

What is the role of family meals and social eating behaviour in relation to experiential avoidance in adolescents among Spanish adolescents: the EHDLA study

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To cite: Montenegro-Espinosa JA, Jiménez-López E, Gutiérrez-Espinoza H, *et al*. What is the role of family meals and social eating behaviour in relation to experiential avoidance in adolescents among Spanish adolescents: the EHDLA study. *BMJ Nutrition, Prevention & Health* 2025;**0**. doi:10.1136/bmjnp-2024-001072

► Additional supplemental material is published online only. To view, please visit the journal online (<https://doi.org/10.1136/bmjnp-2024-001072>).

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Received 27 September 2024
Accepted 12 March 2025



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ABSTRACT

Purpose The aim of the present study was to analyse the associations of family meals and social eating behaviour (SEB) with experiential avoidance (EA) in adolescents from Spain.

Methods This cross-sectional study involved 617 adolescents (aged 12–17 years, 56.7% females) from the Eating Habits and Daily Life Activities study from *Valle de Ricote* (Region of Murcia, Spain). Variables were analysed using visual techniques including Shapiro-Wilk test and density and quantile-quantile plots. Continuous data were displayed using medians and IQRs, while categorical data was shown as percentages. The frequency of family meals was assessed by asking participants to indicate how many times their family had shared a meal together during the previous week. SEB was self-reported by the adolescents through responses to three statements. To measure EA, we used the Acceptance and Action Questionnaire-II (AAQ-II). Generalised linear models were employed to ascertain the associations of family meals or SEB with EA.

Results For each further point in SEB, a lower estimated marginal mean (M) of the AAQ-II was observed (−0.86 points, 95% CI −1.39 to −0.33, $p=0.001$). In terms of family meal status, the highest AAQ-II score was found in those with low family meal status (M=20.1, 95% confidence interval [CI] 18.1 to 22.2), followed by participants with medium family meal status (M=19.2, 95% CI 17.0 to 21.4) and those with high family meal status (M=18.8, 95% CI 16.1 to 21.0). Significant differences were observed between participants with high SEB status and their counterparts with medium SEB ($p=0.004$) or low SEB ($p<0.001$).

Conclusions This research revealed a significant relationship between SEB and EA and a non-significant relationship between the frequency of family meals and EA. Promoting positive social eating environments and increasing family meal participation could help reduce the prevalence of EA and its negative consequences in adolescents.

INTRODUCTION

Experiential avoidance (EA) is defined as the unwillingness to remain in contact with

WHAT IS ALREADY KNOWN ON THIS TOPIC

⇒ Previous research has explored the associations of eating habits and family meals on various aspects of adolescent well-being, including emotional regulation and mental health. However, little has been done to specifically examine the relationship between social eating behaviour (SEB) and experiential avoidance (EA) in this population.

WHAT THIS STUDY ADDS

⇒ This study provides new evidence that a higher level of SEB is associated with lower levels of EA in Spanish adolescents. However, no significant link was identified between the frequency of family meals and EA.

HOW THIS STUDY MIGHT AFFECT RESEARCH, PRACTICE OR POLICY

⇒ The findings suggest that fostering positive SEBs could help mitigate EA in adolescents. Interventions that promote healthy SEB, alongside encouraging family meals, could be valuable for reducing EA and its negative effects on adolescent mental health.

aversive internal or external experiences (eg, bodily sensations, thoughts, memories and other private experiences) and to make efforts to modify or escape from these distressing events or situations.¹ EA may pose a risk to mental and physical health, play a role in the development or maintenance of psychopathology² and promote deterioration in quality of life.³ EA has been associated with several mental health conditions that have been shown to have greater prevalence and detrimental effects during adolescence, including depression, anxiety, obsessive-compulsive disorder, post-traumatic stress disorder, suicidal experiences (eg, thoughts, ideation and planning), self-harm and eating

disorders.^{4–7} Adolescence is a critical developmental period marked by cognitive, physical and socioaffective changes that shape mental health and determine various aspects of later life, such as health, social relationships, education or employment.⁸ Identifying the factors that may lead to an increase in EA in adolescents is therefore relevant.

