

# Quality of Life in Noninstitutionalized Persons Older than 65 Years in Two Health Care Districts in Madrid

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**Aim.** To describe self-perceived health status and quality of life in noninstitutionalized persons older than 65 years in two health care districts in Madrid (central Spain).

**Design.** Descriptive study based on home interviews by investigators trained in the administration of the questionnaires.

**Setting.** Health care districts 2 and 4 in Madrid; community level.

**Participants.** Of a sample of 2002 persons older than 65 years residing in private homes, we obtained 911 valid questionnaires.

**Main measures.** Description and stratification by age group and sex, for sociodemographic variables, economic resources, social and familial support, physical and mental health, functional capacity and results on the EuroQol and Nottingham Health Profile (NHP) questionnaires.

**Results.** Mean age, 74.7 years (95% CI, 74.3%–75.1%); women, 59.7% (95% CI, 56.4%–62.9%); no formal education, 41% (95% CI, 37.7%–44.2%); social classes I and II, 38.3% (95% CI, 35.1%–41.6%). Self-perceived health status good or very good, 52.1% (95% CI, 48.8%–55.4%), 57.5% (95% CI, 52.2%–62.6%) in men and 48.4% (95% CI, 44.2%–52.7%) in women. Mean scores on the NHP were: energy, 21.1 (95% CI, 18.9%–23.2%); pain, 25.6 (95% CI, 23.6%–27.6%); physical mobility, 28 (95% CI, 26.4%–29.7%); sleep, 31.8 (95% CI, 29.4%–34.1%); emotional reaction, 24.5 (95% CI, 22.8%–26.3%); social isolation, 10.9 (95% CI, 9.6%–12.1%). The percentages of persons with problems according to the EuroQol instrument were: mobility, 21.3% (95% CI, 18.7%–24.1%); self-care, 7.7% (95% CI, 6.1%–9.7%); usual activities, 19.9% (95% CI, 17.4%–22.7%); pain/discomfort, 38.2% (95% CI, 35%–41.4%); anxiety/depression, 27% (95% CI, 24.1%–30%). Both the NHP and the EuroQol instrument identified more problems in women than in men, and in persons older than 80 years compared to persons younger than 80 years.

**Conclusions.** Women had a worse perceived health status and quality of life than men. Persons older than 80 years scored worse on the NHP and the EuroQol, but did not perceive their health status to be worse.

**Key words:** Quality of life. Older. Self-perceived health status. EuroQol. Nottingham Health Profile.

CALIDAD DE VIDA EN MAYORES DE 65 AÑOS NO INSTITUCIONALIZADOS DE DOS ÁREAS SANITARIAS DE MADRID

**Objetivo.** Describir el estado de salud autopercebido y la calidad de vida en los mayores de 65 años no institucionalizados residentes en dos áreas sanitarias de Madrid.

**Diseño.** Estudio descriptivo mediante encuesta administrada a domicilio por entrevistadores.

**Emplazamiento.** Áreas sanitarias 2 y 4 de Madrid, nivel comunitario.

**Participantes.** De una muestra de 2.002 personas mayores de 65 años residentes en domicilios particulares se obtuvieron 911 encuestas válidas.

**Mediciones principales.** Descripción, estratificando por grupo de edad y sexo, de variables sociodemográficas, recursos económicos, apoyo sociofamiliar, salud física y mental, capacidad funcional y cuestionarios Euroqol y Perfil de Salud de Nottingham (PSN).

**Resultados.** Edad media: 74,7 años (IC del 95%: 74,3–75,1%); mujeres: 59,7% (IC del 95%: 56,4–62,9%); sin estudios: 41% (IC del 95%: 37,7–44,2%); clases sociales I y II: 38,3% (IC del 95%: 35,1–41,6%). Percibían su estado de salud como bueno o muy bueno: 52,1% (IC del 95%: 48,8–55,4%), 57,5% (IC del 95%: 52,2–62,6%) de varones y 48,4% (IC del 95%: 44,2–52,7%) de mujeres. Las puntuaciones medias en el PSN fueron: energía = 21,1 (IC del 95%: 18,9–23,2%); dolor = 25,6 (IC del 95%: 23,6–27,6%); movilidad física = 28 (IC del 95%: 26,4–29,7%); sueño = 31,8 (IC del 95%: 29,4–34,1%); reacción emocional = 24,5 (IC del 95%: 22,8–26,3%); aislamiento social = 10,9 (IC del 95%: 9,6–12,1%). Los porcentajes de personas con problemas en el Euroqol fueron: movilidad: 21,3% (IC del 95%: 18,7–24,1%); cuidado personal: 7,7% (IC del 95%: 6,1–9,7%); actividades cotidianas: 19,9% (IC del 95%: 17,4–22,7%); dolor/malestar: 38,2% (IC del 95%: 35–41,4%); ansiedad/depresión: 27% (IC del 95%: 24,1–30%). Tanto en el PSN como en el Euroqol las mujeres presentaron más problemas que los varones, y los mayores de 80 años que los menores.

**Conclusiones.** Las mujeres muestran una percepción peor de su estado de salud y su calidad de vida que los varones. Los mayores de 80 años tienen peores puntuaciones en el PSN y en el Euroqol, pero no perciben su estado de salud como peor.

**Palabras clave:** Calidad de vida. Anciano. Estado autopercebido de salud. Euroqol. Perfil de Salud de Nottingham

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A commentary follow this article (pág. 293)

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## Introduction

Quality of life is an increasingly important health goal<sup>1</sup> and has begun to be used as a health outcome measure.<sup>2</sup> This is especially the case in situations where health interventions cannot be aimed mainly at prolonging life, as occurs for very old persons and persons with a terminal illness.

Several authors have defined the concept of quality of life, and subjectivity is a constant feature of these definitions. For example, according to the WHO,<sup>3</sup> quality of life is «an individual's perception of their position in life in the context of the cultural and value systems in which they live, and in relation to their goals, expectations, standards and concerns.» This is a broad concept which comprises elements such as physical health, psychological state, level of independence, social relationships and relationship with the environment.

Health-related quality of life (HRQOL), the concept used most widely in health sciences, evaluates the repercussions of illness or health status, treatment, and other health care measures, on the patient's social and personal life.<sup>4,5</sup>

A number of questionnaires and other instruments have been developed to evaluate HRQOL. Some instruments are generic and can be used either for the general population or specific groups of patients; others are specific for patients with a particular disease, individuals within a specific population group, etc.<sup>6</sup>

An extensive review of published studies<sup>7</sup> detected few studies in Spain or other countries that used questionnaires or similar instruments to look at the quality of life of older persons in the general public. The aim of our study was to describe self-perceived health status and quality of life in noninstitutionalized persons older than 65 years residing in health care districts 2 and 4 in the Community of Madrid, an autonomous region in central Spain.

