

Unmet home care needs among community-dwelling elderly people in Spain

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ABSTRACT. Background and aims: Sociodemographic changes affecting the elderly population and the family role in providing home care call for reorganization of formal community care services. The aim of this study was to determine the prevalence of home care needs and the factors associated with unmet home care needs among community-dwelling elderly people in Spain. **Methods:** The data were derived from a representative sample of community-dwelling elderly people living in a town of the metropolitan area of Madrid (N=1135). Dependency for daily, weekly and monthly activities was based on disability in activities of daily living (ADL) and instrumental activities of daily living (IADL). Insufficient help was estimated as an indicator of unmet needs. Logistic regressions were fitted to identify correlates of unmet needs for each type of activity. **Results:** Overall, 14, 39, and 50% of subjects reported dependency for daily, weekly and monthly activities, respectively. Of these, 40, 27, and 12% reported receiving inadequate assistance. Unmet needs were strongly associated with low monthly income, low educational level, living alone, and symptoms of depression. Families were the exclusive source of almost all assistance provided, few persons reporting the use of additional formal community care sources. **Conclusions:** There are considerable social and material inequalities in access to home care. In view of the poor coverage of the public system for home and personal care, these inequalities may widen in the near future. New public policy initiatives are needed to provide affordable formal family-support services. (*Aging Clin Exp Res* 2003; 15: 234-242)

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INTRODUCTION

Most elderly people living in the community can care for themselves. Some of them, however, have difficulty with basic activities of daily living (BADL) such as eating, walking, dressing and grooming, and thus require help from others. The crucial role played by informal care-giving systems (i.e., family, especially wives and daughters) in allowing elderly persons who experience difficulty with activities of daily living (ADL) to remain in the community has been well established. The characteristics of those who receive help, and those who do not, have also been described (1, 2). At any point in time, approximately 20% of disabled elderly people will experience some unmet need (3). Unmet needs have a negative impact on the quality of life and health status of this vulnerable population, with the result that many of these people can no longer live in the community and are at risk of institutionalization. The prevalence of unmet home care needs is a reasonably accurate estimate of the number of elderly persons for whom community-based long-term care services are critically needed to decrease the risk of institutionalization.

Predictors of unmet needs and the relationship between unmet needs and the likelihood of nursing home admission have been identified (3). Specific predictors of unmet needs for instrumental activities of daily living (IADL) indicate that the amount of informal care required is directly related to the level of disability; it is likely that an informal care system able to meet emerging needs for help has not yet been mobilized. However, unmet needs for ADL are a different matter, because they are experienced at a later stage of disability, the only predictor of ADL unmet needs being the higher level of functional disability, while no characteristics of care-giving arrangements are related to unmet needs for personal care. In this case, a care-giving system is likely to have already been mobilized to

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meet concomitant IADL needs; however, such a system (informal or formal) is probably inadequate to meet personal care needs. These findings stress the importance of differentiating several types of unmet needs, since they arise at different ages and at various points along the continuum of disability, each with differing implications for intervention.

Allen and Mor (4) conducted a study of disabled adults, and found that persons with two or fewer reliable helpers, problems meeting routine expenses, or severe impairment were significantly more likely to experience unmet needs. The authors also found that a substantial proportion of elderly persons with unmet needs experience serious adverse outcomes, especially higher health services utilization and depression, as a result of receiving inadequate personal assistance. Desai et al. (5) used a similar approach to study the prevalence and determinants of unmet needs for ADL personal assistance, as well as of their negative consequences in a non-institutionalized population aged 70 years and over in the United States. Elderly persons with low incomes and those with multiple ADL difficulties were more likely to experience both an unmet need and a negative consequence. Those who lived alone were more than twice as likely to have unmet needs, although no more likely to report negative consequences. Consistent with other studies (1, 4) is the finding that the level of disability is the strongest predictor of unmet needs.

