

“Flying the Nest” – The Transition from the Pre-Clinical to Clinical Years in Medical Education: A Pilot Study Exploring Contemporary Challenges and Opportunities for Enhancement

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Aim: Transitioning from preclinical to clinical training is a pivotal phase in medical education, accompanied by substantial psychosocial and academic challenges. There is limited research exploring the experiences of students in Northern Ireland (NI). This pilot study aims to examine the perspectives and lived experiences of third-year medical students at Queen's University Belfast (QUB) during their transition, and to identify ways in which institutional support can be strengthened to better address their needs.

Methods: This mixed-methods study employed a sequential design combining survey and focus groups. A survey was distributed to all third-year students, containing four Likert-scale and two open-text questions assessing preparedness, confidence, anxiety and support needs. Survey data were analysed descriptively, while focus group transcripts underwent thematic analysis using Braun and Clarke's framework.

Results: Thirty-nine students (13%) completed the survey. Participants described feeling unprepared and anxious. Two subsequent semi-structured focus groups (n=8 and n=5) explored these themes. Key themes included communication challenges, mental health concerns, mentorship and the hidden curriculum. Respondents expressed desire for enhanced wellbeing support from clinical tutors.

Conclusion: This exploratory study suggests that the transition to clinical training presents substantial challenges for some medical students at QUB. Given the low response rate and single-institution design, findings may not be generalizable. However, they indicate areas warranting further investigation, including communication strategies, structured mentorship programs and wellbeing support during transitions. Future research with larger, more representative samples is needed to validate these preliminary findings and inform evidence-based interventions.

Plain Language Summary: This study explored how third-year medical students at Queen's University Belfast experience the move from classroom-based learning to hands-on clinical training in hospitals. The researchers surveyed and interviewed students to understand their experiences.

Many respondents said they felt anxious and underprepared when starting clinical placements. They mentioned challenges including unclear communication, stress, lack of mentors and unwritten rules in hospitals that are difficult to learn.

Students who participated said they would like better emotional support from their teachers. While these findings come from a small group at one university, they suggest that the move to clinical training can be stressful. The results may help universities think about how to better support students during this change. More research with larger groups of students is needed to understand these experiences more fully.

Keywords: pilot study, transition, mentorship, mental health, Generation Z, medical education

Introduction

Medical students navigate multiple transitions throughout their training, with the progression from preclinical to clinical years representing one of the most pivotal phases.^{1–3} This transition fundamentally alters the learning environment from theoretical classroom-based education to direct patient care in clinical settings.^{4,5} Despite structured approaches to facilitate transitions, gaps remain in preparing students for clinical realities, particularly regarding preparedness and institutional support.^{5–7}

At Queen's University Belfast (QUB), the five-year undergraduate medical program includes foundational learning in years one and two, followed by clinical rotations. The transition to third year marks students' first substantial exposure to real patient care in hospital ward environments. This represents a challenging developmental milestone characterized by steep learning curves, requiring adaptation in time management and work-life balance.^{1,4–7}

To support this transition, QUB implements an introduction week prior to clinical placement commencement. However, this week currently involves limited student input, following primarily institutional requirements mandated by the General Medical Council (GMC) and learning outcomes created by the academic and clinical staff.

Contemporary Understanding of Medical Student Transitions and Mental Health

Medical students face disproportionately high rates of mental health challenges compared to age-matched peers, with global prevalence rates reaching 27% for depression and 34% for anxiety.⁸ Meta-analyses indicate that 11% of medical students experience suicidal ideation,^{9,10} while 82% of US medical students report psychological distress during their studies.⁹ These challenges intensify during transition periods.^{8–11} In the context of NI, these concerns are particularly pronounced, with prevalence approximately 25% higher than in England, attributed to socioeconomic factors and transgenerational trauma linked to the legacy of political conflict.¹²

The transition to clinical training represents a vulnerable period when underlying mental health risks are exacerbated by environmental changes, perceived lack of contact with university support mechanisms, role ambiguity and the challenge of applying theoretical knowledge to patient care.¹³ Medical students' personality traits, conscientiousness, empathy and perfectionism, while contributing to academic success,^{9,14–16} also correlate with anxiety, imposter syndrome and emotional burnout.^{17,18}

