A qualitative study to identify factors that influence patients' decisions to call Emergency Medical Services for syncope

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Abstract

Background Protocols that support paramedics to assess, treat and refer low-risk syncope (fainting) may allow for ED transport of only high-risk patients. The development and uptake of such protocols is limited by a dearth of information about factors patients consider when deciding to seek EMS care following syncope.

Objective We explored decision-making processes of individuals with syncope regarding whether (or not) to call EMS after fainting as a starting point in the development of prehospital risk-stratification protocols for syncope.

Methods Twenty-five Canadian adults (aged 18–65 years) with a history of ≥ 1 syncopal episode were recruited. Individual semi-structured interviews were conducted, recorded, and transcribed. Straussian grounded theory methods were used to identify common themes and a core (overarching) category.

Results Four themes were identified: (a) previous experiences with the healthcare system (e.g., feeling dismissed), (b) individual patient factors (e.g., age, medical history), (c) attitudes and beliefs (e.g., burdening the health care system, syncope is “not serious”), and (d) contextual factors (e.g., influence of important others, symptom severity). Perceived judgement, including judgement from EMS and negative self-evaluations, was identified as the core category that influenced patients' decisions to seek care.

Conclusion We theorize that, while patients consider many factors in deciding to contact EMS for syncope, previous experiences of feeling judged and unfavorable beliefs about syncope may interfere with patients' receptiveness to traditional EMS protocols for syncope. The findings highlight potential patient needs that program developers may wish to consider in the development of prehospital protocols to improve care and satisfaction among patients with syncope.

Keywords Syncope · Treat-and-refer · EMS · Emergency medical services · Paramedic · Health care utilization · Decision-making

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Résumé

Contexte Les protocoles qui aident les ambulanciers paramédicaux à évaluer, traiter et orienter les patients à faible risque de syncope (évanouissement) peuvent permettre le transport de patients à haut risque seulement. L'élaboration et l'adoption de tels protocoles sont limitées par un manque d'information sur les facteurs dont les patients tiennent compte lorsqu'ils décident de demander des soins médicaux après une syncope.

Objectif Nous avons exploré les processus décisionnels des personnes en syncope concernant l'appel (ou non) à EMS après un évanouissement comme point de départ dans l'élaboration de protocoles de stratification des risques préhospitaliers en cas de syncope.

Méthodes Vingt-cinq adultes canadiens (âgés de 18 à 65 ans) ayant des antécédents d'épisode syncopal ≥ 1 ont été recrutés. Des entretiens individuels semi-structurés ont été menés, enregistrés et transcrits. Des méthodes de théorie straussienne ont été utilisées pour identifier les thèmes communs et une catégorie de base (globale).

Résultats Quatre thèmes ont été identifiés: (a) expériences antérieures avec le système de soins de santé (par exemple, Se sentir rejeté), (b) facteurs individuels du patient (par exemple, âge, antécédents médicaux), (c) attitudes et croyances (par exemple, fardeau pour le système de soins de santé, la syncope n'est "pas grave"), et (d) facteurs contextuels (c. par exemple, influence d'autres personnes importantes, gravité des symptômes). *Le jugement perçu*, y compris le jugement du SME et les auto-évaluations négatives, a été identifié comme la catégorie principale qui a influencé les décisions des patients de se faire soigner.

Conclusion Nous théorisons que, bien que les patients tiennent compte de nombreux facteurs lorsqu'ils décident de communiquer avec le AMU pour une syncope, les expériences antérieures de se sentir jugé et les croyances défavorables au sujet de la syncope peuvent nuire à la réceptivité des patients aux protocoles traditionnels de EMS pour la syncope. Les résultats mettent en évidence les besoins potentiels des patients que les concepteurs de programmes pourraient vouloir prendre en compte dans l'élaboration de protocoles préhospitaliers pour améliorer les soins et la satisfaction des patients atteints de syncope.

Clinician's capsule

What is known about the topic?

EMS for syncope often includes hospital transport and admission that does not benefit low-risk patients; prehospitalization risk-stratification protocols are needed.

What did this study ask?

What do patients consider in deciding to contact EMS for syncope, and can these factors help inform EMS syncope protocols?

What did this study find?

