Assessment of quality of life in haemodialysis using COOP/WONCA charts: usefulness of a visual tool

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ABSTRACT

Introduction: Assessing health-related quality of life is common in patients with chronic conditions such as those undergoing haemodialysis. However, many questionnaires rely on written language, which hampers comprehension and limits the reliability of responses. The COOP/WONCA charts incorporate illustrations accompanying each item, facilitating the identification of health status, especially in individuals with low educational level, cognitive impairment or language barriers.

Objective: To evaluate the usefulness of the COOP/WONCA charts for assessing quality of life in haemodialysis patients and to analyse their relationship with clinical, physical, emotional and social parameters.

Material and Method: We conducted a descriptive cross-sectional study in haemodialysis patients from 15 centres (November 2024). Sociodemographic, clinical and treatment-related variables were collected. Quality of life was assessed using the COOP/WONCA charts (lower score = better quality of life) and *vs* the FRAIL, Barthel, Lawton–Brody, PHQ-4 and Gijón scales.

Results: A total of 716 patients were included (68.2% men, mean age 70±14.5 years). Worse scores were found in women, older patients, Spanish nationals, those with primary education, higher comorbidity, longer time on dialysis and three or more weekly sessions ($p<0.05$). The charts showed a significant correlation with frailty, physical dependence and poorer emotional status, with no association with social risk.

Conclusions: The COOP/WONCA charts are an appropriate tool for assessing quality of life in haemodialysis. Their visual format facilitates comprehension and expression of health status, promoting a more accurate and person-centred assessment.

Keywords: haemodialysis; health-related quality of life; COOP/WONCA charts; comorbidity; frailty; activities of daily living; emotional status; social risk; visual questionnaires.

RESUMEN

Evaluación de la calidad de vida en hemodiálisis mediante las láminas COOP/WONCA: utilidad de una herramienta visual

Introducción: Evaluar la calidad de vida relacionada con la salud es habitual en pacientes crónicos como los que reciben hemodiálisis. Sin embargo, muchos cuestionarios se basan en lenguaje escrito, lo que dificulta su comprensión y limita la fiabilidad de las respuestas. Las láminas COOP/WONCA incorporan ilustraciones que acompañan a cada ítem, facilitando la identificación del estado de salud, especialmente en personas con bajo nivel educativo, deterioro cognitivo o barreras idiomáticas.

Objetivo: Estudiar la utilidad de las láminas COOP WONKA para evaluar la calidad de vida en pacientes en hemodiálisis, analizando su relación con parámetros clínicos, físicos, emocionales y sociales.

Material y Método: Estudio descriptivo transversal en pacientes en hemodiálisis de 15 centros (noviembre 2024). Se recogieron variables sociodemográficas, clínicas y de tratamiento. La calidad de vida se evaluó con las láminas COOP/WONCA (menor puntuación=mayor calidad de vida) y se comparó con las escalas FRAIL, Barthel, Lawton-Brody, PHQ-4 y Gijón.

Resultados: Se incluyeron 716 pacientes (68,2% hombres, edad media 70±14,5 años). Se hallaron peores puntuaciones en mujeres, mayores, españoles, con estudios primarios, mayor comorbilidad, más tiempo en diálisis y tres o más sesiones semanales ($p<0,05$). Las láminas mostraron correlación significativa con fragilidad, dependencia física y peor estado emocional, sin asociación con riesgo social.

Conclusiones: Las láminas COOP/WONCA son una herramienta adecuada para evaluar la calidad de vida en hemodiálisis. Su formato visual facilita la comprensión y expresión del estado de salud, promoviendo una valoración más precisa y centrada en la persona.

Palabras clave: hemodiálisis; calidad de vida relacionada con la salud; láminas COOP/WONCA; comorbilidad; fragilidad; actividades de la vida diaria; estado emocional; riesgo social; cuestionarios visuales.

