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## Emotional Autonomy as a Predictor of Self-focused Attention and Self-Criticism in Adolescents with Hypochondriacal Beliefs

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### ABSTRACT

**Objective:** The objective of the present study was to examine the emotional autonomy dimensions as predictors of self-focused attention and self-criticism among adolescents exhibiting hypochondriacal beliefs who were referred to educational counseling centers.

**Methods:** This investigation employed a correlational research design to analyze how the dimensions of emotional autonomy could forecast self-focused attention and self-criticism. The participants in the study were students identified as having hypochondriacal beliefs within the student population; given the limited number of individuals in this population, all 80 students were chosen as the sample through accessible sampling. Data collection involved utilizing the Emotional Autonomy Scale (EAS; Steinberg & Silverberg, 1986), the Self-focused Attention Scale (Woody et al., 1997), and the Levels of Self-Criticism Scale (Thompson & Zuroff, 2000). Descriptive statistics such as mean and standard deviation were applied for data analysis, while inferential statistics utilized Pearson correlation and regression techniques within the SPSS-24 software.

**Results:** The outcomes of the study revealed that the emotional autonomy dimensions significantly and positively predicted self-focused attention and comparative self-criticism among adolescents with hypochondriacal beliefs referred to educational counseling centers.

**Conclusions:** These findings offer valuable insights for guiding counseling interventions for teenagers with hypochondriacal beliefs.

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## Introduction

In the realm of psychology and psychiatry, hypochondria pertains to an individual who, despite exhibiting sound physical health, perceives themselves as unwell. Even though thorough medical evaluations fail to reveal any issues, the hypochondriac firmly holds the belief that they are afflicted by a severe or fatal illness that is often non-existent externally (Mahloji & Lotfi Kashani, 2019).

Individuals afflicted by hypochondria may express concerns regarding various discomforts in regions such as the stomach, chest, head, genitals, and other body parts, leading them to seek advice from multiple healthcare providers, notwithstanding medical records indicating the absence of physical ailments. Occasionally, subtle symptoms of an illness may manifest; nevertheless, these individuals tend to magnify such symptoms (Yadav & Singh, 2020).

In a broader context, for an individual to receive a diagnosis of this condition, they must exhibit all of the following five characteristics: 1- Intense preoccupation with contracting a serious illness, 2- Absence of physical symptoms or presence of mild symptoms, disproportionate worry and rumination in cases of actual or potential medical conditions, 3- Elevated levels of health-related anxiety and easy agitation over health status, 4- Engagement in extreme health-related behaviors (e.g., frequent body checks for signs of illness) or avoidance behaviors (e.g., avoiding medical appointments), and 5- Sustained preoccupation with illness for a minimum of six months (Yotsu, 2018).

A notable aspect concerning this disorder gains added significance when it involves individuals within the adolescent demographic (teenage students) who encounter numerous transformations and adversities. During adolescence, substantial physical, mental, cognitive, and emotional alterations occur. The adolescent phase is linked with confusion, reduced self-worth, self-deprecation, and negative self-perception due to specific challenges during this period (Modeck et al., 2017), resulting in diminished engagement in routine activities and social interactions (Ostovari, 2013). This underscores the necessity to thoroughly explore the factors influencing adolescent issues, particularly within this group of teenage students exhibiting hypochondriacal tendencies.

One of the crucial factors necessitating investigation in adolescent students displaying hypochondriacal symptoms, as highlighted in research findings, is the presence of self-criticism within this cohort. Studies indicate that self-criticism significantly predicts the likelihood of experiencing depression (Karimi et al., 2019). Self-criticism encompasses a pattern of self-condemning behaviors, feelings of inadequacy relative to personal or societal norms, and a strong emphasis on self-improvement. Furthermore, self-criticism can be defined as an individual's inclination towards setting high expectations for themselves and critically evaluating their performance.

A person deems their performance inadequate and establishes elevated standards for themselves, leading to avoidance of social networks (Khilham et al., 2018). Various manifestations of self-critique exist, encompassing feelings of inadequacy linked to frustration and inferiority. Distinctively, self-loathing may target a specific body part, differing from the former. Individuals exhibiting heightened self-criticism engage in rigorous self-assessment, imposing lofty expectations. Activation of a distinct neurological system underlies self-criticism, attributing blame internally, deterring engagement in positive behaviors, thus fostering a propensity towards depressive thoughts and actions (Tofangchi et al., 2021).