The Hidden Curriculum and Its Impact on Professional Identity Formation

The hidden curriculum, informal lessons on culture and behaviours learned on placement,^{5,7} profoundly shapes professional identity through role modelling, organizational culture and hierarchical expectations.^{14,17–19} Students emphasize the value of mentorship during transitions,^{19,20} yet the hidden curriculum can perpetuate negative behaviours and contribute to distress when not properly addressed.^{7,17,18}

Generation Z Medical Students: Unique Characteristics and Learning Preferences

Current medical students predominantly comprise Generation Z (born 1997–2012), characterized by digital fluency and distinct learning preferences for individualized, self-directed learning with interactive, timely feedback and integrated support systems.^{21–24} This cohort demonstrates heightened mental health awareness and advocates for work-life balance, curriculum input and institutional transparency.²⁵

Research Gap and Study Justification

Despite international research on transitions, no studies have examined Northern Irish medical student experiences during this phase. Given the unique mental health profile of the region, this represents a significant gap. Furthermore, the characteristics of Generation Z impact on transition experiences remains under-researched in UK medical education. Current programs like QUB's introduction week operate with minimal student input, despite evidence that student involvement enhances program effectiveness.²⁵

Research Question

What are the lived experiences of third-year medical students at QUB regarding their transition from pre-clinical to clinical years, and how can institutional support be enhanced to better meet their needs?

Aims

1. To explore the transition experiences of third-year medical students at QUB,
2. To identify specific barriers encountered during the transitional period,
3. To evaluate student satisfaction with QUB's current third-year introduction week,
4. To examine the influence of Generation Z characteristics on transition experiences and support preferences.

Materials and Methods

Study Design

This exploratory study employed a pragmatist paradigm,^{26,27} using a sequential mixed-methods design to examine third-year medical students' transition experiences at QUB during the 2024–2025 academic year.

Participants and Sampling

All 300 currently enrolled third-year medical students at QUB were eligible for participation. Inclusion criteria were: (1) current enrolment in third year, (2) attendance at the introduction week, and (3) willingness to provide informed consent. No exclusion criteria were applied. The survey employed convenience sampling, distributed via Email to all eligible students. Focus group participants were recruited through voluntary response sampling, with invitations sent via the same channel. All participants provided written informed consent prior to participation.

Data Collection

Survey Instrument: A survey was created following a literature review and consultation with senior medical education faculty. The survey contained four Likert-scale questions assessing preparedness (3-point scale: unprepared, somewhat prepared, prepared), confidence (10-point scale), anxiety (10-point scale), and logistical challenges (binary: yes/no), plus two open-text questions exploring transition experiences and improvement suggestions.

Focus Groups: Two semi-structured focus groups were conducted. The first occurred four months post-introduction week (n=8), and the second two months later (n=5). A semi-structured interview guide, developed from survey findings and literature, covered preparedness, challenges, support systems, mentorship, and satisfaction. The guide allowed flexibility for emergent themes. Both sessions were audio-recorded and transcribed verbatim.

Data Analysis

Quantitative Data: Descriptive statistics were calculated for Likert-scale questions, including frequencies and percentages. Given the exploratory nature and small sample size, no inferential statistics were performed.

Qualitative Data: Survey open-text responses and focus group transcripts were analysed using Braun and Clarke's six-phase thematic analysis framework:^{28,29} (1) familiarization with data through repeated reading, (2) initial code generation, (3) theme identification, (4) theme review and refinement, (5) theme definition and naming, and (6) report production. Analysis was primarily inductive, allowing themes to emerge from the data. Both authors independently coded a subset of transcripts; initial codes were compared and discrepancies resolved through discussion to enhance reliability.

Data Integration: Integration occurred at the interpretation phase, with quantitative findings contextualized by qualitative themes. Convergence between survey and focus group data was identified to strengthen credibility.

Reflexivity and Bias Mitigation

Both researchers are faculty members at QUB Centre of Medical Education, which may have influenced participant responses. To minimize bias: (1) voluntary participation and confidentiality were emphasized, (2) independent coding with consensus discussion was employed, and (3) reflexive awareness of positionality was maintained throughout analysis.

Data Saturation

Focus group recruitment continued until thematic saturation was approached. After the second focus group, no substantial new themes emerged, suggesting adequate data richness for this exploratory study.