Research on unmet needs has not been limited to disabled elders; studies in cancer patients undergoing outpatient treatment have also been conducted (6, 7). Their results further indicate that the perceived resilience of the informal support system and the number of available helpers are key determinants of unmet needs. In addition, gender differences in unmet needs for care in IADL have been found (8), women being more likely than men to have unmet home care needs in IADL related to housework. The conclusion is that, for most women, care-giving is generally an extension of their normal social roles as family nurses and household managers, whereas for many men it involves the ability to cope with an entirely different role; role incongruence prevents some husbands from adequately responding to their wives' needs, and women do not mobilize their help network until they are severely ill.

Most of these kinds of studies have been conducted in the United States. Data from Southern Europe are also needed, since the population in this region is aging rapidly amidst widespread social change. The objective of this paper is to assess the prevalence of home care needs and identify those disabled elderly people who are at the greatest risk of having their needs unmet in a population of community-dwelling elderly people in Spain.

In 1996, 15.6% of the Spanish population was aged 65 years or older; in 2000 this figure had increased to 16.8%. Projections indicate that the elderly population will reach 22% in 2025 (9). In Spain, the main source of help for disabled elderly people is the family, especially female

members (wives and daughters). However, when compared with care-giving patterns in other European countries and North America, two differential characteristics stand out: care-givers tend to co-reside with the person receiving care (10) and formal community care services are scarce (11). The Spanish Health Care System offers universal coverage, is mainly publicly financed and provided, and is run by the regional governments. The Spanish Personal Community Care Service System limits coverage on the grounds of need and income; it is publicly financed and run by both regional governments and municipalities, but the provision of services is evenly divided between the public and private sectors. Its coverage is very low and resources are scarce. This system for the elderly was developed three decades later than the National Health Care System (11, 12). [The National Gerontologic Plan was set up in 1993 (13) and the Madrid Regional Plan for the Elderly in 1999 (14).]

METHODS

Population and sample. Data for this paper were derived from a longitudinal study of community-dwelling elderly people ("Envejecer en Leganés" or "Aging in Leganés"), designed to assess the role of social support in maintaining health and function in an aging Spanish population. Leganés is a working-class municipality in the metropolitan area of Madrid with a population of 171400 inhabitants, 8% of whom are over the age of 65. The 1993 baseline sample was drawn from the town registry in which citizens of all ages must register for receipt of municipal and community care services. The sample was stratified by 2-year age groups (65-66, 67-68, 69-70, ... up to 89+) and gender.

The study sample is representative of the Leganés elderly population and, to a considerable extent, of the elderly population in Spain. The distribution of the sample by age, gender, educational level and self-perceived health status was comparable to that found in the National Health Survey carried out in 1987. Data were obtained by personal interviews during two home visits by means of two questionnaires and from physical examinations performed by a qualified physician. At the first interview, information on health status, use of services, socio-economic conditions and psychosocial characteristics was collected. At the second interview, subjects were questioned on physical impairment, memory, accidents (i.e., falls) and life-style. Blood pressure measurements, visual and hearing tests, plus an oral exam, were performed. The response rate for the first interview was 83% (N=1284); of these, 91% were willing to participate in the second interview and undergo the medical examination. Those who refused to participate in the second interview and those with missing information on study variables were not included in the analysis, resulting in a sample of 1135 elderly subjects.

The survey method has been discussed in detail else-

where (15-17). In this paper, baseline data from 1993 are used.

Variable measurements. Home care need measurements were based on ADL and IADL dependency. Individuals were asked about 7 ADLs (18) (walking through a small room, grooming, getting dressed, eating, getting out of bed, standing up from a chair, using the toilet) and 8 IADLs (19) (bathing, shopping for food, running errands, light housework, heavy housework, cooking, transport, managing a budget). Bathing was considered an IADL activity because a previous correspondence analysis with this data (20) showed that help patterns for taking a shower or bath were closer to those of IADLs than ADLs. This finding may be explained by the general unavailability of tap water and/or hot water in many households of Spain until the second part of the twentieth century. The questions were formulated as follows: "Are you able to...?" and respondents were given three choices: able, able with help, and unable. Each of these questions was followed by three additional questions concerning the presence of a helper or care-giver, the nature of the relationship with the helper or care-giver, and the frequency of help received.