INTRODUCTION

Health-related quality of life (HRQoL) is a key indicator in the care of patients with chronic diseases such as advanced chronic kidney disease treated with haemodialysis (HD). Beyond clinical or laboratory parameters, patients' subjective perception of health reflects the true impact of treatment on functionality, psychological well-being and social integration[1-2]. In the HD population, poor HRQoL has been associated with increased risk of hospitalisation, treatment discontinuation and higher mortality[3,4].

Assessment of HRQoL in HD is usually performed using standardised questionnaires such as the KDQOL-SF or SF-36, which, although comprehensive and validated, require a minimum level of literacy, reading comprehension and administration time. These limitations may affect response reliability in patients with low educational levels, cognitive impairment or in multicultural settings where language acts as a barrier[5,6].

The COOP/WONCA charts emerge as an alternative for HRQoL assessment. They constitute a brief, visual instrument, originally developed in primary care, combining a simple question with illustrations representing different health situations. The questionnaire includes nine dimensions: physical fitness, feelings, daily activities, social activities, change in health status, general health, pain, social support and overall quality of life. Each item is scored from 1 to 5, with higher values reflecting worse perceived health[7,8]. Their visual format facilitates identification of health status even in patients with difficulties in written comprehension, cognitive impairment or language barriers[9-11].

Several studies have demonstrated the usefulness and validity of the COOP/WONCA charts in primary care populations, elderly patients and psychiatric patients, showing good correlation with more extensive quality-of-life scales and high acceptability among patients[12,13]. In nephrology, evidence remains limited, although preliminary studies suggest that this tool may be practical for evaluating HRQoL in haemodialysis patients[14,15].

Since HD patients present a high prevalence of frailty, functional dependence, anxiety-depression and social risk[16-18], it is necessary to validate tools that allow integrated assessment of HRQoL and are feasible in routine clinical practice. The present study aims to address this gap by analysing the performance of the COOP/WONCA charts in a multicentre cohort of HD patients and comparing their results with other scales assessing clinical, physical, emotional and social aspects.

The objective was therefore to study the usefulness of the COOP/WONCA charts for evaluating quality of life in haemodialysis patients, analysing their relationship with other parameters and scales that assess clinical, physical, emotional and social dimensions.

MATERIAL AND METHOD

Study setting

The study was conducted in 15 haemodialysis centres, both hospital-based and outpatient, belonging to the Spanish Renal Foundation (FRE).

Study design and population

We conducted an observational, descriptive, cross-sectional and retrospective study in November 2024, including patients enrolled in a regular haemodialysis programme. Data were collected consecutively throughout November, including both extraction of clinical and treatment data from medical records and administration of questionnaires, in all prevalent adult patients undergoing treatment. No additional exclusion criteria were applied, except for missing clinical data or failure to complete the questionnaires.

Data collection procedure

Information was obtained from the electronic medical record and the Nefrosoft® software, routinely used in dialysis units to record clinical, laboratory and sociodemographic parameters. Variables were collected in three main blocks:

- Sociodemographic variables: sex, age, marital status, educational level, employment status, migrant status and ethnicity.
- Clinical and kidney disease variables: Charlson Comorbidity Index (CCI), aetiology of chronic kidney disease, time on dialysis, session frequency (<3 or ≥3/week), presence or absence of residual diuresis, type of vascular access (catheter, fistula or graft).
- Health status, functional capacity and social support variables, obtained through the standardised scales described below.

Scales used

Health-Related Quality of Life: COOP/WONCA

Health-related quality of life was the main outcome variable and was assessed using the COOP/WONCA charts[7,8], developed by the Dartmouth COOP Project in collaboration with WONCA (World Organization of National Colleges, Academies and Academic Associations of General Practitioners/Family Physicians).

