

Inner capacities, outer care: the contribution of spiritual and moral intelligence to compassionate nursing care: a cross-sectional study

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Abstract

In this study, we examined the impact of nurses' spiritual and moral intelligence on compassionate care. Evidence indicates that spiritual and moral intelligence can influence nurses' capacity to provide compassionate care, which is a core component of nursing quality.

This was a cross-sectional study conducted from October to December 2024 on 127 nurses selected through cluster random sampling from teaching hospitals affiliated with Arak and Yasuj Universities of Medical Sciences. Data were collected using a demographic questionnaire, King's Spiritual Intelligence Questionnaire, Lennick and Kiel's Moral Intelligence Questionnaire, and Tehrani's Compassionate Care Questionnaire. Data analysis was performed using Pearson's correlation coefficient and stepwise multiple regression in SPSS version 26.

The nurses in our study demonstrated moderate spiritual intelligence (54.11 ± 13.68), good moral intelligence (73.81 ± 8.69), and satisfactory compassionate care (121.44 ± 14.94). We also found that spiritual intelligence ($r = 0.304$, $P < 0.001$) and moral intelligence ($r = 0.536$, $P < 0.001$) were positively correlated with compassionate care. In the regression analysis, moral intelligence was the only significant predictor ($\beta = 0.54$, $P < 0.001$), explaining 28% of the variance (adjusted $R^2 = 0.28$).

The results showed that although both forms of intelligence were positively associated with compassionate care, moral intelligence was the only significant predictor.

Keywords: Spirituality; Morals; Empathy; Nurses; Nursing ethics.

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Received: 19 May 2026

Accepted: 18 Aug 2026

Published: 12 Sep 2026

Citation to this article:

Hamedani B, Mohammadi E, Moghadasi F, Erfani N, Behnammoghadam M. Inner capacities, outer care: the contribution of spiritual and moral intelligence to compassionate nursing care: a cross-sectional study. *J Med Ethics Hist Med.* 2026;19:15.

Introduction

Compassionate care is a core professional value in nursing that profoundly guides clinical practice. It addresses patients' inherent needs and fosters positive experiences within the healthcare environment (1). Compassion is an emotional state in nurses that, through understanding and purposeful action, helps to alleviate suffering and meet patients' needs (2). It necessarily translates into action and requires demonstration of empathy (3). Most patients regard compassion as the primary element of high-quality nursing care. Moreover, the essence of nursing lies in care that is driven by concern and love (4). Integration of compassion into nursing practice has been shown to enhance patient safety, improve staff morale, reduce length of hospital stay, and elevate overall care quality (2). In contrast, diminished compassion is associated with reduced self-confidence and self-efficacy, as well as increased stress, depression, and anxiety among nurses (3). Individuals who do not frequently exhibit compassionate behavior tend to place less value on caring for others (4). Given that caring constitutes the very core of the nursing

profession, nurses require compassionate behaviors in their practice to accurately identify and address the needs of patients and their families and to establish effective therapeutic relationships (5). Awareness of the factors influencing compassionate care enables nurses to provide care with greater compassion (4). Among the individual characteristics that may contribute to compassionate nursing care, spiritual and moral intelligence have received increasing attention because of their potential relevance to ethical behavior, empathy, and interpersonal relationships (6).

Intelligence is one such factor that contributes to success and enhanced performance. In recent years, the spiritual and moral dimensions of intelligence have garnered considerable attention (7). Spiritual intelligence refers to a set of capacities that enable individuals to exhibit compassion and flexibility while achieving deeper self-awareness and insight into life, thereby acting with greater meaning and purpose, and perceiving existence beyond the purely material realm (6, 7). These characteristics may be particularly relevant to

nursing practice, as nurses are frequently required to respond to patients' physical, emotional, and psychosocial needs. A previous study reported that 45% of nurses had spiritual intelligence scores below the mean score (8).

