

Case details

Presenter of case: Janine McCarthy

COPE member involved: *Nutrients*, MDPI

Date at which case was received: 14 December 2022

Article involved:

Different publications in the journal

Category of concern: Breach in editorial policies related to research involving animals

Scope of review by subcommittee

Taking into consideration the scope of the Facilitation and Integrity subcommittee, the review focuses on the following items:

- Procedural aspects of the journal's follow up on the concerns the presenter raised to their attention.

The following items fall beyond the scope of the subcommittee's review:

- Evaluation of the content of the articles, or whether or not specific studies complied with expected ethical guidelines.

Summary of issue, as outlined by presenter

Nutrients – an MDPI journal – repeatedly publishes articles that violate its ethical guidelines and its refusal to act on reports of these violations has caused us to lose confidence in the journal's integrity. Over the past year, we have asked that Nutrients cease publication of animal studies that violate the journal's ethics policies.

Of particular concern are articles, appearing in virtually every Nutrients issue, in which commercial supplement manufacturers, students, junior faculty members, or others have side-stepped ethical research methods and, instead, have purchased and experimented on small animals, particularly those exempt from welfare requirements, then submitted results to Nutrients. By publishing these articles, Nutrients signals to young researchers that ethical mandates can be safely dodged and that it welcomes such submissions in the future.

Nutrients' guidelines for authors explicitly require the "replacement of animals by alternatives wherever possible." However, the editors have nonetheless published studies where experimenters used animals where alternatives were readily available.

As one example, Nutrients recently published a submission from the manufacturer of saffron-based nutrition supplements. The supplements were purported to improve mood. Rather than administering saffron to volunteers and tracking depressive symptoms with validated instruments as other researchers

have done, the manufacturer force-fed its supplement to mice via gavage, dropped them in water tanks to conduct the forced swim test, and then timed the duration of the animals' panicked struggles as a crude index of mood.

Another recent Nutrients article reported an experiment in which western- and Mediterranean-like diets were fed to cynomolgus macaques to produce information about the diets' effects on human behavior, even though such diets are commonly used in human research studies and both physical and psychological endpoints can be readily assessed without the use of animals.

In another publication, experimenters used pigs to evaluate the effect of a two-week intervention diet of fruit and vegetable consumption on the pig's microbiome. The research was specifically intended to be relevant to human nutrition. It is well established that diet changes, including the consumption of vegetables and fruits, influence the gut microbiome and this study could have been easily carried out with human participants.

Apart from the obvious ethical issues raised by these publications, this process also distorts the body of scientific knowledge. Unlike human investigations, which must be registered with relevant bodies in advance, animal experiments are typically not registered, so results that do not fit a preconceived hypothesis can be readily discarded with no one knowing the experiment had even been attempted. The result is publication bias, favoring commercial products and pet hypotheses.

The net effects of these issues are (1) readers are misled regarding the ethical approvals received, (2) readers have no confidence in the quality of research published, (3) the journal effectively communicates to potential authors that ethical standards are meaningless and that ethical violations pose no barrier to publication, (4) scientific investigation is degraded by the publication of studies that do not meet appropriate standards, and (5) animals are harmed and killed in the process, without justification.

What aspects of the Core Practices do you believe that the member is contravening, and why

I believe Nutrients is in violation of the Ethical Oversight and Journal Management Core Practices.

Ethical Oversight - Nutrients' guidelines for authors explicitly require the "replacement of animals by alternatives wherever possible." However, the editors have nonetheless published studies where experimenters used animals where alternatives were readily available. We have contacted Nutrients about dozens of problematic studies. The journal's response is always the same, they simply state that they checked the publication and the manuscript states animal use was approved by an ethics committee. Approval by an institutional animal care and use committee is not sufficient for concluding that a study has complied with a journal's ethical guidelines, nor do Nutrients' guidelines suggest that it would be. Such committees are often perfunctory and may not adequately review animal use protocols. Rather, the journal's review process and editorial decisionmaking must take the journal's guidelines and basic ethical research guidelines into account and apply them consistently.