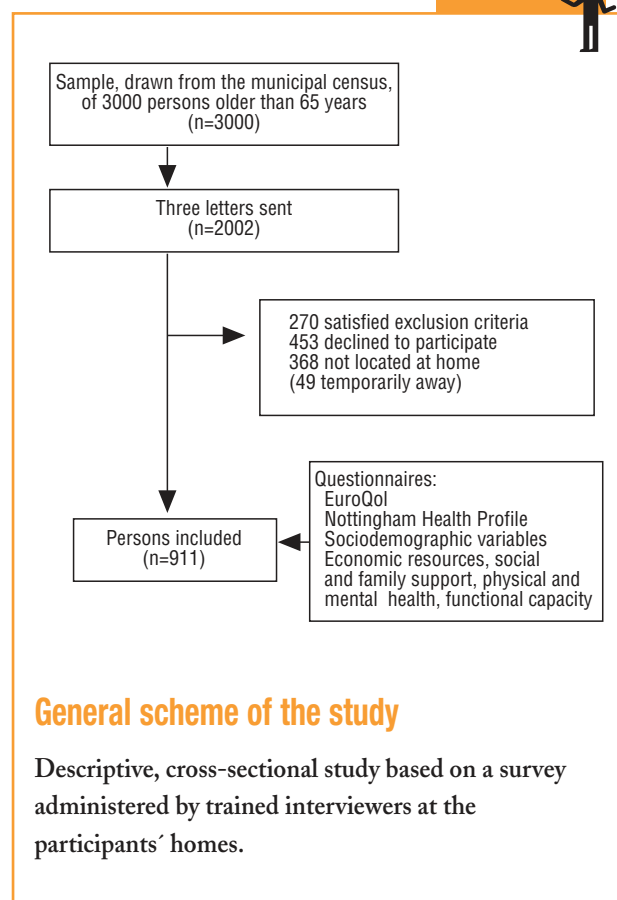
## Material and methods

### Participants

The target population was noninstitutionalized persons older than 65 years residing in health care districts 2 and 4 in Madrid, and able to respond to all items on the questionnaires on their own.

To calculate sample size we used as a reference the proportion of persons older than 65 years (6.7%) who considered their health to be poor or very poor according to a health survey carried out in Barcelona in 1986.<sup>8</sup> The size necessary to detect a proportion of 6.5% of a finite population at the 95% confidence level and a precision of 1.5% was calculated as approximately 1000 persons. A sample of 3000 persons was selected (two substitutes per person) from the municipal census by systematic sampling with a random start algorithm. The field work was done in June 1999 to April 2000. A pilot study with the first 50 questionnaires showed that persons older than 65 years understood the instrument and answered the questions appropriately.

### Material and methods



Deceased persons and those for whom the census was in error were excluded, as were those who had moved to a different address outside the two health care districts in the study, those living in residential facilities or who were hospitalized at the time of the study, those with moderate or severe cognitive impairment (score higher than 4 on the Pfeiffer test) and those who were unable to communicate with the interviewer for whatever reason (severe hearing impairment, language, dysarthria, dysphasia, etc.).

### Data collection

This article describes and analyzes some of the variables from a more extensive questionnaire.<sup>7</sup> The structured instrument consists of a number of items often used in other questionnaires to evaluate clinical status and social support in older persons. Tests that have been validated by others were also used.

Self-perceived health status was evaluated with the appropriate items from the National Health Survey.<sup>9</sup> One item was «Which words best describe your current health status? Very good, good, fair, poor or very poor?» Quality of life in persons older than 65 years was investigated with the EuroQol<sup>6</sup> instrument, and with the NHP<sup>6</sup>. The EuroQol instrument describes health status in five dimensions (mobility, self-care, usual activities, pain/discomfort, and anxiety/depression), each of which is scored at three levels of function. The instrument also contains a millimeter visual analogue scale (VAS) on which the participant scores his or her health state on the day of the interview: a score of 0 indicates worst imaginable health, and a score

re of 100 indicates best imaginable health. The NHP consists of a series of yes-or-no items grouped in six domains (energy, pain, physical mobility, emotional reactions, sleep and social isolation). Each domain is scored on a scale from 0 to 100, with higher scores indicating greater problems.

Sociodemographic variables (age, sex, marital status, level of education and social class), economic resources (economic dependence and sufficiency of family income to cover basic daily needs), social and familial support (persons in the household, time spent alone during the day, presence of someone who acts as a caregiver and confidant), physical exercise (usual sports or frequent long walks, walks only near the home, walks only inside the home, bed-to-chair) were studied. Functional capacity was examined with the Older Americans Resources and Services Multidimensional Functional Assessment Questionnaire (OARS-MFAQ) dimensions of basic and instrumental activities of daily life. Mental health was evaluated with the Pfeiffer test for cognitive impairment and the Hospital Anxiety and Depression scale (HAD) for mood.

To relate the profession or occupation of the head of the household during most of his or her life as determined in the questionnaire<sup>9</sup> to social class according to the occupations proposed by Domingo and Marcos<sup>10</sup> and widely used in other studies, we recorded occupational categories as follows: *classes I and II* (self-employed or responsible for a business with 5 employees or fewer, responsible for a business with 6 employees or more, self-employed professional or professional employed by another business, holding an executive position, responsible for 5 subordinates or fewer, responsible for 6 subordinates or more); *class III* (intermediate-level executive, other employees who work in an office, other employees who work outside an office); *class IV and V* (skilled worker, unskilled manual worker, retired) or *farmer* (small-scale farming, large-scale farming).

The activities of daily life (ADL) dimension of the OARS-MFAQ questionnaire<sup>6</sup> consists of 7 items on basic activities or activities related with self-care, and 7 items on instrumental activities or activities aimed at maintaining the person's environment. Three summary variables were calculated: basic ADL, instrumental ADL and global functional capacity. For the basic and instrumental ADL variables we classified persons as «independent» if they were able to perform all activities in the variable without help, «needing help» if they required help for at least one activity, and «dependent» if they could not perform at least one activity. Within the global functional capacity variable we included completely independent persons in the «good capacity» category, persons who were dependent only for instrumental or basic ADL in the «slight impairment» category, and persons who were dependent in both types of activity in the «severe impairment» category.