Patients consider perceived EMS judgement, individual-level factors (age, comorbidities), contextual factors (symptoms), and their own beliefs about syncope in decision-making.

Why does this study matter to clinicians?

Understanding patient expectations/perspectives will aid clinicians in developing prehospital syncope protocols that are acceptable to patients, enhancing program uptake.

Introduction

Syncope (fainting; defined as temporary loss of consciousness and inability to maintain postural tone with spontaneous recovery) [1] presentations to Canadian emergency departments (EDs) comprise 1–3% of annual ED visits [2]. Up to 66% of these presentations arrive by ambulance [3]. Nearly two-thirds of ED visits for syncope result in low-risk diagnosis and prognosis (e.g., non-cardiac causes including vasovagal syncope and orthostatic hypotension that carry 0–12% annual mortality risk) [1, 2]. Yet, 10–40% are admitted to hospital and/or subjected to time-consuming, costly diagnostic assessment that rarely (<1% of patients) improves outcomes [4]. Thus, the current standard of care for syncope has been described as inefficient, and may be inconvenient and/or distressing to patients [3, 4].

While the use of risk-stratification tools (e.g., the Canadian Syncope Risk Score) has demonstrated potential to improve syncope management in the ED [5, 6], existing tools cannot be used in the field due to a need for bloodwork. Therefore, prehospital procedures are needed for EMS to identify patients at low risk of adverse outcomes and refer them to patient-centered alternatives (interdisciplinary specialty units, outpatient clinics) [3, 7, 8]. EMS protocols have been developed and implemented for other low-risk

conditions (e.g., hypoglycemia, supra-ventricular tachycardia) that support paramedics to assess, treat, and refer patients to alternative care pathways [9, 10]. Yet, qualitative interviews with paramedics suggest patients may be resistant to complying with treat-and-refer protocols by refusing, for example, to be referred to non-emergency alternatives, or discharged on-site [11–13]. Further, little is known about why some patients with syncope *do not* contact EMS after they faint. Concerns regarding unduly straining health systems and interpreting one's symptoms as mild have been linked to delay in contacting EMS for some medical conditions (e.g., myocardial infarction, epilepsy) [14, 15], but it is unclear whether these reasons translate to people with syncope.

According to national health research institutes (e.g., the Canadian Institute of Health Research Strategy for Patient Oriented Research [16, 17]; the British National Institute of Health [18]), it is important to incorporate patient perspectives during design and testing phases of health protocol development. Elucidating factors that individuals with syncope consider in determining whether (or not) to access EMS may be an important first-step to ensuring a risk stratification protocol will meet patients' needs [19, 20].

Objective

We investigated the decision-making processes of non-senior adults (18–65 years) with syncope when deciding whether (or not) to call EMS for themselves, or others, after fainting using a patient-oriented approach. This study represented an initial exploration into patients' perspectives on EMS utilization for low-risk syncope to help inform subsequent development of prehospital fainting protocols in the *Community Alternatives to Syncope Management to the Emergency Room* (CASMER) project [21]. The methods and results are reported in accordance with the Consolidated Criteria for Reporting Qualitative Research (COREQ) [22].

Methods

Straussian grounded theory [23, 24] was used to examine and characterize patients' decision-making about accessing EMS for syncope. Given the dearth of research in this area, this method was chosen to provide a theoretical 'starting point' to help inform future treatment protocols [20].

Research team Based on patient-oriented research principles [16, 18, 25, 26], patient partners were involved in development of the research question, study design, data collection, data analysis, and dissemination of the findings. The patient co-lead (MR) is a qualitative researcher with experience in health management research and patient engagement. MR co-developed study materials (protocols,

interview guides), conducted interviews, trained and supervised the research assistant (TR, an undergraduate student and patient partner), and co-led data analysis. KKS is an independent investigator with 20+ years of expertise in qualitative research methods in nursing and community health sciences. TW is a doctoral candidate in Clinical Health Psychology. MR, KKS, TW, and TR identify as women and reside in urban areas of Alberta, Canada.