Key attributes of spiritual intelligence include faith, humility, gratitude, integrity, emotional regulation, ethical conduct, forgiveness, and kindness (9), as well as self-confidence, effective communication, and interpersonal understanding (8). These characteristics may influence how nurses perceive themselves, understand others, regulate their emotions, and respond to patients' experiences. Above all, emotional regulation, interpersonal understanding, kindness, and the capacity to find meaning and purpose may help nurses recognize patients' suffering and respond to their needs with greater empathy and sensitivity (2). Such characteristics may therefore provide an important individual foundation for compassionate nursing care (10). Dehghani et al. reported that spiritual intelligence and occupational hardiness predicted job performance among nurses, suggesting that spiritual intelligence may have important benefits for nurses' professional functioning (7). However, the extent to which spiritual

intelligence is associated with compassionate nursing care remains insufficiently understood.

Moral intelligence refers to the ability to apply fundamental ethical and human values in everyday actions and decision-making. It comprises various competencies that support ethical attitudes and behaviors, including respect, patience, tolerance, courtesy, responsibility, conscientiousness, and self-control. In other words, moral intelligence involves recognizing and choosing the appropriate action, at the appropriate time, and for the appropriate purpose (11). Moral intelligence forms the foundation of nursing ethics and, as an important component of ethical practice, guides nurses in providing effective and ethically appropriate care (12). It includes the ability to recognize suffering, prevent harmful intentions, control impulses, delay gratification, listen openly before judging, accept and value differences, and treat others with empathy and respect (13). These characteristics may be particularly relevant to compassionate nursing care because they enable nurses to recognize patients' suffering and vulnerability, respect their individual needs and differences, and translate ethical values into caring and compassionate actions. Thus, moral

intelligence may represent an important individual capacity underlying compassionate responses in nursing practice (14).

Moral intelligence is also essential for establishing and maintaining therapeutic relationships in healthcare delivery. Its emphasis on ethical awareness, respect, self-control, and appropriate responses to others' needs may help nurses navigate situations involving patient vulnerability and suffering. Previous research suggests that strengthening moral intelligence, alongside spiritual intelligence, may improve nurses' professional functioning and the quality of the care they provide (11). However, whether these benefits extend specifically to compassionate nursing care remains unclear (12).

Although spiritual and moral intelligence have been studied in relation to various aspects of nurses' professional performance and quality of care, their specific connection to compassionate nursing care remains insufficiently understood. Spiritual intelligence may support nurses' self-awareness, emotional regulation, empathy, and ability to find meaning in caring relationships, whereas moral intelligence may facilitate recognition of patients' suffering, respect for their dignity and individual differences, and

translation of ethical values into compassionate actions. These complementary characteristics suggest that both forms of intelligence may be relevant to nurses' compassionate responses. However, limited evidence is available regarding the extent to which spiritual and moral intelligence are associated with compassionate nursing care, or whether they can predict it. Addressing this gap may provide further insight into individual factors relevant to compassionate nursing practice.

This study aimed to determine whether spiritual intelligence and moral intelligence predict compassionate nursing care among nurses. We hypothesized that higher levels of spiritual and moral intelligence would be positively associated with, and significantly predict, higher levels of compassionate nursing care.

Methods

Design and Setting

The present study employed a cross-sectional design using multiple regression analysis to examine the predictive relationships among the study variables. The study was conducted in several hospitals providing inpatient care, with nurses recruited from critical care units and internal medicine–surgical wards. Participants

were selected using a multistage cluster random sampling procedure. First, eligible hospitals were identified as sampling clusters, and the required hospitals were selected via random sampling. Subsequently, eligible nurses working in the selected clinical units were identified according to the predefined inclusion criteria, and 127 nurses were recruited to participate in the study. Nurses who met the eligibility criteria were invited in person. Inclusion criteria comprised possession of a bachelor's degree or higher, self-reported absence of diagnosed psychiatric disorders, and a minimum of three months of clinical nursing experience. The three-month minimum was selected to ensure adequate exposure to the clinical environment and direct patient care, consistent with previous nursing research (15). The sole exclusion criterion was incomplete questionnaire submission. Before data collection, the researchers collaborated with the nursing management and relevant hospital departments to facilitate access to eligible nurses and arrange an appropriate time for recruitment. The study objectives, the voluntary nature of participation, the inclusion and exclusion criteria, and the questionnaire completion procedures were explained to the

nurses before participation. Nurses were informed that they could decline to participate or withdraw at any time without any consequences. After participant eligibility was confirmed and informed consent was obtained, the questionnaires were distributed to participants for completion individually. The questionnaires were then collected by the research team and checked for completeness.