Response Rate and Non-Response Bias

The survey response rate was 13% (39/300), which is low and limits generalizability. Potential non-response bias cannot be quantified without demographic data on non-respondents. It is possible that students with particularly strong opinions (positive or negative) were more motivated to participate, or that time-constrained or disengaged students were under-represented. These limitations are acknowledged, and findings should be interpreted as exploratory rather than definitive.

Ethical Considerations

Ethical approval was obtained from Queen's University Research Ethics Committee. All data were anonymized and stored in compliance with GDPR. Participants could withdraw at any time without consequence.

Results

Of 300 third-year medical students invited, 39 completed the survey (13% response rate). Eight students participated in the initial focus group, with five attending the follow-up session.

Five distinct themes emerged from the data collated from the surveys (Table 1). Qualitative insights have been integrated with the quantitative results to reflect the nature of the mixed methods survey design.

General Preparedness and Confidence

When asked how well prepared they felt, 50% (n=20/39) reported feeling unprepared, 41% (n=16/39) felt "somewhat prepared," and 9% (n=3/39) felt prepared (Figure 1). Students perceived the induction week as unhelpful and failing to address their specific issues or concerns. Additionally, many described how they

...don't feel like our exams prepared us for what we are supposed to know.

Table 1 List of Themes and Sub Themes That Emerged from the Free Discussion Box of the Survey

Themes	Subthemes
Preparedness	• Impact on confidence • Impact on anxiety levels
Communication from QUB	• Perceived lack of support • Absence of psychological safety • Stress and burnout
The Hidden Curriculum	• Impact on anxiety levels • Impact on identity formation • Impact on social assimilation
Logistical challenges	• Impact on time • Impact on finances • Impact on cognitive load
Mental Health	• Raised anxiety levels • Isolation • Perceived lack of institutional support

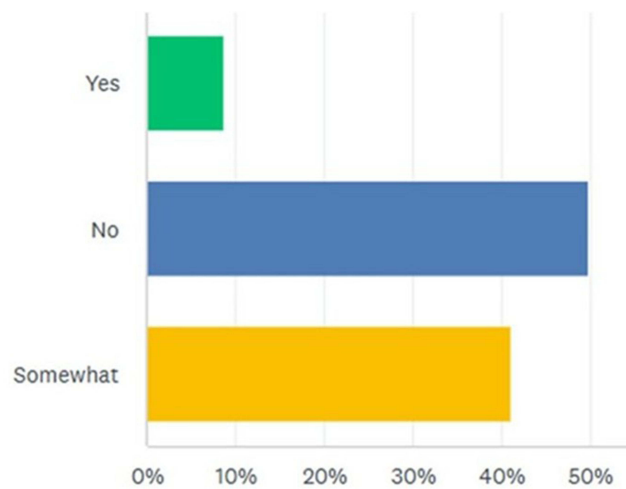


Figure 1 Do you feel prepared starting Y3 after the induction week?

Communication and Support from QUB

Participants reported shortcomings in communication from QUB during the transition. Concerns about attendance and punitive actions diminished their sense of psychological safety. Participants also indicated that practical expectations were not clearly outlined and suggested that greater emphasis on the daily realities of ward life would have been beneficial.

The Hidden Curriculum

Despite 65% ($n=29/29$) feeling confident in their clinical skills in simulations prior to embarking to clinical placements (Figure 2), they found it difficult navigating the unwritten rules and norms of the clinical environment describing it as

...feeling lost on the ward.

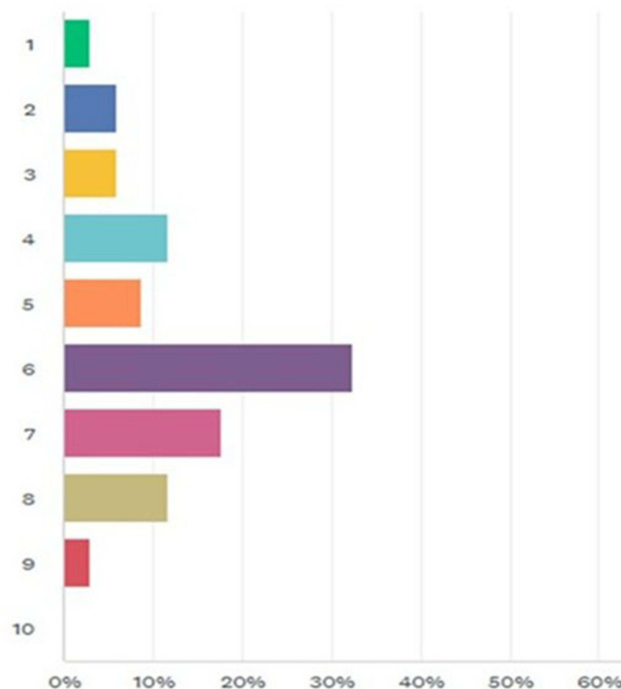


Figure 2 How confident do you feel about your clinical skills before starting Y3? A 10-point Likert scale with 1 least confident and 10 most confident.