The HAD<sup>6</sup> questionnaire consists of 14 items divided into two subscales (anxiety and depression) with 7 items each, which are evaluated on a 4-point Likert scale from 0 to 3, in which 0 is the most favorable response and 3 the least favorable. The score for each subscale is calculated, and scores of 11 or higher are considered to indicate depressive disorder or anxiety. Scores of 7 or lower indicate that the individual should not be identified as a case, and scores between 8 and 10 are considered borderline findings.

The questionnaire was completed in the participants' homes by an appropriately trained researcher. To reduce the number of persons who declined to participate, a personalized letter on health authority (INSALUD) letterhead was sent to each resident chosen as a participant, to request their help with the study and explain how the study was to be done. Participants were advised that the interviewers would contact them by telephone within the following 15 days to arrange a visit. The letter also provided a phone number the participants could call for additional information about the study. The

health centers in the areas where the study was to be conducted were also notified.

Individuals who could not be contacted by telephone or in person at their home address after three tries at different times of day were excluded and replaced with other participants.

### Data analysis

The first part of the analysis consisted of a description of the study population (means and proportions with 95% confidence intervals). Data were stratified by age (younger than 80 years and 80 years or older) and by sex. For the qualitative analysis we calculated Pearson's  $\chi^2$  and the  $\chi^2$  value for linear trends, or Fisher's exact test when appropriate. Quantitative analyses were based on Student's *t* test and nonparametric tests (Mann-Whitney U and Kruskal-Wallis K) as appropriate.

## Results

Of the 2002 recipients of the letter requesting cooperation, 270 fulfilled the exclusion criteria, 453 declined to participate, 49 were away from their habitual residence and 319 could not be contacted after three tries. In all 911 questionnaires were completed, for a response rate of 66.8% (95% CI, 64.2%-69.3%) calculated as the number of questionnaires completed divided by the number of persons who fulfilled the inclusion criteria and who could be contacted.

We found no significant differences in sex or age distribution between the group of participants who completed the questionnaire and the group who did not complete the survey for reasons unrelated with any of the exclusion criteria.

Mean age of the 911 persons interviewed was 74.7 years (95% CI, 74.3%-75.1%). Women made up 59.7% (95% CI, 56.4%-62.9%) of the sample. About one-fourth of the women (26.3%, 95% CI, 22.7%-30.2%) and about one-fifth of the men (22.9%, 95% CI, 18.8%-27.6%) were 80 years old or more; the difference between sexes was not significant.

Table 1 shows the social and economic characteristics of the sample. Women had significantly lower levels of education, socioeconomic level and social and family support than men. Persons 80 years of age or more spent significantly more time alone than did those younger than 80 years.

Table 2 shows the physical and mental health characteristics of the sample. When perceived health status was classified in only two categories (very good or good vs fair, poor or very poor), men's perceived health was better than women's perceived health: 57.5% of all men perceived their health to be very good or good, vs 48.4% of the women ( $P=.007$ ). We found no significant difference between persons older (53.4%) and younger than 80 years (51.7%). Women exercised significantly less and had significantly worse functional capacity and worse scores for anxiety and depression than men. Persons older than 80 years exercised less and, as expected, had a worse functional capacity than those younger than 80 years, although the differences between those older and younger than 80 years on the anxiety and depression subscales were not significant.

**TABLE 1** Proportion of persons with different social and economic characteristics in each group of the sample

% (95% CI)	Total	Women	Men	<80 years	≥80 years
<b>Marital statu</b>					
Married	59.8 (56.5-63)	45.1 (40.9-49.4) <sup>a</sup>	81.5 (77-85.2) <sup>a</sup>	66.9 (63.2-70.4) <sup>a</sup>	38.3 (32-45) <sup>a</sup>
Widow(er), separated, divorced	31.6 (28.7-34.8)	42.5 (38.4-46.8) <sup>a</sup>	15.5 (12.1-19.7) <sup>a</sup>	25.3 (22.1-28.8) <sup>a</sup>	50.7 (44-57.3) <sup>a</sup>
Unmarried	8.6 (6.9-10.6)	12.3 (9.8-15.5) <sup>a</sup>	3 (1.6-5.5)a	7.8 (5.9-10.1)	11(7.4-16)
<b>Educational level</b>					
No formal education	41 (37.8-44.3)	48.7 (44.4-53) <sup>a</sup>	29.4 (24.9-34.4) <sup>a</sup>	39.8 (36.1-43.5)	44.5 (38-51.2)
Primary	29.9 (26.9-33)	31.6 (27.8-35.7)	27.2 (22.8-32.2)	31.1 (27.7-34.8)	26 (20.5-32.3)
Secondary	16.7 (14.3-19.3)	14.7 (11.9-18)	19.6 (15.7-24.1)	16.8 (14.1-19.9)	16.3 (11.9-21.9)
University	12.5 (10.5-14.9)	5 (3.4-7.2)a	23.7 (19.5-28.5)a	12.3 (10-15)	13.2 (9.2-18.5)
<b>Social class</b>					
Classes I-II	38.3 (35.1-41.6)	33.8 (29.8-38) <sup>a</sup>	44.7 (39.5-49.9) <sup>a</sup>	38.1 (34.4-41.9)	38.8 (32.4-45.6)
Class III	25.7 (22.9-28.7)	25.9 (22.2-29.9)	25.3 (21-30.2)	27.2 (23.9-30.8)	21 (15.9-27.1)
Classes IV-V/Retired	31.6 (28.6-34.8)	36.1 (32-40.4) <sup>a</sup>	25.1 (20.8-29.9) <sup>a</sup>	32 (28.5-35.7)	30.1 (24.2-36.7)
Farmer	4.5 (3.3-6.1)	4.2 (2.7-6.4)	4.9 (3-7.8)	2.7 (1.7-4.3) <sup>a</sup>	10 (6.5-15) <sup>a</sup>
Economic dependence	29.4 (26.5-32.5)	45.5 (41.2-49.8) <sup>a</sup>	5.7 (3.7-8.7)a	31 (27.6-34.7)	24.4 (19.1-30.7)
<b>Family income</b>					
Insufficient	32.9 (29.8-36)	34.4 (30.5-38.6)	30.5 (25.9-35.6)	31.6 (28.1-35.2)	36.7 (30.5-43.4)
Sufficient	42.1 (38.9-45.4)	44.8 (40.6-49.1) <sup>c</sup>	38.1 (33.2-43.4) <sup>c</sup>	41.9 (38.1-45.7)	42.9 (36.4-49.7)
More than sufficient	25 (22.3-28)	20.7 (17.4-24.5) <sup>a</sup>	31.3 (26.7-36.4) <sup>a</sup>	26.6 (23.3-30.1)	20.4 (15.4-26.3)
<b>Persons in household</b>					
Alone	19.5 (17-22.2)	25.6 (22-29.5) <sup>a</sup>	10.4 (7.5-14.1) <sup>a</sup>	17.7 (14.9-20.8) <sup>c</sup>	24.8 (19.4-31) <sup>c</sup>
Partner	59.7 (56.4-62.9)	45.2 (41-49.5) <sup>a</sup>	81.1 (76.7-84.9) <sup>a</sup>	66.4 (62.7-69.9) <sup>a</sup>	38.9 (32.6-45.6) <sup>a</sup>
<b>Spends the day alone</b>					
All day	19 (16.5-21.9)	25.4 (21.8-29.5) <sup>a</sup>	9.5 (6.7-13.3) <sup>a</sup>	18.9 (16-22.2)	19.5 (14.5-25.7)
Half the day	10 (8.1-12.2)	12.2 (9.6-15.5) <sup>b</sup>	6.6 (4.4-9.9) <sup>b</sup>	8.8 (6.8-11.3) <sup>c</sup>	13.7 (9.4-19.3) <sup>c</sup>
Occasionally alone	27.9 (24.9-31)	23.1 (19.6-27) <sup>a</sup>	35 (30-40.3) <sup>a</sup>	29.1 (25.7-32.8)	23.9 (18.4-30.4)
Never	43.1 (39.8-46.5)	39.2 (35-43.6) <sup>b</sup>	48.8 (43.5-54.2) <sup>b</sup>	43.1 (39.3-47)	42.9 (36.1-50)
Potential caregiver available	83.7 (81-86)	83.2 (79.6-86.2)	84.4 (80.1-88)	83.6 (80.5-86.3)	84 (78.1-88.6)
Confidant available	12.2 (10.2-14.5)	12.9 (10.2-16)	11.2 (8.2-15)	11.5 (9.3-14.2)	14.1 (10-19.5)

