Age and Ageing 1998; **27**: 207–216

Quality of life and longevity: a study of centenarians

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Abstract

Objective: interest in centenarians has focused on two particular aspects: the antecedents of extreme old age and the psychophysical well-being of the very old. Our study deals with the latter aspect and aims to assess the quality of life of Italian centenarians.

Method: using data collected using two questionnaires designed to investigate quality of life in elderly people, three groups of 38 elderly subjects were compared: centenarians and subjects aged between 75 and 85 years and 86 and 99 years.

Results: the centenarians complained less spontaneously about their health (maintained in part by medical treatments), but declared having greater functional disability. Their cognitive function appears to be reasonably well preserved and they have lower scores for anxiety and depression than the subjects in the two younger groups. They consider themselves religious, satisfied with their financial situation but no longer interested in sex or involved in recreational activities. They report greater satisfaction with life and with social and family relations than do less elderly individuals.

Conclusions: the centenarians we interviewed seem to be well adapted to their lives and to maintain a more positive attitude than the subjects in the two younger groups.

Keywords: *adaptation, centenarians, quality of life, religion, sex*

Introduction

The number of Italian centenarians increased from 49 in 1921 to 1660 in 1990 [1]. Census data for 1993 are currently being processed but according to preliminary data some 6000 centenarians were alive in Italy on 31 December 1993 [2]. Recently, several centres have joined the Italian Multicentre Study on Centenarians, which aims to assess the clinical and biological condition of centenarians. Preliminary results have highlighted a number of characteristics peculiar to centenarians: they often have a family history of longevity, live in comfortable, family environments, have been hard workers and possess well-preserved psychological and cognitive abilities. They are free from certain risk factors (such as hypertension, hypercholesterolaemia and symptomatic hyperglycaemia) and have always followed a balanced diet, based on natural foods. Their immune systems continue to function well and natural killer cells are particularly active [2, 3].

International research into centenarians includes work on demographic and dietary characteristics, in addition to examining genetic/biological, neurological and neuropathological aspects of this age group and their life style and methods of coping [4–13]. Most research is therefore on the antecedents of extremely long life [14] and psychophysical well-being in old age [15].

The aim of our study was to investigate the quality of life in centenarians in the Veneto region of Italy, based on the concept that long life should be examined not only quantitatively, but also in qualitative terms. At present we have access only to records from the town of Padua and some other places coming under local health unit ULSS 13 (S. Maria di Sala, Noale, Spinea, Scorzè, Martellago, Mirano) but our research will become more widespread as we receive data from other local health units.

Materials and methods

The study was conducted between October 1992 and July 1995. Personal records were supplied by the data processing centre of the municipalities of Padua and Pordenone together with other record offices coming under local health unit ULSS 13. With the lists provided,

we were able to gain access to the names of 57 people aged 100 years or more, 42 of whom were resident in Padua, six in Pordenone and the remaining nine in the other municipalities of the health unit. Of the 42 residents in Padua who were able to participate in the study, the selected test package on the quality of life was only administered to 27 subjects: two refused to take part, two were too physically disabled, two had transferred to another municipality, one was not to be found at the indicated address and the remaining subjects (seven women and one man) had died by the time of recruitment. Four of the six subjects from Pordenone were tested. Of the other two, one refused to take part while the other was too physically unfit to undertake the test. Only seven of the remaining nine residents from the other six municipalities were interviewed, as one was in poor physical health and the other could not be contacted. The total number of subjects tested was therefore 38, including the 11 interviewed subjects who were not resident in Padua.

The questionnaires used were the Profile of Elderly Quality of Life (PEQOL), which has been used in other studies [16, 17] and the LEIPAD quality of life assessment instrument developed to measure self-perceived functioning and well-being in elderly people [18]. (The three universities principally involved in the World Health Organisation European study that developed the LEIPAD instrument were Leiden, Padua and Helsinki: the instrument's name is a combination of 'Leiden' and 'Padua'.)

