



LOW DIETARY POLYPHENOLS INTAKE IN PATIENTS WITH CHRONIC KIDNEY DISEASE-IS SUPPLEMENTATION NECESSARY?

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INTRODUCTION

Polyphenols are important constituents of the human diet, which are involved in antioxidant and other biological activities. Dietary intake of fruits and vegetables representing polyphenol rich-foods are restricted in patients with chronic kidney disease (CKD) to reduce the risk of hyperkalemia. Nevertheless, intervention studies with polyphenol supplements in hemodialysis patients support their use to counteract high levels of oxidative stress.

AIM

The objective of this study was to estimate the dietary intake of total polyphenols in patients with CKD.

METHODS

The study was designed as a cross-sectional study.

We used 24-hour dietary recall as assessment method for daily nutrition intake two days during the working week and one day for the weekend in 34 pre-dialysis patients (CKD stage 3-5, PD), and in 37 hemodialysis patients (HD) at dialysis day, the day after the dialysis and one day for the weekend.

Dietary questionnaires were processed using Diet Assess & Plan, advanced nutritional software tool. Consumption data was converted to nutrient intake estimates according to Serbian Food Composition Database.

RESULTS

- The estimated mean dietary intake of polyphenols was 789±418 mg/day in CKD patients.
- **No differences were observed regarding the total polyphenol intake by gender or between PD and HD groups.**
- Dietary intake of less than 500mg/day polyphenols was found in 22%, between 500 and 1000 mg/day in 53%, and more than 1000 mg/day in 25% of studied CKD patients.
- Estimated mean dietary intakes of prominent polyphenol-rich food groups, i.e., vegetables, fruits and non-milk beverages were 254±174 g, 145±115 g, and 266±191 ml, respectively

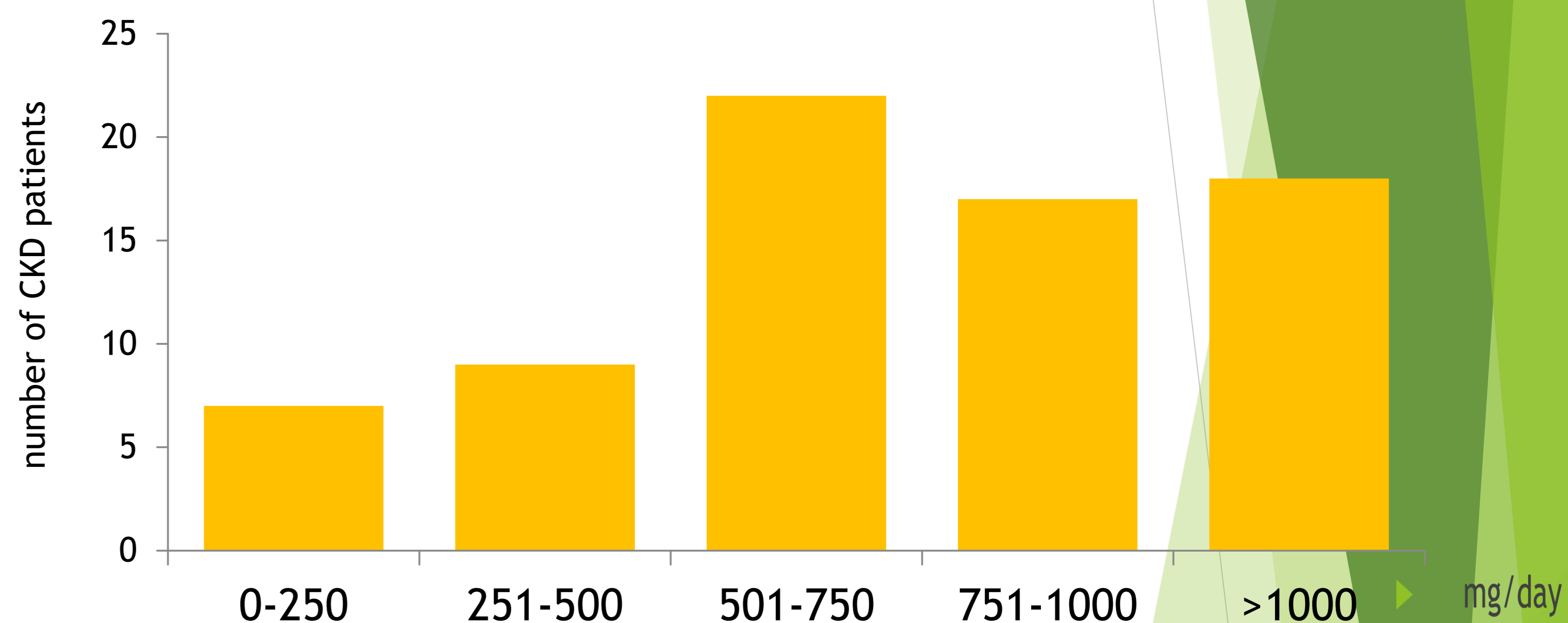


Figure 1. Distribution of patients according to frequency of dietary intake of polyphenols

