Abstract ampliado

RESUMEN AMPLIADO

Título: Access and utilisation of social services in Spain: an updated analysis focused on gender differences.

Autores y e-mail de todos ellos: Marta Pascual-Sáez; Paloma Lanza-León
marta.pascual@unican.es ; paloma.lanza@unican.es

Departamento: Departamento de Economía

Universidad: Universidad de Cantabria

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Resumen:

Home- and Community-Based Services (HCBS) are design to supplement informal care provided by families and assist people aged 65 and over to accomplish activities of daily living. HCBS encompass a broad range of services and supports, including in-home nursing care and assistance, home delivered meals, transportation and other home care services. The provision of these services plays can help older adults to remain in their homes because doing so allows them to preserve independence. In that respect, these services are considered a viable long-term care alternative for remaining independent, with the possibility of delaying or avoiding institutional living and, thus, deriving in less economic burden for beneficiaries and their families (Robison et al., 2012). Furthermore, the small but growing proportion of older people who have difficulty managing activities of daily living (ADLs) contributes to the need for HCBS. Especially, family members play a relevant role in covering certain needs of people in situations of dependency. The lack of supportive services, informal caregiving tasks imply a heavy economic cost for older adults and their families (Van Houtven and Norton, 2004).

Although the usage of HCBS by older population who require long-term care has been widely studied (Robison et al., 2012; Wu et al., 2014; Casado et al., 2021) over the world, the utilisation of these services has not received enough attention in Spain. Previous studies have analysed the use of health services by older people (Córdoba-Doña et al., 2018; Dios-Guerra et al., 2020) or by immigrants (Regidor et al., 2009; Gea-Sánchez et al., 2017). To our best knowledge, there are very few and non-updated studies which examined the patterns and predictors of the utilisation of HCBS by older population in Spain. In this respect, this study sought to identify potential disparities in gender HCBS usage, and to recognise factors related to these disparities among people

older than 65 years. Therefore, one of the strengths of this study is that we analyse HCBS when most of the available literature only focused on healthcare services (physician consultations and hospitalization).

The main objective of this study is to determine whether predisposing, enabling and need factors are valid predictors of HCBS use in the past 12 months among older adults in Spain. Thus, our analysis is twofold. First and foremost, it is explored the patterns of the use of HCBS, and the main characteristic of the population considered. In particular, HCBS services are divided into two groups: home care (home help provided by a nurse or midwife or for housework or for the elderly) and home services (meals at home for the elderly or special home transportation services). Secondly, using Andersen's social behavioural model, we identified specific factors associated with HCBS utilisation among Spanish older adults after controlling for the covariates. We also explored patterns of use by gender to understand how predisposing, enabling and need factors differ between women and men.

To address this issue, we have based our descriptive, cross-sectional study in the European Health Survey in Spain (EHSS) as well as the National Health Survey in Spain (NHSS), which are periodically conducted by the National Statistics Institute of Spain and the Ministry of Health, Social Services and Equality.

In particular, we have used microdata of the 2014 and 2020 EHSS as well as the 2017 NHSS, which are available for public use. Due to the inaccuracy of the questions concerning certain variables (ADLs and living status) found in the 2011-12 NHSS, we chose not to include that wave in our analysis. Therefore, the three waves included are the last national health surveys conducted in Spain on the date of this study. The interviews are 22,842 in 2014, 23,089 in 2017 and 22,072 in 2020. For the present study, the sample is restricted to older adults in Spain, that is, we have selected individuals aged 65 or over, which supposes approximately 30% of those interviewed each year. We further reduced the sample to those for whom we have data on HCBS use in the past 12 months. Thus, we gathered complete information about 19,672 individuals (2886 receiving HCBS): 6168 in 2014, 6688 in 2017 and 6,816 in 2020 (see the flow chart of the included sample in Fig.1). The median age participant increased from 76.52 (SD ± 7.34) in 2014 to 76.78 years (SD ± 7.56) in 2020.