Sample Size Calculation

Sample size was determined a priori based on the primary predictor variable (moral intelligence), using G*Power software (version 3.1.9.2). With a 95% confidence interval, statistical power of 0.95, and an anticipated medium effect size of 0.3 derived from a comparable prior study (16), the required sample size was calculated to be 115 participants. An additional 10% was added to the estimated sample size to account for potential nonresponse. Questionnaires with extensive missing responses on the main study variables were excluded from the analysis, and the final analysis was conducted using only complete cases. Demographic and occupational characteristics, including age, sex, educational attainment, marital status, employment status, work experience, job position, and hospital

ward, were collected and summarized to describe the study participants. Moral intelligence and spiritual intelligence were entered into the stepwise regression analysis as the primary predictor variables.

Research Instruments

Data were collected using a demographic information form and three standardized questionnaires: the Spiritual Intelligence Questionnaire, the Moral Intelligence Questionnaire, and the Nurses' Compassionate Care Questionnaire. The demographic form captured age, sex, marital status, total years of work experience, employment status, educational level, hospital ward, and job position.

The Spiritual Intelligence Questionnaire

This instrument, developed by King (17), consists of 24 items rated on a 5-point Likert scale (4 = completely true, 3 = very true, 2 = somewhat true, 1 = not very true, 0 = not true at all). Total scores range from 0 to 96. The questionnaire comprises four subscales:

- Critical Existential Thinking (7 items: 1, 3, 5, 9, 13, 17, 21; score range 0–28)
- Personal Meaning Production (5 items: 7, 11, 15, 19, 23; score range 0–20)

- Transcendental Awareness (7 items: 2, 6, 10, 14, 18, 20, 22; score range 0–28)

- Conscious State Expansion (5 items: 4, 8, 12, 16, 24; score range 0–20)

Higher scores indicate greater spiritual intelligence. Total scores of 65–96 reflect strong spiritual intelligence, 33–64 moderate, and 0–32 weak. In an Iranian sample, Raghieb et al(18). translated and validated the Persian version of the questionnaire, reporting a content validity index of 0.66 and good internal consistency (Cronbach's $\alpha = 0.88$). In the present study, Cronbach's alpha value was 0.91.

The Moral Intelligence Questionnaire

Developed by Lennick and Kiel(19), this 40-item questionnaire is scored on a 5-point Likert scale (1 = never, 2 = hardly ever, 3 = sometimes, 4 = most often, 5 = always). It assesses four subscales (integrity, forgiveness, responsibility, and compassion) across 10 core competencies, with total raw scores ranging from 40 to 200. To standardize scores to a maximum of 100, both individual competency scores and the total score are divided by 2. Overall moral intelligence scores are categorized as excellent (90–100), very good (80–89), good (70–79), and poor (≤ 69). seyadat et al(20). reported a high reliability coefficient of 0.94 for the

questionnaire. In the present study, Cronbach's alpha value was 0.96.

The Compassionate Care Questionnaire

This questionnaire was developed by Tehranineshat et al. to assess compassionate care among nurses. The original questionnaire was developed in Persian and consists of 28 items across four subscales: professional performance (9 items), continuous monitoring (6 items), guardianship (7 items), and empathetic communication (6 items). Items are rated on a five-point Likert scale ranging from 1 (never) to 5 (always). Total scores range from 28 to 140, with 28–65 indicating weak, 66–103 moderate, and 104–140 satisfactory compassionate care. The developers reported a Cronbach's α of 0.89 and an intraclass correlation coefficient of 0.94 (21). In the present study, Cronbach's alpha value was 0.92.

Data Collection

Data were collected between October and December 2024 from nurses employed at selected teaching hospitals affiliated with Arak University of Medical Sciences and Yasuj University of Medical Sciences. Data collection visits were deliberately scheduled during periods of low ward workload so that nurses had sufficient time and could respond to the

questionnaire items comfortably and without undue pressure. Participants completed paper-based questionnaires, a process that required approximately 20 minutes. The researcher provided his/her contact number to the participants so that they could ask questions if needed. As soon as the nurses completed the questionnaires, the researcher collected them to begin data analysis.