<sup>a</sup>P<.001; <sup>b</sup>P<.01; <sup>c</sup>P<.05.

Among the reasons given by persons who did not rate their health status as good or very good, disease was the most frequent cause (73%; 95% CI, 69.7%-76%), followed by age (65%; 95% CI, 61.5%-68.3%), and much less frequently, toxic habits (28.6%; 95% CI, 25.4%-31.9%), economic causes (10.7%; 95% CI, 8.6%-13.1%) and work (10%; 95% CI, 8.1%-12.4%).

Mean scores on each of the dimensions of the NHP are shown in table 3 along with mean scores for men and women older and younger than 80 years. In general, sleep was the highest-scoring dimension and social isolation the lowest scoring dimension. Moreover, women had worse scores than men in all dimensions, and persons older than 80 years scored worse than those younger than 80 years on all dimension except emotional reactions.

Table 4 shows the percentages of persons who had some or considerable difficulty with the dimensions of the EuroQol instrument. The largest percentage of persons with problems appeared in the pain/discomfort dimension, and the self-care dimension showed the lowest percentage of persons with problems. In all dimensions except self-care, more women than men had problems. Persons older than 80 years had more problems than younger participants in the mobility, self-care and daily activities dimensions.

Mean score on the VAS of the EuroQol instrument was 66.6 (95% CI, 65.3%-68%); men scored lightly higher overall (68.8; 95% CI, 66.8%-70.9%) than women (65.1; 95% CI, 63.3%-66.9%;  $P=.004$ ). Nearly half of the sample (45.7%; 95% CI, 42.4%-49%) had no problems with any of the dimensions of the EuroQol instrument. More men than wo-



