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To cite this article: Ó. Rodríguez-Nogueira, R. Leirós-Rodríguez, A. Pinto-Carral, M. J. Álvarez-Álvarez, Elena Fernández-Martínez & A. R. Moreno-Poyato (2022) The relationship between burnout and empathy in physiotherapists: a cross-sectional study, *Annals of Medicine*, 54:1, 933-940, DOI: [10.1080/07853890.2022.2059102](https://doi.org/10.1080/07853890.2022.2059102)

To link to this article: <https://doi.org/10.1080/07853890.2022.2059102>



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Published online: 04 Apr 2022.



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## The relationship between burnout and empathy in physiotherapists: a cross-sectional study

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### ABSTRACT

**Background:** There have been few studies carried out into empathy in physiotherapists. Burnout can debilitate the quality of care and the efficacy of treatment as the empathetic capacity of the professional diminishes.

**Objective:** The objective of the study was to examine the association between the construct burnout, empathy and sociodemographic aspects in Spanish physiotherapists.

**Methods:** A cross-sectional electronic survey including the Maslach Burnout Inventory (for burnout assessment), the Interpersonal Reactivity Index (for empathy assessment) and sociodemographic data was answered by 461 Spanish physical therapists. A descriptive, bivariate and lineal regression analysis was performed.

**Results:** There was an association between burnout and empathy. Specifically, higher levels of burnout are associated with lower levels of empathy, whilst years of work experience is associated with lower levels of burnout.

**Conclusions:** The results of this study contribute to a greater understanding of the relationship between the level of burnout and the dimensions of empathy in physiotherapists. The influence of burnout, which causes difficulties in the mobilization of the professional towards the establishment of a quality therapeutic relationship, is highlighted.

### KEY MESSAGES

- Emotional exhaustion is associated to greater personal discomfort and less empathy.
- The depersonalization is associated to personal discomfort and less empathy.
- Depersonalization is negatively associated to the lack of perspective.

### ARTICLE HISTORY

Received 7 September 2021

Revised 7 March 2022

Accepted 23 March 2022

### KEYWORDS

Empathy; burnout; physiotherapy; therapeutic relationship; person-centred care

## Introduction



The relationship between the patient and the care provider is the main component of patient-centred care [1,2]. The ability of the professional to communicate with and understand the patient, establishing a therapeutic relationship of confidence, are essential elements in achieving attention centred on the person within the ambit of physiotherapy [3].

One of the principles of patient-centred care is to understand the needs of the patient in order to involve him/her in health decisions to the desired degree [1]. To achieve this, empathy is a fundamental element in improving the efficacy of the relationship [4]. This aspect has been widely studied in the context

of medicine, nursing and other health professions due to its role in the quality of attention [5,6].

Empathy may be defined as the intention, on the part of the professional, to remain within the reference framework of the patient, understanding his/her sentiments and in demonstrating this understanding in detail [7]. Davis proposes that empathy includes the personal experiences of the person who empathizes, the processes of cognitive construction that recognize the emotional experience of the other and the cognitive and emotional responses that arise in the person who empathizes, both at the intrapersonal level and the interpersonal conduct level [8].

To our knowledge, we have found only one study in physiotherapists [9] and four in physiotherapy

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students [2,10–12] that measure empathy quantitatively, so there is little information about empathy in these health professionals. It could be that, as in other health professions [5], female physiotherapists have higher levels of empathy than male physiotherapists [2,9].

One factor that can impact on empathy in the wider literature is burnout. Burnout is a syndrome of emotional exhaustion (EE), depersonalization (DP) and a reduction in personal accomplishment (PA) brought about in a work environment in which a person perceives high levels of stress and lack of support and suitable resources [13]. It gives rise to emotional distancing and a lesser response in the needs of the patient, and can weaken the therapeutic relationship and decrease the efficacy of treatments [14]. It is especially prevalent in health professions who are in the front line of patient care [15].

According to the studies consulted, burnout in physiotherapists seems to be medium to high, being higher at the start of the professional activity and there appear to be no gender differences in burnout levels [16–21].