Another psychological factor contributing to hypochondria among adolescent students is attention bias or rigid self-directed focus (Sheikhan et al., 2013), necessitating further exploration as a key focal point of ongoing research. Imposing attention inwardly involves past ruminations, worries, or coping mechanisms hindering disconfirmation of negative beliefs (Qadampour et al., 2018). Inflexible self-directed attention, through cognitive attentional processes, sustains mental disturbances in the realm of cognition. Notably, worry and vigilance for threats diminish cognitive resources and focus, impeding absorption of alternative perspectives conducive to adjusting beliefs and employing adaptive strategies (Zhao et al., 2020). Self-directed attention triggers positive meta-concerns—(enhanced preparedness through worry)—escalating worry as a coping mechanism, eventually culminating in negative meta-worries (lack of control over worry), perpetuating a cycle of self-directed attention for informational purposes. This cycle not only heightens anxiety but also fosters chronic anxiety, laying the groundwork for depression. Hodson et al. (2008) have demonstrated that self-directed attention serves as a predictor of social anxiety in the 11-14 age group, thereby predisposing individuals to depression.

Drawing from existing literature and research findings, it is evident that teenagers, owing to their developmental stage, confront various challenges such as (rigid self-focused attention and intense self-criticism). The situation exacerbates when hypochondriacal symptoms manifest, underscoring the importance of identifying factors contributing to their issues.

By default, it is commonly accepted that a pivotal factor potentially influencing challenges among adolescent individuals with hypochondriacal syndrome is the concept of differentiation, which holds the capacity to forecast numerous variables in adolescents through its causal influence. The notion of emotional independence stands out as a significant factor impacting an individual's functioning in childhood and adolescence, characterized by the ability to distinguish one's emotions from those of the family and to separate emotions from thoughts as delineated by Mahmoudi Hamidi & Ebrahimi Moghadam (2018). The process of differentiation emerges as a key developmental task during pre-adolescence, involving the relinquishment of parental dependence and the cultivation of a more sophisticated, realistic, and well-rounded perception of parental figures and their roles, as noted by Safara and Moazzamabadi (2016). Scholars from a psychoanalytic standpoint, such as Blass (1967), refer to differentiation as the process of individuation, emphasizing a healthy emotional and physical detachment from the family unit. They posit that adolescents must establish a sense of autonomy from their parents and attain a sense of personal distinctiveness in order to foster adaptive outcomes; additionally, Erikson asserts that the construction of a mature identity forming the basis for interpersonal closeness hinges on the attainment of differentiation, according to Finkeldey et al. (2019). The significance of differentiation in alleviating anxiety, depression, and other psychological issues during adolescence has spurred a heightened interest among researchers in exploring this correlation, as highlighted by Starr et al. (2020). Thus, aligned with the aforementioned discussions, the primary inquiry of the present study centers on whether the levels of self-focused attention and self-criticism exhibited by adolescent individuals with hypochondriacal tendencies can be prognosticated based on their degree of emotional independence.

## Materials and Methods

The method of the current research was of a descriptive type, using the Pearson correlation method, in which it was tried to find out the relationship between the emotional independence as an independent variable, and self-attention and self-criticism as dependent variables using the correlation coefficient and regression. The statistical population of the present study included all high school students with hypochondriacal syndromes referred to the Qeshm education counseling center. The study sample of this research was determined based on the statistical population of students with hypochondriacal syndromes; Thus, due to the limited number of people in the population, all students (80 people) were selected as sample. Therefore, the sampling method was accessible.

The inclusion criteria were the following: 1- Full satisfaction of the people from participating in the research. 2- Entry of high school students with hypochondriacal syndrome. The exclusion criteria were as follows: 1- Any disturbance in the research process 2- Unwillingness to continue the research process.

