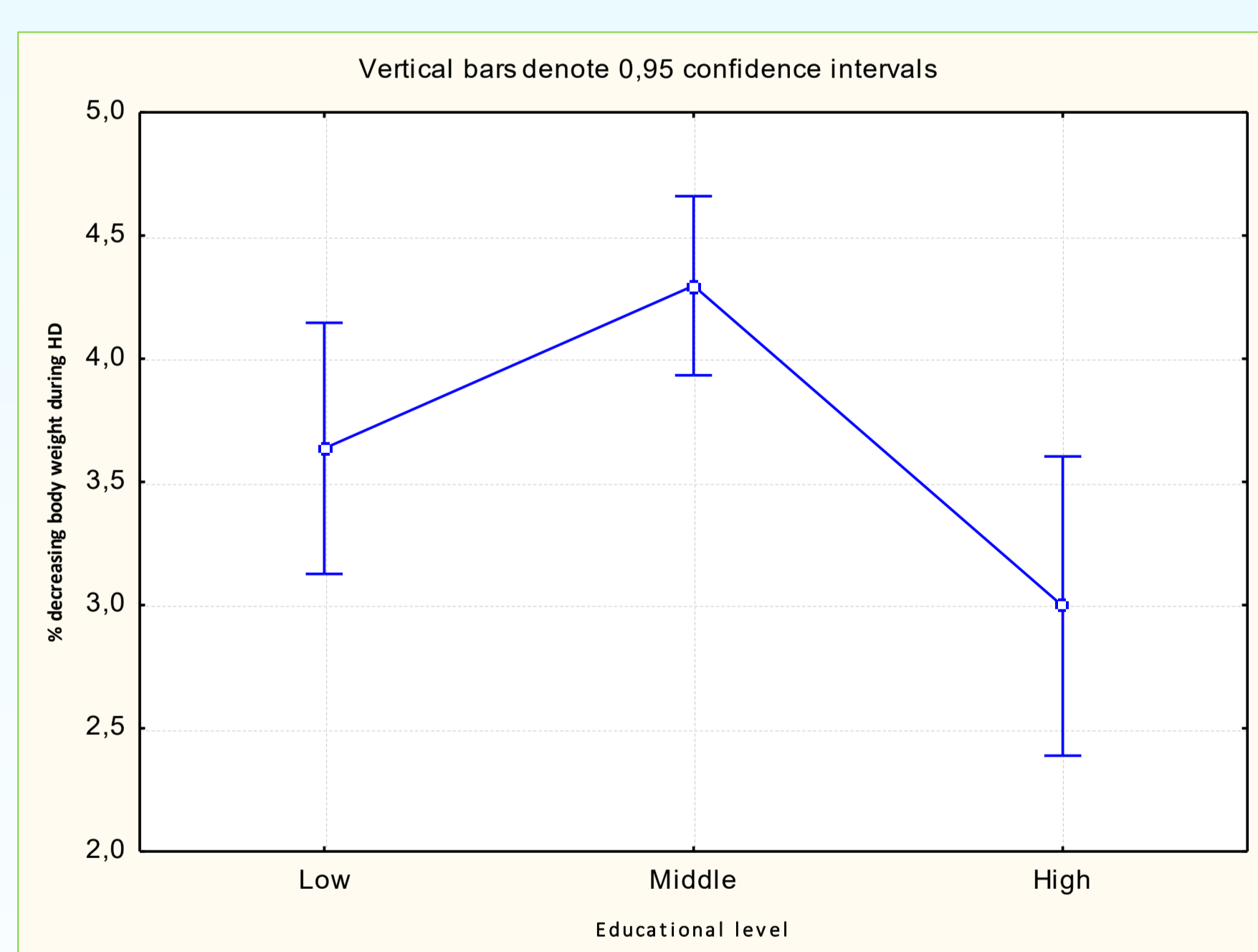


Graph 1. Majority of patients belonged to the middle education group

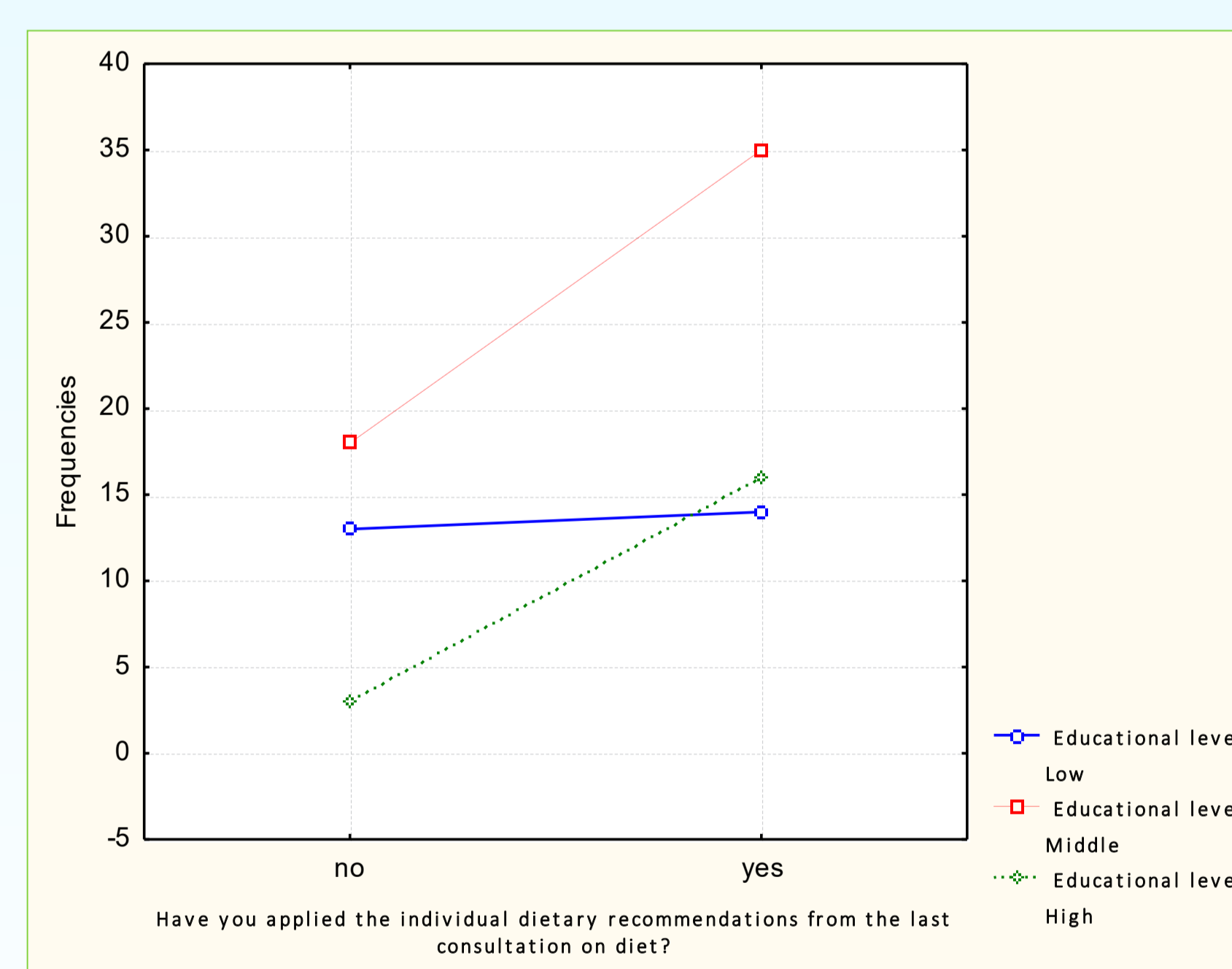
Adherence by education level categories



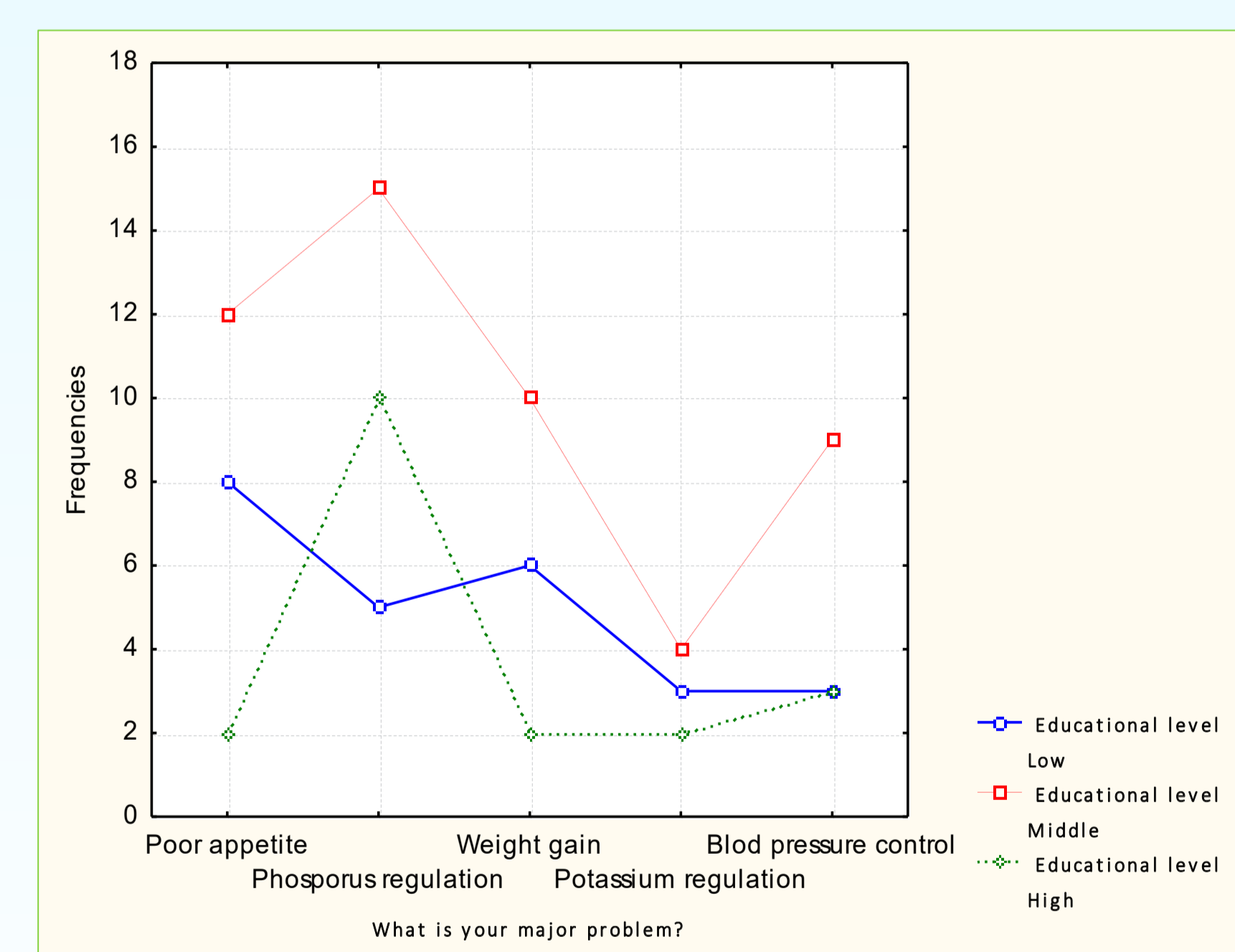
Graph 2. Educational level significantly affect adherence. P<0.01



Graph 3. High educational group significantly lower ultrafiltration rate than less educated groups.



Graph 4. Low educational group had not increased compliance with dietary recommendations after universal dietary counseling.



Graph 5. Better education enabled better recognition of the self-reported major problem in treatment.

Conclusion

Educational level has significant influence on ultrafiltration, adherence to dietary recommendations and phosphate binders use in HD patients. **Specific educational activities** with different approach to each educational group may **increase awareness and adherence** in HD patients.