Data Analysis

Descriptive statistics were used to summarize the data, including absolute and relative frequencies, means, and standard deviations. To examine the relationships between variables, Pearson's correlation coefficient was calculated. Predictive relationships were assessed using stepwise multiple linear regression. The Kolmogorov–Smirnov test was employed to assess the normality of the data distribution, and the linearity of relationships was verified using scatter plots. Multicollinearity among predictor variables was assessed using tolerance values and the variance inflation factor. All statistical analyses were performed using SPSS Statistics (version 26). The maximum acceptable type I error rate (α) was set at 0.05 for all hypothesis tests.

Ethical Approval

The present study was approved by the Research Committee of Yasuj University of Medical Sciences under the ethical code IR.YUMS.REC.1403.140. The objectives of the study were clearly explained to all participants. Written informed consent forms were obtained from the nurses, and assurances were provided regarding the confidentiality and anonymity of their information. The study was conducted in accordance with the principles of the revised Declaration of Helsinki.

Results

A total of 127 individuals were invited to participate, all of whom completed the questionnaire (response rate = 100%). The descriptive results of the demographic characteristics of the nurses revealed that 33.9% (n = 43) were male and 66.1% (n = 84) female. Regarding marital status, 37.8% (n = 48) were single, 56.7% (n = 72) married, 3.9% (n = 5)

divorced, and 1.6% (n = 2) separated. The mean age of the participants was 33.69 ± 8.41 years. In terms of educational status, 89.0% (n = 113) held a bachelor's degree, 8.7% (n = 11) a master's degree, and 2.4% (n = 3) a doctoral degree. With respect to employment status, 14.2% (n = 18) filled contract-based positions, 39.4% (n = 50) were on probationary official status, 32.3% (n = 41) held permanent official status, and 14.2% (n = 18) were temporary nurses. Regarding the department, 49.6% (n = 63) were employed in critical care units and 50.4% (n = 64) in internal medicine–surgical wards. Regarding job position, most participants were staff nurses (89.0%, n = 113), while 11.0% (n = 14) were head nurses. The mean professional experience was 7.64 ± 9.70 years. Overall, participants demonstrated good levels of moral intelligence and satisfactory compassionate care, whereas spiritual intelligence was at a moderate level (Table 1).

Table 1. Mean (SD) of moral intelligence, compassionate care, and spiritual intelligence

Characteristic	Subscale/Total Score	Mean (SD)
Moral Intelligence	Integrity	18.65±2.66
	Responsibility	18.81±2.55
	Compassion	18.69±2.36
	Forgiveness	17.62±2.41
	Total score	73.81±8.69
Compassionate Care	Professional performance	41.33±4.18
	Continuous follow-up	25.96± 3.69
	Patient-centered performance	28.85±4.61

Spiritual Intelligence	Empathic communication	25.28±4.46
	Total score	121.44±14.94
	Critical existential thinking	16.84±4.65
	Personal meaning production	12.16±3.49
	Transcendental awareness	15.70±4.41
	Conscious state expansion	9.45±3.74
	Total score	54.11±13.68

The results of the Kolmogorov-Smirnov test indicated that the distributions of the research variables were normal (Table 2).

Table 2. Results of the normality of the data distribution of the research variables

Variable	n	Z	P
Spiritual Intelligence	127	0.905	0.386
Moral Intelligence	127	0.983	0.289
Compassionate Care	127	0.992	0.279

Pearson's correlation coefficient revealed statistically significant positive relationships between spiritual intelligence and compassionate care ($r = 0.304$, $P < 0.01$) and between moral intelligence and compassionate care ($r = 0.536$, $P < 0.01$). To examine the explanatory and

predictive power of moral and spiritual intelligence for compassionate care among nurses, a stepwise multiple regression analysis was employed; the results are presented in Tables 3–6.

Table 3. The relationship between spiritual and moral intelligence, and the compassionate care of nurses

Variable	Compassionate Care	
	R	P
Spiritual Intelligence	0.304	0.001*
Moral Intelligence	0.536	0.0001*

* $P < 0.01$

Table 4. List of variables included in the regression analysis of compassionate care based on nurses' spiritual and moral intelligence

Model	Predictor Variable	Criterion Variable	Method
1	Moral Intelligence	Compassionate Care	Step By Step

The results of the stepwise multiple regression analysis are presented in Table 3. In the first step, moral intelligence was entered into the model as the only significant predictor of compassionate care, whereas spiritual intelligence was not retained in the final model. As shown in Table 3, moral intelligence was a significant predictor of

compassionate care ($\beta = 0.54$, $F(1,125) = 50.448$, $P < 0.001$). The adjusted R-squared value indicated that moral intelligence alone explained 28% of the variance in nurses' compassionate care (adjusted $R^2 = 0.28$). The Durbin–Watson statistic confirmed the independence of residuals.