We categorized the activities into three subjective groups by their periodicity, according to both social and cultural patterns prevailing within the study population (21), as follows:

1. Daily activities: walking through a small room, grooming, getting dressed, eating, getting out of bed, standing up from a chair, and using the toilet.
2. Weekly activities: bathing, shopping for food, running errands, light housework, and cooking. Cooking refers to the preparation of meals, and does not include fast food preparation.
3. Monthly activities: heavy housework, transport, and managing a budget. This urban population of Spanish elders has all the services needed in their immediate neighborhood, so they do not normally require transport to cover their basic needs. In addition, nurse and physician home visits are available when needed.

For each activity group, individuals were classified as follows: 1) does not need help: this category applies to those who stated that they were "able" to perform all the activities included in one of the groups; and 2) needs help: individuals who answered "able with help" or "unable" for at least one of the activities. Those requiring help were further categorized as follows: 1) does not have anybody to help them; 2) receives insufficient help, i.e., help received is insufficient according to the desired periodicity as defined above; and 3) receives sufficient help. Of respondents needing help, those falling within the first two categories (receive no help or insufficient help) were considered to have unmet needs.

Three indicators of unmet needs were developed according to the periodicity of the help required, i.e., dai-

ly, weekly, and monthly. For example, an individual was considered to have unmet needs with respect to daily activities if he/she did not receive any help or received insufficient help with any of the daily activities. These three binary variables were used to identify those at risk of having unmet needs regarding daily, weekly and monthly activities.

Lastly, the potential sources of help with daily, weekly or monthly activities were: none, family help only, mixed help (family and formal community care services), and formal community care services only.

The Andersen and Newman behavioral model for health services utilization (22) was modified to develop a conceptual framework to identify variables associated with unmet home care needs. Demographic and socioeconomic characteristics are background forces (predisposing and enabling factors) affecting individual health status (needs) which, in turn, may affect living arrangements as well as the availability and nature of help. In this study, living arrangements were intermediate variables between health status and unmet needs, since for the elderly in Spain poor health status increases the likelihood of living with their children.

Therefore, the factors considered were demographic characteristics, i.e., age (stratified in two groups: 65-74 and ≥ 75) and gender; socioeconomic position (monthly income over 420 euros; 420 euros or less; not declared); and educational level (lower than primary; primary or higher); health status, i.e., self-rated health (good; fair; poor; not assessed); cognitive impairment (assessed by a modified 8-item version of the Short Portable Mental Status Questionnaire (16, 23); depression (CES-D scale with a cut-off point of 16) (24); and living arrangements (alone, with spouse, with children or others).

Statistical analysis. Prevalence estimates of needs and unmet needs were weighted according to the stratified sampling scheme. Bivariate analysis of unmet needs by all correlates was conducted, and confidence intervals for the odds ratios for the likelihood of unmet home care needs were estimated. Those with unknown or poor self-reported health status were grouped together, because cognitive deficit and depression were associated with lack of response to this question, and their small number precluded a separate analysis.

For the multivariate analysis, three separate multiple hierarchical logistic regressions were fitted, one for each dependent variable: daily unmet needs, weekly unmet needs, and monthly unmet needs. Independent variables were entered into the model according to the following sequence: first, demographic characteristics (model A); second, socioeconomic factors (model B); third, health status (model C); and fourth, living arrangements (model D), to explore how the magnitude of coefficients changed with the inclusion of additional variables in the causal chain. Vari-

Table 1 - Prevalence of home care needs.

Type of help required	Men (N=573)		Women (N=562)		Total (N=1135)	
	Prevalence	95% CI	Prevalence	95% CI	Prevalence	95% CI
For daily activities	10%	(7.2; 13)	17%	(14; 20)	14%	(12; 16)
For weekly activities	32%	(28; 36)	44%	(40; 48)	39%	(36; 42)
For monthly activities	38%	(34; 42)	58%	(54; 62)	50%	(47; 53)

Table 2 - Prevalence of unmet home care needs among those with need.

Type of unmet needs	Men		Women		Total		
	Prevalence	95% CI	Prevalence	95% CI	N	Prevalence	95% CI
Daily	38%	(23; 52)	41%	(32; 50)	189	40%	(32; 48)
Weekly	22%	(15; 29)	29%	(24; 34)	507	27%	(22; 31)
Monthly	9%	(4.8; 13)	13%	(9.5; 16)	622	12%	(9; 14)

ables that reached statistical significance at $p < 0.05$ were retained in the model in all subsequent steps, with the exception of age and gender, which were entered in all the models. The statistical analysis was conducted using SPSS 10.0.

