

Depression in the elderly community: II. Outcome in a 4.5 years follow-up

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ABSTRACT – Background and Objectives: In this study, we test to what extent negative outcomes of depression reported in different countries may be confirmed in a Southern European population.

Methods: This is a follow-up (mean 4.5 years) of the elderly sample interviewed in the baseline of the Zaragoza Study (or ZARADEMP 0). The general methodology is described in the previous paper. The same two-phase procedure completed at baseline was also implemented at follow-up and the same standardized instruments were used. Cases of depression at follow-up were diagnosed with AGECA criteria. Operational criteria were also used for definition of both “incident case of depression” and “chronic case of depression”.

Results: Six hundred and sixty three elderly (61.4%) were reassessed at follow-up, and 216 died in the follow-up period. A negative outcome of both, major and minor depression was observed. Taken together, the pessimistic outcome (death, chronicity or conversion to other psychiatric diagnosis) was observed in 70.5% of cases of depression, but only in 30.8% of “non-cases”, the differences being statistically significant ($Z = 6.7$; $p < 0.001$). Similarly, a high proportion of subcases of depression had a negative prognosis (48.5%), the differences with “non-cases” also being statistically significant ($Z = 2.7$; $p < 0.005$).

Incidence rate of depression was 14.4 (95% C.I.: 11.0-18.6) the rate being significantly higher in women when compared to men.

Conclusions: This is the first report of a negative outcome of depression in a representative sample of the elderly in a Southern European city. Subcases of depression also had a negative outcome. The clinical significance in AGE-CAT cases of depression is emphasized.

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Introduction

Depression is presently considered to be a potentially severe condition with very negative clinical and social implications^{3,4}. By the year 2020 it has been calculated that depression will rank first in relation to disability⁶⁷. Even minor cases of depression or subcases have been reported to have a poor outcome⁶⁸. We have documented in a previous study that depression in the elderly community is quite prevalent and overlaps with dementing conditions⁹. In the previous article in this issue we have also reported that the prevalence of depression in this age group varies according to diagnostic criteria used and does not increase with age⁶⁹. However, in spite of negative consequences reported in the literature, we also show in the same article that only half the cases of major depression were adequately treated.

In this article we follow-up the depressed elderly detected at baseline. Differences in the prevalence and characteristics of depression in European countries have been reported¹³, which might be influenced by socio-demographic factors. We now want to test the hypothesis that negative outcomes reported in other countries will be also observed in the depressed elderly in a Southern European population, when compared to the non-depressed. A second objec-

tive is to confirm in this population the clinical significance of cases of depression diagnosed with AGE-CAT criteria.

Methods

A two phase procedure was implemented in the follow-up assessment, a mean of 4.5 years later, with the same method used in the baseline study⁶⁹. Standardized lay-interviewers completed phase 1 and research psychiatrist completed phase 2. All used the Mini-Mental, the GMS and the HAS for the assessment. However, contrary to the baseline study, the HAS was also administered to caregivers in "probable cases" (GMS criteria). Special consideration in the study was given to the HAS. For the differential diagnosis biographical data, a detailed description of the history of the present episode, as well as the medical and psychiatric history and the family history were all specifically used. In this study the present episode was defined as the last episode following a period of four or more weeks without psychiatric illness. At the end of phase 2, the psychiatrists diagnosed the identified "cases" following different sets of diagnostic criteria⁷⁰. For the purpose of this report, AGE-CAT diagnostic criteria will be used.

In a context of controversy related to the concept of “incident”²⁵ or “chronic” depression⁷¹, the following operational definitions were used in this study:

“Incident case of depression”: individuals considered to be “non-cases” of depression at baseline (AGECAT criteria), but diagnosed as “cases of depression” (AGECAT criteria) at follow up.

“Chronic case of depression”: individuals considered to be “cases of depression” at baseline (AGECAT criteria, either major (“psychotic”) depression or minor (“neurotic”) depression) and diagnosed again as “cases of depression” at follow-up.