One of the components of burnout is DP, which seems to be related to dehumanization in social interactions, reducing empathy affecting both the clinic and the patient [22]. In this way, it could be that burnout reduces the empathetic capacity of the clinics, and/or that empathy prevents or, on the other hand, gives rise to emotional tiredness (and, therefore, burnout) [23]. In this sense, diverse studies into empathy and burnout have reached the conclusion that there is an association between both construct: higher burnout seems to reduce empathic capacity [24,25]. Thus, an increase in empathy (understood as the professional's ability to put himself in the patient's place, recognizing his own emotions and separating them from those of the patient) could decrease the EE associated with negative emotions [24] and increasing PA by improving the quality of care, leading to greater job satisfaction [23].

One systematic review [25], and one scoping review [26] conducted in 2017 of studies analysing the relationship between empathy and burnout in health professionals did not find any studies on physiotherapists, so this study appears to be the first to analyse this association in this group of health professionals. For this reason, for the lack of studies reporting on empathy in physiotherapists, and due to the importance of empathy in the quality of care within health-care professionals, it seems important to study the factors which may influence it in the ambit of

physiotherapy [24]. Consequently, the objective of this study was to examine the association between the burnout, empathy and sociodemographic aspects in Spanish physiotherapists, analysing the influence of burnout on empathy and differences by gender.

## Materials and methods

### Study design and sample

A cross-sectional survey of Spanish physiotherapists was carried out. The inclusion criteria defined were: (a) be a qualified physiotherapist and (b) belong to one of the existing professional associations of physiotherapists in Spain.

In 2020, there were 59,592 registered physiotherapists in the General Council of Physiotherapist Colleges of Spain [27]. The sample calculation, with a margin of error of 5% and a confidence level of 95%, determined the need to recruit 382 physiotherapists [28]. Finally, 472 physiotherapists participated, thus achieving the representation of all the professional physiotherapy associations in Spain.

The study was conducted in accordance with to the guidelines of the Declaration of Helsinki, and approved by the University of León Ethics Committee' (code: 032-2019). The data were treated confidentially and informed consent was obtained from all subjects involved in the study.

### Procedure

The participation of the all associations of physiotherapists in Spain was requested by email between February and September 2020. These associations sent member physiotherapists an invitation to fill out the Google Forms form that included the assessment instruments for this research.

### Instruments

The form included a questionnaire with the measurement instruments and the physiotherapist's sociodemographic and professional data: sex, age, years of physiotherapists' experience, highest education and field of work and timetable (continuous morning or afternoon schedule or day divided into two halves throughout the day).

The measurement instruments included were the Maslach Burnout Inventory Survey in its version for Human Services (MBI-HSS) and the Interpersonal Reactivity Index (IRI). The MBI-HSS was developed by Maslach and Jackson [29]. This instrument consists of

three subscales, the scores for each are classified as low, moderate or high: (a) PA at work: tendency to evaluate oneself negatively, regarding work skills and to relate professionally with patients (this score is categorized as follows: less than 30 points, high; 31–36 points, moderate; and 37 or more points, low); (b) EE: in the emotional and affective domain (this score is categorized as follows: less than 16 points, low; 17–26 points, moderate; 27 or more points, high); and (c) DP: feelings and attitudes of cynicism and negative attitudes towards patients (this score is categorized as follows: less than eight points, low; 9–13 points, moderate; and 14 or more points, high). The Spanish adaptation of the scale showed Cronbach's alpha values above 0.7 for all subscales [30].

Empathy was measured using the theoretic framework of Davis [8] by means of the adaptation to Spanish of the IRI, which consists of four dimensions: perspective-taking (PT), the tendency to adopt the psychological point of view of others; fantasy (F), the capacity to imagine the situation and sentiments of others; empathetic concern (EC), the tendency to experience sentiments oriented towards others, such as compassion; and, personal distress (PD), concern and the tendency to react emotionally to the suffering of others. Each dimension comprises seven items using a five-point Likert scale. The scores on each subscale can vary from 0 to 27. This instrument has been validated in Spanish, and Cronbach's alpha values vary between 0.63 and 0.71 across the four factors [31].

### Data analysis

A descriptive analysis of all the quantitative variables was carried out through the calculation of the average values and the standard deviation. The categorical variables were expressed as the number and percentage.