Logistical Challenges

Eighty-five percent of students identified travel and accommodation as major challenges, adding stress and highlighting a perceived lack of support. Difficulties with communication and placement logistics were reported to increase cognitive load, financial strain and reduce personal time contributing to fatigue and risk of burnout.

Mental Health

When rating anxiety about starting Year 3 on a 10-point scale, 62% (n=24/39) scored between 7–10 (Figure 3). They reported the change in routine to be upsetting and described loneliness associated with long days on placement followed by long evenings studying.

Focus Group Themes

Six unifying themes emerged from the focus group discussions, echoing the findings from the survey prior (Table 2).

Introduction Week Programme

Students felt the induction week was poorly timed and overloaded with irrelevant information, while lacking content they truly needed. They perceived the sessions as neither student-centred nor supportive of their role as adult learners. A lack

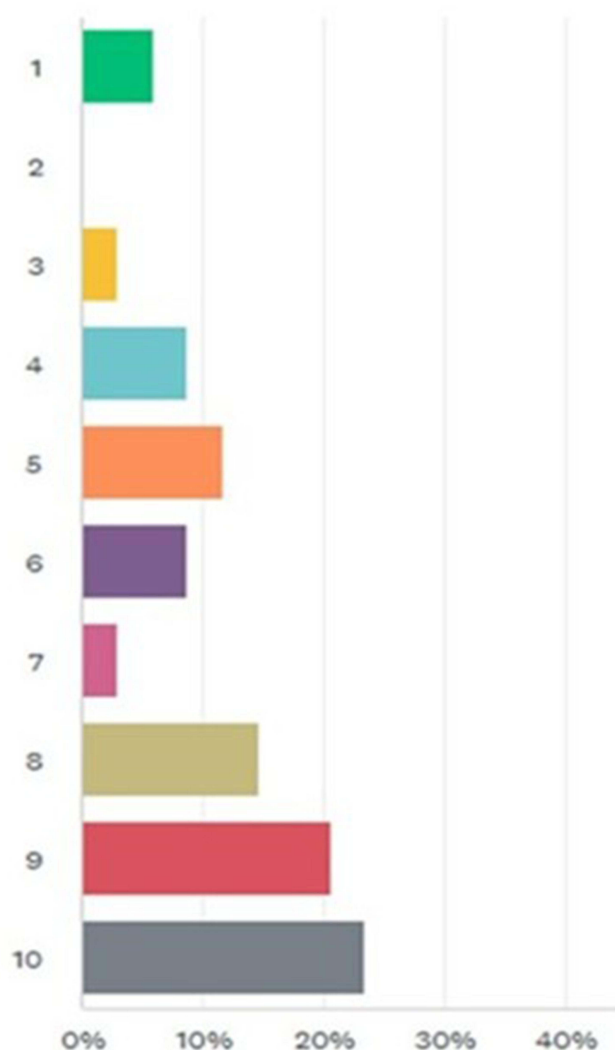


Figure 3 How anxious do you feel about starting Y3? A 10-point Likert scale with 1 not at all anxious and 10 most anxious.

Table 2 Table of Themes and Sub Themes That Emerged During Initial Focus Group

Themes	Subthemes
Introduction week programme	• Not student -centred • Irrelevant information • Poor communication • Information overload • Lack of signposting to support services
Preparedness	• Lack of early clinical exposure • Increased workload • Communication • Hidden curriculum
Theory and Practice Gap	• Unpreparedness • Increased workload • Perfectionism • Impact on identity • Burnout
The Hidden Curriculum	• Anxiety • Identity formation • Social adaptation
Imposter Syndrome	• Identity formation • Anxiety • Perfectionism • Gender differences
Mental Health	• Anxiety • Poor communication • Well being support • Signposting to pastoral care
Support Mechanisms	• Mentorship • Pastoral Care • Community

of psychological safety and limited University support during their transition to the wards left them feeling unprepared and unsupported.

