The Spanish Journal of Psychology (2023), **26**, e26, 1–7
doi:10.1017/SJP.2023.26

Article

Comorbid Depressive and Anxiety Symptomatology in Older Adults: The Role of Aging Self-Stereotypes, Loneliness, and Feelings of Guilt Associated with Self-Perception as a Burden

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Abstract

The main objective of this study was to analyze the differences between older adults' symptom profiles (subclinical, anxiety, depressive, and comorbid) in negative aging self-stereotypes, loneliness, and feelings of guilt associated with self-perception as a burden. Participants were 310 community-dwelling people aged 60 years and over. The sample was grouped into four symptom profiles of older adults: anxiety, depressive, comorbid anxiety-depression, and subclinical symptoms. We carried out multinomial logistic regression analyses to analyze the role of assessed variables in the explanation of the four symptom profiles. Older adults who reported a comorbid symptomatology presented higher negative aging self-stereotypes and feelings of loneliness than the other three profiles. Compared with the subclinical profile, older adults who reported clinical symptomatology (anxiety, depressive, and comorbid profile) presented higher feelings of guilt associated with self-perception as a burden. The findings of this study suggest potential associations that may contribute to understanding and treating comorbid anxiety and depressive symptoms in older adults.

Keywords: comorbid anxiety-depressive symptoms; guilt associated with self-perception as a burden; loneliness; negative self-perceptions of aging

(Received: 24 April 2023; revised: 07 August 2023; accepted: 11 August 2023)

Anxiety and depression problems tend to appear together in older adults (Beekman et al., 2000; Dong et al., 2020; King-Kallimanis et al., 2009; Porensky et al., 2009; Saade et al., 2019, Wolitzky-Taylor et al., 2010; Zhao et al., 2020). For example, in a sample of older adults who reported no limitations in self-care and mobility activities, Dong et al. (2020) found that 28.1% of the older adults with depression met screening criteria for anxiety, and 34.1% of those with anxiety met screening criteria for depression. Comorbid anxiety and depressive symptomatology among older adults have been associated with disability (Dong et al., 2020; Prina et al., 2011), more persistent symptoms than anxiety and depression alone (Almeida et al., 2012), memory impairment (DeLuca et al., 2005; Kvaal et al., 2008), or suicidal ideation and behavior (Jeste et al., 2006; Lenze et al., 2000; Saade et al., 2019). The concurrent presentation of anxiety and depressive symptoms has also been associated with a moderate efficacy of interventions (Wuthrich et al., 2021).

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Cite this article: Pedroso-Chaparro MdS, Cabrera I, Márquez-González M, Ribeiro Ó and Losada-Baltar A (2023). Comorbid Depressive and Anxiety Symptomatology in Older Adults: The Role of Aging Self-Stereotypes, Loneliness, and Feelings of Guilt Associated with Self-Perception as a Burden. *The Spanish Journal of Psychology* **26**, e26, 1–7. https://doi.org/10.1017/SJP.2023.26

The above-mentioned issues highlight the clinical relevance of analyzing comorbid anxious-depressive symptoms and their associations with sociodemographic and psychological variables. Although some sociodemographic and health-related factors associated with comorbid anxiety and depression in older adults, such as living alone (Hek et al., 2011), socioeconomic stressors (Almeida et al., 2012) and more limitations in activities of daily living (Cairney et al., 2008), have already been identified, research is still needed to further advance the study of psychological factors potentially related with comorbid anxiety and depression in older adults.

A psychological variable that has shown important associations with older adults´ mental health is negative self-perceptions of aging. Following the theory of stereotype embodiment (Levy, 2009; Levy et al., 2012), negative self-perceptions of aging arise as a result of the internalization and activation of negative stereotypical beliefs about old age (e.g., old age is a time of inevitable cognitive decline, disability, and dependence on others; Bryant et al., 2012), and have been widely associated with psychological distress in the literature, including anxiety (Bryant et al., 2012; Freeman et al., 2016; Levy et al., 2014; Levy et al., 2019) and depressive symptoms (e.g., Bryant et al., 2012; Freeman et al., 2016; Gendron et al., 2020; Levy et al., 2019; O'Shea et al., 2017; Sindi et al., 2012). Also, Losada-Baltar et al. (2021) explored the relationship between negative self-perceptions of aging and level of psychological symptoms as a function of age group in Spanish

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https://doi.org/10.1017/SJP.2023.26 Published online by Cambridge University Press

adults aged 18 to 88 years who were assessed online during the COVID-19 lockdown. The results showed that individuals with low scores on both anxiety and sadness reported the lowest scores on negative self-perceptions of aging, and older people with comorbid symptomatology of anxiety and sadness reported the highest scores in negative self-perception of aging (Losada-Baltar et al., 2021).