These charts constitute a graphical questionnaire that evaluates perceived health over the previous two weeks across nine domains:

1. Physical fitness
2. Feelings
3. Daily activities
4. Social activities
5. Change in health status
6. General health status
7. Pain
8. Social support
9. Overall quality of life

Each domain is represented by a simple question accompanied by five illustrations or vignettes that help the patient identify the option that best reflects their situation. Responses are scored on a scale from 1 (best state) to 5 (worst state). The total score is obtained by summing the items (range 9–45), with higher values indicating poorer quality of life. For interpretative purposes, the sample was classified into three groups: High quality of life: 0–15 points; moderate quality of life: 16–30 points; low quality of life: 31–45 points.

This instrument has demonstrated good reliability and validity in different clinical contexts and has previously been validated in Spanish haemodialysis populations[14,15], where its visual format offers a clear advantage for patients with low educational level, cognitive impairment or language barriers, which are highly prevalent in this clinical profile.

Frailty (FRAIL)

Frailty was assessed using the FRAIL scale[19], which includes five items: fatigue, resistance, ambulation, illnesses and weight loss. Each item is scored 0–1, and the final classification is:
Non-frail (0 points), Pre-frail (1–2 points) and Frail (≥3 points). This scale has been validated in elderly populations and in patients with kidney disease, showing adequate predictive ability for complications and mortality.

Functional Dependence: ADL and IADL

Barthel Index (Activities of Daily Living, ADL)[20] assesses autonomy in basic daily activities such as feeding, dressing, mobility and sphincter control. Scores range from 0 to 100, categorised as: no impairment (100–96), mild (76–95), moderate (51–75) and severe impairment (≤50).

Lawton–Brody Scale (Instrumental Activities of Daily Living, IADL)[21] measures the ability to perform instrumental activities (use of telephone, transportation, medication management, shopping, etc.), with scores from 0 to 8, classified as: totally dependent (0–1), severe (2–3), moderate (4–5), and mild dependence (6–7) and independent (8).

Emotional Status: PHQ-4

The Patient Health Questionnaire-4 (PHQ-4)[22] is an ultra-brief 4-item questionnaire consisting of two anxiety questions (GAD-2) and two depression questions (PHQ-2). Total score ranges from 0 to 12, classified as: no symptoms (0–3), mild (4–6), moderate (7–9) and severe (10–12).

Social Risk: Gijón Scale

The Gijón Socio-family Scale[23] evaluates social risk based on five dimensions: family situation, social relationships, economic status, housing and social support. Each item is scored from 1 to 5, with a total score range of 5–25, categorised as: low (<10), medium (10–16) and high risk (≥17).

This tool has been validated in the Spanish population aged over 65 years.

Data were collected during November 2024. Questionnaires (COOP/WONCA, FRAIL, Barthel, Lawton-Brody, PHQ-4 and Gijón) were administered by nursing staff in each haemodialysis unit during treatment sessions using a tablet device specifically enabled for this purpose. Responses were recorded directly in the digital platform with automatic upload to the central database, avoiding manual transcription and reducing potential errors. Where patients had reading, visual or comprehension difficulties, the nurse assisted by reading the questions and supporting the process while maintaining neutrality to avoid influencing responses.

Statistical analysis

Qualitative variables were expressed as absolute frequencies and percentages; quantitative variables as mean ± standard deviation if normally distributed, or median and interquartile range otherwise. Group comparisons were performed using Student's t test or ANOVA for parametric variables, and Mann–Whitney U or Kruskal–Wallis tests for non-parametric variables. Categorical variables were analysed using Pearson's chi-square test. Statistical significance was set at p≤0.05. Analyses were conducted with IBM SPSS® Statistics v29.0 and figures were produced with Microsoft Excel® 2021.

Ethical Considerations

The study was authorised by the Spanish Renal Foundation and approved by the Research Ethics Committee of Fundación Jiménez Díaz. Data confidentiality and compliance with Spanish Organic Law 3/2018 on Personal Data Protection and Digital Rights were ensured. All participants provided written informed consent and retained their ARCO rights (access, rectification, cancellation and opposition).