### Instruments;

**The Emotional Autonomy Scale (EAS):** This scale developed by Steinberg and Silverberg in 1986, consists of 20 items aimed at evaluating the emotional autonomy components in adolescents. These components include two cognitive aspects - viewing parents as individuals and parental decidualization, and two affective aspects - no dependency on parents and individuation. Emotional autonomy denotes the level at which adolescents emotionally disengage from their parents. Notably, the scale does not explore detachment, rebellion, or conflict. Participants responded to declarative statements by indicating their level of agreement on a four-point scale from "strongly agree" to "strongly disagree." The measure exhibited good internal consistency with a Cronbach's alpha of .75. Furthermore, factor analysis supported a four-factor model, leading to the creation of four subscales aligned with the aforementioned categories: viewing parents as individuals (six items, alpha = .61), parental decidualization (five items, alpha = .63), no dependency on parents (four items, alpha = .51), and individuation (five items, alpha = .60). Cronbach's alpha coefficient for this scale calculated in the present study was reported to be above 0.70, which has good reliability.

**Levels of Self-Criticism (LOSC) Scale:** This scale was formulated for the purpose of assessing two maladaptive variations of negative self-assessment: Comparative Self-Criticism (CSC) and Internalized Self-Criticism (ISC) (Thompson & Zuroff, 2004). A preliminary set of 34 items underwent scrutiny for reliability and item evaluation involving 282 participants. Subsequently, a final assessment tool comprising 12 items for CSC and 10 items for ISC was derived from these evaluations. The validation of these scales was carried out with the participation of 144 individuals. As anticipated, there existed a moderate correlation between CSC and ISC. Each individual scale exhibited distinctive and foreseeable associations with other personality traits, attachment patterns, and conflict resolution strategies, with no apparent reliance on general links with Neuroticism (Thompson & Zuroff, 2004). Cronbach's alpha coefficient for this scale calculated in the present study was reported to be above 0.81, which has good reliability.

**Self-focused Attention Scale:** The Focus of Attention Questionnaire (FAQ) developed by Woody (1997) is a self-report tool consisting of 10 items. Its purpose is to evaluate an individual's focus on either internal stimulus (referred to as FAQ self) or external stimuli (referred to as FAQ external) in a social context. Responses to the items are recorded on a 5-point Likert scale ranging from 1 (not at all) to 5 (totally). A higher score on the FAQ self signifies a greater emphasis on internal stimuli. Previous studies with adults have shown good internal consistency for the FAQ, with Cronbach's alpha values of 0.76 for the self-aspect and 0.72 for the external-focus aspect (Woody et al., 1997). Khaier et al. (2007) obtained the reliability of the questionnaire with Cronbach's alpha of 0.75 for the focused attention component and 0.86 for the external focus of attention. In the current study sample, the Cronbach's alpha coefficients for both factors were 0.73 and 0.75, respectively.

### **Research implementation method**

The methodology employed involved the researcher initially acquiring written consent from the university and consulting the educational counseling facilities in Qeshm city. Subsequently, following essential coordination and approval from the relevant authorities, the target community was selected. The researcher then determined the statistical sample and designated a classroom within a school as the research site. Data collection was conducted through the utilization of research questionnaires. Upon completion of data collection, analysis was performed utilizing SPSS software version 26.

## Results

In order to analyze the data, descriptive statistics including mean, standard deviation, frequency, and percentage were used for the descriptive report of the research results, and in the inferential statistics, Pearson correlation and regression methods were used via SPSS version 24 software. In Table 1, the mean, standard deviation and normality indices of the variables are presented. Considering that the values of skewness and kurtosis of the data are between +2 and -2, the data of all variables have a normal distribution at the level of 0.05.

**Table 1.** Statistical description of the scores of research variables

Variable	Skewness	Kurtosis	Mean	SD
No dependency	0.357	0.362	15.11	3.586
Individuation	-0.145	-0.112	14.41	3.652
Parental decidualization	-0.275	-0.715	15.79	4.307
Emotional independence	-0.158	0.059	45.31	10.074
FAQ self	0.428	0.489	19.71	3.143
FAQ external	-0.445	-0.510	18.24	4.774
Self-focused Attention	-0.074	-0.053	37.95	6.533
Internalized Self-Criticism (ISC)	0.591	0.710	✓6.49	3.901
Comparative Self-Criticism (CSC)	-0.175	-0.354	✓4.50	3.955
Total Self-Criticism (CSC)	0.122	0.515	Δ0.99	7.200

**Hypothesis 1:** Self-focused attention and its dimensions (self-focused attention, social interaction concept base focus) in adolescent students with hypochondriacal beliefs referred to education counseling centers, can be anticipated based on emotional independence.

