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Original article

Medical students and the response to COVID-19: Educational preparedness and psychological impact of their involvement in communicating with patients' relatives



Implication et compétences communicationnelles des étudiants en médecine avec les familles de patients pendant la première vague de la pandémie de COVID-19: implications pédagogiques et impact psychologique

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ABSTRACT

Objectives. – The COVID-19 pandemic has challenged without precedent both healthcare and educational systems worldwide. How medical students could and should be engaged in the response remains unclear. Medical students were asked to help with communicating with patients' relatives in our institution. Authors aimed: to (i) present the rapid implementation and assessment of a teaching/e-teaching lesson in the COVID-19 era; (ii) report an early evaluation of preparedness, mental health and well-being of students involved.

Methods. – The lesson was elaborated at lockdown in France. The clinical guidance consisted of a voluntary lesson entitled: "How to communicate with relatives of hospitalized COVID-19 patients?". Students received an anonymous online questionnaire after two weeks.

Results. – Sixty-six medical students were trained (32% face-to-face). The response rate was 64%. Most students informed relatives about the routine care of the patient (95%). Concerning the lesson, students assured to have had one (95%), considered it relevant (86%), and had used the educational content (81%). 33% were charged with unexpected missions (only 36% felt prepared). Most of them did not report any psychological impact, but some reported anxiety or sleep disorders with no difference between face-to-face/distance training.

Conclusions. – This pandemic may last. Communication ability is a key competence in medical curriculum and is more than ever essential. Distance learning technologies may provide a useful and accepted tool for medical students. We report on a rapid feedback on what can be expected or not from students in terms of mission and short-term psychological consequences.

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R É S U M É

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Objectifs. – La pandémie de COVID-19 a posé des défis sans précédent aux systèmes de santé et d'éducation du monde entier. La manière dont les étudiants en médecine pourraient et devraient participer à la réponse à cette crise reste incertaine. Pendant la première vague épidémique, les étudiants en médecine de notre hôpital ont été invités à aider à communiquer avec les proches des patients hospitalisés en unités COVID, dans le contexte de l'interdiction des visites. Les auteurs souhaitent: (i) présenter la mise en œuvre et l'évaluation rapides d'un enseignement/e-enseignement facilitant les capacités de communication avec les familles, à l'ère du COVID-19; (ii) fournir les résultats d'une évaluation précoce du sentiment de préparation de ces étudiants à ce type de mission, de leur santé mentale et leur bien-être des élèves concernés.

Méthode. – Le cours a été élaboré lors du premier confinement en France, à destination des étudiants volontaires pour la mission d'information aux familles (par téléphone uniquement). L'enseignement était proposé en distanciel ou en présentiel, et s'intitulait: «Comment communiquer avec les proches des patients hospitalisés COVID-19?». Les étudiants ont reçu un questionnaire en ligne anonyme deux semaines après le début de leur mission, évaluant leur sentiment de préparation pour cette mission, leur santé mentale et leur bien-être.

Résultats. – Soixante-six étudiants en médecine ont été formés (32% en présentiel). Le taux de réponse était de 64%. La plupart des étudiants ont informé leurs proches des soins de routine du patient (95%). Concernant l'évaluation de l'enseignement, les élèves ont été rassurés d'avoir bénéficié de ce cours (95%), l'ont jugé pertinent (86%) et ont utilisé son contenu pédagogique (81%). 33% ont été chargés de missions imprévues (seulement 36% se sont sentis préparés), dont des annonces d'aggravation clinique. La plupart d'entre eux n'ont signalé aucun impact psychologique, mais certains ont signalé des troubles anxieux ou du sommeil sans différence entre la formation en présentiel/à distance.

Conclusions. – Cette pandémie peut durer encore plusieurs mois. Les compétences communicationnelles sont à acquérir dans le cursus médical et plus que nécessaires dans ce contexte. Les technologies d'apprentissage à distance peuvent fournir un outil utile et accepté pour les étudiants en médecine. Nous rapportons un retour rapide sur ce que l'on peut attendre ou non des étudiants en termes de mission et de conséquences psychologiques à court terme.