RESULTS

Descriptive analysis. The sample was made up of 1135 subjects. The mean age of the study subjects was 76.01 (SD 7.66); 50.5% were men; 79.9% had not

completed primary school; 63.3% had a monthly income less than 420 euros; 11% lived alone; 24% had depression; 10% had cognitive impairment; and 46.6% rated their health status as fair.

Estimates of needs and unmet needs. Tables 1 and 2 list weighted prevalence estimates of needs and unmet needs in the three areas defined above, by gender and for the total sample. As expected, the prevalence of need for help was lowest for daily activities and increased with the

Table 3 - Distribution (%) of need for assistance with ADLs and IADLs.

Activity	No need	Need	Unmet need	Met need
Daily activities				
Walking through a small room	93.6	6.4	2.2	4.2
Personal grooming	93.7	6.3	1.3	5.0
Getting dressed	91.5	8.5	2.4	6.1
Eating	94.8	5.2	0.8	4.4
Getting out of bed	94.7	5.3	1.7	3.6
Standing up from a seated position	95.8	4.2	1.1	3.1
Using the toilet	96.3	3.7	0.8	2.9
Weekly activities				
Bathing	78.1	21.9	6.1	15.8
Shopping for food	71.8	28.2	1.9	26.2
Cooking	79.3	20.7	2.0	18.7
Running errands	76.5	23.5	2.1	21.4
Light housework	74.5	25.5	1.8	23.7
Monthly activities				
Heavy housework	54.8	45.2	2.1	43.1
Transport	67.6	32.4	3.4	29.0
Managing the budget	85.6	14.4	1.3	13.1

decreasing frequency of the activity. Few elderly people needed help with personal care (14%), but half of them needed help with monthly activities such as heavy housework. Women required more help than men, particularly for daily and monthly activities. Unmet needs were concentrated in the daily activities category: 40% of those requiring daily help either did not receive any help or received insufficient help. Unmet needs with respect to daily activities arose with similar frequency for both men and women (38 and 41%, respectively), but women received slightly less help with weekly activities. The activities for which needs remained unmet most frequently (Table 3) were bathing (6.1%), using public transport (3.4%), getting

dressed (2.4%), walking through a small room (2.2%), running errands (2.1%), and heavy housework (2.1%).

Correlates of unmet needs. Table 4 shows the bivariate associations of unmet needs (for daily, weekly and monthly activities) with sociodemographic variables, health status, living arrangements, and availability of different sources of help. Unmet daily needs were associated with low monthly income, whereas daily needs being met correlated with cognitive impairment, depression, and living with spouse or children. Disabled elderly subjects received assistance primarily from their families: 86.2% of individuals (163 of 189) with daily needs received help exclusively from

Table 4 - Bivariate analysis of factors associated with unmet needs (daily, weekly, monthly) among those with need.