Family meals play important roles in adolescent's psychosocial well-being, food choices and eating habits, reflecting family and social norms, as well as shaping their behaviour and how they act in various situations of coexistence.⁹ A systematic umbrella review found that sharing meals with family or friends is important for the psychological well-being and development of adolescents.¹⁰ Regular participation in social meals is linked to healthier eating habits, reduced risks of obesity and improved physical health. Psychologically, it helps reduce anxiety and depression, boosts academic performance and lowers behavioural problems. Family meals also reinforce values, promote a sense of belonging and contribute to adolescent's self-esteem. In addition, the frequency of family meals was associated with decreased depressive symptoms and a reduction in suicidal behaviour (eg, thoughts, ideation and planning) among adolescents.¹¹ However, this association between sharing a family meal and well-being may depend on whether the time spent eating with the family is seen as a rewarding time for the individual.¹² Thus, on occasions when family meals do not take place with the voluntary participation of adolescents, this practice could be counterproductive or even harmful, undermining family or social interaction and preventing the establishment of better psychosocial well-being.¹³ Along these lines, it is interesting to analyse the relationship between EA and family meals, as both are linked to an increase or decrease in psychopathological symptoms, respectively.

Social eating behaviour (SEB), in contrast to family meals, is more related to the pleasure and feelings of sharing meals in the company of friends or family.¹⁴ Although the two concepts are closely related, there are significant differences between family meals and SEB.⁹ SEB, involving family, friends and the media, also influences the formation of eating habits in children and adolescents, generating specific relationships, feelings and emotions related to food and body image.¹² In this sense, SEB is a complex interaction of physiological, psychological and social factors that affect mealtimes, food quantity and food choices.¹³ Following this idea, it has been shown that people are ruled by socially perceived dietary norms and patterns, which may generate fluctuations in their well-being, as young people associate the consumption of certain foods as positive or negative and may generate symptoms of anxiety or avoidance.¹²

Therefore, social interaction, depending on the case, could be used to promote healthy eating behaviours and improve mental health by sharing a meal with friends or family.¹⁵ With respect to the mental health of young people in relation to SEB, several studies^{16–18} have

shown that adolescents modify their food choices on the basis of their social circle. Bevelander *et al*¹⁶ noted that, depending on an adolescent's level of self-esteem, they may overeat or stop eating depending on how their peers behave. Therefore, SEB, together with EA, could influence adolescent eating behaviour by creating associations and feelings towards food.¹⁷ In support of this notion, other studies have suggested that adolescents choose their foods according to the desired image they wish to project and indicate that they agree with the norms of the group and their friendships.¹⁸ Therefore, SEB, along with EA, may be a factor in shaping adolescent eating behaviour by creating associations and feelings about body image and food.¹⁹

Research has suggested the relevance of multiple social, economic, environmental and cultural factors in understanding the relationships between EA and various mental health complications.^{4–7} Furthermore, previous studies have examined issues related to SEB and EA, such as anxiety symptoms and eating disorders resulting from the dynamics of eating in the companies of different social groups and the psychological effects these produce.^{20–22}

Given this background, investigating the habits and behaviours of adolescents towards family and social meals in relation to EA may be relevant. Consequently, the aim of the present study was to analyse the association between family meals and SEB with EA in adolescent students from Spain.

MATERIALS AND METHODS

This research used part of the data from the Eating Habits and Daily Life Activities (EHDLA) study, using the methodology explained by López-Gil.²³ This was a secondary cross-sectional study including 617 adolescents (56.7% females). The EHDLA study involved adolescents aged 12–17 years from the *Valle de Ricote* (Region of Murcia, Spain), who took part in the three secondary educational institutions of the area during the 2021–2022 school year. For the adolescents to be included in the research, their parents or guardians signed an informed consent form. Adolescents were also required to give their consent to take part in the study. The inclusion criteria required that participants be between 12 and 17 years old and either reside in or attend school in the *Valle de Ricote*. Adolescents who did not participate in physical education classes (as the questionnaires and assessments were conducted during these sessions), those with medical conditions that limited their physical activity or who were undergoing medical treatment and those without parental or guardian consent were excluded from the study.