Recruitment and sample Snowball sampling [27] was initiated by MR and the principal investigator (SR), who invited known syncope patients to participate in the study. Referrals to potentially eligible participants were also received from study participants. Given the nature of snowball sampling, some participants had pre-existing relationships with the interviewers. Participants were contacted by phone and invited to participate if they were 18–65 years old, living in Canada, and had fainted $\geq$ once. Seniors (> 65 years) were not sampled given that older adults may be less likely to present with syncope that is "low risk". Participants may, or may not have, contacted EMS post-syncope—we were interested in *decision-making processes* regarding contacting EMS, regardless of whether EMS was eventually called. No participants who were approached refused to participate or dropped out after joining the study. Sampling continued until theoretical saturation was reached, meaning no new themes emerged from the data with continued sampling [23, 24].

This study was approved by the University of Calgary, Conjoint Health Research Ethics Board, and each participant provided individual informed consent.

Data collection and analysis

Participants completed a demographic questionnaire and a one-on-one semi-structured interview (in-person or over the phone, according to preference; no repeat interviews were conducted). Field notes were not taken. The interviews were conducted by MR and/or TR, and audio-recorded. Interviews ranged from 10 to 90 min. Participants were initially invited to describe their experience/history with fainting, including their experience with EMS if applicable. Next, the interviewer inquired about participants' perspectives regarding EMS utilization (see supplementary materials). Follow-up questions and probes were used as-needed to elicit additional detail [23, 24].

Demographic data were entered into IBM SPSS Statistics 25 [28] and descriptive analyses performed. Audio-recordings of interviews were transcribed verbatim by a third-party transcription service. NVivo 12 Plus software was used to organize qualitative data. Data were analyzed by MR, TR, KKS, and TW using Straussian grounded theory coding conventions [24]. First, interview transcripts were read and common elements/themes coded using a

descriptive label. Second, axial coding was conducted, and broad categories were named. Third, relationships between the categories were examined to identify the core category [24]. This core category guided the construction of a comprehensive theory about how patients decide to contact EMS for syncope. Regular team meetings were held to establish consensus among team members and discrepancies were resolved through discussion. Consistent with recent recommendations in qualitative health research [29–31], member checks were not done.

Results

Twenty-five participants (mean age = 33.5 ± 14.9 years) participated in the study (Table 1). The sample was predominantly women (72%) with post-secondary education (88%).

The participants described various factors influencing their decision-making about whether to call EMS following a syncopal event, which were categorized into four common themes and an overarching core category (Table 2, Fig. 1).

Table 1 Characteristics of the sample ($N=25$)

Participant characteristic	N (%) unless indicated otherwise
Age, mean (SD); range (years)	33.5 (14.9); 18–65
Women	18 (72)
Marital status	
Married/common law	12 (48)
Single (including divorced/separated)	13 (52)
Habitation arrangement	
With spouse only or spouse and child(ren)	11 (44)
With other family (no spouse)	2 (8)
Alone	6 (24)
With friends/roommates	6 (24)
Education	
Highschool or equivalent	3 (12)
> Highschool	22 (88)
Employment	
Employed full time outside the home or for self	10 (40)
Employed part time outside home	4 (16)
Not employed (retired, homemaker, on disability)	3 (12)
Student	8 (32)
Province of residence	
British Columbia	5 (20)
Alberta	10 (40)
Ontario	9 (36)
Quebec	1 (4)

Theme 1: previous healthcare experiences

Participants described previous interactions with EMS that influenced their decisions to seek (or not) assistance after fainting. Many participants described experiences where they perceived *being dismissed* by EMS (Table 2). Participants reported the experience of their symptoms being downplayed, and described their treatment by EMS as ‘disrespectful’. Several women participants endorsed beliefs that women who faint are more likely to be dismissed than men. Participants attributed this to a perceived bias among EMS that syncope is typically a symptom of benign, feminine conditions (e.g., menstruation, menopause, pregnancy; Table 2).

Theme 2: individual factors

Patient-level factors such as *age* and *medical history* were frequently provided as important practical considerations when deciding to call EMS. In general, participants reported that they would call an ambulance for a senior who fainted, whereas being “younger” was associated with a perception that fainting should not require EMS. Participants considered their own medical history when deciding to contact EMS. Individuals who fainted repeatedly/frequently considered fainting to be a ‘normal’ experience, not worthy of medical attention. In contrast, when asked what would prompt them to call EMS if *someone else* fainted, most indicated they would call if they were not familiar with that person’s medical history. As well, participants indicated that they would be inclined to call EMS for another person who fainted if they believed there was a more serious underlying medical condition (Table 2).