	Variables	UNMET DAILY NEEDS (N=189)			UNMET WEEKLY NEEDS (N=507)			UNMET MONTHLY NEEDS (N=622)		
		N	% (*)	OR (95% CI)	N	% (*)	OR (95% CI)	N	% (*)	OR (95% CI)
SOCIO- DEMOGRAPHIC FACTORS	Age									
	65-74	45	46.4	1	138	23.3	1	186	11.1	1
	≥75	144	36.3	0.71 (0.36; 1.39)	369	28.6	1.32 (0.83; 2.08)	436	12.3	1.20 (0.70; 2.06)
	Education									
	Less than primary	160	41.2	1	412	30.2	1	512	12.3	1
	Primary or more	29	30.4	0.69 (0.30; 1.62)	95	9.2	0.23 (0.11; 0.48)	110	9.0	0.60 (0.29; 1.25)
	Income									
	Over 420 euros	48	25.5	1	131	16.4	1	161	6.6	1
	420 euros or less	123	48.4	2.72 (1.27; 5.82)	343	31.1	2.28 (1.36; 3.80)	421	13.8	2.27 (1.16; 4.43)
	Not declared	18	35.3	1.68 (0.51; 5.52)	33	25.8	1.33 (0.51; 3.46)	40	10.5	1.51 (0.46; 5.03)
HEALTH FACTORS	Self-rated health									
	Good	16	33.3	1	78	16.7	1	112	11.0	1
	Fair	65	46.3	0.91 (0.30; 2.76)	220	28.1	2.01 (1.03; 3.89)	287	9.3	0.70 (0.35; 1.39)
	Poor	108	37	0.70 (0.24; 2.02)	209	27.8	2.06 (1.06; 4.01)	223	15.0	1.30 (0.67; 2.54)
	Cognitive impairment									
	No	114	49.5	1	402	28.6	1	518	11.4	1
	Yes (<10%)	75	22.4	0.35 (0.18; 0.67)	105	16.5	0.53 (0.31; 0.91)	104	14.1	1.6 (0.62; 2.17)
	Depression									
	No	53	62.2	1	219	26.0	1	303	8.7	1
Yes	59	39.6	0.39 (0.18; 0.84)	169	32.7	1.38 (0.89; 2.14)	198	14.4	1.98 (1.13; 3.45)*	
Not assessed	77	23.3	0.20 (0.09; 0.43)	119	16.9	0.58 (0.33; 1.01)	121	15.6	1.86 (0.98; 3.54)	
AVAILABILITY OF HELP	Living arrangements									
	Lives alone	12	80.0	1	44	37.2	1	61	22.6	1
	With spouse	59	40.7	0.21 (0.05; 0.87)	166	24.8	0.73 (0.35; 1.50)	208	10.9	0.44 (0.20; 0.93)*
	With children or others	118	35.1	0.17 (0.04; 0.67)	297	25.6	0.80 (0.41; 1.59)	353	9.8	0.47 (0.23; 0.95)*
	Sources of help									
	Family	163	36.6	1	453	23.7	1	531	8.2	1
	None	9	60.0	2.26 (0.58; 8.76)	14	87.5	18.04 (4.00; 81.82)	19	90.0	81.77 (18.36; 364.20)
Mixed	12	45.5	1.81 (0.56; 5.87)	25	31.8	1.69 (0.73; 3.94)	51	10.9	1.05 (0.40; 2.75)	
Formal	5	75.0	2.71 (0.44; 16.72)	15	23.1	0.75 (0.21; 2.71)	21	15.8	1.60 (0.46; 5.63)	

(*) Percentages express weighed proportion of unmet needs for each category.

Table 5 - Estimates of odds ratios and 95% confidence intervals for variables associated with unmet needs (daily, weekly, monthly) among those with need: multivariate logistic regressions.

Variables	UNMET DAILY NEEDS (N=171)				UNMET WEEKLY NEEDS (N=474)				UNMET MONTHLY NEEDS (N=582)			
	MODEL A	MODEL B	MODEL C	MODEL D	MODEL A	MODEL B	MODEL C	MODEL D	MODEL A	MODEL B	MODEL C	MODEL D
Age												
≥75 (vs 65-74)	0.67 (0.33; 1.36)	0.62 (0.29; 1.29)	0.74 (0.33; 1.64)	0.81 (0.34; 1.95)	1.48 (0.92; 2.36)	1.39 (0.86; 2.27)	1.69 (1.02; 2.81)	1.69 (1.02; 2.81)	1.19 (0.68; 2.07)	1.16 (0.66; 2.02)	1.11 (0.62; 1.99)	1.11 (0.62; 1.99)
Income												
420 euros or less (vs >420)		3.24 (1.46; 7.20)	4.05 (1.68; 9.75)	3.95 (1.60; 9.75)		2.09 (1.24; 3.52)	1.92 (1.12; 3.27)	1.92 (1.12; 3.27)		2.25 (1.15; 4.41)	2.08 (1.05; 4.13)	2.08 (1.05; 4.13)
Education												
Primary or more (vs less than primary)						0.26 (0.12; 0.55)	0.25 (0.12; 0.54)	0.25 (0.12; 0.54)				
Self-rated health												
Poor (vs good or fair)												
Depression												
Depression (vs no depression)			0.24 (0.10; 0.58)	0.21 (0.09; 0.52)							1.99 (1.09; 3.62)	1.99 (1.09; 3.62)
Not assessed			0.22 (0.09; 0.52)	0.20 (0.08; 0.47)							2.21 (1.13; 4.34)	2.21 (1.13; 4.34)
Living arrangements												
Lives alone (vs with spouse)				5.53 (1.23; 24.84)								
With children or others				0.80 (0.36; 1.79)								