Preparedness

Many participants also described feeling underprepared for the clinical placements, particularly in terms of non-clinical skills such as communicating with patients. One student reported

In the pre-clinical years, we're just drilled with theory. but when you're faced with a real patient, it feels like you're lost. The theory doesn't really give you the confidence to know what to do in that moment.

Some students sense of unpreparedness was heightened by limited early clinical exposure. This lack of familiarity with the clinical environment, alongside challenges such as venepuncture, cannulation, physical examinations and decision-making, increased their stress. In the second focus group, students looked back and perceived the experience to have been better than they first experienced and recalled, once they had successfully gone through it.

Theory and Practice Gap

Many struggled applying theoretical knowledge to clinical practice and connect basic science with real life. Participants described feeling pressure to display clinical competence beyond their actual level of training. These expectations were reinforced by external influences, particularly family and friends, who often regarded them as “mini doctors” and assumed a greater level of knowledge than the participants possessed.

The Hidden Curriculum

Difficulties navigating the hidden curriculum contributed to anxiety. Some were unsure about who they can approach, where they can stand or how to behave. They highlighted problems particularly with identifying who to present cases to, who they can ask questions to and how to interface with the MDT.

Imposter Syndrome

Imposter syndrome was common among medical students, reporting feeling lost, constantly pretending to understand what was happening and secretly comparing themselves to the other students.

Mental Health

Participants reported high levels of anxiety beginning from the introduction week. They described feeling unsupported being off the University campus and experienced a sense of anonymity. Furthermore, they constantly felt pressure to act perfectly, one student describing

You’re constantly worried about making a mistake, it feels like the whole world is watching.

Support Mechanisms and Mentorship

Peer mentorship was identified as one of the most valuable sources of support. Participants emphasized the importance of learning from students who were further along in their clinical training, that they understood the situation and managed to succeed gave them hope.

Personal tutor support, especially feedback and guidance, was reported as vital to their development, though its quality varied.

Suggestions for Improvement

Participants recommended earlier patient-facing experience, enhanced procedural skills teaching during induction, clearer pathways to pastoral support, integrating wellbeing and academic supervision, stronger peer support, senior student-led inductions and regular faculty touchpoints.

Discussion

This exploratory study examined third-year medical students’ experiences transitioning to clinical training at QUB. Among the 39 survey respondents (13% response rate), half reported feeling unprepared, and 62% reported high anxiety levels. Qualitative themes highlighted challenges with communication, mental health, mentorship, imposter syndrome and the hidden curriculum.

Preparedness and Anxiety

Only 9% (n=4) of respondents felt adequately prepared for clinical training despite completing institutional induction. The finding that 62% reported anxiety levels of 7–10 on a 10-point scale suggests substantial psychological burden, consistent with literature documenting mental health challenges among medical students.^{8–11,30} However, given the low response rate and potential self-selection bias, the prevalence of these experiences across the full cohort remains uncertain. Anonymous disclosures of a formal anxiety diagnoses in this study not only corroborated prevalence data but also added a personal dimension to the collective experience of distress within this group.

Institutional Support and Communication

Participants described inadequate communication and concerns about psychological safety, particularly regarding risks of punitive actions. Creating psychologically safe learning environments is associated with improved educational outcomes and help-seeking behaviors.^{31,32} Medical schools should consider how institutional policies and communication strategies may inadvertently undermine psychological safety during vulnerable transition periods. The disconnect between institutional perceptions of adequate preparation and students expressed needs, particularly regarding wellbeing support, aligns with contemporary shifts toward student-centred pedagogical frameworks.^{30,33–35}

Peer mentorship emerged as the most valued support mechanism, consistent with evidence showing its effectiveness in building confidence, reducing anxiety and easing educational transitions.^{36–38}

Theory-Practice Gap and Imposter Syndrome

The prevalence of imposter syndrome among participants, despite 65% expressing confidence in simulated clinical skills, suggests that confidence deficits arise more from transitional challenges than skill inadequacy.^{17,39} The gap between theoretical knowledge and clinical application remains a source of distress, particularly during first clinical exposures and warrants targeted interventions.

