



Veterinarians' Perceptions of Competence and Communication Skills in Bali, Indonesia

Nyoman Sadra Dharmawan^{1*} , Ni Made Swasti Wulanyani² , and Kadek Karang Agustina³

¹Veterinary Medicine Study Program, Faculty of Veterinary Medicine, Udayana University, Denpasar, Bali, 80234 Indonesia

²Psychology Study Program, Faculty of Medicine, Udayana University, Denpasar, Bali, 80234 Indonesia

³Department of Public Health, Faculty of Veterinary Medicine, Udayana University, Denpasar, Bali, 80234 Indonesia

*Corresponding author's Email: nsdharmawan@unud.ac.id

ABSTRACT

Effective communication is a crucial aspect of veterinary medicine. Despite its importance, this subject has not been sufficiently studied in the specific context of Bali, Indonesia, resulting in a notable gap in the existing research literature. The present study addressed a significant gap in the literature by systematically examining how communication challenges, specifically client dissatisfaction, inadequate treatment compliance, and recurrent misunderstandings between veterinarians and pet owners, affect the quality of veterinary care. The current study explored how veterinary practitioners in Bali, Indonesia, perceive their professional skills and communication abilities. Data were collected through interviews, focus group discussions, open-ended questionnaires, and surveys, involving 218 practitioners in the study area. The participants included small animal practitioners (65%), livestock veterinarians (25%), and mixed-practice clinicians (10%), with experience ranging from recent graduates to senior professionals with over 20 years in the field. The current findings revealed that 86.2% of respondents considered communication skills as equally important as clinical knowledge in facilitating critical professional outcomes, including client trust, treatment compliance, and clinical effectiveness. Effective communication was recognized as crucial for fostering confidence, increasing job satisfaction, strengthening client relationships, and supporting important activities such as anamnesis and treatment discussions. However, practitioners encountered difficulties in discussing sensitive topics, including life-threatening diagnoses, euthanasia, and costly treatment options. Notably, 86.7% of participants indicated the necessity for post-employment communication training to maintain and advance their skills, highlighting the significance of ongoing professional development in Indonesia. The present study emphasized the critical role of communication in veterinary practice and highlighted the demand for targeted training programs to address existing gaps.

Keywords: Client, Communication skill, Perception, Veterinarian

INTRODUCTION

Communication in veterinary medicine involves complex interactions among veterinarians, clients, animals, and colleagues. While perceptions of communication skills among veterinary practitioners might differ, their significance in daily practice is broadly recognized (Mabin and Taylor, 2023). Recently, communication has become increasingly recognized as a vital skill for veterinary professionals. This adjustment is reflected in the increasing focus on communication training in veterinary education, especially in developed countries (McDermott et al., 2017). Effective communication is essential not only in human healthcare professions but also as a fundamental skill in veterinary medicine (Gaida et al., 2018). Nevertheless, having only scientific and technical knowledge is not sufficient to succeed in this field. Veterinarians need to develop skills such as teamwork, entrepreneurship, cultural awareness, and effective communication with clients, staff, and colleagues (Gaida et al., 2021). Moreover, these skills are particularly important for veterinary academics, as they are crucial for handling interpersonal relationships and other professional responsibilities (Mabin and Taylor, 2023).

Effective communication is essential for successful interactions among veterinary practitioners and their clients, as well as among practitioners themselves. However, a lack of proficient communication often leads to different challenges, including misunderstandings, unclear cost explanations, ineffective dialogue, insufficient client engagement, and ethical concerns (Hernandez et al., 2018). To effectively address these challenges, veterinary practitioners should prioritize improving their communication skills, including providing clear and transparent information to clients and making a dedicated effort to understand the diverse needs and expectations of their clients. Therefore, veterinary professionals can foster stronger client relationships and improve overall service delivery within the field by enhancing their communication skills, providing clear and transparent information, and striving to understand their clients' needs and expectations better (Pun, 2020).

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From a psychological perspective, communication in veterinary practice can significantly impact practitioners' mental and emotional well-being. Positive interactions, such as effectively explaining treatment plans or receiving client gratitude, can enhance job satisfaction and alleviate stress and burnout. Conversely, difficult conversations, such as delivering unfavorable and bad news, discussing euthanasia, or managing client conflicts, may contribute to anxiety, compassion fatigue, and emotional exhaustion (Pun, 2020). Given these psychological factors, it is essential to develop strong communication skills for both professional success and protecting veterinarians' mental health in this challenging field (Steffey *et al.*, 2023).