Theme 3: attitudes and beliefs

Participants endorsed personal attitudes and beliefs that influenced decision-making. Numerous participants believed that accessing EMS was tantamount to *being a burden* on the healthcare system. Participants wanted to avoid wasting hospital resources, and disliked the experience of ‘needing help’ from others. Many participants expressed *beliefs about fainting* that appeared to influence their EMS utilization decisions. Syncope was described as “not a big deal”, and therefore not worthy of care/attention. Reflecting on their fainting experiences, many participants dismissed their own symptoms and suggested that calling EMS would have been (or was) “too much of a fuss” or “excessive”. Of interest, several women in the sample used *gendered language* to describe syncope and fainting symptoms. Feminine (e.g., “girly”, “damsel in distress”, “swooning”, and “dramatic”)

Table 2 Themes, subthemes, and representative quotes identified in the decision-making process of seeking EMS care for fainting

Theme/subtheme	Potential influence on decision-making		Representative quote
	Seek EMS care	Do not seek EMS care	
Theme 1			
Previous health-system experiences	Positive, respectful experiences with health system	Negative, disrespectful and/or invalidating experiences	<i>I think the main factor that affects [the decision to call EMS] is your history with medical services... If your experience is negative, you're much less likely to pursue help when you need it, which has certainly been my history, and that of my family.</i> (Nicole, 35, woman)
Being dismissed		Dismissive comments (e.g., “just throw some water on her face”)	<i>The doctors didn't really care, [that] was [a] big problem. They just sort of dismissed it.</i> (Nicole, 35, woman) <i>... I've been dismissed enough by doctors that unless something drastic has happened in relation to my medical condition, I don't want to go [to the ED] anymore. Sometimes that's at a risk to myself, but the experience of dismissal has happened so often....</i> (Ben, 30, man) <i>(He) goes, 'Oh, it's just fainting. Oh, just throw a little water in her face. Oh, does somebody have an onion? Haha.'</i> So yeah, it's not something I would go into ER for or to a medical professional for because sometimes they're not the nicest people. (Jane, 35, woman) <i>I think we still are stuck in that 1800s view of a woman fainting like... It's not something serious... “Oh, she's going through menopause. Oh, she's got her period.” They brush it off.</i> (Megan, 30, woman)
		Gender-related symptom dismissal	
Theme 2			
Individual factors			
Age	Older age	Younger age	<i>... Older people fainting is much more serious because you break your hip, you break something... So the care and concern that is given to them, I feel, is much more than a 30 year old fainting.</i> (Jane, 35, woman) <i>Fainting just seems like a silly thing to complain about. At my age at least.</i> (Kavla, 21, woman)

Table 2 (continued)

Theme/subtheme	Potential influence on decision-making		Representative quote
	Seek EMS care	Do not seek EMS care	
Medical history	Unknown/unclear Symptoms not consistent with past syncope experiences Potential/suspected serious comorbidities (e.g., Type II Diabetes, heart problems)	Familiar with medical history, including fainting No known or suspected comorbidities	<i>I've fainted enough times that it doesn't really strike me as being a big deal. (Holly, 19, woman)</i> <i>I just wake up [after fainting] and dust myself off, carry on my day, like 'oh I have class in ten minutes.' (Kayla, 21, woman)</i> <i>I think certainly (I would call EMS) if they have been diagnosed with some major medical condition and if they have a medic alert bracelet saying so. (Luke, 35, man)</i>
<i>Theme 3</i> Attitudes and beliefs Burdens the system		Aversion to utilizing healthcare resources, “wasting time”, and needing “help” from others	<i>[I] didn't want to be a burden on the medical system for something that wasn't an emergency... (Sarah, 60, woman)</i> <i>It was just a normal boring everyday faint thing that would be a waste of time to pursue. (Curtis 28, man, describing why he did not seek EMS help after fainting)</i> <i>Oh, it just seemed like such a, I don't know, girly thing to do. (Paula, 38, woman)</i>
<i>Theme 4</i> Contextual factors Influential others	Bystanders call EMS for the unconscious patient Loved ones encourage patient to seek care	Influential others not involved	<i>When I fainted at the office, they lost their minds. They called [EMS]. I had to go to the hospital, and ...you know that you're going to be fine. (Megan, 30, woman)</i> <i>Not only did I feel super lightheaded, but there was a pain in my chest, and it felt different than all the other times. When I'd fainted [previously], it was usually pretty quick, and I'd wake up, and I'd feel fine... That's what made me call is that it was different. (Megan, a 30-year-old woman who faints frequently, describing an occasion when abnormal symptoms made her decide to call an ambulance)</i>
Symptoms	Prolonged period of unconsciousness Presence of worrying symptoms (e.g., racing heart, nausea, dizziness) Symptoms not consistent with past syncope experiences	Regain consciousness rapidly Symptoms dissipate quickly Symptoms consistent with personal fainting history	

