

Comparison of quality of life measurements in patients receiving home parenteral nutrition prior to and during the COVID-19 pandemic

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Background

The World Health Organization declared the outbreak of coronavirus 2 (COVID-19) as a pandemic on March 11, 2020. Home parenteral nutrition (HPN) patients are vulnerable to having lower quality of life (QOL) scores than the general population. Understanding the HPN patient experience during the pandemic expands our knowledge to maximize care and support for our patients, resulting in improved outcomes.

Purpose

The objective of this study was to determine if there was an association between the COVID-19 pandemic and QOL measurements in patients receiving HPN.

Methods

- Inclusion criteria: Adult and pediatric patients enrolled in the Health Evaluation and Learning for Total Parenteral Nutrition at Home (HEALTH) Registry with completion of at least one Short Form 36 (SF-36) QOL survey
 - HEALTH Registry is a longitudinal, prospective registry designed to establish and track therapy utilization and outcomes of patients receiving HPN
 - Patients in the registry complete SF-36 surveys every six months
 - Scoring ranges 0–100; higher scores represent better QOL
- Data were retrospectively collected from SF-36 surveys and compared between three 12-month time periods:
 - Year 1 (3/1/2019 to 2/29/2020)
 - Year 2 (3/1/2020 to 2/28/2021)
 - Year 3 (3/1/2021 to 2/28/2022)
- Primary outcome: The difference in mean QOL scores between the three time periods for the eight domains and two summary scores

Results

- A total of 348 SF-36 surveys over 31 states met inclusion criteria
- Six of eight domains and two summary scores were highest during year 1 (pre-COVID-19 pandemic) with a subsequent decrease in year 2 and a slight improvement in year 3, although not statistically significant
- Role-emotional scores decreased year over year
- General health scores improved year over year

Conclusions

SF-36 survey scores decreased in six of the eight domains and two summary scores post pandemic, reflecting a decrease in QOL in HPN patients.

- Clinicians need to consider the impact of the COVID-19 pandemic on patients receiving HPN who are at risk for overall lower baseline QOL scores.
- Routinely assessing a patient's QOL during HPN care may identify areas of support needed to improve both clinical and QOL outcomes.



Table 1. Clinical and demographic characteristics of patients receiving HPN prior to and during the COVID-19 pandemic

	Year 1 N=12	Year 2 N=156	Year 3 N=180	P value
Baseline age (y), mean ± SD	54.5 ± 18.7	55.7 ± 15.8	58 ± 15.6	
Sex, n (%)				
Female	5 (42.0)	117 (75.0)	131 (73.0)	0.04
Male	7 (58.0)	39 (25.0)	49 (27.0)	0.04
Body mass index (kg/m ²), mean ± SD	22.1 ± 4.7	24.1 ± 6 ^a	23.1 ± 5.4 ^a	0.70
Primary indication for HPN, n (%)				
Short bowel syndrome	3 (25.0)	53 (34.0)	64 (35.6)	0.75
Dysmotility	2 (16.7)	40 (25.6)	38 (21.1)	0.53
Fistula	0 (0.0)	16 (10.3)	22 (12.2)	0.39
Malnutrition	2 (16.7)	21 (13.5)	19 (10.6)	0.63
Bowel obstruction	2 (16.7)	8 (5.1)	12 (6.7)	0.28
Inflammatory bowel disease	2 (16.7)	7 (4.5)	18 (10.0)	0.09
Pancreatitis	1 (8.3)	0 (0.0)	1 (0.6)	0.001
Other	0 (0.0)	11 (7.1)	6 (3.3)	0.21
HPN duration (y), mean ± SD	1.6 ± 1.9 ^e	2.9 ± 4.8	3.4 ± 4.5	
HPN characteristics				
Frequency (days/wk)	6.8 ± 0.5	6.6 ± 0.9 ^a	6.4 ± 1.3 ^d	0.05
Length of infusion (h)	13.2 ± 5.1	13.3 ± 3.9 ^a	13.2 ± 3.5 ^e	0.84
Volume (mL)	2278.2 ± 718.5	1860.6 ± 671.8 ^f	1938.5 ± 652.2 ^g	0.01
Total calories (daily)	1408.6 ± 523.2	1340.8 ± 463.8 ^f	1339.3 ± 494 ^g	0.13
Protein (gm/d)	78.8 ± 22.9	77.7 ± 27 ^h	72.8 ± 25.6 ^h	0.12
Dextrose (gm/d)	251.6 ± 117.6	216.6 ± 84 ^h	212.4 ± 90 ^h	0.04
Lipids (gm/d)	23.7 ± 19.6	29.8 ± 18.4 ⁱ	32.7 ± 19.3 ⁱ	0.06

Repeated measures ANOVA test determined no statistical significance
^an=155, ^bn=175, ^cn=11, ^dn=176, ^en=176, ^fn=153, ^gn=173, ^hn=154, ⁱn=171

Figure 2. Annual SF-36 physical domain and summary score

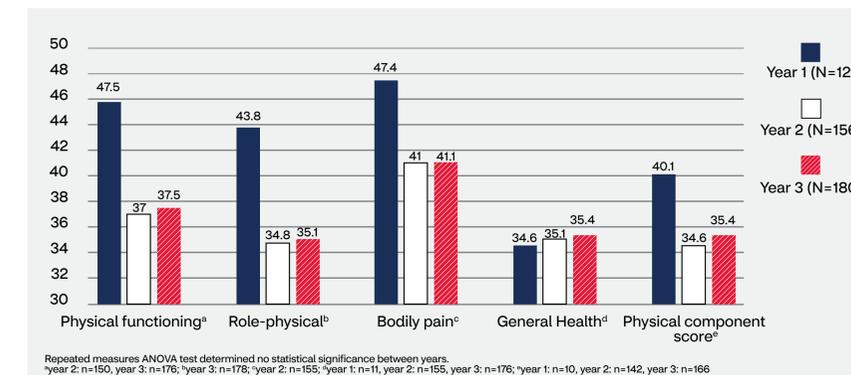


Figure 3. Annual SF-36 mental domain and summary score