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1. Introduction

The outbreak of COVID-19 in December 2019 in China became a worldwide threat, declared as a pandemic in March 2020 by the World Health Organization. Health care workers are facing one of the greatest challenges of the century. For most hospitals, this is an unprecedented challenge in which various aspects of hygiene concepts are under strain. All structures had to face the lack of protective measures and equipment and expansion of intensive care unit beds. France, along with other countries, took several drastic public measures including lockdown to face the gravity of the COVID-19 crisis. The role of medical students in the response to the COVID-19 crisis remains unclear [1–3]. In this context, some medical schools interrupted internships in order to protect health care workers and started or boosted online education [4–6]. Other medical schools, based on previous experience (SARS outbreak), committed to provide medical students with clinical placements after consensus with stakeholders [4,7]. In France, the clinical placement for medical students during COVID19 pandemic varied across medical programs. Medical students are not expected to share the same exposure risks or responsibilities than other health care professionals [8]. However, altruism is known to be one of the angulate stone of involvement in medical studies. In a Irish survey of medical students [9], 59% of participants were willing to volunteer in case of an infectious crisis. Most participants agreed that healthcare professionals had a moral obligation to volunteer in a pandemic with 81% believing that students should do similarly. Among participants, 98% indicated altruism as a motivating factor for volunteering. However, only a minority of students (24%) felt that their current skill level would be useful in an emergency setting. Unlike other countries (including Ireland), in France the medical curriculum involves a strong clinical involvement within

the healthcare environment, as early as the second year of medical studies (medical school lasts 6 years). In other countries, the preclinical period where students are educated within the university is longer. French medical students may therefore feel more prepared to face a pandemic (whereas it remains to be demonstrated), and a large proportion was involved in the COVID-19 response (about 60% [10]) without knowing exactly the risk of such volunteering (apart from infectious risk). Without appropriate educational preparation to such a pandemic, these students, are vulnerable to moral trauma and negative mental health outcomes [11]. Various studies, with different designs, have underlined that medical students mental health is poorer than that of general population, medical students being largely exposed to academic and clinical stress [12,13]. On the other hand, considering the mental health effects of COVID-19, students' contribution may relieve the burden on professional staff while alleviating any sense of helplessness, improving the mental well-being of students and healthcare staff alike [14].

At the same time, a major problem during this pandemic is the lack of human contact between patients and their relatives, and the lack of information given to relatives. Due to the contagious risk of COVID-19, in some French hospitals relatives were and are forbidden to visit and telephone calls may sometimes not be possible. Many relatives experience this absence of contact as a traumatic deprivation [15,16]. Lack of communication with relatives also may have been compounded by time restraints on clinical staff tasked with providing technical health care, resourcing health care equipment, and treating an unknown and deadly disease [17]. Anticipating a medical staff shortage during the COVID-19 pandemic, the LMR hospital which is linked with the University of Paris North medical school prepared their more experienced medical students to support health care staff in communicating by phone

Table 1
Educational content of the lesson.

	Non-related to COVID-19	Related to COVID-19
The nature of information	Why (ethical and legal aspects) To whom and by who How, when, what	Major information related to vital prognosis was not supposed to be given by students
Management of relatives' feelings	In particular: anger (against hospital, against health workers), anxiety	Fear of being infected
Information related to prognosis	Uncertainty and low ability of prediction in medicine	Unknown deadly disease Risk of infectious contagion Symptoms Prevention of risks
Information related to Sars-CoV2		Hotlines, medical resources Pandemic aspects Hotlines for medical students Hotlines for health workers
Information on psychological challenges and resources for students	Common psychological challenges related to medical care, coping strategies	

with COVID-19 hospitalized patients' relatives (without direct contact with infected patients). In a matter of days, a specific lesson was proposed to all volunteers with the aim of preparing them to the technical, ethical and clinical challenges of communicating with relatives, especially in the context of a severe life-threatening disease. This lesson was provided remotely or face-to-face.

This article aims to:

- present the rapid implementation and assessment of a teaching/e-teaching lesson in the COVID-19 period;
- report an early evaluation of preparedness, mental health and well-being of students involved in the COVID-19 response.

2. Methods

2.1. Participants and setting

Participants were recruited on a voluntary basis in the University of Paris North medical school. Only the more experienced medical students (i.e., 4th to 6th year) were involved in this mission. This was implemented in 5 different university hospitals from the Assistance Publique–Hôpitaux de Paris (AP-HP).

The survey was conducted in accordance with the ethical principles of the current revision of the Declaration of Helsinki. All participants gave a verbal and electronic consent of participation.