Likewise, loneliness, defined as a “debilitating psychological condition characterized by a deep sense of emptiness, worthlessness, lack of control, and personal threat” (Cacioppo et al., 2010; p. 2), has been associated with emotional distress, including symptoms of anxiety and depression in older adults (e.g., Domènech-Abella et al., 2019; Lee & Bierman, 2019). Previous literature has reported a consistent association between loneliness and the comorbid presence of anxiety and depressive symptoms. For example, Palgi et al. (2020), in a large sample of adults aged between 18 and 100 years old, found that loneliness was the main risk-factor for depression, anxiety and, especially, their comorbid presentation. Similar findings were reported by Igbokwe et al. (2020) in a sample of older adults.

Finally, being a burden to others is such a common concern for older adults (Miller et al., 2016; Peek et al., 2016) that it has been linked to feelings of guilt (e.g., Bigger & Vo, 2022). Also, previous studies found that feeling of guilt associated with self-perception as a burden, defined as the distress related to “the perception of being responsible for other relatives’ difficulties associated with an anticipated experience of care” (Pedroso-Chaparro et al., 2021; p. 192), were associated with distress in older adults (Pedroso-Chaparro et al., 2021). However, to our knowledge, no studies have examined the role of feelings of guilt associated with self-perception as a burden in depressive and anxiety comorbidity.

The aim of this study was to analyze the role of negative aging self-stereotypes, loneliness, and feelings of guilt associated with self-perception as a burden in the explanation of older adults’ symptom profiles: (a) Subclinical (low levels of depressive and anxiety symptoms), (b) anxiety (low depressive symptoms and high anxiety symptoms), (c) depressive (high depressive symptoms and low anxiety symptoms), and (d) comorbid (high levels of both depressive and anxiety symptomatology). We hypothesize that negative aging self-stereotypes, loneliness, and feelings of guilt associated with self-perception as a burden will predict a higher probability of showing a comorbid anxiety and depression symptoms profile.

Method

Participants

Participants were 310 older adults living in the community. Assessments were conducted between January 2018 and December 2019. Inclusion criteria were: (a) Being 60 years of age or older; (b) not showing explicit cognitive or functional limitations that prevent activities of daily life; and (c) not using care services such as day care centers, home care, or nursing homes. Participants were contacted through centers in the community of Madrid (Spain) that offered activities for older adults (such as painting or sewing workshops). All participants provided written informed consent to being studied and answer the assessment protocol at their centers of reference. The sample used in this study is partially shared with the study carried out by Pedroso-Chaparro et al. (2021). The Ethics Committee of the Rey Juan Carlos University approved the study protocol.

Measures

Socio-demographic variables (age, gender, marital status, and level of education) and the following variables were measured:

Self-perceptions of aging were measured using the Subjective Perception of Aging scale (de Gracia Blanco et al., 2004), made up of 12 items (e.g., ‘I think that for my age I am very fit’) that reflect four underlying dimensions of self-concept: Cognitive self-concept, subjective time perception, subjective perception of social relations, and physical self-concept. The answers range from 1 (*‘totally agree’*) to 7 (*‘totally disagree’*). A higher score on the Likert-type scale indicates a negative perception of aging. The internal consistency index (Cronbach) obtained in the present study was .75.

Loneliness was assessed through the Spanish version of the Three-Item Loneliness scale (Hughes et al., 2004; Pedroso-Chaparro et al., 2022). The scale has three items (e.g., ‘How often do you feel isolated from others?’). Response options on the three-point Likert-type scale ranged from 1 (*‘hardly ever’*) to 3 (*‘often’*). The internal consistency Cronbach (α) of the scale in the present study was .77.