Although communication is recognized as vital in veterinary practice, no published studies have examined veterinary practitioners' perceptions of their competence and communication skills in Indonesia, especially in Bali. The present study aimed to explore the perceptions of veterinary practitioners in Bali regarding their professional competencies and communication skills, focusing on their perspectives about the importance and role of communication in their interactions with clients.

MATERIALS AND METHODS

Ethical approval

The present study employed solely interview methods with veterinary colleagues and focus group discussions (FGD). All participants have provided consent for the data they provided to be published. The present study did not involve the use of experimental animals, and all the procedures were conducted in compliance with the applicable ethical guidelines from the Ethical Commission of Udayana University, Indonesia.

Study design

The present study employed a mixed-methods approach involving 218 veterinary practitioners in Bali, Indonesia (Figure 1), conducted from May to August 2024. Data were collected through in-depth interviews, FGD, open-ended questionnaires, and attitudinal scale questionnaires. Qualitative analysis was utilized to examine responses from interviews, FGD, and open-ended questions, whereas quantitative methods were employed to assess data from the attitude scales. This questionnaire was created based on the study of McDermott (2018). Before implementation, a multidisciplinary panel of experts conducted an extensive validation of the questionnaire by specialists. The review panel included academic experts from Udayana University's Faculty of Veterinary Medicine, senior veterinary practitioners with at least 15 years of clinical experience, government officials from animal health regulatory agencies, industry representatives from veterinary employers, and executive board members of the Indonesian Veterinary Association, including its Bali branch. The experts conducted a comprehensive evaluation of the questionnaires and attitude scales, assessing them for content validity, specifically considering each item's relevance to the constructs being assessed. Additionally, the experts evaluated face validity related to clarity and contextual appropriateness for Balinese veterinary practice, cultural sensitivity, technical accuracy of clinical information, and practical applicability of tools. The pre-testing phase involved 30 veterinary practitioners to assess the instrument's feasibility under field conditions.



Figure 1. The location of the study, Bali Island, Indonesia

Sample size

According to the Indonesian Veterinary Medicine Association data, the total number of veterinarians in Indonesia as of June 2024 was 15,131, with approximately 900-1000 practicing in Bali province (IVMA, 2024). The inclusion criteria for participants in the present study consisted of practicing veterinarians employed in animal hospitals, clinics, or private practices across different locations in Bali. Using Slovin's formula with a 5% margin of error (Khalaf et al., 2019), the minimum required sample size was calculated to be 109 respondents to adequately represent the target population, including a proportional representation of Bali practitioners. To improve the validity and reliability of the current findings, the sample size was doubled, resulting in a total of 218 participants. This expanded sample size increased statistical power and provided a better representation of the target population of veterinary practitioners in Bali, Indonesia.
$$n = \frac{N}{1 + Ne^2}$$

which n is the required sample size, N is the total population size, and e is the tolerable margin of error (5%).

Data collection and analysis

The validity of the veterinary communication skills scale (VCSS) in the present study was evaluated using content validity procedures. Content validity was established through expert evaluation to ensure the scale's items accurately represented essential veterinary communication skills. A panel of veterinary communication specialists reviewed each item for relevance, clarity, and comprehensiveness in measuring key competencies such as empathy, active listening, and client education. Items that did not align with communication competencies were improved or removed to enhance the scale's accuracy (Hecker et al., 2012). The content validity index was employed to evaluate the degree of agreement among experts regarding the scale. The current findings indicated that the results met or exceeded established acceptable thresholds, thereby confirming the strength of the measurement tool (Dalawi et al., 2023). This approach ensured that the VCSS effectively captures the critical aspects of veterinary communication, supporting its use as a valid assessment tool in both educational and clinical settings (Artemiou et al., 2014).

