

Health gains in long-term nocturnal haemodialysis

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Introduction

In 2011, long-term nocturnal haemodialysis (LTNHD) was implemented at NephroCare Barreiro, not only in response to the need for a well-tolerated, efficient and accessible treatment, but also to promote an improvement in the patients' Quality of Life (QoL).^{1,2,3}

Objectives

- To assess the QoL and health gains (analytical profile and dialysis parameters) in LTNHD patients as compared to a control group (group of patients in a standard day shift);
- To evaluate patient satisfaction with the LTNHD programme.

Methods

- Mixed qualitative and quantitative study, descriptive, retrospective, transverse, exploratory study.
- Data of the sample and control group were collected in a clinical database (EuClid®) by means of non-probabilistic sampling.
- The Kidney Disease Quality of Life (KDQOL-SF) scale was applied to evaluate the patients' QoL.⁴
- The data collection instrument was completed with an interview among the LTNHD group, focusing on adaptation factors.

Results

- Twelve patients with a mean age of (49±12years) and a mean haemodialysis history of 11±7years and 3±2 years on LTNHD, with (2±1) comorbidities were enrolled.
- The increase in mean treatment time (≈+120minutes/session) and decrease in mean blood flow rate (BFR) (≈-88mL/min) resulted in reduced fatigue (91.7%) referred by the patients, increased dialytic efficacy (Kt/V>2) and a satisfaction rate of 100%.
- A better control of serum phosphorus levels (5±1 vs 4±1mmol/L) was observed, with no change in the number of phosphate binders administered, with less diet restrictions (66.7%).
- The increased daytime leisure in LTNHD patients (up to 91.7%) results in a higher QoL of 88.4% versus 74.1% in a day shift.

Conclusion

According to the evidence, the health gains of our LTNHD patients resulted in a higher dialysis efficiency, better control of phosphate serum levels with a less restrictive diet, less fatigue, more daytime leisure, and potential improvement of social relationships, as well as an improved QoL.



LTNHD sample		Characterization (n=12)	Daily group control	
49 ± 12		Mean age (years)	49 ± 13	
4 ♂ 8 ♀		Gender	4 ♂ 8 ♀	
11 ± 7		Mean RRT time (years)	11 ± 11	
3 ± 2		Mean OBS time (years)	3 ± 3	
2 ± 1		Comorbidities	2 ± 2	
9 AVF 2 AVG 1 CVC		VA type	9 AVF 2 AVG 1 CVC	
6 ± 5		Mean VA age (years)	7 ± 8	
9 ± 3		Mean schooling (years)	10 ± 3	
Before LTNHD 2010	After LTNHD 2016	HD parameters and analytic evolution	Before LTNHD 2010	After LTNHD 2016
242 ± 8	362 ± 12	Mean treatment time (')	236 ± 11	241 ± 1'
360 ± 62	272 ± 35	Mean BFR (ml/')	304 ± 60	409 ± 44
1.7 ± 0.3	2.1 ± 0.5	Mean HD efficacy (Kt/V)	1.4 ± 0,3	1.9 ± 0,4
5.4 ± 0.6	5.1 ± 0.6	Mean K+ (mmol/L)	5.2 ± 0,9	5.5 ± 0.8
139 ± 24	118 ± 38	Mean urea (mmol/L)	160 ± 77	125 ± 34
5.1 ± 1.2	4 ± 1.2	Mean P (mmol/L)	4.9 ± 1.7	5.4 ± 0.9
0 ± 0	0 ± 0	Mean P binders (qty)	0 ± 1	1 ± 1