Journal Management - In 2018, ten senior editors at Nutrients resigned due to what was reported to be growing pressures from the publisher MDPI to accept "manuscripts of mediocre quality and importance." In an interview, one of the former editors stated "Since it now costs so much for articles to

be published, we were encouraged to publish more to make to make MDPI's profits greater." Nutrients charges an APC of about \$2645 which equates to about \$13 million per year. There is a clear financial incentive for the journal and publisher to publish as many articles as possible, which risks the integrity of publications.

Member's response

Thank you for your email. I can confirm that the editorial office of *Nutrients* has investigated a number of papers related to this complaint. Please find my response to your questions below.

- *Clarification on whether Nutrients looked into the concerns about the different articles raised, and if that is the case, a summary of the process that the journal followed to look into the concerns.*

Yes, initially 10 published papers were flagged to the editorial office. The process of investigation included, verifying that the articles complied with the journal's Ethical Guidelines for the Use of Animals in Research (<https://www.mdpi.com/journal/nutrients/instructions#ethics>, https://www.mdpi.com/ethics#_bookmark10). In this case, all authors provided the necessary information during manuscript processes and the peer-review process was completed following MDPI's editorial processing procedure (https://www.mdpi.com/editorial_process). We then contacted the authors to inform them of the complaint, requested ethical committee/ IRB approval documentation and a justification of the use of animals in the study. This information was then reviewed by qualified editorial board members of the journal. For each of these 10 papers, our editorial board judged the information provided to be satisfactory, and the complainant was then notified of this result. Since then, a number of additional papers (11 in total) have been flagged to the editorial office, who have verified that research policy involving the use of animals was compliant in consultation with an editorial board member.

From our side we are satisfied that our policy regarding the use of animals has been observed in these cases and currently have no further action planned.

- *Information on whether and how the journal looked into the concerns about the validity of the study design and conclusions reported in the articles.*

As far as we are aware, the complaint focused on whether the research reported in these studies adheres to *Nutrients* policy standards on the use of animal's research, rather than the validity of the findings. In this case, each of studies have been evaluated to be compliant with this policy. Further information on Nutrients policy can be found here (<https://www.mdpi.com/journal/nutrients/instructions#ethics>) and here (https://www.mdpi.com/ethics#_bookmark10).

Generally however, *Nutrients* strictly adheres to MDPI editorial process (https://www.mdpi.com/editorial_process). All published papers go through a rigorous peer-review process and academic editor's decision. Both reviewers and academic editors will check the validity of the study design and conclusions in the articles. The journal will reject manuscripts with poor study design and inappropriate conclusions.

- *Information on the policies and processes in place at Nutrients to handle ethical concerns in relation to research involving animals.*

Information on MDPI's complaints policy and process can be found here: https://www.mdpi.com/ethics#_bookmark29

While we appreciate efforts made by Dr. McCarthy to raise these concerns, it is our position that we are reliant on the decisions made by appropriate institutional ethics committees and institutional review boards in this matter, and we consider at this stage the investigation concluded. We would also like to comment on the fact that Dr. McCarthy rightly noted that the guidelines for journal authors explicitly call for 'replacement of animals with alternatives whenever possible.' As Publishers it is not our place to judge the relevance and appropriateness of the scientific methodology applied. It remains the responsibility of the reviewers and academic editors involved in the peer review process to raise these scientific concerns with the authors and ensure that they adhere to the scientific recommendations provided.

However, we would like to mention that, as a result of this complaint, *Nutrients* has strengthened its processing procedures by implementing extra checks, facilitating increased editorial board participation, separated decision steps, and editorial board training to proactively identify these issues. Manuscripts under consideration for *Nutrients*, are evaluated based on their aims and scope, novel insights into the impacts of nutrition on human health, or novel methods for assessing nutritional status. This may include manuscripts describing the outcomes of animal studies that have relevance to human health.

Please let me know if you have further advice or guidance on this issue or further questions.

Response from the journal to COPE's request for further clarifications

Thank you for your email and for following up on this issue. Please find MDPI's response to your questions.