Measurements

Experiential avoidance

To measure EA, we used the Spanish version of the Acceptance and Action Questionnaire-II (AAQ-II).²⁴ It allowed us to determine unwillingness to experience unwanted thoughts and emotions (eg, "I am afraid of my feelings",

“I worry that I cannot control my worries and feelings”) and a reluctance to live in the present moment, as well as a difficulty in directing value-driven actions when faced with psychological events that may cause discomfort (eg, “My painful experiences and memories hinder me from living a life I would value”, “My painful memories prevent me from having a fulfilling life”, “Worries get in the way of my success”). The total score ranges from 7 to 49 points. Higher scores indicate greater levels of EA, while lower scores reflect lower levels of EA. The Spanish version of the AAQ-II has been shown to be valid and reliable for assessing EA in adolescents.²⁴

Family meals

The frequency of family meals was assessed by asking participants to indicate how many times their family had shared a meal together during the previous week, with the following question: “During the past 7 days, how many times did all, or most, of your family living in your house eat a meal together?” Response options followed an ordinal scale with options ranging from (a) none, (b) 1 day, (c) 2 days, (d) 3 days, (e) 4 days, (f) 5 days, (g) 6 days and (h) 7 days.²⁵ We separated the meals into breakfast, lunch and dinner for collecting these data. All meals were summed to obtain the weekly total number of family meals. For further analyses, we divided the frequency of family meals into tertiles as follows: low 0–11 meals, medium 12–15 meals and high 16–22 meals. The categorisation of family meals into tertiles (low family meals, medium family meals, high family meals) was made due to the absence of predefined cut-off points in the existing literature. This approach allowed us to create comparable categories for data analysis and interpretation in the absence of a consensus on specific values.

Social eating behaviour

SEB was self-reported by the adolescents through responses to three statements: “I like to sit down to eat with family or friends”, “Having at least one meal a day with other people (family or friends) is important to me” and “I usually eat dinner with other people”. Adolescents responded with ‘strongly disagree’ (1 point), ‘somewhat disagree’ (2 points), ‘somewhat agree’ (3 points) or ‘strongly agree’ (4 points). We summed each response to these items to calculate an SEB score, which could be between 3 and 12. Higher scores indicate more frequent SEB. The reliability of these items had a Cronbach’s alpha of 0.70, according to the Eating and Activity over Time Project.²⁶ For further analyses, we divided the frequency of SEB into tertiles as follows: low, 3–9 points; medium, 10–11 points and high, 12 points (online supplemental table S2). The categorisation of SEB into tertiles (low SEB, medium SEB, high SEB) was also based on the absence of established cut-off points in the literature. This method enabled us to create comparable groups for analysis, allowing for meaningful interpretation of the data in the absence of a clear consensus on specific threshold values.

Covariates

Sociodemographic factors

Each participant stated their age and sex. The socioeconomic status of the participants was determined via the Family Affluence Scale-III (FAS-III).²⁷ This scale includes a total score from 0 to 13 points.

Lifestyle factors

Physical activity and sedentary behaviour were evaluated via the Spanish version of the Youth Activity Profile Questionnaire (YAP-S) was used.²⁸ The YAP-S is a self-report questionnaire with 15 items assessing physical activity and sedentary behaviour. The items use a 5-point Likert scale and are separated into three sections: (1) activity at school, (2) activity out-of-school and (3) sedentary habits.²⁹ Sleep duration was assessed by asking participants for weekdays and weekends individually: “What time does your child usually go to bed?” and “What time does your child usually get up?”. The average daily sleep duration was then calculated as follows: weekday sleep duration multiplied by 5, plus weekend sleep duration multiplied by 2, all divided by 7. Energy intake was estimated via a self-administered Food Frequency Questionnaire, which was previously validated for the Spanish population.³⁰

Anthropometric measurements

The body weight of adolescents was measured using an electronic scale with an accuracy of 0.1 kg (Tanita BC-545, Tokyo, Japan), with participants wearing light clothing. Height was measured with a portable stadiometer accurate to 0.1 cm (Leicester Tanita HR 001, Tokyo, Japan). Body mass index was calculated by dividing weight in kg by height in m².

Statistical analysis

To assess the distribution of variables, statistical methods such as the Shapiro-Wilk test, along with visual techniques like density and quantile-quantile plots, were used. Medians and interquartile ranges (IQRs) were used to report continuous variables, and percentages were used for categorical variables. Since preliminary analyses showed no interaction effect between sex and the frequency of family meals ($p=0.138$) or SEB ($p=0.089$), both males and females were analysed together.