2.2. Material

2.2.1. Teaching

The lockdown in France began on March 16th 2020. The lesson was elaborated by a group of psychiatrists, oncologist and intensivists in a matter of days and the first session was proposed on March 20th to all volunteers after a virtual appointment (Six other dates were proposed until April 2nd). The clinical guidance consisted of a voluntary lesson that was held face-to-face or video entitled: "How to communicate with relatives of hospitalized COVID-19 patients?". The information provided during the lesson is presented in Table 1. The mean duration of the lesson was 45 minutes. All participants were encouraged to ask questions, and the teachers were available after the lesson (by phone or e-mail).

2.2.2. Assessment of educational content and well-being by the students

The assessment took place 15 days after the mission of communication with the relatives beginning. We developed an anonymous online questionnaire to assess the global impact of the clinical guidance and the mental health outcomes associated with this mission in all participants. Four domains were evaluated among students:

- Description of the type of missions in which they had been involved;
- Assessment of the educational content of the lesson (reassuring, useful, sufficient, relevant, already benefited from this type of lesson, would have needed a new discussion with the teacher);
- Description of their feelings during their mission (satisfied, anxious, useful, overwhelmed, helpless);
- Assessment of the level of well-being, the level of stress, with a 10-level scale, and the sleep (sleep disturbances, difficulties to fall asleep, number of awakenings).

2.2.3. Statistics

Descriptive statistics for binary and categorical variables included sample sizes and percentages; quantitative variables were expressed as means and standard deviations (SD).

Logistic regressions were conducted to quantify the association between:

- remotely training;
- non-expected missions;
- work intensity and associated factors (felling about the training, the mission and the well-being).

Odds-ratios (ORs) are reported along with their 95% confidence interval (CI) and p-values. The significance threshold was set at .05. All analysis were performed with R, v3.6.1.

3. Results

3.1. Respondents and type of mission performed

Among the 66 medical students trained, 23 were in 4th year (35%), 18 were in 5th year (27%) and 25 in 6th year (38%). The majority of students were voluntary ($n = 55$, 83%), the others were already affected in clinical department where patients with COVID-19 were treated. Among these 66 trained students who were sent the online questionnaire, 42 (64%) responded. Of these 42 students, two-thirds had worked on their mission between 1 and 7 days in the last 15 days before completing the questionnaire. Thirty-one had made more than 5 calls per working day (74%), of which 14 (33%) had between 10 and 20 calls per day and 6 (14%) more than 20 calls per day. Their missions were diverse (Table 2), although most of them informed families about the routine care of their relatives. Some students also informed the families about patient transfer to an intensive care unit, withholding of care, or even prognosis, which was information that students were not supposed to communicate according to the lesson given. None had to communicate about a patient death. In addition, 20 students had informed patients directly of COVID-19 screening test result.

Table 2
Type of information given by the students.

	n (%)
Informing relatives about the routine care	40 (95%)
Informing relatives about a transfer to an intensive care unit	4 (10%)
Informing the relatives about withholding of care	3 (7%)
Informing the relatives on the seriousness of the prognosis	9 (21%)
Informing the relatives on death	0
Informing patients of COVID-19 screening test result	20 (48%)

3.2. Educational content and well-being

Regarding the lesson, the majority of students declared that they were reassured to have had it before the missions, considered that it was relevant, and that they had used the educational content (Table 3). Two-thirds of the students answered that the lesson was sufficient, while 29% would have liked another discussion with the teacher, mainly for a debriefing purpose (n = 10, 24%). Only seven students declared having already benefited from this type of lesson.

Two third of students benefit from online educational content. We identified no difference when comparing those two groups of students (Table 3).

Regarding the psychological impact, most of the students were satisfied by their experience (n = 28; 67%). Some reported being anxious (n = 12; 28%), overwhelmed (n = 2; 5%) or helpless (n = 2; 5%). Only 5 (12%) had the possibility to discuss about their difficulties with the medical team. On a 10-level scale, the mean (standard deviation) level of well-being reported was 7.5 (± 1.5) (median 8, IQ 7-8), and the level of stress was 4.2 (± 2.3) (median 4, IQ 2-6). 81% (n = 34) of participants had a score ≥ 7 for the level of well-being, 12% (n = 5) had a level of stress ≥ 7. Some students reported sleep disturbances (n = 19; 45%) with difficulties falling asleep (n = 11; 26%) and frequent awakenings (n = 12; 28%).