Guilt associated with Self-Perception as a Burden was measured through the Guilt associated with Self-Perception as a Burden Scale (G-SPBS; Pedroso-Chaparro et al., 2021). The scale has 16 items (e.g., ‘I feel guilty because my family has to stop doing other things in order to help me’), with options on the five-point Likert-type scale ranging from 1 (*‘never or almost never’*) to 5 (*‘almost always’*). The internal consistency index obtained in the present study according to the Cronbach’s alpha coefficient was .97.

Anxiety symptomatology was measured through the Spanish version of the Geriatric Anxiety Inventory (GAI; Márquez-González et al., 2012; Pachana et al., 2007), a 20-item scale (e.g., ‘I often feel nervous’) with a dichotomous response option 0 *‘no’* and 1 *‘yes’*. The cut-off score established for clinical screening is 11 or more (Pachana et al., 2007). The internal consistency Cronbach (α) of the scale in the present study was .93.

Depressive symptomatology was assessed through the Spanish version of the Center for Epidemiological Studies Depression Scale (CES-D; Losada et al., 2012; Radloff, 1977). The scale is a 20-item scale (e.g., ‘I felt depressed’) which measures depressive symptoms during the previous week. Response options on the four-point Likert-type scale ranged from 0 (*‘rarely or none of the time’*) to 3 (*‘most or all of the time’*). The cut-off score established for clinical screening is 16 or more (Radloff, 1977). The internal consistency Cronbach (α) of the scale in the present study was .87.

Data Analysis

Firstly, descriptive analyses (mean, standard deviation, and range) were performed. Secondly, t-tests were conducted to compare women and men. Then, to analyze the relationship between variables, correlation analyses were performed. Finally, the sample was grouped into four symptom profiles of older adults according to the cut-off point of the CES-D (≥ 16) (Radloff, 1977) and the GAI (≥ 11) (Pachana et al., 2007) scales. The following groups or symptoms profiles were created: (a) *Subclinical* profile: Low levels of depressive and anxiety symptoms; (b) *Anxiety* profile: Low depressive symptoms and high anxiety symptoms; (c) *Depressive* profile: High depressive

https://doi.org/10.1017/SJP.2023.26 Published online by Cambridge University Press

symptoms and low anxiety symptoms; and (d) *Comorbid* profile: High levels of both depressive and anxiety symptomatology.

Multinomial logistic regression analyses were carried out to identify predictors of emotional distress profiles in the four groups. Older adults' gender and age, negative self-perceptions of aging, loneliness, and guilt associated with self-perception as a burden were included in the regressions as predictor variables. The profiles were fixed as the reference category in the nominal dependent variable so that all the profiles could be compared with each other. A significance level of 5% was used throughout all analyses. The IBM SPSS Statistics program (version 22.0) was used for all analyses.

Results

Participant Characteristics

Participants had a mean age of 72.01 years (SD = 6.18; range = 60-92) and consisted primarily of women (71%). Most of the participants were married (67.4%), followed by widowed (25.8%), separated or divorced (4.2%) and single (1.3%) (for the marital status, there was a reduction in the sample size to 306 participants due to missing data). Regarding years of formal education, 9.9% reported no formal education (0 years), 35.6% primary education (6 years), 26.7% lower secondary education (9 years), 21.2% higher secondary education (13 years), 4.1% a 3-year university degree (16 years), 1.4% a 5-year university degree (18 years), and 1% a Ph.D. degree (19 years or more) (for years of formal education, there was a reduction in the sample size to 292 participants due to missing data). Most of the participants reported levels of symptomatology over the suggested cut-off scores for the CES-D and the GAI. Most of them reported comorbid depressive and anxiety symptomatology (comorbid profile; n = 96, 31.0%), followed by those who reported depressive symptomatology (depressive profile; n = 76, 24.5%) and anxiety symptomatology (anxiety profile; n = 31; 10%). The remaining participants were grouped into the subclinical profile group (n = 107; 34.5%).

Gender Differences

Women reported worse self-perceived health (t = 2.22, p = .028) and higher levels of anxiety (t = -5.01, p < .01) and depressive symptoms (t= -2.71, p < .05). No additional gender differences were found.