The PEQOL questionnaire, which takes the form of a test battery, explores various dimensions of quality of life—physical health, cognitive capacities, psychological symptoms, basic and instrumental activities of daily living (ADL and IADL), sleeping patterns, social support, religiousness and sexual relations—which form a 'profile' of the quality of life in elderly subjects (see Appendix 1). This questionnaire had previously been administered by means of door-to-door interviews to 462 subjects aged 75 years and older, chosen at random from the electoral rolls (1:10) of Padua and Brescia [16]. The instrument can be administered by non-specialized personnel after a brief training period and is relatively quick to administer (taking roughly 30 min). The instrument has good psychometric properties, being partly based on scales which have been thoroughly validated.

The LEIPAD questionnaire provides additional self-reported information. Created with a view to studying quality of life in elderly patients in primary health care, it examines subjective views of physical and mental health, sexual relations, emotional status, level of self-esteem, expectations for the future, ADL, social and recreational activities and financial situation. It also considers the cognitive status of the subject being tested in order to assess the reliability of the self-evaluation. The instrument consists of 49 items, 31 of which can be grouped into seven 'core instrument scales'. Other items measure self-perceived personality disorders and social desirability, self-esteem, anger and faith in God. These 18 items can be grouped into a further five scales, referred to as 'moderator scales' (see Appendix 2). Each item in the instrument assesses responses along a scale of 0 (best condition) to 3 (worst condition). Some items of the 'moderator scales' have dichotomic answers so their score is 0 or 1. This paper reports the scores achieved on the core instrument scales and religiousness scale, since the other scales do not contain items comparable with PEQOL ones.

The 38 centenarians tested to date were interviewed in their own homes or institution. From the group of elderly people tested in previous studies in Padua, 76 subjects were chosen by random stratification (one in every five, from an alphabetical list), 38 aged between 75 and 85 and 38 between 86 and 99. These constituted the control groups with which we compared our sample of centenarians. The socio-demographic characteristics of the centenarians and the other two groups included in our study are reported in Table 1. The three groups were comparable with regard to gender and educational level. Of the 38 centenarians, 24 (19 women and five men) lived at home; the remaining 14 lived in institutions (13 women and one man).

The statistical procedures used were Student's *t*-test, X^2 analysis, ANOVA and ANCOVA variance and

Table 1. Socio-demographic characteristics of the subjects

	Age group (years)			
	75–85	86–99	≥100	All
No. of subjects	38	38	38	114
Men	6 (15.79%)	6 (15.79%)	6 (15.79%)	18 (15.79%)
Women	32 (84.21%)	32 (84.21%)	32 (84.21%)	93 (84.21%)
Mean age (years)	79.24 ± 2.53	88.44 ± 3.51	101.13 ± 1.52	89.78 ± 9.29
Schooling (years)	5.15 ± 2.30	4.21 ± 3.07	4.81 ± 3.68	4.72 ± 3.07

Differences in mean years of schooling between the three groups: $F = 0.92$, P = not significant.

covariance analysis. The results were processed by means of SYSTAT statistical software [19].

Results

The package took longer to administer to the centenarians (the mean time taken was 44.0 ± 36.77 min, range 18-70, as opposed to 30± 21.21 min, range 15-30 in younger subjects) and was in no case self-administered, as the subjects frequently had poor eyesight or their writing skills were not sufficient to allow them to fill in their answers. Whenever it seemed advisable, relatives were asked to help by explaining the questions and generally creating a more relaxed atmosphere during testing.

Description of the results has been divided into two main sections: the first assesses the data relating to self-sufficiency and the second to psychological well-being and cognitive performance.

Self-sufficiency

Table 2 presents the results obtained after administration of the IADL [20] and ADL [21] scales and those obtained from the PEQOL scale for physical status, comprising 16 *ad hoc* items to investigate the presence of pain, discomfort, functional disability (see Appendix 1). Table 3 shows the results from the LEIPAD physical health scale.

Since the subjects aged between 75 and 85 years had on average 1 year's schooling more than the other two age groups, we decided to verify whether omitting this variable would modify the results. By using ANCOVA covariance analysis we excluded the possibility of such an effect for the variables considered. Variables which were not significantly different were also controlled for schooling; none of the results were significantly different.

The centenarians reported a mean number of lost functions on the IADL scale exceeding the numbers reported by both the 86-99-year-old group and the 75-85-year-old group. Comparison of adjusted values after ANCOVA did not modify these results. A similar result was obtained with the ADL scales, even after ANCOVA for schooling. (Table 2).