Table 2 (continued)

Theme/subtheme	Potential influence on decision-making		Representative quote
	Seek EMS care	Do not seek EMS care	
Injuries	Injured in the fall	Not injured	<p><i>I know that this is going to sound weird, but I was happy that I had hurt my knee. Just getting all this attention for something normal like a faint would have been embarrassing.</i> (Holly, 19, woman)</p> <p><i>I wanted to lie to the paramedics and the hospital staff and say that I just fell, when it was actually that I fainted and fell. So I left out that information completely because I know how they react when you tell them I fainted.</i> (Jane, 35, woman)</p>

Pseudonyms were assigned to enable differentiation between data provided by participants of the same age and gender
 EMS Emergency Medical Services

and infantilising (e.g., “whiny baby”, and “silly”), terms emerged in reference to fainting, often in reference to why patients felt (or would have felt) embarrassed for contacting EMS after fainting (Table 2).

Theme 4: contextual factors

Participants incorporated unique characteristics of the fainting event into their decision-making about calling EMS. *Influential others*, (friends, family, bystanders), impacted decision-making in various ways. Participants described events where someone called an ambulance while they were unconscious, or against their wishes/instruction. Others indicated they sought care to mitigate concerns expressed by their loved ones (Table 2).

Symptoms, including injuries sustained from falling, were influential in the decision to call EMS. Nearly every participant indicated symptoms that were “serious” and/or “abnormal” given their medical history would warrant a call to EMS. These included: extended period of unconsciousness (perceived timeframes warranting medical attention ranged from > 2 s to > 15 min; vomiting; dyspnea; palpitations; pain; convulsions; and blurred vision. Participants who fainted frequently indicated that symptoms would need to be “out of the ordinary” to justify calling EMS. Several participants indicated that, in general, they only contact EMS if physically hurt from a faint (Table 2).

Core category: judgement

The core category underpinning participants’ experiences of deciding to access EMS was *judgement*. There was a salient belief that EMS judge syncope as trivial, and negatively evaluate patients for utilizing EMS unnecessarily. Past experiences of feeling ‘dismissed’ by ‘the system’ contributed to apprehension about being judged. Moreover, patients endorsed negative self-evaluations (e.g., beliefs that syncope is “silly” or “embarrassing”). Experiences of judgement about syncope from EMS and oneself was a powerful deterrent from seeking care (Fig. 1).

Discussion

To our knowledge, this study was the first to identify factors relevant to individuals with syncope in deciding to contact EMS after fainting. This grounded theory may be useful for program administrators to consider when developing pre-hospital protocols for low-risk syncope that will be acceptable to patients who faint and encourage appropriate EMS utilization.

Fig. 1 Factors influencing the decision to seek (or not) emergency medical assistance after fainting. Factors promoting patients' decisions not to seek EMS care frequently outweigh considerations in favor of contacting EMS. Perceived judgement underpinned the decision-making process. *EMS* Emergency Medical Services

Interpretation of findings

While the 'weight' assigned to various factors during decision-making likely varies across individuals, typical conditions that deterred participants from contacting EMS included: prior negative interactions (e.g., feeling dismissed); perceptions that symptoms are minor; regained consciousness rapidly; and beliefs about "burdening" the medical system. In contrast, participants *would* consider calling EMS if: symptoms were severe/abnormal; they were injured; older age/serious medical comorbidities; or they were urged to seek care by an influential other (loved one, bystander). Overall, concerns about *being judged* and *judgemental self-statements* were apparent across themes, and underpinned the decision-making process. In this sample, the number and strength of deterring factors frequently 'outweighed' factors that promoted care-seeking. As such, we theorize that alternatives to the traditional EMS paradigm of assess and transport to the ED may be preferable to many individuals who faint.