Correlations

Associations between the assessed variables are shown in Table 1. Being older was positively associated with loneliness (r = .13, p < .05) and depressive symptoms (r = .11, p < .05). Negative self-perceptions of aging were positively associated with loneliness (r = .40, p < .01), guilt associated with self-perception as a burden (r = .21, p < .01), anxiety (r = .39, p < .01), and depressive (r = .53, p < .01) symptoms. Loneliness was positively associated with guilt associated with self-perception as a burden (r = .30, p < .01), anxiety (r = .46, p < .01) and depressive (r = .56, p < .01) symptoms. In addition, guilt associated with self-perception as a burden was positively associated with anxiety (r = .25, p < .01) and depressive (r = .35, p < .01) symptoms. Anxiety and depressive symptoms were themselves highly positively correlated (r = .59, p < .01).

Determinants of Symptom Profile

Table 2 shows the coefficients (adjusted odds ratio) and their 95% confidence intervals predicting the anxiety, depressive, and comorbid profiles versus the reference subclinical profile; the table also shows the 95% confidence intervals predicting differences between clinical profiles. The examined predictors were gender and age, negative self-perceptions of aging, loneliness, and guilt associated with self-perception as a burden. Significant results were found for older adults' gender, LR(3) = 31.064; p < .001. No significant results were found for age, LR(3) = 7.039; p = .071. Also, negative self-perceptions of aging had a significant relationship with the symptom profile, LR(3) = 47.17; p < .001. Finally, loneliness and guilt associated with self-perception as a burden also made a significant contribution, LR(3) = 22.43; p < .001; and LR(3) = 13.96; p = .003; respectively.

Firstly, differences between the clinical symptomatology profiles (anxiety, depressive, and comorbid profile) and the subclinical profile are presented. Women were more likely than men to be included in the anxiety profile, depressive profile, and comorbid profile relative to the subclinical profile, OR = 2.26; 95% CI [2.612, 35.029]; OR = 1.00; 95% CI [1.309, 5.643]; and OR = 1.98; 95% CI [3.024, 17.496], respectively. In addition, negative self-perception of aging was a risk factor for being in the depressive profile and comorbid profile relative to the subclinical profile, OR = 0.08; 95% CI [1.042, 1.115]; OR = 0.11; 95% CI [1.078, 1.160], respectively. Loneliness was a risk factor for being in the comorbid profile relative to the subclinical profile, OR = 0.56; 95% CI [1.306, 2.321]. Finally, guilt associated with self-perception as a burden was a risk factor for being in the anxiety profile, depressive profile, and comorbid profile relative to the subclinical profile, OR = 0.08; 95% CI [1.018, 1.143]; OR = 0.08; 95% CI [1.024, 1.138]; and OR = 0.08; 95% CI [1.024, 1.140], respectively.

Second, the differences between the three clinical symptomatology profiles (anxiety, depressive, and comorbid profile) are presented.

Table 1. Descriptive Data and Correlation Matrix

	1	2	3	4	5	M	SD	Range
1. Age	–					72.01	6.18	60–92
2. Negative self-perception of aging	.04	–				35.78	12.19	12–82
3. Loneliness	.13*	.40**	–			4.23	1.56	3–9
4. Guilt associated with Self-Perception as a Burden	.08	.21**	.30**	–		21.56	12.07	16–80
5. Anxiety symptoms	.04	.39**	.46**	.25**	–	8.76	6.28	0–20
6. Depressive symptoms	.11*	.53**	.56**	.35**	.59**	18.94	11.27	0–56

Note.
*p < .05;
**p < .01.

https://doi.org/10.1017/SJP.2023.26 Published online by Cambridge University Press