RESULTS

The sample consisted of 716 patients, predominantly male (68.2%), with a mean age of 70.0±14.5 years. The most frequent cause of chronic kidney disease was diabetic nephropathy (25.4%), followed by unknown causes (20.9%) and glomerular disease (15.2%). Median time on dialysis was 36 months (IQR 17–68), and most patients received ≥3 weekly sessions (90.2%). Mean BMI was 26.3±5.2 kg/m². Among patients with available data, 44% preserved residual diuresis. The predominant vascular access was native fistula or graft (62.9%), compared with catheter (37.1%). Sociodemographically, the cohort was mainly Caucasian (73.0%), with 16.1% migrants and a high proportion of pensioners/retired individuals (61.6%). Data on sociodemographics and renal disease are shown in **table 1**.

Table 1. General characteristics of the haemodialysis population (n=716).

Variable	Category	Value
General descriptives		
Sex (n=716)	Male Female	488 (68.2%) 228 (31.8%)
Age, years (n=716)	—	70.0±14.5
Charlson index (n=711, missing =5)	—	7.8±2.9
Renal disease variables		
Aetiology of CKD (n=701, missing =15)	Diabetes Unknown Vascular Nephritis/Pyelonephritis Glomerulonephritis/ Memb. nephropathy Polycystic kidney disease Tumour / Other	182 (25.4%) 150 (20.9%) 108 (15.1%) 51 (7.1%) 109 (15.2%) 56 (7.8%) 45 (6.3%)
Time on HD, months (n=677, missing=39)	—	Median 36 (IQR 17–68)
Sessions per week (n=710, missing =6)	<3 ≥3	64 (8.9%) 646 (90.2%)
Residual diuresis (n=323, missing=393)	Yes No	142 (44.0%) 181 (56.0%)
Vascular access (n=623, missing=93)	Catheter Native AVF / Graft	231 (37.1%) 392 (62.9%)
Sociodemographic variables		
Ethnicity (n=591, missing=125)	Caucasian Arab Asian Black Other	523 (73.0%) 10 (1.4%) 5 (0.7%) 9 (1.3%) 44 (6.1%)
Migrant (n=714, missing=2)	Yes No	115 (16.1%) 599 (83.9%)
Employment status (n=614, missing=102)	Employed Retired Pensioner Unemployed Other	89 (12.4%) 209 (29.2%) 232 (32.4%) 37 (5.2%) 47 (6.6%)
Educational level (n=442, missing=274)	Primary Secondary Higher	200 (27.9%) 158 (22.1%) 84 (11.7%)
Marital status (n=587, missing=129)	Single Married Divorced Separated Separated Free Union	104 (14.5%) 346 (48.3%) 27 (3.8%) 34 (4.7%) 34 (4.7%) 8 (1,1%)

Table 2 illustrates the distribution of the sample according to the scales used. Over half of patients were independent in ADL (53.4%), although 39.1% showed some degree of dependence in IADL. Emotional symptoms (anxiety or depression) were present in 23.7% (PHQ-4). Frailty was highly prevalent: 46.0% pre-frail and 26.5% frail. Regarding social risk, 31.6% exhibited medium or high risk according to the Gijón scale.

Figure 1 shows the overall distribution of quality of life according to the total COOP/WONCA score. Of the 716 patients, 37 (5.2%) presented high quality of life (0–15 points), 607 (84.8%) moderate quality of life (16–30 points) and 72 (10.1%) low quality of life (31–45 points). Domain-level analysis, expressed as the mean scores on a 1–5 scale (with higher values indicating worse quality of life), showed that the most impaired areas were physical functioning (3.7) and general health (3.4). Social limitation was the domain with the best outcome (1.8), while the remaining dimensions were in intermediate ranges: emotional status (2.0), usual activities (2.1), pain (2.4), social support (2.5), global perception (2.5) and health change (2.8).

The association between general variables, renal disease characteristics and sociodemographic factors with quality

Table 2. Clinical, functional, psychological and social variables used for COOP/WONCA validation.