Generalised linear models (GLMs) were employed to ascertain the associations of family meals or SEB with EA. To perform these analyses, robust methods were used (ie, the ‘SMDM’ method), which involved an initial S-estimate, followed by an M-estimate, a Design Adaptive Scale estimate and a final M-step. These methods allow addressing heteroscedasticity and outliers. The estimated marginal means (M) and 95% confidence intervals (CIs) for the AAQ-II were calculated on the basis of the frequency and status of family meals or SEB. The models were adjusted for age, sex, socioeconomic status, physical activity, sedentary behaviour, overall sleep duration, body mass index and energy intake. Statistical analyses were performed via R statistical software (V.4.3.2) (R Core Team, Vienna,

Table 1 Descriptive data of the study participants (N=617)

Covariates		
Age (years)	Median (IQR)	14.0 (2.0)
Sex		
Male	n (%)	267 (43.3)
Female	n (%)	350 (56.7)
FAS-III (score)	Median (IQR)	8.0 (2.0)
BMI (kg/m ²)	Median (IQR)	22.1 (6.4)
Energy intake (kcal)	Median (IQR)	2590.0 (1495.8)
Overall sleep duration (min)	Median (IQR)	501.4 (72.9)
YAP-S physical activity (score)	Median (IQR)	2.6 (0.9)
YAP-S sedentary behaviours (score)	Median (IQR)	2.6 (0.8)
Independent variables		
Family meals global (times per week)	Median (IQR)	14.0 (6.0)
Social eating behaviour (score)	Median (IQR)	10.0 (2.0)
Dependent variable		
AAQ-II (score)	Median (IQR)	22.0 (17.0)

AAQ-II, Acceptance and Action Questionnaire-II; BMI, body mass index; FAS-III, Family Affluence Scale-III; YAP-S, Spanish Youth Activity Profile.

Austria) and RStudio (2023.09.1+494) (Posit, Boston, Massachusetts, USA). A p value of <0.05 was considered to indicate statistical significance.

RESULTS

Table 1 shows the descriptive data of the study participants. The median number of weekly family meals, SEB score and AAQ-II score (ie, EA) for the adolescents were 14.0 (IQR=6.0), 10.0 (IQR=2.0) and 22.0 (IQR=17.0), respectively.

Figure 1 shows the estimated marginal means of the AAQ-II for each further family meal or point on the SEB

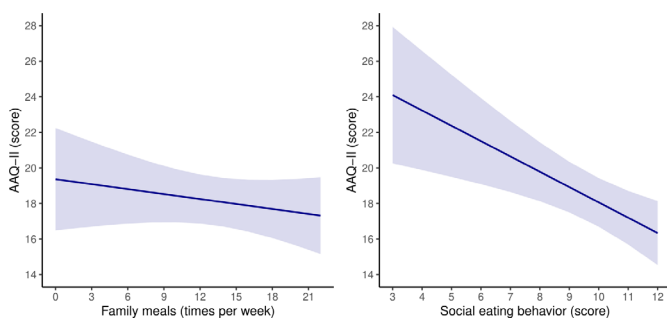


Figure 1 Estimated marginal means of the Acceptance and Action Questionnaire-II (ie, experiential avoidance) score on the basis of the frequency of family meals or the score in adolescents. Adjusted for age, sex, socioeconomic status, physical activity, sedentary behaviour, sleep duration, body mass index and energy intake. Note: higher Acceptance and Action Questionnaire-II scores generally indicate greater experiential avoidance. AAQ-II, Acceptance and Action Questionnaire-II; EA, experiential avoidance; SEB, social eating behaviour.

scale. The detailed results of the GLM can be found in online supplemental table S1. For each additional family meal, an almost statistically significant inverse association was identified in relation to the AAQ-II score (−0.18 points, 95% CI −0.37 to 0.004, $p=0.055$). In addition, for each further point in the SEB scale, a lower estimated marginal mean of the AAQ-II was observed (−0.86 points, 95% CI −1.39 to −0.33, $p=0.001$). In practical terms, these results suggest that adolescents with a higher SEB may experience lower levels of EA (ie, efforts to avoid thoughts, emotions, memories, bodily sensations or any unpleasant internal experience).