The Kolmogorov–Smirnov tests and Levene's test for the equality of variances were applied to check the distribution of the data for the pre-treatment measure of the outcome variables in the three experimental conditions. Since the results confirmed the normal distribution and equality of variances, in categorical variable independent samples, the Chi-square test and Fisher's exact test were used to verify the homogeneity of the groups, using Cramer's *V* as measure of the size of the effect. The *t*-test with Cohen's *d* statistic (*d*), was used to verify the existence of significant differences between both sexes. Cohen classified the *d* statistic into: small <0.5, medium >0.5 and <0.8 and large >0.8 [32]. The ANOVA test with the Bonferroni correction (*b*) was applied to analyse the differences

between the subgroups of severity of the burnout in the results obtained in the subscales of the IRI, and partial eta-squared ( $\eta_p^2$ ) was calculated to assess the size of the effects ( $\eta_p^2$  is classified into: small <0.06, medium >0.06 and <0.14 and large >0.14) [32]. The association between the quantitative variables was evaluated using Pearson's correlation coefficient.

Finally, multiple linear regression models adjusted by sex and age were used to analyse the possible influence of the MBI-HSS subscales and years of work experience (continuous variables and independent variables) in the results obtained in the IRI. Statistically significant results were established with a *p* value of *p* < .05 in all the analyses carried out. The STATA v.12 statistical package (College Station, TX) was used for the statistical analysis.

## Results

### Descriptive analysis

The mean age of all of those taking part in the survey was  $33.3 \pm 8.1$  years, and 68.4% were female (Table 1). The average professional experience of the physiotherapists was  $10.7 \pm 7.8$  years and 34.7% of them had postgraduate studies.

The work characteristics showed that 26.1% work in the public health system and 73.9% in the private sector and the most frequent work timetable was continuous (56.3%). Between both sexes, statistically significant differences were only identified between the proportion of men and women working in the public and private sectors, with a higher proportion of women working in the public health system (*p* = .03; *V* = 0.32).

The evaluation instruments used obtained significantly different responses in both sexes (Table 2). Fantasy, EC and PD were significantly higher in

**Table 1.** Demographic and work characteristics of the sample.

	All ( <i>n</i> = 461)	Women ( <i>n</i> = 321)	Men ( <i>n</i> = 140)
Age (years)	33.6 ± 8.2	33.6 ± 7.8	33.7 ± 9.1
Work experience (years)	10.9 ± 7.8	11.2 ± 7.6	10.3 ± 8.2
Training (category)			
Graduate	301 (65.3%)	212 (66%)	89 (63.6%)
Master's degree	145 (31.5%)	100 (31.2%)	45 (32.1%)
PhD	15 (3.2%)	9 (2.8%)	6 (4.3%)
Timetable (category):			
Divided	200 (43.4%)	136 (42.4%)	64 (45.7%)
Continuous	261 (56.6%)	185 (57.6%)	79 (54.3%)
Sector (category)*			
Public	123 (26.7%)	92 (28.7%)	31 (22.1%)
Private	338 (73.3%)	229 (71.3%)	109 (77.9%)

Data provided for age and years of work experience: mean ± standard deviation. Data provided for categorical variables: *n* (percentage). Chi-squared between sexes: \**p* value < .05.

women ( $p < .001$ ;  $-0.48 < d > -0.33$ ). On the other hand, the degree of DP was significantly higher in men ( $p < .05$ ;  $d = 0.22$ ).

### Bivariate analysis

A correlation analysis was carried out between the years of work experience and the instruments of evaluation used. More years of experience correlated with lower scores on the EE ( $r = -0.7$ ;  $p < .001$ ) and DP ( $r = -0.8$ ;  $p < .01$ ) and higher scores on the subscale PA ( $r = 0.8$ ;  $p < .001$ ). Years of work experience was not related to any of the IRI subscales.

Among the burnout subscales, it was identified that higher scores on the PT correlated with lower scores on DP ( $r = -0.7$ ;  $p = .004$ ) and higher score on PA ( $r = 0.9$ ;  $p = .003$ ). Furthermore, higher *F* and *EC* scores correlated with higher EE results ( $r = 0.9$ ;  $p < .001$ ) and higher PD scores were associated with the higher scores on the EE ( $r = 0.8$ ;  $p < .001$ ) and DP subscales ( $r = 0.7$ ;  $p < .001$ ) and lower results on the PA subscale ( $r = -0.8$ ;  $p < .001$ ).