Variable	Category (score)	Value (n, %)
Clinical dimension		
Frailty (n=648, missing=68)	Non-frail (0) Pre-frail (1–2) Frail (≥3)	178 (27.5%) 298 (46.0%) 172 (26.5%)
Physical dimension		
IADL (Lawton–Brody) (n=659, missing=57)	Totally dependent (0–1) Severe dependence (2–3) Moderate dependence (4–5) Mild dependence (6–7) Independent (8)	22 (3.3%) 101 (15.3%) 135 (20.5%) 160 (24.3%) 241 (36.6%)
ADL (Barthel) (n=676, missing=40)	No impairment (100–96) Mild impairment (76–95) Moderate impairment (51–75) Severe impairment (≤50)	361 (53.4%) 192 (28.4%) 83 (12.3%) 40 (5.9%)
Psychological dimension		
Emotional status (PHQ-4) (n=615, missing=101)	No symptoms (0–3) Mild symptoms (4–6) Moderate symptoms (7–9) Severe symptoms (10–12)	469 (76.3%) 101 (16.4%) 38 (6.2%) 7 (1.1%)
Social dimension		
Gijón Scale (n=478, missing=238)	No risk (<65 years / 0 points) Low social risk (<10) Moderate social risk (10–16) High social risk (≥17)	68 (14.2%) 259 (54.2%) 145 (30.3%) 6 (1.3%)

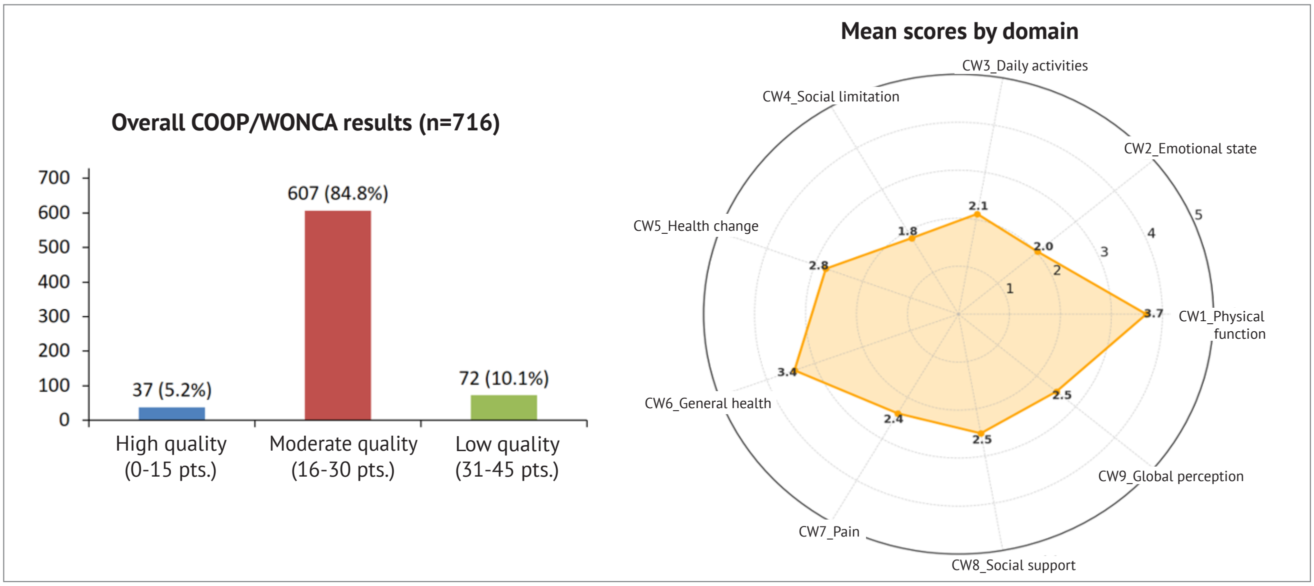

Figure 1. Overall results and domain profile of the COOP/WONCA slides in hemodialysis patients (n=716).