Statistical procedures

Statistical analyses were performed using SPSS 14.5 for Windows. Confidence intervals (95%) and standard deviations were calculated. Pearson Chi-square and Z-test were used to test differences in the frequencies by groups, with $P < 0.05$ as the level of significance. Two-sided tests were used throughout.

To calculate incidence rates, the time of origin was defined as the moment of the baseline assessment. If data on depressive status was missing, patients lost before follow-up assessment were considered “not depressed” if they were not depressed at baseline.

Results

Out of the 1,080 individuals assessed at baseline, 663 (61.4%) were interviewed at follow-up. Distribution by sex and age is shown in Table I. Mean age in the interviewed sample was 78.1 ± 5.6 years. It was 77.4 in men (range 71-102 years) and 78.5 in women (range 71-99 years). General demographic characteristics of the sample were described in the previous article⁶⁹. This is a sample of elderly individuals of predominantly rural origin, married or widowed and with limited educational background. Main reasons for non-response at follow-up were deaths ($n = 216$), refusals ($n = 114$) and others (untraced, moved away, etc.) ($n = 87$).

Table II describes the outcome of “cases” and “subcases” (AGECAT) of depression diagnosed at baseline. “Non-cases” are included for comparative purposes. A negative outcome of “cases” of both major and minor depression (dead, chronic depression, dementia or other cases) is apparent, since only 20.6% and 35.2% of them respectively were considered to be “non-cases” at follow-up. The outcome was also negative in “sub-cases” (51.5% non-cases at follow-up), and was considerably better in the “non-cases” at baseline (69.2% continued to be “non-cases”). Changes in diagnostic status are also observed, since 8.8% of major depressions were considered to be minor at follow-up and, similarly, 3.7% of minor depressions

Table I
Sociodemographic characteristics of the followed sample

Age	Men		Women		Total	
	N	%	N	%	N	% total by age
<80	191	45.3	231	54.7	422	63.94
80	79	33.2	159	66.8	238	36.06
% Total by sex	270	40.9	390	59.1	660	100

$$\chi^2 = 9.16; p = 0.02$$

Table II
Outcome (4.5 years follow-up) of “non-cases” and “cases” of depression diagnosed at baseline

	Total		Death		D Minor ¹		D Major ²		Dementia		Other cases		Non case	
	N	%	N	%	N	%	N	%	N	%	N	%	N	%
Depression major	34	44.1	15	44.1	3	8.8	6	17.6	3	8.8	0	0.0	7	20.6
Depression minor	54	40.7	22	40.7	9	16.7	2	3.7	1	1.8	1	1.8	19	35.2
Depression subcase	68	26.5	18	26.5	7	10.3	1	1.5	6	8.8	1	1.5	35	51.5
Non case	363	18.2	66	18.2	17	4.7	2	0.5	23	6.3	4	1.1	251	69.2

¹ Depression Minor.

² Depression Major.

were diagnosed as major depressions at follow-up. The proportion of the dead among the depressed elderly (42.0%) is also very important, and significantly higher than in the “non-cases” (18.2%; $z = 4.64$, $p < 0.001$). Only a total of 29.5% cases of depression (including both major and minor) had a “positive” outcome (“non cases” at follow-up) and the proportion among “non cases” at baseline (251 or 69.1%) was significant higher ($z = 6.7$; $p < 0.001$).

Chronicity of depression was more common in women (26.8%) in relation to men (9.5%), ($z = 1.3$; $p = 0.17$); and in the younger (< 80 years) (21.7%) compared to the older elderly (+80 years), (21.7%) ($z = 0.15$; $p = 0.87$). However, the differences are not statistically significant. Table III shows the data by type of depression.

Fifty nine new cases of depression were detected at follow-up, the global rate of incidence of depression being 14.4 person-year per 1,000 inhabitants. The incidence was significantly higher in women (18.7) when compared to men (8.5) the differences being statistically significant ($z = -2.55$; $p = 0.011$); it was also higher in the older elderly (18.9) when compared to the younger elderly (13.0), but, in this case, the differences were not statistically significant ($z = -1.16$; $p = 0.2$) (Table IV).