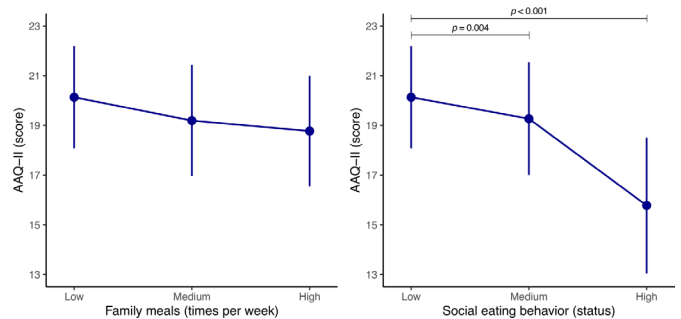


Figure 2 Estimated means of the Acceptance and Action Questionnaire-II (ie, experiential avoidance) score on the basis of the frequency of family meals or social eating behaviour status among adolescents. Adjusted for age, sex, socioeconomic status, physical activity, sedentary behaviour, sleep duration, body mass index and energy intake. Note: higher Acceptance and Action Questionnaire-II scores generally indicate greater experiential avoidance. AAQ-II, Acceptance and Action Questionnaire-II; EA, experiential avoidance; SEB, social eating behaviour.

Figure 2 shows the estimated measures for the AAQ-II score according to categories of frequency of family meals or SEB in tertiles (low, medium, high). The full details of the GLM are presented in online supplemental table S2. For family meal status, the highest AAQ-II score was identified in participants with low family meal status (M = 20.1, 95% CI 18.1 to 22.2), followed by those with medium family meal status (M = 19.2, 95% CI 17.0 to 21.4) and those with high family meal status (M=18.8, 95% CI 16.3 to 21.0). No significant differences were identified among the groups. Concerning SEB status, the greatest AAQ-II score was found in those with low SEB (M=20.1, 95% CI 18.1 to 22.2), followed by participants with medium SEB (M=19.3, 95% CI 17.0 to 21.5) and their counterparts with high SEB (M=15.8, 95% CI 13.1 to 18.5). Significant differences were observed between participants with high SEB status and their counterparts with medium SEB (p=0.004) or low SEB (p<0.001). These findings imply that adolescents with high SEB may be more capable of confronting their internal experiences, rather than avoiding unpleasant thoughts, emotions or sensations.

DISCUSSION

Our findings suggest that higher SEB scores are related to lower EA in the adolescent population. Regarding the association between family meals and EA, we did not find evidence of a significant relationship, which suggests that the frequency of family meals may not be strongly linked to levels of EA.

With respect to the relationship between family meals and EA, a study by Neumark-Sztainer *et al*²⁵ revealed that a higher frequency of family meals was positively associated with psychosocial well-being in adolescents and that male adolescents with more frequent family meals had lower symptoms of depression. In contrast, our findings did not identify a significant relationship between more frequent family meals and lower EA. Thus, in our study, we could not conclude that more frequent family meals promote greater well-being and lower risk behaviours in adolescents, at least in terms of EA. The reasons why this relationship was not significant could be due to several factors. For example, although greater coexistence through family meals in adolescents could promote better communication between them and their families,²⁶ family meals are not always synonymous with enjoying a meal in company, which, to some extent, could limit the potential benefits of family meals for mental health by undermining the possibility of establishing healthy links with the family.³¹ In addition, there are occasions when family meals may be compulsory or there may be rates of family violence that do not create a pleasant experience for young people and, on the contrary, contribute to their discomfort.³² About different cultures, a study examined the impact of family meals on the eating behaviours and self-regulation of young people in four European countries and found that, in some cultures, family meals can

be times of bonding and emotional support, while in others, they can be sources of conflict and stress.³³ For example, in cultures where family meals are seen as an obligation rather than an opportunity for emotional connection, these meals are less likely to have a positive impact on reducing EA. These cultural differences may influence how family meals affect EA in youths. These events may contribute in part to the lack of statistical significance between the variables. However, a growing body of evidence suggests that the family environment is crucial for the development of optimal mental health in children and adolescents.³⁴

Our results revealed a significant and inverse relationship between SEB and EA in adolescents. One possible explanation for our findings may be the sense of belonging that comes from enjoying and feeling pleasure at the moment of sharing meals with friends, family or other social groups. Similarly, young people who enjoy eating together have been found to have a greater sense of belonging, which is a fundamental human motivation that has important implications for adolescent's well-being and mental health.³⁵ Another possible reason is that feeling comfortable and supported by family or friends may help adolescents reduce depressive symptoms and risky behaviours.³⁶