of life according to COOP/WONCA is presented in Table 3. Quality of life measured by COOP/WONCA was significantly worse in women (24.6±5.5 *vs* 22.6±5.6 in men; p<0.001), in older patients (60.0±15.5 in high quality *vs* 71.2±13.7 in low quality; p=0.001), and in those with greater comorbidity (Charlson index 6.8±3.4 *vs* 8.8±2.6; p=0.001). Worse quality of life was also associated with longer time on haemodialysis (p=0.041), receiving≥3 sessions per week (p=0.035) and absence of residual diuresis (24.1±5.5 *vs* 22.3±5.5; p=0.003).

Table 3. Association among general, renal and sociodemographic variables and quality of life according to COOP/WONCA.

Variable	Category	CW total score Mean ± SD/ Median (IQR)	High QoL Mean ± SD/N (%)	Moderate QoL Mean±SD/ N (%)	Low QoL Mean±SD/ N (%)	P value
Sex	Male (n=488)	22.6±5.6	—	—	—	**<0.001***
	Female (n=228)	24.6±5.5	—	—	—	
Age (years) (n=716)	—	—	60.0±15.5	67.7±14.4	71.2±13.7	**0.001***
Charlson index (n=711)	—	—	6.8±3.4	7.8±2.8	8.8±2.6	**0.001***
Time on HD (months) (n=677)	—	—	34 (20–57)	34 (17–66)	51 (26–80)	**0.041****
Dialysis sessions / week	<3 (n=64)	22.0±4.7	—	—	—	**0.035***
	≥3 (n=646)	23.4±5.7	—	—	—	
Residual diuresis	Yes (n=142)	22.3±5.5	—	—	—	**0.003***
	No (n=181)	24.1±5.5	—	—	—	
Vascular access	Catheter (n=231)	23.9±5.7	—	—	—	0.081*
	AVF/graft (n0392)	22.9±5.6	—	—	—	
Migrant status	No (n=599)	23.5±5.7	—	—	—	**0.025***
	Yes (n=115)	22.3±5.4	—	—	—	
Marital status	Partnered (n=354)	—	20 (5.6%)	296 (83.6%)	38 (10.7%)	0.415***
	Not partnered (n=233)	—	11 (4.7%)	202 (86.7%)	20 (8.6%)	
Employment status	Employed (n=89)	—	7 (7.9%)	73 (82.0%)	9 (10.1%)	0.426***
	Retired (n=209)	—	10 (4.8%)	183 (87.6%)	16 (7.7%)	
	Pensioner (n=232)	—	8 (3.4%)	195 (84.1%)	29 (12.5%)	
	Unemployed (n=37)	—	3 (8.1%)	32 (86.5%)	2 (5.4%)	
	Other (n=47)	—	4 (8.5%)	39 (83.0%)	4 (8.5%)	
Educational level	Primary (n=200)	—	8 (4.0%)	168 (84.0%)	24 (12.0%)	0.549***
	Secondary (n=158)	—	9 (5.7%)	134 (84.8%)	15 (9.5%)	
	Higher (n=84)	—	7 (8.3%)	70 (83.3%)	7 (8.3%)	

Bold p-values indicate statistical significance (p < 0.005).

* t-test/ANOVA. ** Kruskal–Wallis. *** χ^2 test.

Vascular access by catheter showed a trend towards poorer scores compared with fistula/graft (p=0.081). In contrast, no significant associations were found with marital status, employment status or educational level.

Table 4 illustrates the relationship between the different scales measuring clinical status, physical condition, emotional status and social risk and their association with quality of life according to COOP/WONCA.

Quality of life showed a statistically significant association with all clinical and functional dimensions analysed, except with social risk measured by the Gijón scale. The proportion of patients with low quality of life increased progressively with greater frailty (19.8% in frail *vs* 3.4% in non-frail; p<0.001). Similarly, dependence in instrumental activities of daily living (Lawton–Brody) and basic activities of daily living (Barthel) was associated with poorer quality of life: totally dependent patients in AIVD showed 36.4% low quality of life compared with 5.8% among independent patients (p=0.001), and in ABVD the prevalence of low quality of life reached 30% in severe cases *vs* 4.4% in those without impairment (p<0.001).