On the IADL scales, 50% of the centenarians interviewed (n = 19) reported eight lost functions, thus indicating that these subjects depend on others for basic daily living requisites such as shopping, money matters, use of medicines and the telephone. According to the results from the ADL scales on ability to wash, dress and move about unaided and incontinence, only 18% (n = 7) were completely dependent.

The centenarians and those in the 86-99-year-old group spontaneously complained of an average of only one painful symptom compared with an average of almost two such symptoms in the youngest group. After allowing for educational level, the results do not change (Table 2). The three groups did not, however, differ significantly in evoked painful symptoms. This applied even after ANCOVA for schooling (Table 2). On the question on disability, the centenarians and elderly people from the intermediate age group had significantly higher scores than the younger subjects.

The centenarians' mean for spontaneously reported lost function was not significantly different from those reported by the subjects from the other two groups; after ANCOVA the result was similar (Table 2). The intermediate age group reported a greater mean number of lost functions evoked by the interviewer compared with the number reported by the centenarians and youngest age group; after ANCOVA for schooling the result did not change (Table 2).

Table 2. Mean points on the Profile of Elderly Quality of Life scales scored by the three groups

	Age group (years)				
Scale	75-85	86-99	≥100	F	P
IADL[a]	0.63 ± 1.02	4.10 ± 2.50	6.86 ± 1.51	116.12	<0.000
ADL[b]	5.57 ± 1.150	7.47 ± 1.78	13.23 ± 3.29	118.21	<0.000
Pain/discomfort 1[c]	1.84 ± 1.620	0.92 ± 1.23	1.13 ± 1.52	3.83	<0.02
Pain/discomfort 2	1.50 ± 1.60	1.47 ± 1.68	1.86 ± 1.85	0.98	NS
Function 1	1.31 ± 1.47	1.23 ± 1.26	0.78 ± 1.06	1.87	NS
Function 2[d]	1.63 ± 1.63	2.44 ± 1.46	2.36 ± 1.90	2.72	<0.06
Weakness[e]	4.81 ± 5.36	8.97 ± 5.67	10.26 ± 6.43	9.02	<0.000

IADL, instrumental activities of daily living; ADL, activities of daily living; NS, not significant.
[a]After ANCOVA for schooling: F = 87.33, P < 0.000.
[b]After ANCOVA for schooling: F = 145.88, P < 0.000.
[c]After ANCOVA for schooling: F = 3.02, P < 0.05.
[d]After ANCOVA for schooling: F = 2.70, P < 0.06.
[e]After ANCOVA for schooling: F = 9.14, P < 0.000.

Table 3. Mean points on the LEIPAD scales in the three groups

Scale	Age group (years) 75-85	86-99	≥100	F	P
Physical function[a]	6.47 ± 3.19	7.05 ± 2.44	7.27 ± 2.11	0.92	NS
Self care[b]	2.27 ± 3.71	7.65 ± 3.87	14.13 ± 3.75	89.96	<0.00
Cognitive function[c]	4.19 ± 2.44	4.23 ± 2.64	5.48 ± 2.86	1.90	<0.05
Depression and anxiety	2.19 ± 3.48	2.18 ± 2.19	2.34 ± 2.58	1.61	NS
Social function	4.10 ± 1.76	3.68 ± 2.11	3.42 ± 1.61	1.82	NS
Sexual function[d]	4.91 ± 1.60	5.89 ± 0.64	6.00 ± 0.00	12.37	<0.00
Recreational activities item[e]	1.32 ± 0.85	1.21 ± 0.77	1.91 ± 0.81	3.83	<0.03
Economic satisfaction item[f]	1.02 ± 0.63	1.49 ± 0.86	0.90 ± 0.52	5.27	<0.000
Life satisfaction[g]	7.73 ± 3.89	5.68 ± 3.05	4.97 ± 2.44	7.20	<0.000
Faith in God[h]	1.43 ± 0.64	1.68 ± 0.52	1.75 ± 0.52	3.09	<0.05

NS, not significant.
[a]After ANCOVA for schooling: $F = 88.92$, $P < 0.000$.
[b]After ANCOVA for schooling: $F = 1.98$, $P < 0.05$.
[c]After ANCOVA for schooling: $F = 11.37$, $P < 0.000$.
[d]After ANCOVA for schooling: $F = 3.90$, $P < 0.03$.
[e]After ANCOVA for schooling: $F = 4.20$, $P < 0.02$.
[f]After ANCOVA for schooling: $F = 5.94$, $P < 0.000$.
[g]After ANCOVA for schooling: $F = 3.12$, $P < 0.05$.