The ANOVA analysis between the degrees of EE, DP and PA burnout and the results in the subscales on the total score of the IRI (Table 3) revealed the relationships existing between them. Significantly different

**Table 2.** Results obtained in Interpersonal Reactivity Index and burnout subscales (data provided: mean  $\pm$  standard deviation).

	All ( $n = 473$ )	Women ( $n = 322$ )	Men ( $n = 149$ )
Interpersonal Reactivity Index			
Lack of perspective	23 $\pm$ 3.4	23.2 $\pm$ 3.4	22.8 $\pm$ 3.3
Fantasy	23.9 $\pm$ 4.6	24.4 $\pm$ 4.6**	22.9 $\pm$ 4.6**
Empathetic concern	26.6 $\pm$ 3.9	27.2 $\pm$ 3.8**	25.3 $\pm$ 3.8**
Personal distress	17.7 $\pm$ 4.5	18.2 $\pm$ 4.2**	16.8 $\pm$ 4.5**
Burnout			
Exhaustion	26.8 $\pm$ 10.4	27.2 $\pm$ 10.4	25.9 $\pm$ 10.1
Depersonalization	9.6 $\pm$ 4.2	9.3 $\pm$ 3.9*	10.2 $\pm$ 4.8*
Personal accomplishment	38.3 $\pm$ 5.1	38 $\pm$ 5.1	38.8 $\pm$ 5

t-test between sexes: \* $p$  value  $< .05$ ; \*\* $p$  value  $< .001$ .

results were identified between the three levels of EE, DP and PA and the PD subscale ( $p < .05$ ;  $0.1 < \eta_p^2 > 0.2$ ;  $-3.8 < b > 2.78$ ) and between the high and low levels of EE with the subscales of *F* and *EC* ( $p < .01$ ;  $\eta_p^2 = 0.1$ ;  $b = 1.84$ ), the medium and low levels of PA with the PT subscale ( $p < .05$ ;  $\eta_p^2 = 0.1$ ;  $b = 0.96$ ).

The comparative analysis between the professionals who work in the public and private spheres revealed higher results in the PD subscale in those who work in the public health service ( $p = .02$ ;  $d = -0.24$ ). As regards burnout, the workers in the private sector showed higher levels of EE ( $p = .001$ ;  $d = 0.34$ ), DP ( $p > .05$ ;  $d = 0.2$ ) and lower levels of PA ( $p > .05$ ;  $d = -0.07$ ).

### Linear regression

Linear regression analysis showed no influence from the years of work experience on the components of empathy ( $p > .05$ ). However, the subscales of burnout did obtain significant results (Table 4). Higher levels on the EE subscale were associated with higher scores on *EC*, *F* and *PD* components ( $0.06 < B > 0.13$ ;  $p < .001$ ;  $0.01 < \omega^2 > 0.03$ ). On the other hand, higher levels on the PA subscale were associated with lower scores on *PD* component ( $B = -0.28$ ;  $p < .001$ ;  $\omega^2 = 0.11$ ). In a similar way, higher levels on the DP subscale were associated with lower scores on *PT* and *EC* components ( $-0.11 < B > -0.01$ ;  $p < .01$ ;  $\omega^2 = 0.02$ ). Finally, higher levels on the *PD* component also were associated with higher scores on the *DP* subscale ( $B = 0.28$ ;  $p < .001$ ;  $\omega^2 = 0.07$ ).

### Discussion

The objective of this study was the association between the level of burnout in physiotherapists, their

**Table 3.** Scores obtained in the Interpersonal Reactivity Index subscales according to the level of burnout identified (data provided: mean  $\pm$  standard deviation).