**TABLE 2** Characteristics of physical and mental health in each group of the sample

% (95% CI)	Total	Women	Men	<80 years	≥80 years
Physical exercise					
Sports	14.2 (12-16.7)	12.7 (10.1-15.9)	16.3 (12.8-20.6)	15.5 (12.9-18.5) <sup>c</sup>	10.2 (6.7-15.1) <sup>c</sup>
Long walks	51.1 (47.8-54.4)	45.1 (40.9-49.4) <sup>a</sup>	59.9 (54.7-65) <sup>a</sup>	54.1 (50.3-57.9) <sup>b</sup>	42 (35.6-48.8) <sup>b</sup>
Walks near home	26.4 (23.6-29.4)	31.7 (27.8-35.8) <sup>a</sup>	18.5 (14.8-23) <sup>a</sup>	25.7 (22.5-29.2)	28.3 (22.6-34.7)
Walks in the home	6.4 (4.9-8.2)	8.7 (6.5-11.4) <sup>a</sup>	3 (1.6-5.5) <sup>a</sup>	3.4 (2.2-5.1) <sup>a</sup>	15.5 (11.2-21) <sup>a</sup>
Bed/Chair	2 (1.2-3.2)	1.8 (0.9-3.5)	2.2 (1-4.4)	1.3 (0.6-2.6) <sup>c</sup>	4 (2-7.7) <sup>c</sup>
Instrumental OARS-ADL					
Independent	58 (54.7-61.2)	55.1 (50.9-59.4) <sup>c</sup>	62.3 (57.1-67.2) <sup>c</sup>	64.1 (60.4-67.7) <sup>a</sup>	39.6 (33.3-46.4) <sup>a</sup>
Needs help	30.8 (27.8-33.9)	34.9 (30.9-39.1) <sup>a</sup>	24.6 (20.3-29.4) <sup>a</sup>	29 (25.6-32.6) <sup>c</sup>	36.1 (29.9-42.8) <sup>c</sup>
Dependent	11.2 (9.3-13.5)	9.9 (7.6-12.8)	13.1 (9.9-17.1)	6.9 (5.2-9.1) <sup>a</sup>	24.2 (18.9-30.4) <sup>a</sup>
Basic OARS-ADL					
Independent	78 (75.1-80.6)	75.3 (71.4-78.8) <sup>c</sup>	82 (77.6-85.7) <sup>c</sup>	83 (79.9-85.7) <sup>a</sup>	62.8 (56.1-69.1) <sup>a</sup>
Needs help	19.9 (17.4-22.7)	22.5 (19.1-26.3) <sup>c</sup>	16.1 (12.6-20.4) <sup>c</sup>	16.3 (13.6-19.3) <sup>a</sup>	31(25.1-37.5) <sup>a</sup>
Dependent	2.1 (1.3-3.3)	2.2 (1.2-3.9)	1.9 (0.8-4.1)	0.7 (0.3-1.8) <sup>a</sup>	6.2 (3.6-10.4) <sup>a</sup>
Global functional capacity					
Good functional capacity	53.5 (50.2-56.7)	51 (46.7-55.3)	57.1 (51.8-62.2)	59.4 (55.6-63.1) <sup>a</sup>	35.4 (29.2-42.1) <sup>a</sup>
Slight functional impairment	29.2 (26.2-32.2)	28.5 (24.8-32.6)	30.1 (25.5-35.1)	28.3 (24.9-31.8)	31.9 (25.9-38.4)
Severe functional impairment	17.4 (15-20)	20.4 (17.2-24.1) <sup>b</sup>	12.8(9.7-16.8) <sup>b</sup>	12.3(10-15.1) <sup>a</sup>	32.7 (26.8-39.3) <sup>a</sup>
HAD-Anxiety					
≤7 points	76.4 (73.4-79.1)	68.6 (64.5-72.4) <sup>a</sup>	88.1 (84.2-91.2) <sup>a</sup>	75.7 (72.3-78.9)	78.3 (72.3-83.4)
8-10 points	11.5 (9.6-13.8)	14.6 (11.8-17.9) <sup>a</sup>	6.9 (4.6-10.2) <sup>a</sup>	12.1 (9.8-14.9)	9.7 (6.3-14.6)
≥11 points	12.1 (10.1-14.4)	16.8 (13.8-20.3) <sup>a</sup>	5 (3.1-7.9) <sup>a</sup>	12.1 (9.8-14.9)	11.9 (8.2-17.1)
HAD-Depression					
≤7 points	72.1 (69-75)	65.6 (61.4-69.6) <sup>a</sup>	81.6 (77.1-85.4) <sup>a</sup>	73.1 (69.5-76.4)	69 (62.5-74.9)
8-10 points	14 (11.8-16.4)	17.1 (14.1-20.6) <sup>a</sup>	9.3 (6.6-12.9) <sup>a</sup>	14.1 (11.6-17)	13.7 (9.6-19.1)
≥11 points	14 (11.8-16.4)	17.3 (14.2-20.8) <sup>a</sup>	9.1 (6.4-12.6) <sup>a</sup>	12.9 (10.5-15.7)	17.3 (12.7-23)
Health status					
Very good	13.4 (11.3-15.8)	12.2 (9.6-15.3)	15.3 (11.8-19.4)	14.8 (12.3-17.7) <sup>c</sup>	9.3(6-14) <sup>c</sup>
Good	38.7 (35.5-41.9)	36.3 (32.3-40.5)	42.2 (37.2-47.5)	36.9 (33.3-40.7)	44.1 (37.5-50.8)
Fair	37.5 (34.3-40.7)	39.6 (35.5-43.9)	34.3 (29.5-39.5)	38.4 (34.7-42.1)	34.8 (28.7-41.4)
Poor	8.7 (7-10.7)	9.6 (7.3-12.4)	7.4 (5-10.6)	8.3 (6.4-10.7)	9.7 (6.3-14.5)
Very poor	1.8 (1-2.9)	2.4 (1.3-4.2)	0.8 (0.2-2.6)	1.6 (0.8-3)	2.2 (0.8-5.4)

<sup>a</sup>P<.001; <sup>b</sup>P<.01; <sup>c</sup>P<.05.

**TABLE 3** Mean scores on different dimensions of the Nottingham Health Profile

Mean (95% CI)	Total	Women	Men	<80 years	≥80 years
Energy	21.1 (18.9–23.2)	25.8 (22.8–28.8) <sup>a</sup>	14.2 (11.3-17) <sup>a</sup>	18.7 (16.3-21.1) <sup>a</sup>	28.5 (23.7-33.2) <sup>a</sup>
Pain	25.6 (23.6–27.6)	32.3 (29.4–35.2) <sup>a</sup>	15.8 (13.5-18.2) <sup>a</sup>	24.2 (21.9-26.5) <sup>b</sup>	29.8 (25.5-34.1) <sup>b</sup>
Physical mobility	28 (26.4–29.7)	33.1 (30.9-35.2) <sup>a</sup>	20.6 (18.2-23) <sup>a</sup>	25 (23.3-26.7) <sup>a</sup>	37.3 (33.3-41.2) <sup>a</sup>
Sleep	31.8 (29.4–34.1)	36.9 (33.7-40) <sup>a</sup>	24.3 (21.1-27.5) <sup>a</sup>	30.5 (27.8-33.1) <sup>b</sup>	35.7 (31-40.4) <sup>b</sup>
Emotional reactions	24.5 (22.8–26.3)	28.7 (26.3-31.1) <sup>a</sup>	18.5 (16.3-20.7) <sup>a</sup>	24 (22-26)	26.2 (22.6-29.8)
Social isolation	10.9 (9.6–12.1)	12.8 (11.2-14.5) <sup>a</sup>	8 (6.2-9.8) <sup>a</sup>	10.2 (8.8-11.5) <sup>b</sup>	13.1 (10.3-15.8) <sup>b</sup>

<sup>a</sup>P<.001; <sup>b</sup>P<.05.

**TABLE 4** Percentage of the sample with problems on one or more dimensions of the EuroQol questionnaire

% (95% CI)	Total	Women	Men	<80 years	≥80 years
Mobility	21.3 (18.7-24.1)	26.1 (22.5-30)	14.2 (10.9-18.3)	17.8 (15.1-21) <sup>a</sup>	31.7 (25.8-38.3) <sup>a</sup>
Self-care	7.7 (6.1-9.7)	8.8 (6.6-11.6)	6 (3.9-9.1)	4.7 (3.3-6.6) <sup>a</sup>	16.8(12.3-22.5) <sup>a</sup>
Usual activities	19.9 (17.4-22.7)	25.2 (21.7-29.1) <sup>a</sup>	12(8.9-15.9) <sup>a</sup>	16.4(13.7-19.4) <sup>a</sup>	30.5(24.7-37) <sup>a</sup>
Pain/Discomfort	38.2 (35-41.4)	43.6 (39.4-47.9) <sup>a</sup>	30.2 (25.6-35.3) <sup>a</sup>	37.4 (33.8-41.2)	40.5 (34.1-47.2)
Anxiety/Depression	27 (24.1-30)	32.4 (28.5-36.5) <sup>a</sup>	18.9(15.1-23.4) <sup>a</sup>	27.7 (24.4-31.3)	24.7 (19.3-30.9)