The validity of the statements in the present study was assessed by expert evaluations, quantified with Aiken's V index. A panel of subject-matter experts rated each statement for relevance, clarity, and appropriateness in measuring the intended constructs. Aiken's V, a statistical metric for content validity, was used to assess expert agreement, with scores from 0 to 1; higher values signify greater agreement on an item's validity. Only statements meeting a predefined threshold (Typically $V \geq 0.70$) were retained, ensuring the instrument's robustness. This method provided a rigorous and objective way to validate content, improving the credibility of the assessment tool (Timbi-Sisalima et al., 2024).

To examine the underlying structure of the perception variables, the data were analyzed using exploratory factor analysis with Jeffreys's amazing statistics program, an open-source statistics software, which enables robust factor extraction and interpretation. Principal axis factoring with oblique rotation, including promax, was employed to identify latent constructs, allowing for correlations between factors when theoretically justified. The number of retained factors was determined using multiple criteria, including Kaiser's eigenvalue-greater-than-one rule, parallel analysis, and scree plot inspection, providing a method grounded in data while remaining a theoretically relevant solution. Items with factor loadings below 0.40 or significant cross-loadings were removed to improve scale clarity and discriminant validity. This method provided empirical support for the dimensionality of the measured constructs while enhancing the scale's psychometric qualities (Traymbak et al., 2022).

Survey responses assessing the perceived importance of communication skills in clinical activities and practice factors were analyzed using a weighted Likert scale (1-5). Response frequencies for each category (1 means strongly disagree to 5 means strongly agree) were multiplied by their respective numerical values and summed to yield total weighted scores. Mean scores were calculated by dividing each variable's total weighted score by the number of responses. Results were categorized as 1.00-1.80 (Very Low), 1.81-2.60 (Low), 2.61-3.40 (Neutral), 3.41-4.20 (High), and 4.21-5.00 (Very High; Joo et al., 2024).

The current data were presented in both descriptive and qualitative formats to ensure comprehensive interpretation and clarity. This dual-method approach provided a deeper understanding of the results, as the numerical patterns were complemented by detailed narrative explanations. By combining both methods, the present study ensured that the results were statistically relevant within the specific context, thereby improving the overall validity and practical usefulness of the findings.

RESULTS AND DISCUSSION

A total of 218 veterinarians, whose ages ranged from 24 to 65 years, participated in the current study by completing a structured questionnaire. The participants included small animal practitioners (65%), livestock veterinarians (25%), and mixed-practice clinicians (10%), with experience spanning from recent graduates to senior professionals with over 20 years of experience in the field. The gender distribution of the participants in the present study revealed a slight majority

of males (51.8%) in comparison to females (48.2%). This distribution stands in contrast to the findings of [McDermott et al. \(2015\)](#), which reported a predominance of female respondents (57.3%) over males (42.7%) in their study conducted across the United States and the United Kingdom. This disparity may be indicative of underlying regional sociocultural norms, as well as differences in veterinary specialty selections, where large-animal practice has historically drawn a higher proportion of male practitioners ([Morello et al., 2021](#)). Additionally, varying expectations regarding work-life balance may contribute to these disparities. Noteworthy studies have demonstrated that female veterinarians encounter distinct challenges, including an elevated incidence of burnout and client bias, factors that could significantly affect their career sustainability within the specific context of Bali ([Steffey et al., 2023](#)).

Communication training

The findings regarding respondents' participation in communication training are detailed in Table 1. The distribution of participants who engaged in communication training within the context of the current study was notably balanced, with 109 respondents (Representing 50% of the total) indicating their involvement in such training. The current findings indicate that 50% of respondents received communication training during their veterinary education, with lecture-based instruction being the most common format (72.5% of trained participants). Following graduation, only 43.6% of practitioners pursued further training in communication skills. The present data revealed a significant decline in participation in communication training after the completion of formal education. A significant majority of respondents (86.7%, $n = 189/218$) from Bali expressed a keen interest in pursuing additional communication training opportunities. Among these practitioners, 70.4% ($n = 133/189$) showed a strong preference for consultation and simulation-based training formats, highlighting the critical demand for practical learning methodologies that remain unaddressed, emphasizing the significant local need for educational approaches.