Table 1: Sample characterization and data evolution from EuClid® database

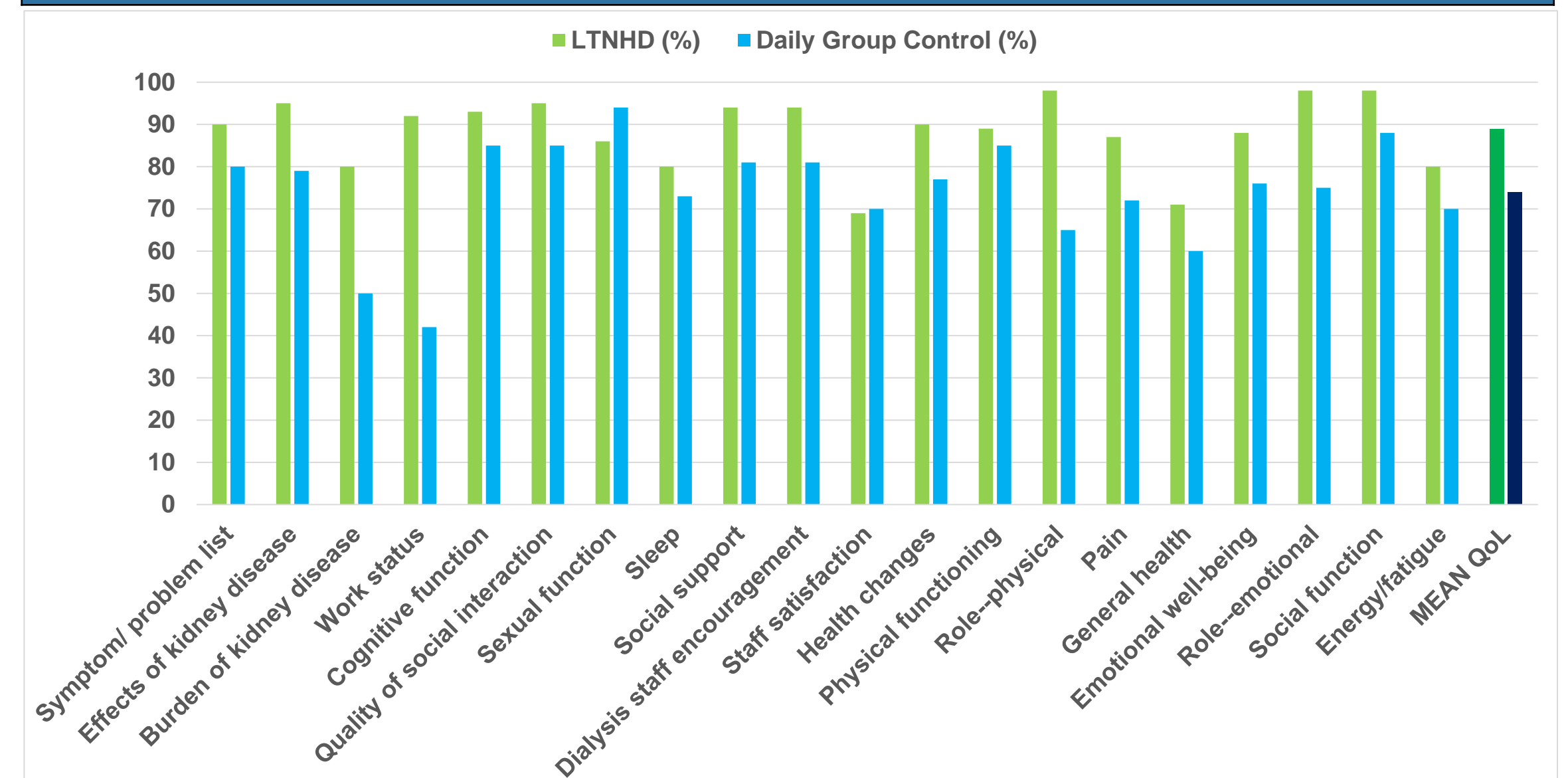


Figure 1: Determination of the Quality of Life (QoL) using KDQOL-SF Scale

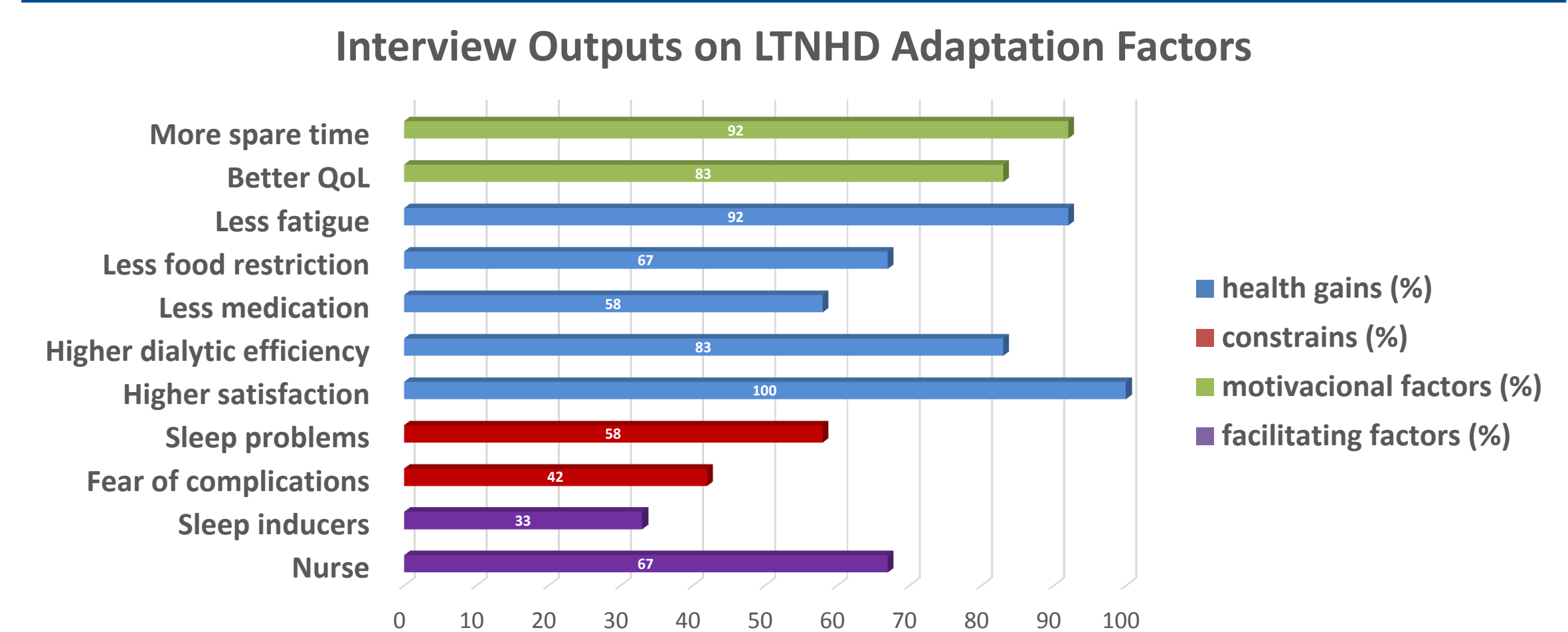


Figure 2: Categories mentioned in the interview on LTNHD adaptation

References

- THOMAS, Alison [et al] (2007), **Providing an in-centre nocturnal haemodialysis program: The pearls and pitfalls**. Retrieved from WWW in 07-02-14 at 19H00: <http://www.ncbi.nlm.nih.gov/pubmed/18271431>
- PIRRATOS, Andreas [et al] (2007), **Outcomes associated with nocturnal haemodialysis**. Retrieved from WWW in 07-02-14 at 19H30: <http://www.uptodate.com/contents/outcomes-associated-with-nocturnal-hemodialysis>
- MATIAS, Telma (2009), **Vivências da Pessoa em Programa de Hemodiafiltração Noturna**. Prêmios NephroCare 2009, Centro Médico Nacional, NephroCare Entroncamento;
- FERREIRA, Pedro L.; ANES, Eugénia J. (2010), **Medição da qualidade de vida de insuficientes renais crónicos: criação da versão portuguesa do KDQOL-SF**. Doenças Crónicas. Vol. 28, nº1, p. 31-39.