<sup>a</sup>*P*<.001.**TABLE 5** Proportion of persons older than 65 years with problems on the dimensions of the EuroQol questionnaire in different Spanish studies

	Madrid (Districts 2 and 4)	Catalonia <sup>24</sup>	Navarra <sup>20</sup>
Mobility	21.3%	31.2%	31.3%
Self-care	7.7%	5.8%	9.7%
Usual activities	19.9%	17.9%	20.7%
Pain/Discomfort	38.2%	47.7%	38.3%
Anxiety/Depression	27%	19.4%	16.2%

men had no problems on any of the dimensions (53.7%; 95% CI, 48.4%-58.8%, vs 40.1%, 95% CI, 35.9%-44.3%; *P*<.001), and more persons younger than 80 years had no problems on any of the dimensions (47.5%; 95% CI, 43.7%-51.3%) as compared to persons older than 80 years (39.6%; 95% CI, 33.3%-46.4%; *P*=.039).

## Discussion

Many studies have used self-perceived health status to investigate subjectivity in the concept of health in older persons; however, fewer studies have used quality of life questionnaires with this population. The present study reports the results obtained with three instruments to measure health status, and the results were comparable across instruments. However, the aim of the present report is to describe the results to lay the foundation for subsequent reports that will analyze the data in greater depth.

We describe a large (n=911), representative urban sample of persons older than 65 years residing in the Community of Madrid and reflecting the entire spectrum of sociodemographic characteristics, although the middle classes predominated. In comparison to other studies,<sup>8,11-14</sup> the population we worked with had a higher level of education and a higher socioeconomic level, as shown by a comparison of the percentages of the samples that belonged to social classes I and II: 29.2% in the present study vs a maximum of 25% in earlier reports, in which social classes IV and V made up more than 50% of the sample.

Our response rate (66.8%) was somewhat lower than in similar reports such as the *Envejecer en Leganés* (Growing old in Leganés)<sup>15</sup> (80%) and the ANCO studies<sup>16</sup> (88%). The response rates in these surveys were enhanced with a media campaign involving the press, television and radio.

We noted considerable differences between men and women: the latter had a worse perceived health status and quality of life than men. Women are a disadvantaged collective, especially in the age group we studied, and their socioeconomic level is considerably lower than that of men. Moreover, women express more loneliness, greater functional impairment and worse affective disorders. Although fewer men than women reach great old age, those men that do reach the age of 80 years or older apparently do so under more favorable conditions than women.

There were also differences in perceived quality of life between persons younger and older than 80 years; however, we found no differences in perceived health status. The differences between the two age groups were smaller than those between the two sexes: no significant differences were noted in socioeconomic level or affective disorders, although persons older than 80 years felt lonelier and had a greater degree of functional impairment than those younger than 80 years. Older persons may assume these changes to be natural, and therefore may not consider them to diminish their health status. Self-perceived health status, the VAS scale of the EuroQol instrument, and the profile provided by the five dimensions of the EuroQol instrument can be viewed as three instruments that aim to measure approximately the same thing: an individual's subjective perception of his or her general health status.

Our findings for self-perceived health status are within the range of findings reported by others.<sup>8,12,17-24</sup> As in our study, some earlier reports noted differences between men and women.<sup>8,22,25</sup>

Older persons have seldom been asked what they believe to be the main causes of their poor health. A search of the literature identified only one study, by Martín-Almendros et al.,<sup>26</sup> in which a sample of the adult population was asked which two factors from a list of nine (smoking, diet, drinking, stress, physical activity, environment, weight, family support and heredity) they considered to have the greatest influence on their health. For persons older than 65 years the most im-

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portant factors were diet (51.6%), smoking (39.1%) and drinking (31.1%). In the present study, smoking and drinking were the third most important cause of poor health, after illness and old age.

Mean score on the VAS (66.6) was between the values obtained in other national-level studies, and was higher than the mean score for persons older than 65 years in the region of Catalonia (60.6)<sup>27</sup> but slightly lower than the mean score for the population of the province of Navarra (69.92).<sup>23,28</sup> However, this figure was lower than the score for persons older than 60 years in the United Kingdom (76.9),<sup>29</sup> where the VAS score decreased as age increased (80 for persons aged 60 to 69 years; 75 for persons aged 70 to 79 years; and 72 for persons 80 years old or more). In the present study, persons older than 80 years scored slightly lower (65.3) than persons younger than 80 years (67.1), but this difference was not significant.

Slightly less than half (45.7%) of the persons interviewed for this study reported a profile that reflected optimum health (11111); the percentage of women in this category (40.1%) was significantly lower than the percentage of men (53.7%). Badia et al.<sup>27</sup> reported the 11111 profile in 67% of the respondents in the general population of Catalonia, and in the 2000 Navarra health survey<sup>23</sup> 70% of the general population reported the 11111 profile. A few years previously, Gaminde et al.<sup>28</sup> found this profile in only 56.2% of the general population of Navarra, and the percentage was lower (38%) for persons older than 60 years, with no significant differences between men and women.

Our findings differ from those of other Spanish studies with regard to the percentage of persons who had problems with one or more dimensions of the EuroQol instrument (table 5). Badia et al.,<sup>27</sup> in their study of the population of persons older than 65 years in Catalonia, and the 2000 Navarra health survey<sup>23</sup>, both found larger percentages of participants who had problems with mobility and smaller proportions with anxiety/depression problems than in persons older than 65 years in the Community of Madrid. The differences between the percentage of men and women in Madrid with problems on one or more dimensions of the EuroQol instrument were greater than in the Navarra study.<sup>23</sup> Kind et al.<sup>29</sup> found that women aged 60 to 69 years in the United Kingdom had fewer problems than men of the same age group in all dimensions of the EuroQol instruments except anxiety/depression; however, for persons aged 70 years or older, women had more problems than men in all dimensions. These authors also found that the percentage of respondents with problems in all dimensions increased with age, except for the anxiety/depression dimension. In our study population the percentage of participants with problems increased with age for all dimensions except for anxiety/depression and pain/discomfort.

When we compared our results with those of the only Spanish study that centered on a similar population, we found that the scores on the NHP were similar to those reported by Alonso et al.<sup>30</sup> in persons older than 70 years in Barcelona

## What is known about the subject

- Quality of life is an increasingly important health goal.
- The concept of quality of life involves a significant component of subjectivity.
- Self-perceived health status is a component of health-related quality of life (HRQOL).