The most impaired functions were hearing, eyesight and walking (especially in institutionalized subjects). Incontinence was also a common problem, as were cardiovascular disorders and decreased memory and cognitive performance. All subjects took at least one drug and some took as many as 15 different types.

As regards the LEIPAD questionnaire, comparative analysis of this aspect of the study—which also confirmed the findings of the PEQOL—can be performed for the scores obtained by the three groups for the physical functions and self-care scales. In the former scale, the scores tend not to differ significantly, whereas in the latter scale the three groups differ significantly, with greater impairment being reported especially by the centenarians (Table 3).

Psychological well-being and cognitive performance

Table 4 presents the scores obtained on the Brief Symptom Inventory [22] and on the Mini Mental State Examination (MMSE) [23].

There were no differences between the three groups in any of the Brief Symptom Inventory subscales for depression and anxiety of the PEQOL (Table 4) and the LEIPAD depression and anxiety scales (Table 3).

Comparison of the mean scores obtained in the MMSE [23] showed that they differed significantly from group to group, even after covariance for educational level, with a trend inversely proportional to increasing age (Table 4).

The LEIPAD cognitive function scale is relatively coherent with the mean MMSE scores, which are inversely proportional to increase in age. The three groups differ and the centenarians appear to be aware of greater limitations in their function (Table 4). However, the administration of the MMSE revealed that some items inappropriately influence the final overall score, since physical impairment (sight deficits or arthritis preventing the subject from using a pen) makes it practically impossible for subjects to complete the final part of the questionnaire, requiring subjects to do a reading test, complete an order, write a sentence and copy a drawing. Consequently, the maximum score subjects can achieve, even if they are lucid and oriented but suffer from physical impairment, is 22/30. On the basis of this rationale, we have admitted to our study centenarians with a score of between 8 and 27 out of 30, where they are able to answer questions put to them, with a relation present to confirm the validity of the answers.

The total score for the items relating to PEQOL sleep patterns showed that greater problems were experienced in the intermediate group, who reported more sleep disorders than those aged 75-85 years and those aged 100 years or older (Table 4). The same finding cannot be compared with LEIPAD, as the scales in this questionnaire do not include specific questions on this aspect.

The three groups appeared to differ significantly in Surtees' [24] social support scale included in the PEQOL, reporting scores between 4 and 7, the lowest of which (indicating that the subject perceived better social support) was in centenarians and the 86-99-year-old group (Table 4). On the LEIPAD social functions scale, the oldest subjects reported greatest

Table 4. Mean points on the Profile of Elderly Quality of Life scales in the three groups

Scale	Age group (years) 75-85	86-99	≥100	*F*	*P*
MMSE[a]	26.07 ± 2.63	21.97 ± 2.38	13.32 ± 6.66	84.86	<0.000
BSI					
Depression	0.54 ± 0.44	0.75 ± 0.55	0.64 ± 0.79	1.12	NS
Anxiety	0.51 ± 0.42	0.74 ± 0.64	0.57 ± 0.78	1.30	NS
Sleep patterns[b]	6.31 ± 6.01	8.07 ± 5.84	4.84 ± 4.85	4.01	<0.000
Social support[c]	7.50 ± 3.63	4.68 ± 3.10	4.89 ± 2.59	9.49	<0.000
Recreational activities[d]	1.92 ± 1.21	0.60 ± 1.79	0.13 ± 0.34	20.35	<0.000
Interest in sex[e]	1.81 ± 0.76	0.84 ± 1.06	0.00 ± 0.00	13.52	<0.000
Economic status[f]	6.76 ± 3.21	10.42 ± 2.15	7.94 ± 3.95	13.08	<0.000
Religiousness[g]	2.73 ± 1.67	3.68 ± 1.64	5.21 ± 3.04	12.03	<0.000

