socioeconomic barriers. Therefore we performed a pilot study to investigate the technical feasibility of "directly observed treatment" of nutritional supplementation (protein and omega-3 fatty acids) and its effects on nutritional and inflammatory markers in low socio-economic status hemodialysis population. Sixty-three eligible patients agreed to participate. Two intervention groups received 30 mL of a liquid protein supplement plus either 2.4 gm omega-3 (1.8 gm eicosapentaenoic acid + 0.6 gm docosahexaenoic acid) or a placebo, three times per week after their routine dialysis session for 6 months. Serum albumin, plasma lipids, and other indicators of nutritional and inflammatory status were measured. Statistical differences after treatment and between groups were determined using paired t-test and independent t-test, respectively. Directly observed nutritional supplementation resulted in a significant improvement in the LDLC/HDLC ratio in the omega-3 group as compared to the placebo group ($P = 0.043$). For the omega-3 group, serum albumin was also marginally higher after 6 months as compared to baseline ($P = 0.07$). Other nutritional and inflammatory markers were unaffected by intervention. In conclusion, "Directly observed treatment" is technically feasible with an omega-3 based supplement (as opposed to a pure protein supplement) showed beneficial effects on the lipid profile.

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A DOUBLE-BLINDED RANDOMIZED CONTROLLED TRIAL ON THE EFFECT OF FLAXSEED AND OLIVE OILS ON CONSTIPATION OF HEMODIALYSIS PATIENTS: PRELIMINARY RESULTS.

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Mineral oil has been used in the treatment of constipation in hemodialysis patients. Edible oils could also be a good option for treating this symptom. Therefore we aimed to investigate the effect of flaxseed and olive oils on constipation of hemodialysis patients. This trial was conducted for 4 weeks. Constipation was diagnosed by Rome III criterion. Thirty six constipated patients (18M, 51.0 ± 12.2 years) were randomized into Mineral oil (MG; $n=11$), Flaxseed oil (FG; $n=11$) and Olive oil (OG; $n=14$) groups. The initial dose of each oil was 4 ml/d and was adjusted as needed. There was no difference in total oil used among groups (150.7 ± 43.7 ml, 165.8 ± 53.3 ml, 144.4 ± 49.5 ml, respectively; $p=0.61$). The prevalence of each Roma III criterion item was similar among the groups.

	MG (%)		OG (%)		FG (%)	
	0	wk4	0	wk4	0	wk4
Abdominal pain	54.5	27.3	36.4	9.1*	9.1	0
Straining on defecation	30.8	7.7	34.6	11.5*	34.6	15.4
Lumpy or hard stools	32.3	9.7	39.7	12.9	29.0	12.9
Incomplete evacuation	28.1	18.8	43.8	28.1	28.1	18.8
Anorectal obstruction	29.2	12.5	45.8	4.2*	25.0	12.5
Manual maneuvers	25.0	0	50.0	0*	25.0	0
< 3 evacuation/week	36.8	5.3*	31.6	10.5*	31.6	15.8

This preliminary result suggests that olive oil could be a healthy alternative on treatment of constipation in hemodialysis patients.
*$p < 0.05$; 0 *vs* wk4.

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EFFECTIVENESS OF DIETETIC INTERVENTION ON NUTRITIONAL STATUS AND HYDRATION STATUS IN CONTINUOUS AMBULATORY PERITONEAL DIALYSIS (CAPD) PATIENTS

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In Hong Kong, more than 3,000 patients with end-stage renal failure (ESRF) on CAPD in 20091. Protein-energy malnutrition and volume overload are common problems in CAPD patients and associated with high morbidity and mortality2-6. Hyperphosphatemia is also a frequent complication in Chinese CAPD patients and is associated with development of renal bone disease or osteodystrophy7. The Kidney Dialysis Outcomes Quality Initiative (KDOQI) guidelines suggested a combination of valid, complementary measures should be used to assess nutritional status in CAPD patients and anthropometric measurements are valid and clinically useful indicators of protein-energy nutritional status in maintenance dialysis patients8. Bioelectrical Impedance Analysis (BIA), which is a simple, inexpensive and non-invasive method, provides another powerful tool for monitoring of nutrition and hydration in CAPD patients9—10. The objective of this study is to evaluate the effectiveness of dietetic intervention in a local acute hospital on nutritional status and hydration status of patients on CAPD in outpatient setting. This is a retrospective study of 22 ESRF patients receiving dietetic intervention during CAPD training from February 2010 to January 2011. Patients with cognitive impairment or contraindicated with bioimepdence analysis (BIA) were excluded. Baseline demographic and clinical data were retrieved from the dietetic consultation record and the electronic records in Clinical Management System (CMS). The parameters related to the nutrition and hydration status in the first and follow-up dietetic consultation were also collected from the record. They included the dietary protein and energy intakes estimated from the dietary history, anthropometric measurements such as weight, height, body mass index (BMI), skeletal muscle mass (SMM), body fat mass (BFM), body fat percentage (BF%), intracellular water (ICW), extracellular water (ECW) measured by body composition analyzer (InBody720, Biospace Inc., UK), and the biochemical parameters such as albumin, haemoglobin, sodium, potassium, urea, creatinine and phosphate.

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EFFECTS OF SOY PROTEIN AND NUTRITION EDUCATION ON PATIENTS WITH CHRONIC KIDNEY DISEASE

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This study aimed to evaluate the effects of soy protein and nutrition education on patients with chronic kidney disease (CKD). Patients who were regularly followed up at the nephrology clinics of National Taiwan University Hospital, aged between 18 to 75 years, daily activities-independent, had normal liver function, and had stage III, IV or V CKD were invited to join this study. The enrolled patients were then divided into two groups by simple randomization. Group 1 patients were asked to eat meat while Group 2 patients eat soy bean as their major sources of protein intake for a period of 6 months. Diet education for CKD was given at the start, the 3rd month, and the end of study. Demographic, clinical as well as laboratory data including serum biochemistry, lipid profile, interleukin-6, serum adiponectin, indirect calorimetry, and body composition were compared between the two groups both at the beginning and at the end of study. There were 26 CKD patients who had finished the study, but only 23 of them had complete laboratory data. There was no statistical difference in the baseline demographic, clinical and laboratory data between Group 1 and Group 2 patients except for serum albumin level (4.7 ± 0.2 versus 4.4 ± 0.2 g/dL, $P=0.0013$) (Table 1). There was neither any statistical difference in the baseline indirect calorimetry and body composition data between the two groups except for body fat percentage (23.1 ± 6.2 versus 28.9 ± 6.5 %, $P=0.0380$). After 6 months of intervention, Group 2 patients were noted to have significantly higher adiponectin level than Group 1 patients (-3776.0 ± 9118.3 versus 9073.5 ± 9748.1 pg/mL, $P=0.0049$) (Table 2). There was no statistical difference in indirect calorimetry change or body composition change between the 2 groups though Group 2 patients were on average lighter at the end of study ($P=0.0532$).

In conclusion, patients who ate soy bean as their major sources of protein intake had higher serum adiponectin level.