Burnout subscale	Lack of perspective	Fantasy	Empathetic concern	Personal distress
Emotional exhaustion				
Low	22.9 $\pm$ 3.4	22.8 $\pm$ 4.7 <sup>b</sup>	25.5 $\pm$ 4.4 <sup>b</sup>	16.1 $\pm$ 4 <sup>bb</sup>
Medium	23 $\pm$ 3.4	23.6 $\pm$ 4.5	26.5 $\pm$ 3.6	17.1 $\pm$ 3.7 <sup>cc</sup>
High	23.1 $\pm$ 3.4	24.6 $\pm$ 4.6 <sup>b</sup>	27.1 $\pm$ 3.8 <sup>b</sup>	19 $\pm$ 4.5 <sup>bb,cc</sup>
Depersonalization				
Low	23.4 $\pm$ 3.5	24 $\pm$ 4.6	26.9 $\pm$ 3.9	17 $\pm$ 4.1 <sup>a,bb</sup>
Medium	22.7 $\pm$ 3.2	23.7 $\pm$ 4.7	26 $\pm$ 3.9	18.1 $\pm$ 4.1 <sup>a,c</sup>
High	22.7 $\pm$ 3.4	24.3 $\pm$ 4.6	26.8 $\pm$ 3.7	19.7 $\pm$ 5 <sup>bb,c</sup>
Personal accomplishment				
Low	22.4 $\pm$ 4	24.7 $\pm$ 4.9	27.4 $\pm$ 3.8	22.1 $\pm$ 5.4 <sup>aa,bb</sup>
Medium	22.5 $\pm$ 3.4 <sup>c</sup>	24.2 $\pm$ 4.7	26.4 $\pm$ 3.7	19.5 $\pm$ 3.9 <sup>aa,cc</sup>
High	23.3 $\pm$ 3.3 <sup>c</sup>	23.8 $\pm$ 4.6	26.6 $\pm$ 4	16.7 $\pm$ 4 <sup>bb,cc</sup>

One-way ANOVA low vs. medium levels: <sup>a</sup> $p < .05$ ; <sup>aa</sup> $p < .001$ . Low vs. high levels: <sup>b</sup> $p < .01$ ; <sup>bb</sup> $p < .001$ . Medium vs. high levels: <sup>c</sup> $p < .05$ ; <sup>cc</sup> $p < .001$ .

**Table 4.** Linear regression models for Interpersonal Reactivity Index subscales adjusted by sex and age.

Variable	Lack of perspective		Empathetic concern		Fantasy		Personal distress	
	<i>B</i>	95% CI	<i>B</i>	95% CI	<i>B</i>	95% CI	<i>B</i>	95% CI
EE	-0.01	-0.03 to 0.03	0.06**	0.03–0.1	0.07**	0.03–0.11	0.13**	0.1–0.17
DP	-0.11*	-0.18 to -0.03	-0.07*	-0.15 to -0.02	0.03	-0.07 to 0.13	0.28**	0.19–0.37
PA	0.1*	0.03–0.15	0.1	-0.06 to 0.08	-0.06	-0.15 to 0.02	-0.28**	-0.35 to -0.21
WE	-0.03	-0.07 to 0.01	0.02	-0.03 to 0.06	-0.05	-0.11 to 0.01	-0.04	-0.09 to 0.14

*B*: regression coefficient; 95% CI: 95% confidence interval; EE: emotional exhaustion; DP: depersonalization; PA: personal accomplishment; WE: years of work experience.

\* $p < .01$ .

\*\* $p < .001$ .

empathetic response and other sociodemographic variables, analysing the influence of burnout on empathy and differences by gender. Significant relationships were found between burnout and empathy. This finding is not new, as there are diverse revisions with health professionals which reach the same conclusion [25,26]. Within the studies analysed, we found none that made reference to physiotherapists. Results reveal that the highest levels of EE, DP in physiotherapists are associated to greater personal discomfort and less empathic concern for others. Furthermore, that DP is negatively associated to the lack of perspective (cognitive component), which will be translated into a greater understanding of the experiences of the patient maintaining a certain affective distance [33]. Hence, it seems to be that the DP and EE dimensions in physiotherapists increasing the difficulty in understanding and showing preoccupation in the experiences of the patients, linked to an increase in personal discomfort in the face of relationships with them. The lack of perspective has been studied as a possible protector of stress in these professionals since it allows the point of view of the patients to be adopted, reducing the emotional reaction and exposure to the stress of the situation [34,35], as well as facilitating the establishment of a confidential relationship, especially in the early phases of the therapeutic relationship [5]. Empathetic concern encourages the desire to help others [36], which is why it seems to be necessary to build satisfactory relationships in health contexts; whilst PD has been the only dimension that has been related negatively with the therapeutic relationship in contexts of health, as the highest levels of stress and PD condition the professional to take rapid decisions with less time for reflection [37].