MMSE, Mini Mental State Examination; BSI, Brief Symptom Inventory; NS, not significant.
[a]After ANCOVA for schooling: F = 79.91, $P < 0.000$.
[b]After ANCOVA for schooling: $F = 4.00$, $P < 0.000$.
[c]After ANCOVA for schooling: $F = 9.29$, $P < 0.000$.
[d]After ANCOVA for schooling: $F = 20.40$, $P < 0.000$.
[e]After ANCOVA for schooling: $F = 14.89$, $P < 0.000$.
[f]After ANCOVA for schooling. $F = 13.97$, $P < 0.000$.
[g]After ANCOVA for schooling: $F = 11.09$, $P < 0.000$.

satisfaction with their social relations and friendships, although the difference in score was not statistically significant (Table 3).

Recreational activities were not maintained by the centenarians, with the exception of four cases. Hence they differ significantly from the components of the younger age groups, who reported continuing such activities, albeit to a diminished extent, even after ANCOVA for schooling (Table 4). The LEIPAD life satisfaction scale includes a question on hobbies and recreational activities. Similar findings emerged for this item to the PEQOL one on recreational activities (Table 3). Moreover, on the LEIPAD life satisfaction scale an interesting difference emerges between the three age groups: the mean scores are inversely proportional to increase in age, suggesting that subjects who report less satisfaction belong to the youngest age group (75-85 years of age). The difference appears to be statistically significant, and even after ANCOVA for educational level the results remained unchanged (Table 3).

Scores on the scale of economic status differed significantly from group to group: the subjects in all the age groups reported scores indicating overall satisfaction with their financial circumstances, but older subjects and centenarians generally indicated being more satisfied than the younger age groups. ANCOVA for educational level did not modify these findings (Table 4). The same result was found for the item in LEIPAD on satisfaction with financial circumstances, even after ANCOVA for schooling (Table 3).

We investigated the subjects' interest in sex. The mean scores obtained by the three groups differed significantly (Table 4): while the subjects in the two lower age groups reported some interest, albeit diminished in the case of those aged 86-99 years, every centenarian affirmed that they had lost all interest in sex. ANCOVA for educational level did not modify these findings, showing that this variable had no influence on the result (Table 4). The same result was found in relation to the LEIPAD sexual functioning scale, even after ANCOVA for schooling (Table 3).

Compared with the other two groups, the centenarians reported finding greater comfort from their faith and that their interest in religion had increased over the previous year. The result was confirmed even after removal of the age and schooling variables by ANCOVA (Table 4). Similar result for the religious faith of the centenarians was found on the LEIPAD religiousness scale, even after ANCOVA (Table 3).

Discussion

People who live to 100 or older represent a select group, considering that only one person in 7000-10 000 reaches this age [25]. The limited sample of our study does not permit generalized conclusions, although we incorporated the entire population of the town of Padua, the municipality of Pordenone and six other municipalities in the Veneto region.

Our data confirm Lehr's finding that there is great variability among extremely old individuals [15], with varying levels of functional activity, cognitive activity

and memory. On MMSE scores, the degree of impairment in centenarians compared with the lower age groups confirms data on the increased prevalence of dementia with advancing age [26, 27]. The centenarians in our study were able to answer the questions put to them but had difficulties in performing the MMSE items requiring ability to read or write. Consequently, these items have been omitted from the most recent brief version of the questionnaire. Furthermore, centenarians' answers were compared with the opinion of a relative or the principal caregiver, who was also present during the test, both to help the interviewee feel more secure and reassured and to confirm the responses given or report otherwise.

Individuals who reach great age depend almost entirely upon other people. Only one person we interviewed was still able to live alone and was self-sufficient in most ADL. The mean number of functions (ADL and IADL) lost by these subjects is higher than the number lost by the less elderly; moreover, the scores of the latter indicate a trend which is directly proportional to increase in age. Despite reporting poorer functional ability, the centenarians complained less of pain and discomfort than their younger, functionally less impaired counterparts. This suggests greater adaptation to the inevitable loss of functioning which gradually impedes agility with advancing age. Such adaptability might be an inborn characteristic of those who succeed in living very long lives, insofar as they progressively adjust their lifestyles and accept their condition as the physiological norm. Furthermore, these very old people tend to complain less about their living conditions. On the LEIPAD life satisfaction scale, they score higher than the less elderly groups. This supports the hypothesis of the role played by progressive adjustment and positive attitude to life [2, 28].