Emotional status was strongly related to quality of life: whereas 6.2% of patients without symptoms on PHQ-4 had low quality of life, this figure rose to 57.1% among those with severe symptoms (p<0.001). With respect to social risk (Gijón scale), although a trend towards higher proportions of low quality of life was observed at intermediate risk levels, the overall differences did not reach statistical significance (p=0.115).

DISCUSSION

In this multicentre cohort of 716 haemodialysis patients, the COOP/WONCA charts discriminated levels of quality of life in a manner consistent with the patients' clinical, functional and emotional profiles. Poorer scores were observed in women, in older individuals, in those with higher comorbidity according to the Charlson index, in patients with longer time on dialysis, absence of residual diuresis, and in those receiving ≥3 sessions per week. In addition, a clear gradient of worsening quality of life was observed in the presence of frailty and increasing dependence in both basic and instrumental activities of daily living, as well as in patients with symptoms

Table 4. Relationship among the different scales assessing clinical status, physical function, emotional state, and social risk, and their association with quality of life according to COOP/WONCA.

Variable	Category (score)	High QoL N (%)	Moderate QoL N (%)	Low QoL N (%)	P (χ^2)
Clinical dimension					
Frailty (n=648, missing=68)	Non-frail (0)	18 (10.1%)	154 (86.5%)	6 (3.4%)	**<0.001**
	Pre-frail (1–2)	10 (3.4%)	263 (88.3%)	25 (8.4%)	
	Frail (>3)	4 (2.3%)	134 (77.9%)	34 (19.8%)	
Dimensión Física					
IADL – Lawton–Brody (n=659, missing=57)	Totally dependent (0–1)	0 (0.0%)	14 (63.6%)	8 (36.4%)	**0.001**
	Severe dependence (2–3)	2 (2.0%)	87 (86.1%)	12 (11.9%)	
	Moderate dependence (4–5)	10 (7.4%)	109 (80.7%)	16 (11.9%)	
	Mild dependence (6–7)	9 (5.6%)	134 (83.8%)	17 (10.6%)	
	Independent (8)	15 (6.2%)	212 (88.0%)	14 (5.8%)	
BADL–Barthel Index (n=676, missing=40)	No problem (100–96)	23 (6.4%)	322 (89.2%)	16 (4.4%)	**<0.001**
	Mild problem (76–95)	10 (5.2%)	162 (84.4%)	20 (10.4%)	
	Moderate problem (51–75)	3 (3.6%)	60 (72.3%)	20 (24.1%)	
	Severe problem (≤50)	0 (0.0%)	28 (70.0%)	12 (30.0%)	
Psychological dimension					
Emotional status – PHQ-4 (n=615, missing=101)	No symptoms (0–3)	29 (6.2%)	411 (87.6%)	29 (6.2%)	<0.001
	Mild symptoms (4–6)	1 (1.0%)	82 (81.2%)	18 (17.8%)	
	Moderate symptoms (7–9)	2 (5.3%)	28 (73.7%)	8 (21.1%)	
	Severe symptoms (10–12)	0 (0.0%)	3 (42.9%)	4 (57.1%)	
Social dimension					
Gijón Scale (n=478, missing=238)	No risk (<65 yrs / 0 pts)	5 (7.4%)	56 (82.4%)	7 (10.3%)	0.115
	Low social risk (<10)	16 (6.2%)	217 (83.8%)	26 (10.0%)	
	Medium social risk (10-16)	1 (0.7%)	123 (84.8%)	21 (14.5%)	
	High social risk (≥17)	0 (0.0%)	6 (100.0%)	0 (0.0%)	

Bold p-values indicate statistical significance (p<0.005). Chi-square test.

of anxiety or depression, whereas no overall association was found with social risk as measured by the Gijón scale. These findings reinforce the construct validity of the instrument in haemodialysis and confirm its practical usefulness for rapid patient stratification, in line with evidence linking subjective health perception with hospitalisation, treatment discontinuation and mortality in dialysis[3,4].