Multiple regression test was used in order to predict self-focused attention and its dimensions (self-focused focus, basic focus of social interaction perception) based on emotional independence. Pearson correlation coefficients are presented in Table 2.

**Table 2.** Matrix of correlation coefficients between emotional independence and self-focused attention

Variable	1	2	3	4	5	6	7
FAQ self	1						
FAQ external	0.38**	1					
Self-focused Attention	0.70**	0.88**	1				
No dependency	0.24**	0.54**	0.52**	1			
Individuation	0.28**	0.54**	0.42**	0.49**	1		
Parental decidualization	0.38**	0.57**	0.61**	0.58**	0.47**	1	
Emotional independence	0.36**	0.46**	0.66**	0.73**	0.57**	0.64**	1

\*\* p < 0.01



Table 2 shows the results of the correlation between emotional independence and self-directed attention. All the correlation coefficients calculated between self-differentiation from family and self-focused attention are positive and significant at the alpha level of 0.01 ( $p < 0.01$ ). The positiveness of the obtained coefficients shows that there is a direct relationship between emotional independence and self-directed attention.

**Table 3.** Regression analysis to predict self-directed attention by emotional independence

Variable	Unstandardized		Standardized Beta	T value	P	Tolerance	VIF	F	P
	B	Std. error							
Constant	15.581	2.232		6.981	0.001			38.552	0.001
No dependency	0.631	0.182	0.346	3.475	0.001	0.525	1.904		
Individuation	0.605	0.179	0.315	3.379	0.001	0.523	1.912		
Decidualization	0.626	0.168	0.412	3.725	0.001	0.426	2.350		

According to Table 3, the value of the standardized regression coefficient (Beta) for non-dependence is equal to 0.346, individuality is equal to 0.315, and for the non-ideal component is equal to 0.412. According to the value of the t statistic obtained, which is significant at the alpha level of 0.01, it is concluded that emotional independence is a positive and significant form of self-directed attention in adolescents' students with hypochondria symptoms.

**Table 4.** Regression analysis to predict self-centered focus by emotional independence

Variable	Unstandardized		Standardized Beta	T value	P	Tolerance	VIF	F	P
	B	Std. error							
Constant	35.965	4.308		8.348	0.001			28.354	0.001
No dependency	1.527	0.350	0.474	4.356	0.001	0.525	1.904		
Individuation	0.746	0.345	0.227	2.162	0.034	0.523	1.912		
Decidualization	0.799	0.324	0.298	2.464	0.016	0.426	2.350		

According to Table 4, the value of the standardized regression coefficient (Beta) for non-dependence is equal to 0.474, individuality is equal to 0.227, and for the non-ideal component is equal to 0.298. According to the value of the t statistic obtained, which is significant at the alpha level of 0.05, it is concluded that emotional independence in a positive and significant way is the focus of attention focused on oneself.



**Table 5.** Regression analysis for predicting the basic locus of social interaction perception by emotional independence

Variable	Unstandardized		Standardized	T value	P	Tolerance	VIF	F	P
	B	Std. error	Beta						
Constant	1.778	1.676		1.061	0.292			35.172	0.001
No dependency	0.507	0.136	0.380	3.715	0.001	0.525	1.904		
Individuation	0.346	0.134	0.288	2.580	0.012	0.523	1.912		
Decidualization	0.333	0.126	0.301	2.644	0.010	0.426	2.350		

According to Table 5, the value of the standardized regression coefficient (Beta) for non-dependence is equal to 0.380, individuality is equal to 0.288, and for the non-ideal component is equal to 0.301. According to the value of the t statistic obtained, which is significant at the alpha level of 0.01, it is concluded that emotional independence in a positive and significant way is the basis of the concept of social interaction.

**Hypothesis 2:** Self-criticism and its dimensions (internal self-criticism, comparative self-criticism) in adolescent students with hypochondriacal beliefs referred to education counseling centers, can be anticipated based on emotional independence.

In order to predict self-criticism and its dimensions (internal self-criticism, comparative self-criticism) based on emotional independence, multiple regression test was used. The results of Pearson correlation coefficients are presented in Table 6.

