Haemodialysis in Spain and Portugal: a heritage promoting patients' health

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Introduction

Inadequate nutritional intake seems to be one of the most important causes of malnutrition in haemodialysis patients. In addition, patients with end-stage renal disease often suffer from poor appetite and severe dietary restrictions. Despite regular haemodialysis, nutritional imbalances are frequently observed in these patients. However, there is some evidences indicating that a *Mediterranean-like* diet is associated with a better renal function in people with chronic kidney disease.

Objectives

To assess the nutritional intake and Mediterranean eating habits of patients undergoing haemodialysis in relation to their nutritional status.

Methods

Two groups of haemodialysis outpatients from a Spanish and a Portuguese haemodialysis clinic (n=64) were investigated by dietary recall and standard anthropometric, biochemical, and adequacy in dialysis parameters. Dietary evaluation was performed using a food diary, on three alternate days: one day of the week without dialysis, on day of the week on dialysis, and a Sunday because this is an atypical day. The food diary was analysed using the Nutrition–Nutwin software using data averages. The nutritional status of individuals was classified according to the World Health Organization (WHO).

Demographic and general assessments of the sample

	Group (n =64)	FMC-Léon	FMC-Braga
Sample (percentile)			
male	74.29	78.90	69.59
Female	25.71	21.10	30.41
Age (year)	69.37±12.87	69.76±09.75	56.33±19.11
Male	67.38±10.15	68.96±10.78	53.29±18.45
Female	71.36±15.59	70.56±18.00	51.37±19.76
Time in HD (month)	88.88±70.88	23.83±36.90	149.61 ±127.72
Male	97.76±85.65	37.52±67.64	151.20±121.67
Female	80.00±56.10	10.14±06.15	148.01±133.77

Recommended, Intake Calories and Main Nutrients

	Recommendation [a]	Tree days Average [b]
Calories (Kcal/kg/day)	30-35	18.9 ± 8.7
Calories (Kcal/day)	2500	1491±401
Protein (g/Kg/day)	≥ 1.2	1.13±0.36
Protein (g/day)	60 to 80	72.5 ±14.9
Protein (%/kcal)	15 to 20	18.0 ±4.5
Carbohydrates (%/kcal)	50 to 60	53.0 ± 8.0
Lipids (%/kcal)	30 to 35	27.0 ±5.0
PAVB (%)	> 50	65.0 ± 11

[a] Clinical Practice Guidelines for Nutrition in chronic renal failure
[b]a mean ± standard deviation

Normal and found values of variables analysed in the study

	Recommendation [a]	Group (n =64)[b]
Body weight (kg)		
Male	---	68.17±17.44
Female	---	61.87±08.06
BMI (kg/m²)		26.13 ±4.52
Male	18.5-24.9	32.51 ±2.76
Female	18.5-24.9	19.75 ±6.28
Interdialytic weight variation (kg)		1.51±0.62
Male	---	1.83±0.76
Female	---	1.19± 0.48
Dialytic adequacy (Kt/V)		1.62±0.49
Male	> 1.2	1.36±0.66
Female	> 1.2	1.88±0.32
Serum albumin (g/dL)		3.98±0.34
Male	≥ 4	4.05±0.43
Female	≥ 4	3.90±0.25

[a]Clinical Practice Guidelines for Nutrition in chronic renal failure
[b]a mean ± standard deviation

Classification of Body Mass Index in Adults

Cut-off points	Classification	Group (n =64)
< 16	Severe malnutrition	----
16 - 16.99	Moderate malnutrition	1.94
17 - 18.48	Mild malnutrition	3.77
18.5 - 24.9	Normal	42.86
25 - 29.9	Overweight	40.00
30 - 34.9	Obese class I	11.43
35 - 39.9	Obese class II	----
> 40	Obese class III	----

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Table14 - Regression analysis of the modified subjective global assessment (SGA).

Variable	Pearson index (*r*)	Significance
Age	0.309	*P* = 0.20
BMI	–0.335	*P* = 0.2<.05
Time Hd	–0.311	*P* = 0.2<.05
WEIGTH INTER DIALITIC	–0.329	*P* = 0.2<.05
Dialysis Adequacy	–0.371	*P* = 0.2<.05
ALB	–0.450	*P* <.005
COMORB	0.333	*P* = 0.2<.05

BMI - Body mass index; Time Hd - Time (in months) in Hemodialysis
COMORB Comorbidities; ALB Serum albumin

Results

The mean age of the group was 69.37 ± 12.87 years (74.29% male). Body mass index was 26.13 ± 4.52 kg/m2 (mean ± SD) with a significantly higher standard deviation in the female group. The sample showed an interdialytic weight gain of 1.51± 0.62 kg (mean ± SD) with a dialysis adequacy (Kt/V) of 1.62 ± 0.49. Calorie intake was 1491 ± 401 kcal/day (18.9 ± 8.7 kcal/kg/day), and protein intake was 72.5 ± 14.9 g protein/day (1.13 ±0.36 g/kg/day). The nutritional status was classified according to the World Health Organization (WHO). In the study sample, 5.71% of the patients were classified undernourished (1.94% moderate and 3.77% mild nutrition), 42.86% eutrophic, 40% overweight or pre-obese and 11.43% obese.

Conclusion

The study suggests that the Mediterranean dietary pattern could be a valid option. One of the outcomes that indicated this status was the use of healthy fats - such as olive oil - in replacement of saturated fats. The traditional Mediterranean diet is rich in plant foods (fruits, vegetables, cereals, legumes, nuts/seeds, and extra virgin olive oil), moderate in fish/shellfish and red wine and low in meat, dairy, eggs and animal fats. In 2010, the United Nations Educational Scientific and Cultural Organization (UNESCO) recognised the Mediterranean diet as an Intangible Cultural Heritage. Although we were not able to determine it to be the best diet, we can say that the Mediterranean type-diet is a good option. Yet as the definition accepted by UNESCO encompasses broader lifestyle aspects related to culinary and consumption habits, we are able to infer that additional elements of the traditional Mediterranean diet should be better documented and used in following tools or studies, including the intake of home cooked meals, cooking styles, frequency of eating at home, fasting practice, availability of a kitchen garden, and taking a nap after lunch.

References

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