Similar results to ours¹⁹ have previously shown a significant association between SEB and lower levels of EA, indicating greater psychological flexibility, suggesting greater psychological flexibility. This indicates that adolescents with higher SEB may have more opportunities to express their thoughts and liberate themselves from psychological burdens (eg, distress, anxiety, eating disorders), particularly when eating in rewarding social contexts. In contrast, those with lower SEB may not experience the same emotional benefits from eating with friends or family. This may be because enjoying a meal with friends, colleagues or family may promote dialogue that can act as a release of psychological tensions and intrusive thoughts (eg, bodily sensations, thoughts, memories and other private experiences).³⁷ This may indicate the importance of enjoying social interactions at mealtimes, highlighting that it is not just about eating with others but rather taking pleasure in doing it. This dynamic has positive effects on social interaction and adolescent well-being.³⁸ In line with this idea, positive and supportive social contexts for eating may prevent the development of avoidance behaviours in adolescents, whereas negative contexts may promote greater EA.³⁹ On the other hand, it has been evidenced that mindfulness-based interventions have shown improvements in eating disorder-related psychopathology and in the reduction of emotional eating and dietary restraint in adolescents, which would improve their SEB.⁴⁰ These interventions may help adolescents to better manage their emotions and reduce EA.

Strengths and limitations

The present study has several limitations that should be acknowledged. The cross-sectional design limits the

ability to establish a cause-and-effect relationship. Future research should adopt a longitudinal design to explore whether a higher frequency of family meals and SEB are directly associated with EA in adolescents. In addition, the use of self-reported data introduces the possibility of social desirability and recall biases when reporting the number of family meals and SEB. In contrast, this research has strengths. To our knowledge, the relationship between family meals and EA in adolescents has not been previously linked in other studies. To date, this is the first study assessing the associations of family meals and SEB with EA in adolescents. These results provide cross-sectional evidence on the role of these dietary and social factors with respect to EA in a less well-studied population (ie, adolescents). In addition, our adjusted models, including anthropometric, sociodemographic, anthropometric and lifestyle variables, contribute to the robustness of the findings. Moreover, this research was carried out using a large sample of Spanish adolescents; this approach enabled us to obtain sufficient statistical power.

CONCLUSION

This research revealed a significant relationship between SEB and EA, whereas no significant association was found between the frequency of family meals and EA. However, future research using a longitudinal design would be valuable to explore potential cause-and-effect relationships and better understand the directionality of these associations.

Given the implications of EA for the development of various psychopathologies during adolescence,²⁰ it is crucial to recognise the protective role of strong social relationships and healthy eating habits. Promoting positive social eating environments and increasing family meal participation could help reduce the prevalence of EA and its negative consequences. These results highlight the relevance of fostering supportive environments and encouraging healthy behaviours to mitigate EA and its associated risks.

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Acknowledgements The authors would like to express their gratitude to Ayuntamiento de Archeda, as well as the participation of all the adolescents, parents/legal guardians, physical education teachers, schools and staff implicated, and wish to thank them for the information provided.

Contributors JAM-E and JFL-G contributed to the conceptualisation. JFL-G contributed to the methodology, formal analysis and data curation. JM-E contributed to the writing—original draft preparation. EJ-L, HG-E, JO-A, RY-S, DD-B, AEM and JFL-G contributed to the writing—review and editing. All authors have read and agreed to the published version of the manuscript. JFL-G is the guarantor of this article, and he accepts full responsibility for the work, had access to the data and controlled the decision to publish.

Funding The authors have not declared a specific grant for this research from any funding agency in the public, commercial or not-for-profit sectors.

Competing interests None declared.

Patient and public involvement statement Patients and/or the public were not involved in the design, or conduct, or reporting, or dissemination plans of this research.

Patient consent for publication Not applicable.

Ethics approval This study involves human participants and was approved. The study obtained ethical approval from the Bioethics Committee of the University of Murcia and the Ethics Committee of the Albacete University Hospital Complex (approval ID 2218-2018 and 2021-85, respectively). It was conducted in accordance with the Declaration of Helsinki to safeguard the rights of the participants. Participants gave informed consent to participate in the study before taking part.

Provenance and peer review Not commissioned; externally peer reviewed by Cesar Agostinis-Sobrinho, Klaipeda University, Lithuania.

Data availability statement Data are available upon reasonable request.

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