Table 1. Respondent data on communication training among veterinary practitioners in Bali, Indonesia, in 2024

Time period	Participation	Number (%)	Type of Training			
			A	B	C	D
During the study	Yes	109 (50%)	14 (12.8%)	2 (1.8%)	79 (72.5%)	14 (12.8%)
	Not	109 (50%)				
After graduation	Yes	95 (43.6%)	34 (35.8%)	36 (37.9%)	18 (18.9%)	7 (7.4%)
	Not	123 (56.4%)				

A: Consultation/Simulation, B: Online, C: Lecture, D: No response

The current findings are consistent with [McDermott et al. \(2015\)](#), who emphasized the importance of enhancing communication training for practicing veterinarians, especially through more practical and accessible approaches such as simulation and online methods training. The present study revealed a significant gap between veterinarians' awareness and training in communication skills. Although the majority acknowledged the importance of communication competencies, only 41% had received formal instruction during veterinary school. Notably, among veterinary practitioners who engaged in post-graduation training, 61% reported a significant increase in their preparedness for client interactions. Effective communication skills are essential in veterinary practice, as they not only facilitate the understanding of client concerns but also contribute to the delivery of high-quality patient care. These communication skills may be equally, if not more, essential than clinical knowledge on their own ([Kourkouta and Papathanasiou, 2014](#)).

Simulation-based and online training offer flexible solutions for busy veterinarians. Simulation allows practitioners to engage in realistic scenarios, refining their communication skills in a clinical context without risk to patients or clients ([Englar, 2017](#)). Online training provides accessibility and convenience, facilitating integration into challenging work schedules ([Spruijt et al., 2023](#)). [Pun \(2020\)](#) emphasized that many veterinary practitioners lack specialized training in communication and suggested that veterinary curricula should incorporate more comprehensive communication training. Communication training in veterinary schools has been demonstrated to equip graduates for professional challenges, boost their clinical outcomes, and foster better team collaboration ([Mills, 2024](#)). In developed countries such as the United States, the United Kingdom, Germany, and Canada, communication skills training is already a standard part of healthcare curricula ([Gaida et al., 2021](#)). In veterinary medicine, effective communication is a key skill that greatly impacts professional success ([Bell et al., 2019](#)). Effective communication is linked to higher pet owner satisfaction and improved veterinarian well-being. Developing strong relationships and showing empathy play crucial roles in enhancing owner compliance ([Brown, 2018](#)). For veterinarians, strong communication skills enhance job satisfaction and foster effective teamwork ([Stackhouse et al., 2020](#)). [Mills \(2024\)](#) noted that many veterinary colleges have integrated

communication skills training into their curricula, often incorporating client interaction simulations and advanced communication techniques.

The strong preference for simulation-based training (70.4%) highlights its proven effectiveness in closing the knowing-doing gap in clinical communication (Spruijt et al., 2023). Unlike conventional lectures, simulations provide a safe environment for deliberate practice of high-stakes situations such as euthanasia discussions, offering repetitive exposure along with immediate feedback. This approach directly addressed the main challenges identified by Bali practitioners through different mechanisms (Table 1). First, role-playing exercises improve emotional readiness by lowering anxiety related to difficult conversations, while allowing for the integration of local client-practitioner dynamics. Additionally, the hands-on aspect of simulation promotes better skill retention than passive learning methods, leading to more lasting competency development. These advantages collectively explain why clinical simulation has become the preferred training method among respondents (Favier et al., 2021).

Perception of communication skills

The current findings revealed that the majority of respondents (86.2%) perceive communication skills as equally important as clinical knowledge, while 13.8% believe communication skills are even more important than clinical knowledge. The strong agreement among respondents on the importance of communication skills reflected the findings of McDermott et al. (2015), where 98% of surveyed veterinarians in the United States and the United Kingdom rated communication skills as at least equally important to clinical practice knowledge. Pun (2020) further supports the perspective by underscoring the significance of effective communication as a vital professional skill within the practice of veterinary medicine. Effective communication plays a pivotal role in strengthening veterinarian-client relationships, enhancing the efficacy of medical care, and facilitating a smoother transition for new graduates into clinical practice. Moreover, effective communication is integral to fostering professionalism and promoting collaborative teamwork within veterinary practice (Mills, 2024).