their families. Help provided by formal community care services, either public or private, was very low, i.e., only individuals received such help and most of them received family help at the same time (17 of 189; bottom two lines in Table 4). Unmet needs with respect to weekly activities arose more frequently for people with a very low educational level, low monthly income, and fair or poor self-rated health status; conversely, weekly needs were likely to be met for those with cognitive impairment. The same considerations regarding sources of help with daily needs held true for weekly needs: 89.3% (453 of 507) received help exclusively from their families, as compared with 8% receiving help from formal community-based services (exclusively or at the same time as family help). Lastly, monthly needs were more likely to be met in the case of elderly individuals living with their spouse or children. Results concerning sources of help for this category of needs were very similar to those found for the other categories: 85.3% (531 of 622) received help exclusively from their families, as compared with 11.5% having help from formal or mixed sources. Monthly needs were more likely to remain unmet in the case of people with low monthly income, and those who were depressed. The small numbers of individuals receiving help from formal community sources limited the analysis of unmet needs by sources of help.

Table 5 shows the results from the multivariate analysis using hierarchical logistic regressions. As regards needs for help with daily activities, age and gender were not associated with unmet daily needs (Model A). As expected, unmet daily needs arose more frequently in the case of people with low monthly income (Model B). Depression was associated with met daily needs (Model C), while self-rated health status and cognitive function did not independently explain a significant part of the variance. Living alone was found to be a very significant risk factor for unmet daily needs (Model D), although its confidence interval was very wide, due to the small number of old people who lived alone. In the final model, low monthly income, absence of symptoms of depression, and living alone continued to be independently associated with unmet needs, even after controlling for all other factors in the model.

For weekly needs, age and gender were again not associated with unmet needs (Model A). Unmet weekly needs arose more frequently for people with low educational level and low monthly income (Model B), this association being maintained for all models. In Model C (health status), advanced age appeared to be a risk factor for unmet needs. Living arrangements were not associated with unmet weekly needs (Model D). In the final model, older age, low monthly income and low educational level continued to be independently associated with unmet needs, even after controlling for all other factors in the model.

Multivariate analysis of home care needs concerning monthly activities showed that age and gender were again not associated with unmet needs. As in the pre-

ceding model, low monthly income was closely associated with unmet needs, and its significance was maintained until the final model. Depression was associated with unmet needs (Model C), whereas self-rated health status and cognitive function did not independently explain the variance. Living arrangements (Model D) were not associated with unmet monthly needs.

DISCUSSION

The prevalence of home care needs for the elderly population studied here was higher for weekly and monthly activities (IADLs, plus bathing) than for daily activities (ADLs). Inversely, the prevalence of unmet needs was higher for daily activities. Forty percent of those requiring daily care did not receive help, or received less than they needed. This finding probably reflects the difficulties and burden involved in providing assistance with intimate personal care and hygiene. These figures are higher than those reported in the North American literature. For example, Tennstedt et al. (1) found that less than 10% of disabled elderly people had unmet needs for personal care ADLs, and Desai et al. (5) reported unmet needs for assistance with one or more ADLs in 21% of disabled elders, although close comparisons were hampered by differences in methods used in defining disability, need, and unmet need. In Spain, we found comparable data in only one recently published study, which examined people over 75 living in a neighborhood of the city of Zaragoza (25). The authors found that 22% of those with ADL dependency had unmet needs for home care, compared with 36% of unmet needs among ADL-disabled older people over 75 in our study. The difference may be due to the higher socioeconomic position of the Zaragoza sample compared with the Leganés sample.