## What this study contributes

- A description of the quality of life as measured with the EuroQol instrument and Nottingham Health Profile in persons older than 65 years, most belonging to the middle classes.
- Women perceived a worse health status and had worse scores on the EuroQol and Nottingham Health Profile questionnaires than did men.
- Persons older than 80 years had worse scores on the EuroQol and Nottingham Health Profile questionnaires than those younger than 80 years, but did not perceive themselves as having a worse health status.

(energy, 23.3; pain, 21.8; physical mobility, 27.3; sleep, 32.8; emotional reaction, 25; social isolation, 11.5), whereas the differences between our results and those of a British<sup>31</sup> and Italian study<sup>31</sup> were larger. This may have been due to socio-cultural differences between countries. In general, persons older than 65 years in the population we studied scored higher than their British counterparts except on the social isolation dimension, where scores in the two countries were similar, and the energy dimension, where scores were higher for British men and lower than Italian men. In the sleep dimension, men in Madrid scored higher, and in the pain and mobility dimensions, women in Madrid scored higher.

It would be interesting to determine, in a separate study, whether the results for these three measures of health status differ in any significant way between the general population and persons older than 65 years, and which potential differences are most useful to detect needs and deficiencies in health status.

## References

1. Leiva Fernández F. La calidad de vida como método de valoración de las actuaciones en atención primaria. *Aten Primaria* 1995;16(Supl 1):130-1.
2. Badia X, del Llano J. Investigación de resultados en salud. *Med Clin (Barc)* 2000;114(Supl 3):1-7.

3. The Whoqol group. The World Health Organization Quality of Life Assessment (WHOQOL): Development and general psychometric properties. *Soc Sci Med* 1998;46:1569-85.
4. Lizán Tudela L. Enfoque genérico de la calidad de vida desde el punto de vista de la psicología y de la medicina de familia. Concepto de calidad de vida y sus dimensiones. *Aten Primaria* 1995;16(Supl 1):131-2.
5. Bowling A. Measuring health: a review of quality of life measurement scales, 2nd ed. Buckingham, Philadelphia: Open University Press, 1997.
6. Badía X, Salamero M, Alonso J, Ollé A. La medida de la salud. Guía de escalas de medición en español, 2.<sup>a</sup> ed. Barcelona: Edimac, 1999.
7. Azpiazu Garrido M. Calidad de vida y factores asociados en mayores de 65 años (áreas sanitarias 2 y 4 de Madrid). Tesis doctoral. Universidad Autónoma de Madrid. Mayo, 2001.
8. Ruigómez A, Alonso J, Antó JM. Salud percibida y capacidad funcional de la población anciana no institucionalizada de Barcelona. *Gac Sanit* 1991;5:117-24.
9. Ministerio de Sanidad y Consumo. Encuesta Nacional de España, 1993.
10. Domingo Salvany A, Marcos Alonso J. Propuesta de un indicador de la clase social basado en la ocupación. *Gac Sanit* 1989;3:320-6.
11. Tomás MT, Centelles F, Valero C, Alcalá A, Cerón A, Soler J, et al. Prescripción crónica de fármacos en pacientes geriátricos de un centro de salud urbano. *Aten Primaria* 1999;23:121-6.
12. Zunzunegui V, Béland F. La salud de las personas mayores de Leganés. *Rev Gerontol* 1995;5:245-58.
13. García de Blas F, González-Montalvo JI, Bermejo F, Colmenarejo C, Delgado L, Miguel I. Salud general, funcional y mental en la población anciana de tres barrios de Madrid. *Rev Gerontol* 1995;2:81-8.
14. Escudero Sánchez C, García Carmona R, Ibáñez Colás A, López López MA, Hidalgo García-Consuegra MA, Pérez Juárez A, et al. Déficit cognitivo, prevalencia y factores asociados en la población mayor de 74 años. *Aten Primaria* 1999;24:326-31.
15. León Galat V, Zunzunegui MV, Béland F. El diseño y la ejecución de la encuesta «Envejecer en Leganés». *Rev Gerontol* 1995;5:215-31.
16. Martínez de la Iglesia J, Pérula de Torres LA, Espejo J, Rubio V, Aranda JM, Fonseca FJ, et al. Proyecto ANCO: un estudio sociosanitario de la población mayor de la ciudad de Córdoba. Diseño y ejecución. *Rev Gerontol* 1997;7:82-90.
17. Gómez Peligros A, Varona López W, Alonso Atienza MC, García Jimeno L, Menéndez Obregón J. Salud percibida, utilización de servicios y consumo de medicamentos en población anciana no institucionalizada. *Aten Primaria* 1993;11:233-8.
18. Ministerio de Sanidad y Consumo. Encuesta Nacional de Salud de España, 1997.
19. Gorroñogoitia Iturbe A, Ibáñez Pérez F, Olaskoaga Arrate A. Autopercepción de salud en el anciano: relación con algunas variables socioeconómicas y de salud. *Aten primaria* 1992;10:771-6.
20. Bello Luján LM, Suárez Rivero JB, Prieto Ramos F, Serra Majem L. Variables sociales y sanitarias asociadas a la autopercepción del estado de salud en la población adulta de Gran Canaria (Islas Canarias). *Aten Primaria* 1999;24:533-6.
21. Pérula de Torres LA, Martínez de la Iglesia J, Ruiz Moral R, Fonseca del Pozo J. Variables relacionadas con el estado de salud autopercebido: estudio poblacional. *Aten Primaria* 1995;16:323-9.
22. Ferrando J, Nebot M, Borrel C, Egea L. Apoyo social y estado de salud percibido en población no institucionalizada de más de 60 años. *Gac Sanit* 1996;10:174-82.
23. Encuesta de salud de Navarra del año 2000. Disponibles en: [http://www.cfnavarra.es/salud/docencia.investigacion/encuesta\\_salud/marco\\_encuesta.htm](http://www.cfnavarra.es/salud/docencia.investigacion/encuesta_salud/marco_encuesta.htm)
24. Pérula de Torres LA, Martínez de la Iglesia J, Espejo Espejo J, Rubio Cuadrado MV, Enciso Berge I, Fonseca del Pozo FJ, et al. Estado de salud de la población mayor de 60 años y su relación con factores sociodemográficos (proyecto ANCO). *Aten Primaria* 1997;20:425-34.
25. Fernández-Merino MC, Rey-García J, Tato A, Beceiro F, Barros-Dios J, Gude F. Autopercepción de la salud y mortalidad en ancianos de una comunidad rural. *Aten Primaria* 2000;25:459-63.
26. Martín-Almendros MIS, Martínez González MA, de Irala-Estévez J, Gibney M, Kearney J, Martínez JA. Percepciones de la población adulta española sobre factores determinantes de la salud. *Aten Primaria* 1999;24:514-22.
27. Badia X, Schiaffino A, Alonso J, Herdman M. Using the Euroqol 5-D in the catalan general population: feasibility and construct validity. *Qual Life Res* 1998;7:311-22.
28. Gaminde I, Cabasés J. Measuring valuations for health states amongst the general population in Navarra (Spain). En: Badia X, Herdman M, Segura A, editors. Euroqol. Plenary meeting Barcelona 1995; 3-6 october. Discussion papers. 1996; p. 113-21.
29. Kind P, Dolan P, Gudex C, Williams A. Variations in population health status: results from a United Kingdom national questionnaire survey. *BMJ* 1998;316:736-41.
30. Alonso J, Antó JM, Moreno C. Spanish version of the Nottingham Health Profile: Translation and preliminary validity. *AJPH* 1990;80:704-8.
31. The European Group for Quality of Life and Health Measurement. European guide to the Nottingham Health Profile. 1989 [ed. revisada].