In the present study, communication skills were rated as highly important, with very high scores, across multiple aspects, including confidence, job satisfaction, time management, income/profit, client relationships, and colleague relationships. Additionally, communication skills were deemed highly important in most of the clinical activities, such as obtaining medical histories, making diagnoses, explaining diagnoses and prognoses, discussing treatment plans, obtaining client consent, managing client expectations, optimizing client compliance, encouraging follow-up visits, and discussing treatment costs (Table 2). Mills (2024) highlighted that effective communication is essential for establishing and maintaining long-term relationships between veterinarians and clients. Veterinarians who dedicate time to understanding client concerns and expectations are more likely to build client loyalty and foster lasting relationships (Abood, 2007). Clients who perceive that their veterinarian actively listens to and values their contributions demonstrate a greater propensity to seek subsequent services. This phenomenon is vital for the sustainability and long-term viability of veterinary practices (Pun, 2020). The present findings are consistent with prior studies, which have explored the significance of communication skills, their impact on client satisfaction, the role of training and education, factors influencing communication proficiency, the effect of communication on clinical decision-making, and communication risks related to zoonoses (Arnecke et al., 2024).

Communication challenges in veterinary practice

Regarding the communication challenges faced by veterinary practitioners in Bali, Indonesia, the current findings are summarized in Table 3. The present findings indicated that discussions surrounding euthanasia constituted the most challenging communication topic, as evidenced by 102 respondents rating it as very difficult. This was followed by communications regarding life-threatening conditions (54 respondents), costly treatments (53 respondents), difficult diagnoses (53 respondents), and complex treatment protocols (44 respondents). In contrast, discussions concerning prolonged care were perceived as moderately complex, yielding an average score of 3.39.

Multiple peer-reviewed studies have documented the professional challenges veterinarians face when conveying unfavorable news, explaining complex diagnoses, or guiding end-of-life care decisions (Artemiou et al., 2014; Hernandez et al., 2018; Gaida et al., 2021). According to Pun (2020), discussing euthanasia is often one of the most emotionally challenging parts of veterinary practice. Many veterinarians experience significant emotional stress when recommending or performing euthanasia, particularly when clients are hesitant to accept or fully understand the decision (Cooney and Kipperman, 2023). Veterinarians often have to balance the animal's welfare with the emotional needs and expectations of the owner (Quain et al., 2021). Another significant challenge is handling client expectations, particularly in cases where clients hold unrealistic expectations regarding treatment outcomes or the prognosis for critically ill animals (Christiansen et al., 2016). These professional challenges become particularly pronounced when practitioners are required to clarify the limitations of therapeutic interventions or to justify euthanasia as the most ethically defensible option (Pun, 2020).

Table 2. Veterinary practitioners' perceptions of communication skill importance across clinical activities and practice factors in Bali, Indonesia, in 2024

Variable	Number of Responses					Number of Responses × Score	Average	Category
	1	2	3	4	5			
Factors								
Confidence	0	0	9	22	187	1050	4.82	Very High
Job satisfaction	0	0	9	47	162	1025	4.70	Very High
Time management	0	0	13	58	147	1006	4.61	Very High
Income/profit	0	0	18	53	147	1001	4.59	Very High
Client relationships	0	0	6	17	194	1056	4.86	Very High
Colleague relationships	0	1	5	25	187	1052	4.83	Very High
Types of Activities								
Obtaining medical history	0	0	6	22	190	1056	4.84	Very High
Diagnosing a condition	0	0	12	26	180	1040	4.77	Very High
Explaining the diagnosis	0	0	4	11	203	1071	4.91	Very High
Discussing prognosis	0	0	8	30	180	1044	4.79	Very High
Discussing treatment	0	1	8	28	181	1041	4.78	Very High
Obtaining client consent	0	0	4	25	189	1057	4.85	Very High
Managing client expectations	0	0	6	25	187	1053	4.83	Very High
Optimizing client compliance	0	0	8	41	169	1033	4.74	Very High
Encouraging follow-up visits	0	0	7	35	176	1041	4.78	Very High
Discussing treatment costs	0	0	10	39	169	1031	4.73	Very High

1: Very Low, 2: Low, 3: Moderate, 4: High, 5: Very High

Table 3. Perceptions of practicing veterinarians in Bali regarding communication difficulties in clinical case discussions with clients, in 2024