Table 5. Summary of the compassionate care regression model based on nurses' moral intelligence

Model	Variable	R	R ²	AR ²	SE	Durbin-Watson
1	Moral Intelligence	0.536	0.288	0.283	12.665	1.821

Table 6. Summary of the regression analysis of compassionate care based on nurses' moral intelligence

Model	Source of changes	S.S	d.f	M.S	F	P
1	Regression	8092.228	1	8092.23	50.448	0.0001*
	Residual	20051.1	125	160.49		
	Total	28143.3	126			

* $P < 0.01$

The multiple regression analysis further demonstrated that, based on Model 1, moral intelligence is a significant predictor of compassionate care ($F(1,125) = 50.448$, $P < 0.01$).

As shown in Table 7, the standardized beta coefficient indicates that a one-standard-

deviation increase in moral intelligence is associated with a 0.54 standard-deviation increase in compassionate care. Accordingly, the prediction equation for compassionate care among nurses based on their moral intelligence can be expressed as follows:

Table 7. Regression coefficients predicting compassionate care based on nurses' moral intelligence

Model	Coefficient	b	SE	Beta	t	P
1	Fixed	54.997	9.425		5.833	0.0001*
	Moral Intelligence	0.452	0.064	0.536	7.103	0.0001*

* $P < 0.01$

$$y' = a + bx$$

In the above equation:

- y' = Compassionate care of nurses
 a = Fixed coefficient with a value of 54.997
 b = The moral intelligence coefficient of nurses with a value of 0.452
 x = Nurses' moral intelligence score

Discussion

In the present study, nurses exhibited moderate spiritual intelligence, good moral intelligence, and satisfactory compassionate care. Both spiritual and moral intelligence were positively associated with compassionate care. Although spiritual intelligence showed a significant bivariate association with compassionate care, it was not retained as an independent predictor in the final regression model. This may be partly explained by the conceptual and empirical overlap between spiritual and moral intelligence, particularly in areas such as self-awareness, ethical values, empathy, and prosocial behavior.

Thus, some of the variance associated with spiritual intelligence may overlap with that explained by moral intelligence, which showed a stronger association with compassionate care. Nevertheless, spiritual intelligence may remain relevant to compassionate care through its broader influence on nurses' values, attitudes, and interpersonal behaviors. Consistent with the present findings, Polat and Özdemir in Turkey reported that nurses possessed high levels of compassion and moderate levels of spiritual care provision to patients, with greater compassion associated with more frequent delivery of spiritual care (22). Dehqani et al. found that enhancing the spiritual intelligence of emergency

department nurses can improve their job performance (7). Arad et al. demonstrated that educating nurses in spiritual intelligence effectively improves their communication skills, which, in turn, positively influence caring behaviors and overall nursing performance (8). Donkor and Andrews showed that training in ethics and spiritual intelligence enhances the quality of care provided and increases empathy between nurses and patients (23). A systematic review by Sharifnia et al. concluded that educational interventions targeting spiritual intelligence positively affect nurses' professional outcomes (9). Zahra and Hasan Amiri reported that higher spiritual intelligence improves the quality of nursing care and that it should be incorporated into nursing education curricula (24). Koolae et al. found a significant positive relationship between spiritual intelligence and self-compassion among female nursing students, suggesting that this dimension of intelligence fosters a psychological state in which nurses gain greater mastery and awareness of their inner world through spirituality; this will, in turn, enable them to respond with greater flexibility and tolerance to repeated workplace demands and requests from patients' families (25). Contrary to the present study, Barkhordari et al.

found no significant association between spiritual intelligence and nurses' empathy or caring behaviors. However, they suggested that enhancing specific dimensions of spiritual intelligence, particularly expanded consciousness and transcendent awareness, may promote caring behaviors and, consequently, contribute to better patient care (26). Discrepancies across studies may be attributable to differences in measurement instruments, inclusion/exclusion criteria, geographical location, workplace environment, organizational and sociocultural factors, level of administrative support, individual participant characteristics, and possibly the influence of shift scheduling patterns on outcomes.