Imposter syndrome has long-term consequences for career choice, professional identity and physician wellbeing.^{17,37,39} Embedding interventions within transition programs is essential to mitigate its impact and support sustainable professional development.

Hidden Curriculum, Professional Identity Formation

Participants experience with the hidden curriculum highlight its central role in shaping professional identity, often generating anxiety and dissonance beyond technical skill development. While positive role modelling and supportive environments can foster growth, negative influences may lead to cynicism, diminished empathy and compromised wellbeing.^{36,37} In this study, student challenges with hierarchy, communication and boundaries reflect the pervasive reach of this unofficial curriculum.

Generational Context

Most current medical students are members of Generation Z, whose education was shaped by the COVID-19 pandemic. Their preference for visual resources, technology integration, and collaborative learning calls for adaptive approaches beyond traditional didactics.⁴⁰ The loss of early patient contact opportunities, such as suspension of certain programs, may contribute to anxiety during first clinical exposures, highlighting the need for structured transitional support.

Recommendations for Implementation

Despite limitations, findings suggest potential areas for enhancement:

For Introduction Week Programs

- Incorporate student feedback into program design
- Provide clearer guidance on practical matters (technology, logistics)
- Address hidden curriculum explicitly
- Enhance psychological safety messaging
- Time content delivery appropriately throughout the academic year

For Clinical Transition Support

- Establish structured peer mentorship programs with adequate support
- Clarify faculty mentor roles to include wellbeing support alongside academic supervision
- Improve communication channels and consolidate information platforms
- Develop proactive wellbeing monitoring with clear referral pathways
- Provide earlier patient-facing experiences where feasible

For Faculty Development

- Train clinical supervisors in psychological safety principles
- Enhance mentorship skills and clarify mentorship expectations
- Promote awareness of contemporary learner characteristics and preferences.

Future Research Directions

Future studies should employ larger samples with higher response rates and multi-institutional designs to enhance generalizability. Longitudinal research tracking students across the transition period would clarify temporal patterns of adaptation. Intervention studies evaluating enhanced transition programs are needed to establish evidence-based practices. Comparative research across different medical schools and international contexts would identify transferable strategies. Investigation of non-responders' characteristics would help address selection bias in future research.

Strengths and Limitations

The mixed-methods approach captured rich qualitative insights alongside quantitative data, providing practical suggestions for program enhancement. The study generated contemporaneous insights into this critical transition period and offers specific recommendations to refine the third-year introduction week, which may have broader implications for student satisfaction with the educational experience.

However, limitations include small sample size, low response rate (13%), potential non-response and self-selection bias, single-institution design and cross-sectional methodology. These factors limit generalizability, and findings should be viewed as hypothesis-generating rather than conclusive. This study is best characterized as exploratory or pilot research, providing a foundation for future investigation with more rigorous designs.

Conclusion

This exploratory study examined the transition experiences of third-year medical students at QUB. Among respondents, many reported feeling unprepared and anxious, with challenges including inadequate communication, limited mentorship and difficulty navigating the hidden curriculum. However, the low response rate (13%) and single-institution design limit generalizability. Findings should be considered preliminary, requiring validation with larger, more representative samples.

For medical educators, the transition to clinical training represents a critical period warranting structured institutional support. Preliminary findings suggest potential areas for enhancement, including incorporating student feedback into transition programs, strengthening mentorship structures, improving communication strategies and fostering psychological safety. These recommendations should be piloted systematically and evaluated rigorously before broader implementation.

Future research with robust methodologies and larger samples is essential to develop evidence-based transition support strategies that optimize student wellbeing and clinical preparedness.

Ethics and Approval

Ethical approval was obtained from the Queen's University Research Ethics Committee, Whitla Medical Building, 97 Lisburn Road, Belfast, United Kingdom. Informed consent was obtained before the initiation of the study.

Consent to Publish

We confirm all tables, figures and quotations can be published. The participants have reviewed and consented for publication.

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Author Contributions

All authors made a significant contribution to the work reported, including the conception, study design, execution, acquisition of data, analysis and interpretation. All authors took part in drafting, revising or critically reviewing the article; gave final approval of the version to be published; have agreed on the journal to which the article has been submitted; and agree to be accountable for all aspects of the work.

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Disclosure

The authors declare no conflicts of interest in this work.

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