- *You indicated that the articles and the information supplied by the authors was reviewed by editorial board members of the journal. Can you please clarify whether external reviewers with expertise in research involving animals were involved in evaluation, and how many editorial board members were involved in this post-publication review?*

A total of 5 editorial board members experienced in the field were involved in the post-publication review of these concerns. As these editorial board members were satisfied, no external reviewers were involved. As mentioned earlier however, the external reviewers who conducted the initial peer review, prior to the post-publication review, had a background consistent with the topic of the manuscript and adhered to our standard peer-review process by guiding the academic editor in charge of editorial decisions with their comments.

- *You indicated that as a result of this case, the journal has ‘strengthened its processing procedures by implementing extra checks, facilitating increased editorial board participation, separated decision steps, and editorial board training to proactively identify these issues’. Please provide more information as to what changes were implemented: what additional checks are being carried out for manuscripts reporting animal research? What does the separation of decision steps involve? What training was provided to editorial board members?*

In terms of the changes that have been implemented during processing, these include:

- Strengthened pre-screening check made by the editorial office, through a system integrated into our submission processing platform, to individually identify manuscripts involving animal research, and ensure relevant ethical approval and methodological information is provided as per our policy before further processing can take place.
- Introduction of a mandatory academic editor pre-check decision before acceptance to peer-review for manuscripts involving animal research.
- Introduction of a requirement for an academic editor with expertise in animal research to be invited to supervise peer-review on these manuscripts and make the final acceptance decision.

Training for the Journal editorial board members is an ongoing process. So far it has included conversations between trained in-house editorial staff and the editorial board about this issue, as well as constant reminders and sharing of information about the journals animal research policies and their responsibilities, as members of the editorial board in this regard. The journal has also placed increased emphasis on this within the information packet that all editorial board members receive. And finally, editorial staff have initiated discussion with senior editorial board members about the necessity for recruiting more members with specific expertise in this area to strengthen the current coverage for this subject.

Please let me know if you have further advice or guidance on this issue or further questions.

COPE's review

The Facilitation & Integrity subcommittee reviewed the information submitted by the presenter. Upon review of the information provided by the presenter the case was deemed to fall within the scope of the Facilitation & Integrity process.

COPE approached the journal for comments on Dr McCarthy's concerns. The journal indicated that they followed up on the concerns about the articles raised via a process that involved contacts with the authors to request ethics committee approval documentation as well as a justification for the use of animals in the study. The journal then sought input on the article and the information received from members of the editorial board. Following that evaluation, the journal determined that the articles were compliant with the journal's ethical guidelines and that no further action was needed. *Nutrients* also indicated that, as a result of this complaint, the journal had strengthened its procedures for the handling of submissions involving animals.

The Facilitation & Integrity subcommittee requested further clarification from the journal regarding the post-publication review of the articles, to establish whether external reviewers were sought and how many editorial board members were involved. The subcommittee also asked the journal for further details about the changes to the editorial process implemented following the review of this case.

The journal responded to indicate that the post-publication review of the articles involved five editorial board members with relevant expertise and no external reviewers were sought. The journal also noted they had incorporated changes to their editorial processes by strengthening pre-screening checks for submissions involving animals, introduced a mandatory academic editor precheck decision before acceptance to peer-review for manuscripts involving animal research, as well as a requirement for an academic editor with expertise in animal research to supervise the peer review and acceptance decisions for these submissions. In addition, the journal is pursuing training for its editorial board members.

The Facilitation & Integrity subcommittee member reviewed the information provided by the journal and established that it provided adequate procedural information on the journal's follow up.

Conclusions

Upon consideration of the concerns and the member's response, the Facilitation & Integrity subcommittee considers that the journal followed an adequate process to follow up on the concerns raised to their attention. The journal considered the concerns raised about the articles via a process that involved contacts with the authors to request further information about the ethical requirements for the study as well as a justification for the use of animals. The journal also sought input on the concerns and the information received from the authors from a group of editorial board members. We appreciate that this may not satisfy the presenter's concerns regarding the specific articles, their design and research justification, but it is beyond the remit of the Facilitation and Integrity subcommittee to comment on the scholarly content of publications.

The journal has indicated that it has made updates to its editorial processes for submissions involving animals by implementing additional checks at submission as well as additional oversight during the peer

review process. The journal indicated it is pursuing further training of its editors on this matter and we encourage the journal to continue the steps related to training and education of its editors.

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