**Table 6.** Matrix of correlation coefficients between emotional independence and self-criticism

Variable	1	2	3	4	5	6	7
Internalized Self-Criticism (ISC)	1						
Comparative Self-Criticism (CSC)	0.58**	1					
Total Self-Criticism (CSC)	0.89**	0.89**	1				
No dependency	0.57**	0.54**	0.47**	1			
Individuation	0.51**	0.42**	0.59**	0.49**	1		
Parental decidualization	0.58**	0.64**	0.44**	0.58**	0.47**	1	
Emotional independence	0.47**	0.47**	0.54**	0.73**	0.57**	0.64**	1

\*\* p < 0.01

According to Table 6, all correlation coefficients calculated between emotional independence and self-criticism are positive and significant at the alpha level of 0.01 ( $p < 0.01$ ). The positivity of the obtained coefficients shows that there is a direct relationship between emotional independence and self-criticism.

**Table 7.** Regression analysis to predict self-criticism by emotional independence

Variable	Unstandardized		Standardized Beta	T value	P	Tolerance	VIF	F	P
	B	Std. error							
Constant	5.246	2.133		2.459	0.016			59.604	0.001
No dependency	0.544	0.174	0.271	3.136	0.002	0.525	1.904		
Individuation	0.592	0.171	0.297	3.461	0.001	0.523	1.912		
Decidualization	0.935	0.161	0.559	5.823	0.001	0.426	2.350		

According to Table 7, the value of the standardized regression coefficient (Beta) for non-dependence is equal to 0.271, individuality is equal to 0.297, and for the non-ideal component is equal to 0.559. According to the value of the t statistic obtained, which is significant at the alpha level of 0.01, it is concluded emotional independence is a positive and significant form of self-criticism.

**Table 8.** Regression analysis for predicting internal self-criticism through emotional independence

Variable	Unstandardized		Standardized Beta	T value	P	Tolerance	VIF	F	P
	B	Std. error							
Constant	3.886	1.348		2.883	0.005			37.125	0.001
No dependency	.310	0.110	0.285	2.830	0.006	0.525	1.904		
Individuation	.328	0.108	0.319	3.037	0.001	0.523	1.912		
Decidualization	.492	0.101	0.543	4.853	0.001	0.426	2.350		

According to Table 8, the value of the standardized regression coefficient (Beta) for non-dependence is equal to 0.285, individuality is equal to 0.319, and for the non-ideal component is equal to 0.543. According to the value of the t statistic obtained, which is significant at the alpha level of 0.01, it is concluded that emotional independence is a positive and significant form of internal self-criticism.

**Table 9.** Regression analysis for predicting comparative self-criticism by emotional independence

Variable	Unstandardized		Standardized Beta	T value	P	Tolerance	VIF	F	P
	B	Std. error							
Constant	1.360	1.372		0.991	0.325			36.662	0.001
No dependency	0.234	0.112	0.212	2.096	0.039	0.525	1.904		
Individuation	0.282	0.110	0.268	2.563	0.016	0.523	1.912		
Decidualization	0.443	0.103	0.482	4.287	0.001	0.426	2.350		

According to Table 9, the value of the standardized regression coefficient (Beta) for non-dependence is equal to 0.212, individuality is equal to 0.268, and for the non-ideal component is

equal to 0.482. According to the value of the *t* statistic obtained, which is significant at the alpha level of 0.01, it is concluded that emotional independence in a positive and significant form of comparative self-criticism.

## Discussion

**Hypothesis 1:** Self-focused attention and its dimensions (self-focused attention, social interaction concept base focus) in adolescent students with hypochondriacal beliefs referred to education counseling centers, can be anticipated based on emotional independence. The findings reveal that emotional independence significantly and positively anticipates the basic focus of social interaction in adolescent students with hypochondriacal beliefs. Our results remain consistent with Zarei and Jan Esmaili (2021) concerning the importance of predicting self-focused attention and its dimensions (self-focused attention, the basic focus of the concept of social interaction) based on emotional independence.