Our dependent and main variable of interest to examine is HCBS usage in the past 12 months. Regarding the inter-annual comparability of the surveys considered, the questions concerning the use of social assistance services are identical and therefore comparable across the waves used (2014, 2017 and 2020). The utilisation of HCBS in the past 12 months is measured through the use of four different services, which represent an array of HCBS and include: i) home care provided by a nurse; ii) home care for household chores or for the elderly; iii) home-delivered meals for the elderly; and iv) special home transportation services. The surveys asked participants if they used HCBS in the past 12 months, and the previously mentioned list of services is presented. In this sense, we have grouped household services into 2 variables: the first two services in the variable *home care* and the last two services in the variable *home services*. The two dependent variables are dummy variables measuring whether the respondent has used HCBS in the past 12 months (1 = *yes*, 0 = *no*).

Andersen's social behavioural model was used to investigate the relationship between long-term care services and individual factors. In the case of independent variables, as previously mentioned, they were classified into predisposing, enabling and need factors, and they have been chosen based on the literature and availability in the dataset.

Predisposing factors. This set of variables included age as a numerical continuous variable; gender (1 = *female*, 0 = *male*); and the number of people with whom the respondent lived (Bowen and González, 2008).

Enabling factors. This set of variables contained a dummy variable for marital status (1 = *married*, 0 = *non-married*); three dummy variables for education level according to the highest level completed (elementary, secondary and tertiary) based on the original variable, a 9-point ordinal variable measuring educational background; and the net monthly household income is provided into five different intervals (lower than €1099; €1100–€1649; €1650-€2299; €2300-€3799; and more than €3800) (Aliyu, Adediran and Obisesan, 2003; Ferris et al., 2016).

Need factors. This set of variables consisted of self- assessed health, chronic or long-term illnesses and functional limitations. Self-reported overall health status was measured on a 5-point Likert-type scale (1 = *very good*, 2 = *good*, 3 = *fair*, 4 = *poor*, and 5= *very poor*).
The chronic or long-term conditions variable (range = 0-32) is based on the responses to thirty-two questions: diabetes, chronic respiratory disease, chronic heart disease or cerebrovascular disease, among others. Functional limitations are measured based on the ADLs and Instrumental Activities of Daily Living (IADLs). ADLs variable is based on the responses to five questions regarding ADL limitations: eating, standing up/sitting/lying down, dressing/undressing, toileting, bathing. IADLs variable is composed of seven activities such as preparing meals, using the telephone, going shopping for groceries or clothes or handling money. Each ADL and IADL item are rated on a 3-point scale based on the individual's ability to carry out the activity (1 = *on my own*, 2 = *with some help*, and 3 = *unable*). Higher ADLs (range = 0-15) and IADLs (range = 0-21) scores represented more limited abilities (Bowen and González, 2008; Hong et al., 2011).

Analytic Plan

It is crucial to understand the HCBS patterns of the older adults in Spain. For this analysis, we have analysed the use of HCBS following the Andersen model (Andersen and Newman, 1973; Aday and Andersen, 1974; Andersen, 1995). The Andersen's Model of Health Services use is the most common model for studying and predicting health services utilization (Andersen, 1995). It has contributed to research on hospital use among the elderly by identifying specific predictor variables.

The Andersen's social behavioural model analyses service use at three different levels (individual, society and service system). In particular, this study is focused on the individual-level determinants, aiming to identify characteristics of Spanish older adults that might affect whether or not they use HCBS. In this sense, the model assumes that the utilisation of services depends on three main group of determinants: predisposing, enabling and need factors.

We first provide descriptive statistics to show the crude absolute and relative frequencies of diagnoses and services. Before carrying out the regressions, we checked for multicollinearity and no issues were found (variance inflation factor was lower than 2.5). Finally, based on the large sample, we performed hierarchical logistic regressions to identify the predisposing, enabling and need factors that predicted home care and home services use among older adults in Spain. More specifically, we estimated three models for the entire sample, starting with predisposing characteristics and adding enabling resources to the second model and need to the third. In addition, to contribute further to the existing literature on the use of HCBS among older adults, we have stratified by gender: females and males. The outcome of the multiple logistic regression models was utilisation of HCBS. Statistically significant odds ratios greater than 1.00 reflect higher likelihood of use; those below 1.00 reflect lower likelihood. For all statistical tests, significance was determined at an alpha level of 0.05 ($\alpha = 0.05$).