3.3. Comparisons according to missions' characteristics

3.3.1. Expected versus non-expected mission

Fourteen (33%) students had to carry out unexpected missions (informing relatives about a transfer to an intensive care unit, a

withholding of care or prognosis). In this group of students only 36% felt the training was sufficient to prepare them to their mission as compared to 79% for students who performed only expected missions (P = 0,015) (Table 4).

3.3.2. According to work intensity

There was no statistical difference between students making more than 10 versus less than 10 calls per day (data not shown).

4. Discussion

This study was conducted less than a month after the first COVID-19 lockdown in France. We report the rapid implementation of a flexible way of teaching in a medical school (using remote teaching when possible) and provide a rapid feedback on what can be expected or not from medical students during such a crisis, in terms of mission and short-term psychological consequences.

4.1. Training: face-to-face versus remotely

Considering that medical students could be reluctant to return to the clinical education setting during this pandemic for various reasons [8,18], medical school must adapt to facilitate the dissemination of knowledge through online courses, while social distancing is still recommended. In this study, we report no significant difference in the level of preparedness to their mission or early well-being between face-to-face versus remotely training. This provides encouraging results for online delivery teaching. These results are in contradiction with those of a recent Pakistani study [19], where an on-line survey showed that participants of a private medical college preferred face-to-face training to e-learning during COVID-19 pandemic. This study was made in a more traditional system of teaching and learning than ours. To date, this is the only one study about the comparison of e-learning with face to face teaching in the COVID-19 pandemic period. The outcomes concerning before COVID-19 pandemic period are mixed, but tend toward a good opinion and equal examinations achievement with e-learning in other subjects [20–23]. However, as the settings are rarely comparable, further studies are required to evaluate the opinion and

Table 3
Comparison of students who benefited from a face-to-face lesson to those who had a remotely lesson.

	Whole Sample (n = 42)	Face-to-Face (n = 15)	Remotely (n = 27)	Face-to-face vs. remotely	
				OR (95% CI)	P-value
About the lesson					
Reassuring	40 (95%)	15 (100%)	25 (93%)	0.0 (0.0-6.3)	0.53
Useful	34 (81%)	12 (80%)	22 (81%)	1.1 (0.2-5.6)	1
Sufficient	27 (64%)	12 (80%)	15 (56%)	0.32 (0.06-1.41)	0.18
Relevant	36 (86%)	13 (87%)	23 (85%)	0.89 (0.11-5.47)	1
Already benefited from this type of training	7 (17%)	2 (13%)	5 (19%)	1.46 (0.24-11.74)	1
Would have needed a new discussion with the teacher	12 (29%)	4 (27%)	8 (30%)	1.15 (0.27-5.02)	1
Feeling during the mission					
Satisfied	28 (67%)	12 (80%)	16 (59%)	0.37 (0.07- 1.61)	0.31
Anxious	12 (28%)	6 (40%)	6 (22%)	0.44 (0.10-1.99)	0.29
Useful	33 (79%)	13 (87%)	20 (74%)	0.45 (0.06-2.85)	0.45
Overwhelmed	2 (5%)	0 (0%)	2 (7.4%)	–	0.53
Helpless	2 (5%)	0 (0%)	2 (7.4%)	–	0.53
Well-being during the mission					
Difficulties falling asleep	11 (26%)	5 (33%)	6 (22%)	0.58 (0.13-2.39)	0.48
Frequent awakenings	12 (28%)	5 (33%)	7 (26%)	0.71 (0.15-2.84)	0.73
Early waking	8 (19%)	4 (27%)	4 (15%)	0.49 (0.10-2.41)	0.43
Mood (on a 10-level scale, mean)					
Mean, SD	7.52 (1.52)	7.80 (1.47)	7.37 (1.55)		0.3861
Median (1st quartile; 3d quartile)	8.00 (7.00-8.00)	8.00 (7.00-8.50)	8.00 (7.00-8.00)		
Anxiety (on a 10-level scale)					
Mean, SD	4.21 (2.33)	4.60 (2.69)	4.00 (2.13)		0.4312
Median (1st quartile; 3d quartile)	4.00 (2.00-6.00)	4.0 (2.50-6.00)	4.0 (2.00-6.00)		

Abbreviations: CI= confidence interval, OR= odds-ratio, SD= standard deviation.