Aktaş et al. emphasized the critical role of spirituality in nursing, demonstrating significant benefits for patient care and recommending the integration of spirituality education into nursing curricula to better prepare students to deliver empathetic care (27). Korkut and Çetin in Turkey identified a moderate but significant positive correlation between spiritual intelligence and adherence to professional nursing values among nursing students; they found that students with higher spiritual intelligence exhibited greater empathy toward patients, which is an essential

professional value in clinical practice. The authors posited that spiritual intelligence facilitates a deeper understanding of existential questions and insight into life's multidimensional aspects, thereby fostering inner awareness and the ability to provide holistic care (28). Dincer and Çiftçi reported a positive relationship between compassion competence and perceived spirituality among nursing students, suggesting that strengthening compassion skills can enhance spiritual perception and the provision of spiritual care, ultimately improving the quality of nursing care (29). The present study revealed that nurses exhibited high levels of moral intelligence and compassionate care and found a significant positive relationship between the two. Karabey also demonstrated that nurses' levels of moral intelligence directly influence their caring behaviors (11). Similarly, Otaghi et al. reported good moral intelligence among nurses and noted that nurses with high moral intelligence can optimize organizational performance and patient interactions, thereby improving care delivery (30). Miri et al. found that nurses rated the quality of nursing care favorably and observed a significant positive correlation between moral intelligence and the quality of care provided (31). According to Heidari et al., nurses' ethical

performance is substantially influenced by subjective-ethical constructs such as moral intelligence, which shows a significant direct relationship with the quality of nursing care (16). Gholami Motlagh et al. reported that emergency department nurses in educational-medical centers exhibited high moral intelligence, indicating that these nurses prioritize the acquisition of ethical values as an important marker of ethical performance within the healthcare system. They noted no significant relationship between age or work experience and moral intelligence, whereas mean moral intelligence scores were significantly higher among women and married individuals(32).

This study has several limitations that should be considered when interpreting the findings. First, the cross-sectional design precludes establishing causal relationships between nurses' spiritual intelligence, moral intelligence, and compassionate care. Second, data were collected using self-report questionnaires, which may have been influenced by social desirability or response bias, particularly given the sensitive nature of moral and compassionate behaviors. Third, the study included nurses from teaching hospitals affiliated with two universities in Iran, and the findings may not be generalizable to nurses

working in other healthcare settings or regions. Finally, although relevant demographic and occupational characteristics were assessed, other potentially influential factors, such as organizational climate, workload, job stress, and managerial support, were not examined. Therefore, research incorporating additional qualitative methods will be required to gain more precise insights into nurses' compassionate care practices. Future longitudinal and multicenter studies using objective or observational measures are also recommended to further investigate the factors associated with compassionate care and enhance the robustness and applicability of the results.

Conclusion

Given that nurses are at the forefront of the healthcare delivery system, their compassionate care significantly enhances patient satisfaction with health services. The findings of the present study demonstrate significant positive associations between spiritual intelligence, moral intelligence, and compassionate care among nurses. However, moral intelligence was the only significant predictor of compassionate care in the regression analysis, whereas spiritual intelligence did not make an independent

contribution to prediction. These findings suggest that strengthening moral intelligence may provide a stronger foundation for promoting compassionate nursing care. Accordingly, healthcare authorities and nursing educators may consider incorporating structured programs aimed at developing moral intelligence, alongside spiritual intelligence, into undergraduate nursing curricula and continuing professional development initiatives.

Acknowledgments

We would like to thank all participating nurses from teaching hospitals affiliated with Arak and Yasuj Universities of Medical Sciences, and the Research Vice-Chancellor of Yasuj University of Medical Sciences, for their support and cooperation in this study.

Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Author Contributions

B.H. and M.B.M.: Project administration, Methodology, Supervision, Writing – review & editing, Investigation, Writing – original draft. E.M. and F.M.: Data collection, Writing – review & editing, Visualization, Writing – original draft.

N.E. and M.B.M.: Project administration, Methodology, Visualization, Validation, Supervision, Analysis, Writing – review & editing.

Competing Interests

The authors declare no conflict of interests.

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