Results obtained for utilisation of HCBS in Spain among older adults distinguished by gender (females and males) are important to take into consideration due to the differences founded between them in relation to health conditions when providing HCBS.

Looking at the home care model, older women and men were significantly associated with greater HCBS use (OR = 1.85; CI = [1.44-2.39] and OR = 2.41; CI = [1.68-3.44], respectively). Being married was associated with larger HCBS use (OR = 1.18; CI = [1.03-1.36] for women and OR = 1.13; CI = [0.93-1.37] for men). The association was significant was significant only for women. According to need factors, having one or more chronic conditions (OR = 1.11; CI = [1.07-1.15] for women and OR = 1.02; CI = [0.96-1.09] for men), ADL functional limitations (OR = 1.10; CI = [1.04-1.17] for women and OR = 1.13; CI = [1.03-1.25] for men) and IADL limitations (OR = 1.09; CI = [1.05-1.13] for women and OR = 1.06; CI = [1.00-1.12] for men) were significantly associated with higher utilisation of HCBS. However, residing in households with multiple family members (OR = 0.33; CI = [0.27-0.40] for women and OR = 0.28; CI = [0.22-0.37] for men), finishing secondary education (OR = 0.44; CI = [0.34-0.57] for women and OR = 0.43; CI = [0.29-0.62] for men), having a high net monthly income (OR = 0.73; CI = [0.65-0.82] for women and OR = 0.70; CI = [0.61-0.81] for men), and reporting a worsening health status (OR = 0.63; CI = [0.56-0.71] for women and OR = 0.76; CI = [0.64-0.91] for men) were related to significantly reduced HCBS use.

In the case of the home services model, we found that women and men older than 84 years were less likely to use HCBS (OR = 0.81; CI = [0.55-1.17] and OR = 0.78; CI = [0.45-1.33], respectively). Being married was associated with larger HCBS use (OR = 1.31; CI = [1.11-1.54] for women and OR = 1.15; CI = [0.92-1.50] for men). The relationship was significant was significant only for women. According to need factors, having one or more chronic conditions (OR = 1.09; CI = [1.04-1.15] for women and OR = 1.19; CI = [1.10-1.29] for men), ADL functional limitations (OR = 1.20; CI = [1.10-1.30] for women and OR = 1.31; CI = [1.14-1.51] for men) and IADL limitations (OR = 1.05; CI = [1.00-1.10] only for women) were significantly associated with higher utilisation of HCBS. Nonetheless, residing in households with multiple family members (OR = 0.32; CI = [0.24-0.44] for women and OR = 0.25; CI = [0.17-0.37] for men), finishing secondary education (OR = 0.31; CI = [0.21-0.48] for women and OR = 0.37;

CI = [0.21-0.65] for men), having a high net monthly income (OR = 0.58; CI = [0.47-0.70] for women and OR = 0.65; CI = [0.52-0.80] for men), and reporting a worsening health status (OR = 0.53; CI = [0.45-0.64] for women and OR = 0.54; CI = [0.42-0.70] for men) were related to significantly reduced HCBS use.

Findings from the present study on the HCBS usage by Spanish older adults suggested that the utilisation of HCBS has increased over the time. We found that household size, education level, economic status and, specially, need factors were the main characteristics affecting older adults' preferences when using HCBS, as evidenced by the significant association found.

Taking into consideration these findings with those provided by other researchers could improve the use of these services among older people. Our findings provide recent evidence that can help policymakers to better understand the kind of users need certain types of services. In addition, it is important to tackle inefficient social policies and to implement interventions at multiple levels (individual, family and community), as well as to enable HCBS users to remain in their homes as long as possible, enhancing their quality of life as far as possible.

Palabras Clave*: Access; Utilisation; Inequality; Gender; Spain*

Clasificación JEL: I31; D63; J16