Table 4
Comparison of students who had to performed unexpected missions to those who had not to.

	Non-expected missions (n = 14)	Expected missions (n = 28)	Non-expected vs. expected	
			OR (95% CI)	P-value
About the lesson				
Reassuring	14 (100%)	26 (93%)	0 (0-7)	0.54
Useful	12 (86%)	22 (79%)	0.618 (0.079-3.449)	0.7
Sufficient	5 (36%)	22 (79%)	6.3 (1.5-30.6)	0.015
Relevant	11 (79%)	25 (89%)	2.22 (0.35-14.20)	0.38
Already benefited from this type of lesson	0 (0%)	7 (25%)	–	0.075
Would have needed a new discussion with the teacher	5 (36%)	7 (25%)	0.61 (0.13-2.47)	0.49
Feeling during the mission				
Satisfied	8 (57%)	20 (71%)	1.8 (0.4-8.0)	0.49
Anxious	5 (36%)	7 (25%)	0.61 (0.13-2.47)	0.49
Useful	10 (71%)	23 (82%)	1.81 (0.38-8.68)	0.45
Overwhelmed	2 (14%)	0 (100%)	1.00 (0.59-1.00)	0.11
Helpless	2 (14%)	0 (100%)	1.00 (0.59-1.00)	0.11
Well-being during the mission				
Difficulties falling asleep	2 (14%)	9 (32%)	2.8 (0.5-20.7)	0.28
Frequent awakenings	5 (36%)	7 (25%)	0.61 (0.13-2.47)	0.49
Early waking	1 (7.1%)	7 (25%)	4.21 (0.53-103.38)	0.23
Mood (on a 10-level scale, mean)				
Mean, SD	7.53 (1.37)	7.50 (1.82)		0.94
Median (1st quartile; 3d quartile)	8.00 (7.00-8.00)	8.00 (7.00-9.00)		
Anxiety (on a 10-level scale)				
Mean, SD	4.57 (2.39)	3.50 (2.10)		0.16
Median (1st quartile; 3d quartile)	4.50 (2.00-6.00)	4.00 (1.00-5.00)		

Abbreviations: CI= confidence interval, OR= odds-ratio, SD= standard deviation.

efficiency of such trainings, particularly concerning training in communication for which high-fidelity simulation programs may have particular importance. As long as COVID-19 pandemic is not overcome, medical instructors should prefer on-line training, serious games, simulation (with respect to practical aspects of learning in the clinical environment) whenever possible, to support non-clinical training[24]. The perceptions of faculty members will also have to evolve, as some barriers may slow down the adoption and sustainability of e-courses [25]. Medical students may also be reluctant to transfer clinical training to novel approaches[26], which is understandable when physical examination is required in the authentic context that clinical placement provides [27] and in line with an experience-based learning (the reader may refer to the Dornan's model in [28]: through participation, students achieve practical competence and a positive mind state).

4.2. Preparedness

While debate is routine regarding the activities in which trainees should be allowed to participate in the management of this pandemic [29], this study provides an overview of what can be asked to medical students without exposing them to the risks of a contagious deadly disease, and with a good acceptance. The delivery of medical/routine care information is part of everyday clinical practice. Surprisingly, whereas the majority of students acknowledge the lesson was useful and reassuring, only 17% of respondents had already benefited of this type of lesson. Information to relatives requires specific training, and when the nature of the information becomes "sensitive" (e.g. around prognosis or death), untrained students can be involved, but always accompanied by a senior, and not in first line. About one third of the students would have needed a new discussion with the teacher, mainly for debriefing purpose (no difference between face-to-face versus remotely). About two-thirds of respondents were asked unexpected missions, which was predictable in the context of a rapidly evolving medical crisis. It is possible that these students overcame the difficulties of providing comprehensive care for relatives during the first wave (with a "transfer" of tasks due to the overload of work for senior doctors and interns). Consequently, these students felt more unprepared, than

those with expected missions. None of these students had already benefited of this kind of training, which raises concern for the level of preparedness to emergency situations and to communication with relatives missions, and is in line with the results from another study [9] (a minority of students felt that their current skill level would be useful in an emergency setting). Communication skills, and particularly those concerning serious illness, prognosis and death, therefore appear as important skills to teach and train early in the medical education. Several studies tried to evaluate the effectiveness of digital education for communication skills development in comparison to traditional lectures (didactic lectures and oral feedback) or between digital education more or less interactive but due to the low quality of evidence related to the high risk of bias, no conclusions can be drawn [30]. Thus, a recent European survey suggested that majority of medical students ($n = 383$; 85%) perceived a lack of digital education tools in medical education and would have like benefiting from e-courses tailored to their future job requirements (such as communication skills)[31].