It transpires that the most well-preserved people are those who remain intellectually stimulated, those who still maintain satisfactory social relationships and, in particular, can count on the help of the family or other caregivers, and those who have spent years working in crafts requiring creative skills or who have kept their interests alive. These findings corroborate the results of other Italian studies [2] and international research work [29-31].

Most subjects reported poor eyesight and hearing, which may be one of the reasons why only a few of them still keep up recreational activities. Some centenarians complain of motor deficits and urinary incontinence. Despite this, few subjects presented symptoms of depression (three subjects) or anxiety (four subjects) on the Brief Symptom Inventory scale, in addition to reporting fewer sleep problems than their younger counterparts.

Very old people attach importance to religious faith [32]: the centenarians interviewed found greater solace in faith than the less elderly groups.

Generally speaking, despite their precarious equilibrium, the old people tested by us had adapted to their circumstances. They were often aided by their families or by people in the institutions where they lived.

Predictors of long life include: continuing to play a role in society, keeping in good physical shape, taking preventive measures against serious disease, looking on the bright side of life, being intellectually stimulated, believing that happiness can be achieved, having financial security, having a good life expectation and maintaining satisfactory social relationships [33, 34].

Increasing our sample size might allow us to verify possible adaptive mechanisms highlighted by this study. Longitudinal studies will permit assessment of the adaptations made by extremely old people which might be useful in revealing the secrets of long life.

Key points

- When 38 centenarians were compared with groups of subjects aged 75-85 and 86-99 years using two questionnaires for assessing quality of life in elderly people, the centenarians were less inclined to complain about their physical condition and, despite greater functional disability, were no more subject to depression or anxiety than the younger groups.
- The centenarians have well-preserved cognitive function and a good level of social support, find solace in religious faith and are satisfied with their financial situation. They are no longer interested in sex (in contrast to those aged 86-99 years) and rarely practice recreational activities, but report greater satisfaction with life than less elderly subjects.
- Those who reach 100 years of age adapt to circumstances and have a positive attitude to life and good social and family relations.

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Received 19 February 1997

Appendix 1. Profile of the Elderly Quality of Life

1. Physical symptom scale

	System/function	Pain/discomfort	Functioning[a]	Impairment[b]
Hands, arms, shoulders				
Feet, legs, hips				
Back, neck				
Head, face (including persistent headache)				
Lungs, respiration				
Heart, vessels				
Mouth, mastication				
Stomach, intestine, digestion				

Metabolic disorders
Kidneys, urinary tract
Eyes, eyesight
Ears, hearing
Speech disorders
Mental functions
Sexual functions
Other

[a]Score = 1 for each item for which pain, discomfort or functional difficulty was spontaneously referred *or* evoked/observed by the interviewer (range: 0-16).
[b]Scoring: 1, not at all; 1, a little; 2, somewhat; 3, quite a lot; 4, much.

2. Cognitive symptoms: Mini Mental State Examination (Folstein *et al.*, 1975)
3. Psychological symptoms: Brief Symptom Inventory (Derogatis and Melisaratos, 1983)
4. Instrumental activities of daily living: Index of Instrumental Activities of Daily Living (Lawton and Brody, 1969)
5. Activities of daily living: Index of Activities of Daily Living (Katz, 1970)
6. Sleep disorders

How many days have you had difficulty in sleeping during the last month?
How many days during the last month have you woken up during the night at least twice?
How many days during the last month have you woken up too early and had difficulty going back to sleep?
How many days during the last month have you woken up still tired, even though you had slept as usual?
How many times a week do you have difficulty keeping awake and need to take a nap?

Score: 0, never; 1, 1-3; 2, 4-7; 3, 8-14; 4, 15-21; 5, 22-31.

7. Social support: Social Support Index (Surtees, 1980)
8. Religiousness

Is religious faith a comfort to you in your everyday life?
Has your interest in religion increased over the last year?

Scoring: 0, not at all; 1, at little; 2, somewhat; 3, quite a lot, 4, much.

9. Recreational activities

Over the last year how have your recreational activities been? How does this compare with before?