The COOP/WONCA charts were originally designed as a brief visual tool for use in primary care[24], and their reliability, validity and sensitivity to change have been documented in the general population, older adults and psychiatric patients[12,13,25]. Our findings reproduce this consistency in the dialysis population, supporting previous Spanish studies that demonstrated the acceptability of the charts and their correlation with more extensive quality-of-life measures in haemodialysis[14,15]. The clear gradient between frailty (FRAIL scale) and poorer COOP/WONCA scores is physiopathologically plausible, as frailty encapsulates clinical vulnerability, functional decline and risk of complications, which translate into worse subjective health perception[26]. Similarly, dependence in basic (Barthel) and instrumental (Lawton–Brody) activities showed consistent associations with poorer quality of life, supporting the ability of the instrument to adequately reflect the impact of autonomy on daily living. These findings are consistent with the literature linking frailty and functional dependence with poorer quality of life and increased mortality in dialysis patients[27-30].

Emotional status emerged as one of the most influential domains, with a very pronounced gradient between mild, moderate and severe symptoms on the PHQ-4 and worsening COOP/WONCA scores. The nephrology literature consistently shows that anxiety and depression are central determinants of the dialysis experience[31] and of therapeutic adherence[32], which explains the strong convergence observed. Similarly, preservation of residual diuresis and dialysis schedules of fewer than three weekly sessions were associated with better quality of life, a finding consistent with studies linking preservation of residual renal function and incremental dialysis with improved fluid and toxin control, greater dietary freedom, and better survival and quality of life in haemodialysis[33].

With respect to vascular access, only a trend towards poorer quality of life was found in catheter users compared with fistula or graft carriers. Although numerous studies have demonstrated the association of catheters with higher morbidity and mortality[34], consistent differences in quality of life have not always been confirmed, probably due to the influence of multiple clinical and social confounders.

Regarding sociodemographic variables, the pattern described in the literature was confirmed: poorer quality of life in women and progressive deterioration with age and comorbidity, in agreement with large series and systematic reviews[35].

Finally, the social dimension measured by the Gijón scale showed no statistically significant association with overall quality of life. This result may be explained by loss of statistical power due to a high proportion of missing data, by the fact that the scale was designed for older populations[23] and may not discriminate equally well in younger patients, or because it measures more stable structural conditions, whereas COOP/WONCA reflects more immediate and changeable perceptions[15]. In addition, the haemodialysis context itself, where professional support networks are present, may buffer the impact of social risk on health perception[18].

This study has several strengths, including its large sample size, multicentre design, and the inclusion of clinical, functional, emotional and social dimensions, allowing a comprehensive view of quality of life in haemodialysis. Nevertheless, some limitations must be acknowledged: the cross-sectional design precludes causal inference; missing data in certain variables, particularly social risk, may introduce interpretative bias; and the absence of direct comparison with more extensive instruments such as KDQOL or SF-36 limits cross-validation within the same cohort. Future research should assess the responsiveness of the COOP/WONCA charts in longitudinal studies, evaluate their predictive value for hospitalisation and mortality, and directly compare them with longer questionnaires to determine concordance and administrative burden.

In conclusion, the COOP/WONCA charts are consolidated as a useful visual tool for assessing quality of life in haemodialysis patients. Their brief format, combining text and illustration, facilitates comprehension and enables rapid screening of patients with poorer health perception, particularly in contexts of cultural diversity, low educational level or cognitive impairment. Their implementation in clinical practice may facilitate needs identification, guide person-centred interventions and contribute to more comprehensive and effective haemodialysis care.

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Conflicts of interest

None declared.

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