4.3. Psychological impact

Mental health among healthcare workers during this pandemic is an important issue [32]. Most of the participants here were satisfied with their experience (67%), but one third reported being anxious during their mission. Some reported being overwhelmed or helpless (5%). Only a few had the possibility to discuss about their difficulties with the medical team (12%). After 15 days of work, the average level of well-being and of stress reported were acceptable. However, one quarter reported sleep disturbances with difficulties falling asleep and frequent awakenings. The early psychological consequences were not different according the type of training or the intensity of work. Our study suggests encouraging factors of resilience in medical students. The preliminary results of a large French on-line survey in 10000 healthcare students (including nurses, preclinical students. . .) show that the majority (2/3) were engaged in the COVID-19 response, and that more than half presented significant scores of psychological distress, especially when they were not engaged in frontline for the COVID-19 response [10]. Some participants of this survey indicated an increase in the use

of medication (7% of participants), and toxics (alcohol, cannabis, etc., 13%), especially when they were in frontline in the COVID-19 response. Another recent study conducted only in French medical students demonstrated that they were impacted by COVID-19 pandemic when considering anxiety levels, but that those involved in clinical setting during first wave were less anxious [33]. Among students clinically engaged, they identified no statistical difference between medical students in “first line” and the others. Overall, these results highlight the need to provide extra support to all students, whereas involved or not in the management of the pandemic, now and after the crisis is finished. An Iranian study suggest the benefit of the use of a social media platform allowing junior medical students to benefit from peer monitoring from senior medical students under the supervision of faculty [34].

4.4. Limitations

While providing relevant information for medical schools and hospitals, this study presents several limits. First, due to the rapidly evolving situation at the beginning of lockdown, the lesson, the teaching missions design and the questionnaire were elaborated in the context of “real world” emergency. We were also limited in the number of participants for the missions and the online questionnaire. However, it relied on volunteer engagement and the response rate is acceptable.

Second, this study confirms the feasibility and relevance of distance training when the situation requires it, without jeopardizing the educational messages transmitted by teachers. This important point is limited, in this work, to a short but urgent training, and this conclusion may not be extended to longer trainings.

Finally, we can only present cross-sectional data and longitudinal studies are required for elucidating the long-terms effect of this crisis on teaching transitions and involved students' mental health. Psychological consequences may appear months after the involvement of students in this mission.

Qualitative research could also better explore the impact of the pandemic on medical students' feeling of preparedness and well-being, particularly when volunteering.

5. Conclusion

As imminent doctors, senior medical students may want to contribute to the COVID-19 response. Our study provides an example of important missions they can take part in, without being exposed to the contagious risk but with psychological risks that should not be underestimated. There is a need to integrate information and communication teaching in the curriculum of all health students, in order to improve their practice, particularly in the event of crisis medicine. This is necessary across many types of support services, including emergency medicine, palliative care, psychiatry, psychology, nursing, and general practice. It will be helpful for patients, families and carers. However, the COVID-19 pandemic challenges medical instructors in terms of student teaching and preparedness. We show that the remote pedagogic transition seems acceptable and efficient for the information process. Psychological well-being of students exposed to COVID-19 crises remains to be evaluated in long term studies.

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Authors' contributions

Sarah Tebeka: Methodology, Formal analysis, Investigation, Visualization, Project Administration, Review & Editing. Olivier Huillard: Methodology, Investigation, Formal analysis, Writing–Review & Editing. Baptiste Pignon: Methodology, Investigation, Formal analysis, Writing–Review & Editing. Yen-Lan Nguyen: Methodology, Investigation, Formal analysis, Writing–Review & Editing. Caroline Dubertret: Methodology, Investigation, Formal analysis, Writing–Review & Editing. Jasmina Mallet: Conceptualisation, Methodology, Investigation, Formal analysis, Project Administration, Writing–Original Draft, Review & Editing, Supervision.

Disclosure of interest

The authors declare that they have no competing interest.

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