Variable	Number of Responses					Number of Responses × Score	Average	Category
	1	2	3	4	5			
Conditions where diagnosis is difficult	9	24	82	49	53	764	3.53	Difficult
Conditions where treatment is difficult	9	28	85	52	44	748	3.43	Difficult
Life-threatening patient conditions	13	34	64	53	54	755	3.46	Difficult
Conditions requiring Euthanasia	7	16	52	41	102	869	3.99	Difficult
Conditions requiring expensive treatment	11	28	70	56	53	766	3.51	Difficult
Conditions requiring prolonged treatment	17	33	69	47	52	738	3.39	Moderate

1: Very easy, 2: Easy, 3: Moderate, 4: Difficult, 5: Very difficult

Implications for veterinary education

Previous studies in veterinary communication have highlighted the importance of a structured approach to teaching effective communication skills within veterinary curricula (Pun, 2020; Mabin and Taylor, 2023). Haldane *et al.* (2017) found that both veterinary practitioners and students consider verbal communication and interpersonal skills to be the most essential competencies for aspiring professional veterinarians. In English-speaking countries, the Calgary-Cambridge model has been widely adopted by veterinary institutions to develop students' communication skills, leading to improved client interactions (Bard *et al.*, 2017). However, Agne *et al.* (2024) emphasize that despite the recognized importance of teaching communication-based clinical reasoning skills, current educational approaches for teaching these skills remain inadequate. Consequently, there is an urgent requirement for integrated communication skills training within veterinary education programs across higher education institutions globally.

Study limitations

While the present study contributed a valuable understanding of veterinary communication training in Bali, several limitations should be acknowledged. The self-reported nature of the data could lead to response bias, particularly regarding individuals' evaluations of their communication skills (Rosenman *et al.*, 2011). Focusing on Bali as a regional example may restrict the relevance of these findings to other Indonesian provinces that have different cultural or practical traits (Muhtar *et al.*, 2025). Regarding gender differences, the current findings of a slight male predominance (51.8%) contrast with Western studies (McDermott *et al.*, 2015) and may reflect Bali's unique veterinary workforce dynamics. This warrants further investigation into cultural, educational, or professional factors influencing gender distribution in Indonesian veterinary medicine. The high preference for simulation-based training, indicated by 70.4% of respondents, can be attributed to its established efficacy in improving clinical communication skills through intentional practice in secure environments, as evidenced by the findings of Spruijt *et al.* (2023). This method, designed to evaluate communication issues in veterinary practice, provided instant feedback and allowed repeated practice of complex situations such as euthanasia discussions, directly targeting the specific challenges highlighted in the current results.

CONCLUSION

The present study confirmed that communication skills are equally vital as clinical expertise in veterinary practice, with 86.2% of practitioners acknowledging their importance for both clinical outcomes and professional achievement. While 50% of individuals received training primarily delivered through lectures, a notable 86.7% expressed a strong desire for additional educational opportunities. Among these respondents, a significant preference for simulation-based learning was indicated, with 70.4% highlighting it as a particularly valuable mode of instruction. The primary challenges discussed include ethical concerns surrounding euthanasia, the high costs of medical treatments, and difficulties in achieving accurate diagnoses. Veterinary curricula should incorporate mandatory communication training through realistic methods and simulations. Findings should be interpreted within Bali's context, as the unusual gender distribution needs further exploration. Implementing these changes would enhance patient care, strengthen client relationships, and increase practitioner satisfaction. Future studies should incorporate standardized client evaluations to validate self-reported data and assess regional differences. Additionally, the impact of gender on communication styles and challenges in client interactions across Indonesia's different veterinary practices should be investigated.

DECLARATIONS

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Authors' contributions

All authors were actively involved in every stage of the study and manuscript preparation process. Nyoman Sadra Dharmawan designed the theoretical framework and research concept, supervised data collection, and contributed to manuscript preparation. Ni Made Swasti Wulanyani contributed to the study methodology, data analysis and interpretation, and manuscript preparation. Kadek Karang Agustina participated in study design, organized focus group discussions, coordinated data collection, and assisted in manuscript preparation. All authors have reviewed and approved the final edition of the manuscript.

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Competing interests

The authors have not declared any conflict of interest.

Ethical considerations

Ethical issues, including plagiarism, consent to publish, misconduct, data fabrication and/or falsification, double publication and/or submission, and redundancy, have been checked by all the authors.

Availability of data and materials

The data to support the present study's findings are available upon reasonable request to the corresponding author.

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