Table 2. Multinomial Logistic Regression Analyses of Symptom Profile

	Associations of Clinical Profiles		
	Subclinical vs. Anxiety Profile	Subclinical vs. Depressive Profile	Subclinical vs. Comorbid Profile
Factors	OR 95% CI	OR 95% CI	OR 95% CI
Gender (1 = woman)	2.26 [2.612, 35.029]**	1.00 [1.309, 5.643]**	1.98 [3.024, 17.496]**
Age	–0.07 [0.859, 1.004]	0.01 [0.961, 1.072]	0.03 [0.970, 1.091]
Negative self-perception of aging	0.04 [0.991, 1.084]	0.08 [1.042, 1.115]**	0.11 [1.078, 1.160]**
Loneliness	–0.00 [0.657, 1.512]	0.21 [0.920, 1.655]	0.56 [1.306, 2.321]**
Guilt associated with Self-Perception as a Burden	0.08 [1.018, 1.143]*	0.08 [1.024, 1.138]**	0.08 [1.024, 1.140]**
	Anxiety vs Comorbid Profile	Depressive vs Comorbid Profile	Anxiety vs Depressive Profile
	OR 95% CI	OR 95% CI	OR 95% CI
Gender (1 = woman)	0.27 [0.187, 3.091]	0.99 [1.179, 6.077]*	−1.259 [0.075, 1.070]
Age	0.10 [1.023, 1.200]	0.1 [0.961, 1.069]	0.09 [1.010, 1.183]
Negative self-perception of aging	0.08 [1.029, 1.130]**	0.4 [1.005, 1.071]*	0.04 [0.99, 1.088]
Loneliness	0.56 [1.185, 2.573]**	0.34 [1.128, 1.765]**	0.21 [0.832, 1.842]
Guilt associated with Self-Perception as a Burden	0.00 [0.967, 1.037]	0.00[0.976, 1.026]	0.00 [0.967, 1.037]
–2LL	647.77 (15)		

Note.
*$p < .05$;
**$p < .01$.

Women were more likely than men to be included in the comorbid profile relative to the depressive profile, *OR* = 0.99; 95% CI [1.179, 6.077]. In addition, negative self-perception of aging was a risk factor for being in the comorbid profile relative to the anxiety and depressive profiles, *OR* = 0.08; 95% CI [1.029, 1.130]; *OR* = 0.4; 95% CI [1.005, 1.071], respectively. Finally, loneliness was a risk factor for being in the comorbid profile relative to the anxiety profile and depressive profile, *OR* = 0.56; 95% CI [1.185, 2.573]; *OR* = 0.34; 95% CI [1.128, 1.765], respectively.

Discussion

The aim of this study was to analyze the role of negative aging self-stereotypes, loneliness, and feelings of guilt associated with self-perception as a burden in the explanation of older adults' symptom profiles: Subclinical, anxiety, depressive, and comorbid. As expected, the results of the present study replicate previous findings showing an association between negative aging self-stereotypes (e.g., Levy et al., 2019), loneliness (e.g., Lee & Bierman, 2019), and guilt associated with self-perception as a burden (e.g., Pedroso-Chaparro et al., 2021) and psychological distress, with significant associations obtained with anxiety and depressive symptoms. Likewise, consistent with the results of the previous studies, our data showed that women reported more anxiety and depressive symptoms than men (e.g., Ciuffreda et al., 2021). Finally, our results also showed an association between being older and depressive symptoms (e.g., Tan et al., 2023; Zenebe et al., 2021).

Regarding regression analyses, consistent with previous research, our results suggest that negative aging self-stereotypes (e.g., Losada-Baltar, et al., 2021) and loneliness (e.g., Igbokwe et al., 2020) are key variables in the comorbid presence of significant anxiety and depression symptoms. However, our results provide evidence for the first time of the association between guilt linked to self-perception as a burden and comorbid depressive and anxiety symptoms, with the findings suggesting that feelings of guilt associated with self-perception as a burden are related to all three clinical symptomatology profiles (anxiety, depressive, and comorbid profile). Specifically, our results suggest that this variable allowed the anxiety, depressive, and comorbid profiles to be differentiated from the subclinical profile but did not contribute to differentiating between the anxiety and depressive symptom profiles and the comorbid profile. These results indicate that experiencing significant symptoms of distress (anxiety, depression, or both) would be equally associated with the presence of this type of guilt. Following Joyner's (1998) suggestion, one of the sources for older adults experiencing anxiety and depression symptoms could be their consideration that their symptoms may cause emotional pain in relevant people in their lives, generating in them guilt associated with self-perception as a burden. In relation to socio-demographic factors, and consistent with the results found in previous studies, our results showed that being female was significantly associated with a higher report of anxiety, depression, and comorbid symptoms (Dong et al., 2020; Santini et al., 2016). However, no age differences were found. This result is consistent with findings in previous studies suggesting that instead of chronological age, self-perceptions of ageing are associated with distress profiles (Losada-Baltar et al., 2021).