The explanation of the significance of predicting self-focused attention and its dimensions (self-focused attention, the basic focus of the concept of social interaction) based on emotional independence, suggests that excessive and extreme self-attention in various physical-psychological dimensions may contribute to the development and exacerbation of hypochondria and its symptoms. Individuals with hypochondria often harbor unrealistic negative thoughts centered on themselves. These negative perceptions are amplified by excessive self-focus, laying the groundwork for the onset and escalation of hypochondria disorder. Individuals with high emotional independence possess strong logical capabilities, enabling them to effectively balance emotions and reasoning. Their adept logical reasoning allows them to analyze situations thoughtfully and refrain from displaying irrational or emotional responses. Those who can accurately assess and differentiate exhibit realistic self-perceptions and avoid unwarranted behaviors such as excessive self-focus, even in a comparative context. Their self-expectations align with their abilities and skills, leading to greater contentment with their circumstances. Conversely, individuals with low emotional independence are more susceptible to individual emotions, forming unrealistic self-expectations devoid of logic. Such individuals are prone to self-dissatisfaction and harbor negative self-perceptions. Persistent negative self-appraisal in both physical and psychological aspects may culminate in self-illness over time. Individuals with a

grounded self-assessment based on reality are less likely to develop hypochondria. Sound evaluation and analysis are hallmark traits of individuals with high differentiation. Hence, it is evident that high differentiation is linked to normal self-directed attention, while low differentiation is associated with excessive self-directed attention.

**Hypothesis 2:** The investigation conducted in this study revealed that the anticipation of comparative self-criticism among adolescent students is significantly and positively associated with emotional independence. Our results align with previous research by Karimi et al. (2019) and Sharifi et al., which also highlighted the importance of emotional independence in predicting self-criticism and its dimensions (internal self-criticism, comparative self-criticism).

An analysis of the importance of foretelling self-criticism and its facets (internal self-criticism, comparative self-criticism) based on emotional independence suggests that internal and comparative self-criticism play a crucial role in the development of one's personality and maturity. However, excessive and imbalanced self-criticism may lead to the onset of psychological ailments like hypochondria. Individuals afflicted with hypochondria exhibit heightened levels of baseless self-criticism, resulting in negative responses such as self-discontent and hypochondria. To ensure that self-criticism is grounded in reality, individuals must possess the ability to engage in logical analysis and assessment. Individuals with high levels of differentiation approach self-evaluation in a rational and objective manner, thereby identifying areas for improvement and leveraging their strengths. This constructive form of self-criticism serves as a deterrent against the emergence of detrimental conditions like hypochondria. Conversely, individuals with low levels of differentiation tend to engage in emotion-driven self-criticism, setting expectations that surpass their capabilities. Unmet expectations contribute to a negative self-perception, paving the way for psychological disorders like hypochondria. Enhancing differentiation in individuals with hypochondria holds promise for alleviating symptoms associated with this disorder.

### Research limitations

1. The generalizability of the results to diverse environments and cultures is constrained by conducting the aforementioned research solely in the city of Qeshm.
2. One of the additional constraints pertains to focusing exclusively on adolescents afflicted with hypochondria, neglecting patients across different age brackets, thereby impeding the broad applicability of the findings.

3. Descriptive research of a predictive nature was undertaken in the present study, wherein the control over all intervening variables is unattainable, consequently posing challenges to the internal validity of the research outcomes.

### **Suggestions**

It is recommended that forthcoming research endeavors consider the following areas:

1. An exploration into the causal impact of emotional independence on self-directed attention and self-criticism among adolescent students grappling with hypochondria syndromes, within alternative contexts and cultural milieus.
2. Delving into the causal influence of emotional independence on self-directed attention and self-criticism among male and female adolescent students exhibiting narcissistic syndromes, while concurrently contrasting the outcomes between the genders.
3. An examination of the causal ramifications of emotional independence on self-centered attention and self-criticism among adolescent students diagnosed with hypochondria syndromes, juxtaposed with their non-affected counterparts.

It is advised that community-based counseling and psychotherapy facilities engaged in therapeutic interventions for adolescents experiencing symptoms of hypochondria should prioritize enhancing emotional independence to ameliorate self-focused attention and self-criticism among this demographic.

### Data availability statement

The original contributions presented in the study are included in the article/supplementary material, further inquiries can be directed to the corresponding author.

### Ethics statement

The studies involving human participants were reviewed and approved by ethics committee of Islamic Azad University. The patients/participants provided their written informed consent to participate in this study.

### Author contributions

All authors contributed to the study conception and design, material preparation, data collection and analysis and contributed to the article and approved the submitted version.

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