Include activities from simply playing cards to more complex ways of organizing leisure time. Exclude watching television
Absent
Present

Scoring: 0, decreased compared with before; 1, the same as before; 2, increased compared with before.

10. Economic status

Do you feel that you have sufficient food and clothing for your own personal use?
Are your living conditions adequate, even in the winter?
Do you feel you could cope with an emergency situation with your present financial resources?

Scoring: 0, not at all; 1, at little; 2, somewhat; 3, quite a lot; 4, much.

11. Sexuality

Over the last year (or since the last assessment) what has your interest in sex been? How does this compare with before?
Absent
Present

Scoring: 0, decreased compared with before; 1, the same as before; 2, increased compared with before.

Appendix 2. LEIPAD

The instrument should be administered following the order of the figures indicated for each item

Core instrument (31 items)

Physical functioning scale (theoretical score: 0-15)

1. How would you rate your overall physical health?
6. Do you have sleep problems?
7. Do you get tired, without energy?
9. Are you able to accomplish your usual tasks, either at home, at work or elsewhere?
12. How much do your physical health problems (if any) stand in the way of doing the things you want to do?

Self-care scale (theoretical score: 0-18)

2. Are you able to get up and down the stairs without help?
3. Are you able to dress by yourself?
4. Are you able to eat by yourself?
5. Are you able to bathe or take a shower by yourself?
10. Can you shop by yourself?
11. Can you travel by public transport?

Depression and anxiety scale (theoretical score: 0-12)

17. Taking everything into consideration, how anxious do you feel?
18. How much do your feelings of anxiety (if any) stand in the way of doing the things you want to do?
19. Taking everything into consideration, how depressed (blue) do you feel?
20. How much do your depressed feelings (if any) stand in the way of you doing the things you want to do?

Cognitive functioning scale (theoretical score: 0-15)

8. Do you have difficulties in concentrating?
13. How often does it happen that you are not able to think clearly or that you are confused?
14. How much do your problems with thinking (if any) stand in the way of you doing the things you want to do?
15. How good is your memory?
16. How much do your memory problems (if any) stand in the way of you doing the things you want to do?

Social functioning scale (theoretical score: 0-9)

21. How satisfied are you with your social ties or relationships?
22. Do you feel emotionally satisfied in your relationships with other people?
23. Is there someone to talk about personal affairs when you want to?

Sexual functioning scale (theoretical score: 0-6)

24. Are you interested in sex?
25. How often do you have sexual contact?

Life satisfaction scale (theoretical score: 0-18)

26. How satisfied are you with your ability to manage your hobbies or recreational activities?
27. How satisfied are you with your financial situation?
28. Do you feel that you cannot afford the standard of living you would need?
29. How satisfied are you in general with your life at present when compared with the past?
30. Taking everything into consideration, how do you expect things will go in the future?
31. How much do your expectations of the future stand in the way of you doing or initiating the things you want to do?

Moderators (18 items)

The perceived personality disorder scale (theoretical score: 0-6)

39. How often do you feel that most people cannot be trusted?

Do you agree with any of the following statements?

45. "Over the past several years, I have often been troubled by the difficulties I have in dealing with others."
46. "Over the past several years, I have been bothered by the kind of person I am."

47. "Over the past several years, the way I have behaved has often got me into trouble, either at work, at home or elsewhere."
48. "Over the past several years, other people have often seemed bothered by the things I do or say."
49. "I haven't got as far as I'd like to because of the kind of person I am."

The anger scale (theoretical score: 0-4)
Do you agree with any of the following statements?
32. "I feel easily annoyed or irritated."
33. "I have temper outbursts that I cannot control."
34. "I get into arguments with others."
35. "I tend to be resentful."

The social desirability scale (theoretical score: 0-3)
Do you agree with any of the following statements?
42. "I am always ready to go out of my way to help someone else."
43. "I like to gossip at times."
44. "There have been times when I was quite jealous of the good fortune of others."

Self esteem scale (theoretical score: 0-3)
36. Taking everything into consideration, do you feel inferior to other people?
37. How often do you avoid things (refrain from doing things) because you feel inferior?
38. "I tend to have a negative opinion of myself": do you agree with this statement?

Trust in God scale (theoretical score: 0-2)
40. Do you believe in God or some superior being?
41. Do you find comfort or support in such a belief?