Among the results worth highlighting in this study is the observed high prevalence of clinical anxiety (10%), depressive (24.5%), and comorbid anxiety and depressive (31.0%) screening criteria symptoms, with 34.5% of the participants showing no clinically significant levels of depressive and/or anxiety symptoms. Previous studies have also found high percentages of depressive and anxiety screening criteria symptoms. For example, in a sample of retired adults over 60 years of age, Igbokwe et al. (2020) found that 7.2% presented anxiety symptoms, 31.5% presented depressive

https://doi.org/10.1017/SJP.2023.26 Published online by Cambridge University Press

symptoms, and 20.5% presented both types of screening criteria symptoms. The high comorbidity of significant anxiety and depressive symptoms in the older adults found in the present study is also consistent with the high co-occurrence of anxiety and depressive symptoms and disorders found in previous studies (e.g., Beekman et al., 2000; Dong et al., 2020; Zhao et al., 2020). Considering the negative outcomes (e.g., longer duration of symptoms and lower efficacy of interventions) associated with comorbid presentations of anxiety and depressive symptoms, these findings also suggest that targeting negative self-perceptions of aging, loneliness, and guilt associated with self-perception as a burden might be especially important when developing interventions for older adults with emotional comorbid presentations. Specifically, our results suggest some practical implications. Programs to encourage more realistic views of ageing and strategies to reduce feelings of loneliness appear to be key for reducing anxious-depressive comorbidity in older adults. Also, normalizing the idea of accepting help may reduce feelings of guilt associated with self-perceived burden in older adults, decreasing the likelihood of experiencing anxiety, depression, or anxious-depressive comorbid symptoms.

Several limitations of the study should be mentioned. First, the cross-sectional design of the study prevents causal inferences. Future experimental and longitudinal studies are needed to confirm the findings. Second, the convenience sampling limits the extrapolation of the results to the general population of older adults. Third, even though the scale used to assess loneliness has shown appropriate psychometric properties, it is composed of only three items. Future studies may consider using more exhaustive measures of this same construct (for example, University of California, Los Angeles Loneliness Revised Scale; R-UCLA; Russell et al., 1980). In addition, this study was carried out considering established cut-off points in anxiety and depression scales to determine the symptoms profiles; these cut-off points therefore influence the number of older adults being classified with significant anxious and depressive symptoms. Finally, the present study was carried out with a sample composed of Spanish older adults, and cultural issues may be influencing the results. For example, higher levels of loneliness have been found in collectivistic societies, such as Spain, compared with individualistic societies (Lykes & Kemmelmeier, 2014).

Despite these limitations, this study is a first and preliminary approach to the analysis of the role of negative aging self-stereotypes, loneliness, and feelings of guilt associated with self-perception as a burden in the explanation of older adults' symptom profiles (subclinical, anxiety, depressive, and comorbid). The obtained results stress that older adult who reported a comorbid symptomatology presented higher feelings of guilt associated with self-perception as a burden, as well as higher symptoms of loneliness and more negative self-perceptions of aging. Considering that comorbid anxiety and depressive symptoms have been associated with negative consequences such as suicidal ideation and behavior (Jeste et al., 2006; Lenze et al., 2000; Saade et al., 2019), a relevant issue in the older adult population (World Health Organization, 2017), the findings of this study suggest potential associations that may contribute to understanding and treating comorbid anxiety and depressive symptoms in older adults.

Acknowledgements. The authors thank all the participants in the study. We thank the Ayuntamiento de Getafe (Madrid, Spain) the Centro de Mayores "Ferrer i Guardia" (Madrid, Spain), and Centro de Mayores Ramón Rubial (Madrid, Spain) for their support in the recruitment of the sample.

Funding statement. María del Sequeros Pedroso-Chaparro was supported by a pre-doctoral grant from the Universidad Autónoma de Madrid. Additionally, María del Sequeros Pedroso-Chaparro was supported by the Erasmus+ Traineeship Programme.

Competing interest. None.

Data sharing. The study materials, analytic methods, and data are available from the corresponding author on reasonable request.

Authorship credit. María del Sequeros Pedroso-Chaparro conceived, designed, and supervised the study, collected, analyzed, and interpreted the data and drafted the manuscript. Isabel Cabrera conceived, designed, and supervised the study and revised the manuscript. María Márquez-González conceived, designed, and supervised the study and revised the manuscript. Oscar Ribeiro interpreted the data and revised the manuscript. Andrés Losada Baltar conceived, designed, and supervised the study and revised the manuscript.

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