Comparison to previous studies

Several of the findings are consistent with previous qualitative research about emergency care-seeking decisions in other health domains. In a qualitative investigation of delay in contacting EMS for acute myocardial infarction, patients with acute myocardial infarction considered perceived symptom severity (e.g., pain intensity), perceived risk posed by symptoms, previous experience with acute myocardial infarction, and the situational context (e.g., presence/absence, and advice of, other people) [32]. Similar themes were identified in a sample of Chinese patients with acute myocardial infarction who delayed calling an ambulance following the onset of symptoms [15].

The results are also consistent with qualitative research describing hesitancy in care-seeking due to concerns about "burdening" others and "wasting" healthcare resources [32–34]. In an exploration of EMS/ED use among individuals with epilepsy, a majority of individuals reported they attend the ED only when injured in the seizure, in an effort to avoid "wasting" the hospital's time [14].

Research implications

Concerns about being judged and dismissed by EMS were prominent in this sample and strongly influenced decisions to avoid seeking emergency care. Improving the quality of patient-EMS interactions post-syncope through EMS training initiatives could reduce apprehension about contacting EMS for syncope, and improve patients' receptiveness to risk stratification protocols. Patient-provider communication training has been extensively studied among physicians, and is effective in improving patient satisfaction and compliance [35, 36]. Past studies on communication training for EMS have focussed on interprofessional communication [37–39], rather than patient-EMS interactions. There is a need for future studies to develop and test interventions for increasing sensitive responding by EMS when attending to patients who have fainted. Improved EMS communication may help individuals with syncope feel validated, encourage appropriate use of EMS, and increase compliance with prehospital syncope protocols.

Limitations

Our sample consisted primarily of younger women who were highly educated, whereas syncope incidence in the general population is relatively equal across genders and socioeconomic groups [1]. Data regarding participants' race, gender identity, and sexual orientation were not

collected. Thus, the proposed theory may not generalize to men, individuals of lower socio-economic status, or marginalized groups [e.g., Black, Indigenous, and People of Colour (BIPOC); immigrants; LGBTQ2+]. For example, there are well-documented barriers to healthcare access among BIPOC and recent immigrants (e.g., cost, underinsured, communication/language, past experiences of racism in health settings) [40–43] which may interfere with calling EMS for syncope. Future studies using purposive sampling to target these groups are warranted.

While snowball sampling was chosen to expedite recruitment, a limited number of pre-existing relationships with our patient partners (via existing syncope patient networks) may have posed a threat to internal validity. However, there is a growing consensus in the patient-orient research methods literature regarding the value of patient partnership in all stages of research, including data collection [16, 18]. Further, our team-based approach to analysis helped to mitigate potential interviewer biases in that researchers with no connection to the participants (KKS and TW) co-analyzed the data and co-generated the grounded theory [23]. Participant diagnoses were not recorded, so we could not determine whether participants fell into low or high-risk syncope categories. Participants with high-risk diagnoses may consider factors differently in deciding to call EMS, relative to those with low-risk syncope. Further, participants did not report how many times they had fainted, and/or how many times they had been seen by EMS for this complaint. It is plausible that patients who had fainted once would have a different decision-making process than repeat-fainters.

Clinical implications and conclusion

Our grounded theory posits that patients consider multiple factors in making the decision to contact EMS (or not) after fainting. Previous experiences of judgement, and judgmental personal attitudes and beliefs about syncope, may deter patients from contacting EMS even when assistance is warranted. Protocols that circumvent the ED may be desirable for patients who wish to avoid feeling like a “burden” on the healthcare system. Other barriers to seeking EMS care, including experiences of judgement/dismissal, could be targets for training and education for paramedics, emergency medicine physicians, and ED staff. Designing prehospital syncope protocols that address patients’ needs for care and respect from EMS have the potential to improve uptake of ED alternatives, patient compliance, and satisfaction.

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Availability of data and materials The dataset and materials from the current study is available from the corresponding author upon reasonable request.

Compliance with ethical standards

Conflicts of interest The authors declare that they have no competing interests.

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