COMMENTARY

# Importance of Health-Related Quality of Life in Primary Care

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The measurement of health and health-related quality of life (HRQOL) is increasingly important for estimating the outcomes of health care programs and interventions. The use of such measures has increased exponentially, together with that of indicators of satisfaction, as part of what may be called patient-centered measures.<sup>1</sup>

Guyatt defined HRQOL as a concept that attempts to measure an individual's subjective opinion regarding his or her own health in physical, psychological and social dimensions. Strategies for total quality in health care systems lay considerable emphasis on the results obtained in terms of quality of life, as this is one of the outcome variables that makes it possible to analyze the effectiveness of clinical interventions (at the micromanagement and clinical management level) and plan health services (at the macro- and middle-management level).

In Spain, as in other European countries, the population is graying. Technological advances are making it possible to provide solutions to health problems that would previously have been fatal, and thus increase life expectancies, now among the highest in the world. This demographic transformation has been accompanied by substantial changes in social structures. Family disintegration, higher employment rates among women, and other factors, are creating a situation in which loneliness and lack of social support are often major components of daily life for older persons. This has important repercussions on their quality of life, and on their capacity to cope with self-care.<sup>2</sup> These demographic and social changes lead to the increasing use of health resources—particularly primary care—by this population.

At the same time, a change in people's expectations regarding their level of health is evident. Health—the best health possible—has become a product in itself, and a right demanded by all citizens. We are currently able to minimize the symptoms of chronic diseases, and to offer solutions to degenerative diseases (valve replacements, artificial joints) up to very old ages, thus guaranteeing autonomy and a degree of quality of life that make these problems bearable. This trend generates expectations for greater HRQOL in the population, which the primary care professional must satisfy.

## Key points

- Health-related quality of life (HRQOL) is a patient-centered outcome measure of great interest in primary care.
- Quality of life and functional status are independent predictors of health outcomes.
- The steady graying of the population places increasing demands on the health system for care aimed at maintaining or enhancing HRQOL.
- The performance of different instruments available to measure quality of life should be studied in more depth to determine their usefulness.

Self-perceived quality of life involves factors such as the individual's values and beliefs, and his or her previous life experiences, together with limitations in the ability to perform daily life activities. This is therefore a complex variable of great bearing on a person's health status. We could say that what is important is not so much «being well» as «feeling well.»

Primary care professionals need knowledge about the quality of life in the population they care for. This will allow them to plan responses to the needs that arise, and to be in a position to evaluate the impact of whatever actions are taken. Furthermore, it has been shown that functional status and perceived quality of life are independent predictors of health outcomes.<sup>3</sup>

Many instruments are now available to measure HRQOL, and their validity, reliability and sensitivity to change (the main characteristics of a suitable instrument)<sup>3</sup> have been documented. However, there remains considerable ignorance regarding how HRQOL is related with other patient-centered variables such as perceived satisfaction with health care, and regarding the relationships between diffe-

rent dimensions of HRQOL. Also needed is more knowledge of how these dimensions are related to individuals' preferences and values.

In epidemiological studies these instruments are used to determine HRQOL for a specific population, to analyze differences in quality of life between different population groups, or to follow changes in a specific group with time and after health interventions. The present study is an important contribution to this field. It was carried out in a representative sample of an urban population older than 65 years, and the response rate –better than 66%– was sufficient given the complexity of this type of study. The study was based on the simultaneous use of three instruments [the Nottingham Health Profile, the Euro-Qol quality of life instrument, and the activities of daily life domain of the Older Americans Resources and Services-Multidimensional Functional Assessment Questionnaire (OARS-MFAQ) for functional capacity], an approach intended to provide as complete a view as possible of the multifactorial variable in question. The researchers also analyzed other variables that influence HRQOL, such as physical health, mental health, social and family support, economic resources and socioeconomic factors. This makes the study a very thorough approach to the determination of quality of life in the study population. The authors' initial report, sure to be followed by other articles, presents descriptive data and does not attempt to analyze the relationships between the different dimensions in depth.

The results show an inverse relationship between age and quality of life, with larger proportions of persons older than 80 years reporting health and daily living problems as identified with the Nottingham Health Profile and the Euro-Qol instrument. Nevertheless, self-perceived quality of life did not differ between age groups. Women reported worse quality of life indicators, and their self-perceived quality of life was also worse. It would be helpful to see the results of further analyses of these variables once other factors that can modify perceived health (such as level of education, social and family support, etc.) have been controlled for.

The authors draw attention to a potentially useful approach to data analysis, i.e., comparing the performance of different instruments used to study HRQOL in the over-65 population. This analysis will provide information that will allow us to better understand the properties and limitations of each instrument, and with this information, clinicians and researchers will be able to decide more efficiently which instrument is most useful in primary care.

## References

1. Badia X, Salamero M, Alonso J. La medida de la salud: guía de escalas de medición en español. 3.<sup>a</sup> ed. Barcelona: Edimac, 2002.
2. Wilson IB, Cleary PD. Linking clinical variables with health-related quality of life: a conceptual model of patients outcomes. *JAMA* 1995;273:59-65.
3. Applegate WB, Blass JP, Williams TF. Instruments for the older functional assesment of older patients. *N Eng J Med* 1990; 322:1207-14.