As regards the PA, the results indicated a significant and positive association with the lack of perspective and negative with PD. The PA evaluates the sensation that the person has of their own work, on the significance that it confers, and the sentiments of competence, efficacy and success in it [38]. The satisfaction

and sensation of control could help to make this moment of necessary pause before any therapeutic relationship to listen openly and establish a perspective on the patient's experiences [39].

The sociodemographic characteristics of the participants in the study are similar to those of others who evaluate the degree of burnout in physiotherapists [16,17,19,40], it being greater in women with an average age of between 30 and 40. However, in this case, higher levels of burnout have been identified than in previous studies [16,17,19,41].

As regards the years of work experience, its association with lower levels of EE and DP and a greater PA, is congruent with other studies [9,42]. It seems to be that the risk of suffering burnout is greater at the commencement of the professional career, due to the perception of an elevated work load, uncertainty and loss of control over the work context [16,43]. As regards the difference in sexes in the degrees of burnout, in agreement with previous research, the results indicate that the degree of DP is greater in men [19,40,44]. DP is a construct that refers to the ability to distance oneself from the patient [19]. Furthermore, it would be closely related to empathy, in agreement with results of studies which highlight that female healthcare professionals have greater empathy than their male counterparts [2,45]. A fact might justify the higher levels of fantasy, pathetic probation and PD reported by the women in the study. These findings suggest the need to carry out more studies in depth on the factors that influence the quality of empathy and consequently the therapeutic relationship. Furthermore, it would be recommendable to replicate this study at an international level to confirm the result.

The results of this study may help to raise awareness of the importance of empathy in the clinical practice of this profession among practicing physiotherapists and agents responsible for their academic training. At the same time, management and those in positions of responsibility at healthcare

institutions should be sensitized to the need for education programs in the training of empathetic strategies and emotional management, together with the training in suitable environments for the professional development of a physiotherapists which will give rise to a reduction in burnout and attend to the demands of the patients with greater efficacy.

The main limitation of this study was its transversal design, which did not allow long-term changes to be detected, nor causal inferences to be made. We would also like to mention the method of collecting data through social networks, which impedes access to the questionnaire to those people do not make use of them. In addition, the data obtained are probably strongly influenced by the COVID-19 pandemic and the temporal coincidence between the collection of the data presented with the first and second wave of Coronavirus in Spain. As far as we know, this is the first research project that looks into the association between the dimensions of burnout, empathy and sociodemographic aspects in physiotherapists, which is why there are no results in the literature.

There are relationships between the levels of burnout, the years of work experience and the empathetic response of the physiotherapist. Specifically, it highlights the influence of burnout on the increase in PD, and a reduction in emphatic concern and the lack of perspective, making it difficult to encourage the professional towards the quality of care. Furthermore, it has been identified that men suffer greater DP and women have a greater fantasy, EC and PD.

Academic institutions, university teaching in the area of physiotherapy, the managers of healthcare systems and the physiotherapist themselves draw up strategies to reduce incidents and severity of burnout and consequently, improve the quality of the therapeutic relationship and the administration of care in therapeutic services.

### Authors contributions

Ó. R.-N., E. F.-M. and A. R. M.-P. conceptualized and designed the study; Ó. R.-N., R. L.-R., A. P.-C. and M. J. Á.-Á. drafted the initial manuscript, Ó. R.-N., E. F.-M. and A. R. M.-P. designed the data collection instruments, Ó. R.-N., A. P.-C. and M. J. Á.-Á. collected data, Ó. R.-N., R. L.-R., A. P.-C., A. R. M.-P. and M. J. Á.-Á. carried out the initial analyses and critically reviewed the manuscript for important intellectual content. All authors approved the final manuscript as submitted and agree to be accountable for all aspects of the

work. All authors have read and agreed to the published version of the manuscript.

### Disclosure statement

The authors report no conflict of interest.

### Funding

This work was supported by the CEU Cardenal Herrera University and the San Pablo University-Santander Foundation (FUSP) under Grant Number (PCC11/201).

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### Data availability statement

The data presented in this study are available on request from the corresponding author.

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