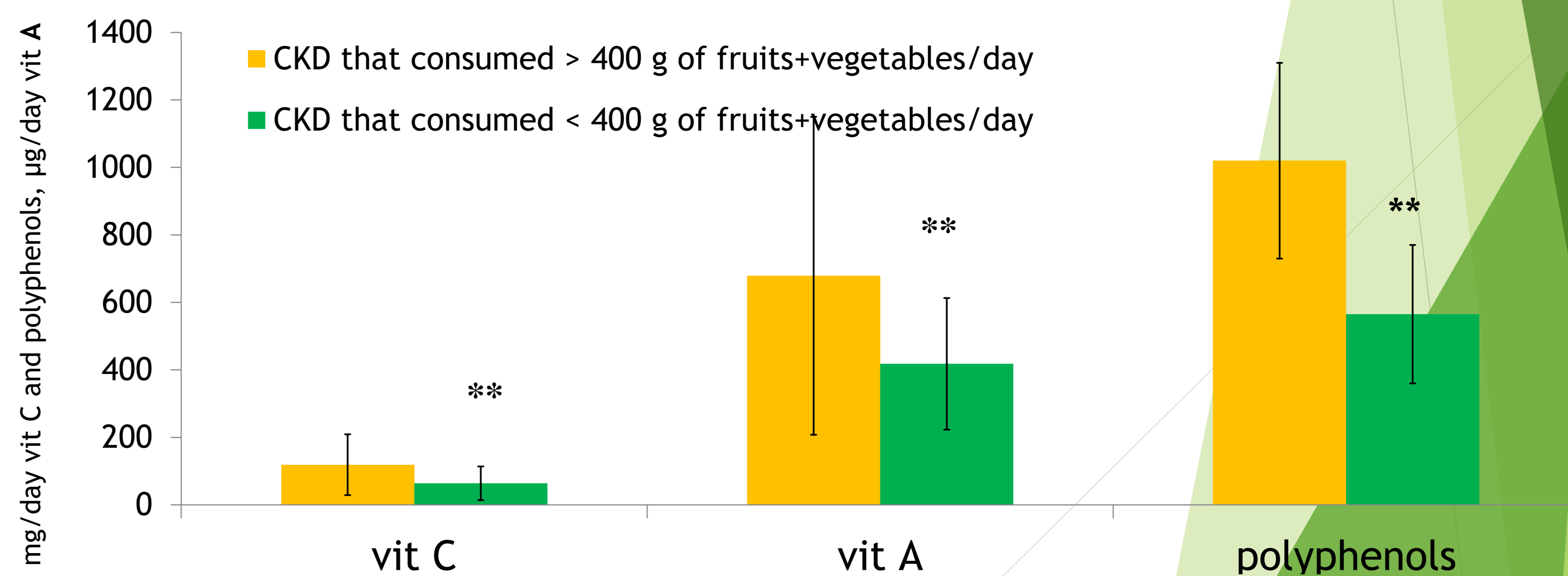
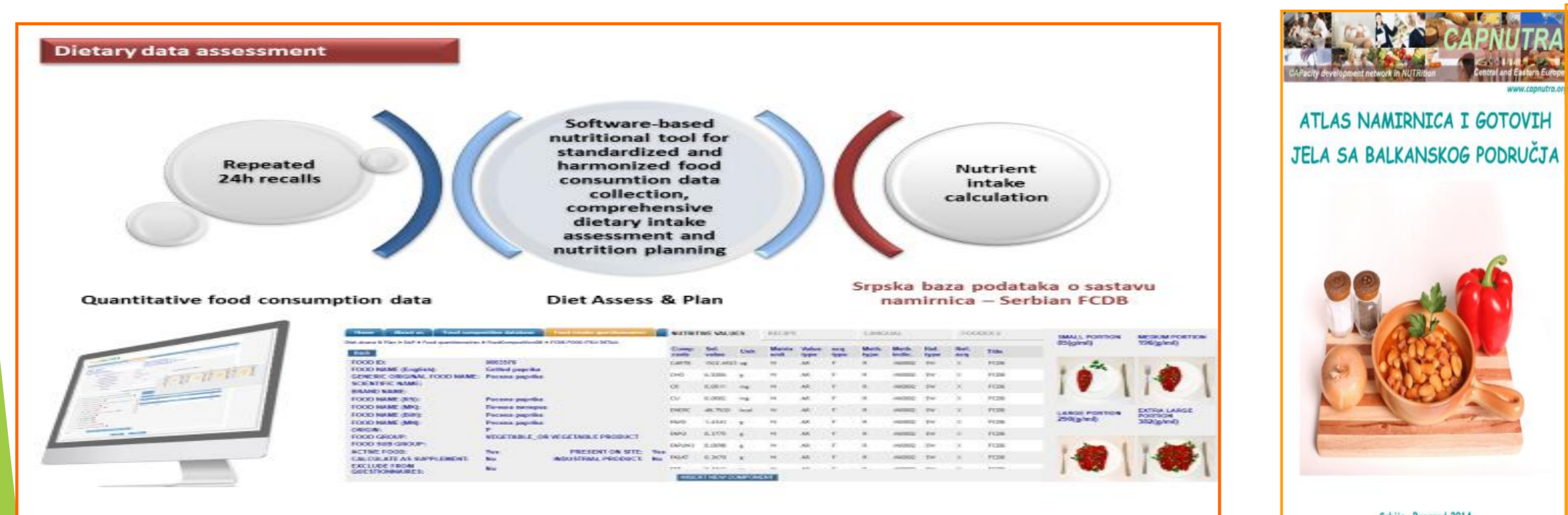


Figure 2. Estimated dietary intake of polyphenols (mg/day) according to their dietary intake of fruits and vegetables

CONCLUSION The findings of this study revealed low dietary intake of polyphenols among both patients undergoing hemodialysis and those with 3-5 stage CKD. Higher dietary consumption of certain fruits and vegetables abundant in polyphenols and low in potassium may be a valuable strategy in disease-progression management, especially in pre-dialyses patients.