Discussion

The results reported in this article support the hypothesis that depression in the elderly community has a negative outcome: more than 40% of the sample of depressed elderly (with both major and minor depression) died in the follow-up period, the proportion being significantly higher than in the non-cases. Similarly, the proportion of cases of psychi-

Table III
 Chronicity of the elderly depression in the community, by age and sex

			N ¹	Depress ²	%	Z test (p)
D Minor ³	Sex	Men	12	2	16.7	Z = -0.04 (p = 0.96)
		Women	42	9	21.4	
	Age	<80	41	7	17.1	
		+80	13	4	30.8	
D Major ⁴	Sex	Men	9	0	0.0	Z = 1.66 (p = 0.09)
		Women	25	9	36.0	
	Age	<80	24	8	33.3	
		+80	10	1	10.0	
Total			88	20	22.7	

¹ Depressed subjects in the baseline.

² Depressed subjects in the baseline in whom depression was considered to be "chronic" in the follow-up.

³ Depression Minor.

⁴ Depression Major.

Table IV
 Global and specific (by age and sex) incidence rates of elderly depression in the community

		N	Incident cases	Incidence rate per 1,000 inhabitants	Z test (p)
Global		960	59	14.4 (11.0-18.6)	
Sex	Men	411	15	8.5 (4.8-14.1)	Z = -2.55 (p = 0.01)
	Women	549	44	18.7 (13.6-25.1)	
Age	<80	732	41	13.0 (9.3-17.7)	Z = -1.16 (p = 0.2)
	+80	228	18	18.9 (11.2-29.8)	

atric morbidity at follow-up was higher among the elderly depressed at baseline: only 20.6% of the major depression cases, and 35.2% of the minor depression cases were free of psychiatric morbidity at follow-up, the proportion being significantly lower than in the "non-cases". A negative outcome in the elderly depressed has been previously reported⁷¹. However, to our knowledge, this is the first report of this kind in a representative sample of the elderly in a Southern European city.

The proportion of cases of negative outcome is similar or even higher than in Anglo-Saxon or other countries⁷²⁻⁷⁴. Since we have

previously shown that depression in Zaragoza is less prevalent than in other European cities¹³, a possible explanation is that we are using stringent diagnostic criteria here. In support of this, some studies have suggested that the positive predictive value of diagnosis based on self-report instruments used by some researchers to assess depression is limited⁷⁵. On the contrary, we have used a standardized psychiatric interview, the GMS. This interview was developed on solid clinical judgement (Copeland GMS), and the diagnostic criteria derived from the AGE-CAT computer program have been shown to correspond to DSM-IV criteria⁷⁶.

This article also tends to confirm in the same population the association of depression and death, which has been reported in a number of articles⁷⁷. However, it remains to be shown what the causes of death are⁷⁸. The results also tend to confirm the negative outcome of “subcases” of depression, which has been shown in other studies^{68,72}. Since subcases were also diagnosed with AGE-CAT criteria, the clinical usefulness of this diagnostic system is reinforced in this study. It is suggested that both clinicians and epidemiologists should be alert about the potential public health implications of non-severe depressions or subcases detected in the community by means of AGE-CAT.

Our data also show that depression tends to be chronic, particularly in women. This was to be expected in view of previous studies in the literature^{79,80}. Our finding of the tendency in the younger elderly to show higher indexes of chronicity of depression was rather unexpected. However, this might be partially related to the higher incidence of dementia among the oldest⁸¹.

We report in this article about the incidence rate of depression (global rate = 14.43 person-year per 1,000 inhabitants) which was higher in women when compared to men; and higher in the younger elderly when compared to the older elderly. However, caution should be used when interpreting these results, in view of the controversies related to the concept of incident depression²⁵; and in view of the limited size of this follow-up sample.

The strengths and limitations in this article in relation to the epidemiological methods used are described in the previous article. Non-response rate in this study was also expected in view of our previous studies in the same population, and seem acceptable in the context of epidemiological research. We conclude that this basically descriptive study

tends to confirm the negative outcome of depression in the elderly community. This has public health implications, but also clinical implications, since we have shown that the great majority of the elderly depressed were untreated or inadequate treated⁶⁹.

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