The association between unmet needs and low monthly income was observed in all three need categories. This finding is consistent with those from other studies (4, 5, 26) and suggests the existence of socioeconomic and educational barriers to access formal community care assistance when the informal help network is lacking, insufficient or inadequate. In addition, these individuals experience cultural barriers to access to care. In our population, few people lived alone, and the finding that elderly people who lived alone were five times more likely to report having unmet needs with respect to personal care than those who lived with others is consistent with the results reported by Desai et al. (5). This may reflect the absence of caregivers to assist with activities involving personal care, since in most cases these tasks were assumed by the spouse or children, often rendering co-residence a more important factor than the tie with the care-giver in determining patterns of help.

Depression appears to be protective against unmet daily needs, but is a risk factor for unmet monthly needs. This may be explained by the fact that receiving special assis-

tance in personal activities from relatives may lead to depression. Other health variables included (self-rated health status and cognitive function) do not independently explain the variance. In the present investigation, these three indicators were chosen to measure health status instead of the number of chronic diseases, because our aim was to identify barriers to the process of meeting needs rather than their causal factors.

Advanced age is associated only with unmet weekly needs. In most studies, an association between age and unmet needs has not been observed; however, Calsyn (26) reported a positive association.

Potential determinants of unmet needs may differ by gender owing, among other reasons, to the clearcut division of social roles in the study population, with a very traditional distribution of work according to gender. However, the small sample size in the present investigation does not make it possible to analyze data separately in men and women. In the study of Tomas et al. (25) in the city of Zaragoza, the main risk factor for ADL unmet needs was being a woman living alone.

This research reflects the situation in 1993 in Leganés, a working-class town situated in the metropolitan area of Madrid. The sociodemographic characteristics of the elderly population reflect those of the Spanish elderly population at that time (15). In spite of the time which has elapsed, we believe that the situation with respect to the prevalence and determinants of unmet needs and the role of formal community care services has not significantly changed, since new policies have only recently been implemented in this area (13, 14). The longitudinal data from "Aging in Leganés" may be used to assess changes in estimates of unmet needs, so that these results provide a baseline reference to allow comparisons with future data on the same population.

One of our most important results was that formal community social services (either private or public) are very scarce. The burden of meeting elderly people's needs fall on the closest relatives. Recent demographic and social changes in Spain will probably have an important impact on the availability of home care. The combination of increased life expectancy and the dramatic drop in fertility (in 1998, the fertility rate in Spain was the lowest in the world, 1.07) (27) is resulting in an increasingly large population of elderly people, especially the "oldest old", and a smaller number of children available to care for their aging parents. At the same time, economic needs in a market economy, the small size of apartments and flats in urban areas, and women's increased participation in the labor force have all created a demand for formal care of dependent people.

In no way does this mean that families in Spain are less willing to care for elderly relatives, but they are requesting new community care services in order to cope with increasing needs. We have recently reported that, in Spain,

children's emotional support is beneficial to the physical and mental health of their elderly parents, and that co-residence is particularly beneficial to the mental health of the widowed (28). However, the elderly of tomorrow may be quite different from those of today. Emerging values of autonomy and independence may lead the baby-boom generation to loosen the close-knit ties that have characterized Spanish society to date, which would result in reduced reliance on family help and fewer aging people co-residing with their children.

Our findings describe the situation in an urban area. The picture may be worse in rural areas, where the children of the elderly have often migrated to urban areas, leaving their parents in a situation of social isolation and loneliness. In addition to the aging of the rural population in Spain due to young and middle-aged adult migration, the rural elderly are more likely to have lower incomes and poorer health status, and health care and long-term community care services are less available and accessible to these individuals (29).

In whatever case, it is clear that new policy initiatives focusing on family-oriented programs, with the provision of respite community care services, adult day care programs and support for family caregivers, are urgently needed.

CONCLUSIONS

- 1) Although less prevalent than the needs for weekly and monthly care, daily care needs of this representative Spanish community-dwelling elderly population are frequently unmet.
- 2) The main determinants of unmet needs for home care are socioeconomic barriers, as indicated by low monthly income and low educational level.
- 3) The family is the source of almost all assistance provided to the elderly. Formal community care services provide little help.
- 4) In a context of sociodemographic change, public policy initiatives are needed to provide affordable formal family-support services.

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