

Legal and Ethical

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The Dangers of Flawed Methodology in Research

Our Patient's Lives Depend on Us to be the Knowledge Brokers

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The year 2020 has been like no other. Because of COVID-19 infections, nurses have been pushed to their limit and beyond. The suffering of humankind and associated toll on nurses will likely be everlasting. The long-term consequences of COVID-19 are yet to surface.¹ A recent survey of frontline nurses revealed psychological distress of varying degrees and a need for support now and ongoing after COVID 19.¹ A vast array of information has been published on COVID-19, making identification of potential therapies difficult to sort through. Determining fact from opinion can be challenging. In 2020, the scientific literature experienced multiple COVID-19 article retractions from reputable journals reaching millions of healthcare workers, including *Lancet*, the *New England Journal of Medicine*, and *Annals of Internal Medicine*.² Both *Lancet* and the *New England Journal of Medicine* retracted articles as authors were unable to arrange an independent data audit because of blocked access.²⁻⁴ The *Annals of Internal Medicine* retracted an article because of unreliable findings.^{2,5}

The purpose of retraction of published articles due to flaws in research methods and analysis is a mechanism used to correct the scientific literature. These journals are respected and trusted by the medical and nursing profession, and good journals will retract bad articles when they are discovered.

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Alex Mignone is the social media editor of JBI Evidence Implementation journal. Elizabeth Ann Scruth reports no conflicts of interest.

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DOI: 10.1097/NUR.0000000000000588

At this current time, 1200 research studies are being conducted on COVID-19, and there have been 19 published manuscripts and 14 reprints that have been retracted.² In addition, more than 50 000 articles have been published and more than 803 policy documents developed.⁶

A MATTER OF ETHICS

The manuscripts that were retracted had common concerns that warrant remembering and paying close attention to so that the future learns from the past. Data falsification, methodological concerns, and research participation privacy concerns were the issues that surfaced from the retracted publications.² The common theme from all the retracted publications to date has been methodological issues.² There is also the issue of preprint servers—even though the authors state clearly that the manuscripts should be viewed in totality and not to be used for clinical decision making. It is essential for all researchers to adhere to the same principles during pandemics as they do normally. Consulting ethics committees and doing quality checks and rechecks of all data and analysis are standard work of all researchers. Ethical researchers have always undertaken ethics and integrity training and adhere to the principles.

ROBUST REVIEW AND EXPERT REVIEWERS

A robust review of COVID-19 data is essential to disseminating scientific information that will save lives.⁶ There is a greater need now to involve dedicated professionals who are experts in their field of research and skilled in synthesizing evidence and distinguishing scientific information from misinformation, and then disseminating through proven platforms and social media to reach millions of readers quickly. During times of pandemics, finding and securing expert reviewers are problematic, and manuscripts may take many weeks to go through the review process,

which may affect the usefulness of the results once published, as new research continues to emerge. Journals have many issues to deal with as the number of submissions for COVID-19 is substantial.

TRUSTING PROVEN AND RELIABLE DATA SOURCES Systematic Review and Meta-analysis; Implementing Evidence-Based Practice

As the COVID-19 pandemic impacts countries globally, local and national care interventions are being developed to support health systems. These interventions are based on the best available evidence. Relying on flawed logic without sound evidence, as demonstrated by the promotion of chloroquine phosphate, is confusing and even harmful.⁷ This treatment that was initially thought to inhibit severe acute respiratory syndrome coronavirus 2 in vitro was later found to cause death with sustained use.⁸

The sheer volume of published research can be a barrier to identifying the most reliable sources of information.⁹ This problem is made worse when those seeking to benefit from the findings do not possess the skills to decipher valid from questionable evidence.¹⁰ Guidance for the improvement of healthcare services should involve evidence that considers the feasibility, appropriateness, meaningfulness, and effectiveness of healthcare practices at both the system and organization level. These criteria are consistent with the JBI model of evidence synthesis and translation (Figure).^{11,12}

Knowledge Brokers: Translating Reliable Recommendations

The Canadian Institute of Health Research defines knowledge translation as the synthesis, dissemination, exchange, and ethically sound application of knowledge to improve health and the health system.¹³ Depending on its purpose, knowledge translation is a social and interactive process between those producing the research and those who need it.^{14,15} One of the many journals for disseminating and implementing evidence-based practice is *JBI Evidence Implementation*. *JBI Evidence Implementation* is an international online journal publishing reliable findings developed from the JBI model that informs and furthers the science and practice of evidence-based healthcare. The journal publishes in association with a network of knowledge brokers who help classify and highlight the best evidence by acting as intermediaries who can facilitate collaborations and the transfer of reliable information between researchers and end-users. These enablers of knowledge exchange willingly promote and offer insight on the published research for the benefit of users and can influence and assist health systems by evaluating the quality of the evidence from an informed practice perspective.¹⁰ For those who are clinical based and less experienced interpreting scientific data, brokers translate the best outcomes in language that can be easily understood and implemented. Brokers with a strong practice understanding can identify the potential for policy discussions where



FIGURE. JBI model of evidence synthesis and translation.

the research could help inform workplace practice. Individuals with diverse experience in research, clinical practice, and decision or policymaking are well suited to knowledge brokering.¹⁰ Brokers offer commentary in writing, video, or podcast that is made available via the journal platform. This type of dissemination is done by many journals to encourage all types of readers to gain knowledge. Although this community of knowledge exchange is relatively informal, it is effective at bringing together world-leading experts from different fields to discuss, consider, and identify the best available evidence regarding common healthcare issues.

The Clinical Nurse Specialist—The Critical Link

The clinical nurse specialist is a critical link in this whole process. More than ever, the clinical nurse specialist serves as the expert in ensuring evidence-based practice is used when present and generating new evidence. Connecting researchers with research users and partnering both in the research process are strong predictors that the most reliable research findings will be used and that the research endeavor overall will achieve a greater impact.¹⁰ Using journals such as *JBI* and the *Clinical Nurse Specialist Journal* to connect nurses to the research and the “how to” implement the research findings will accelerate evidence-based practice. Using all types of media such as podcasts is another avenue for nurses to further their knowledge of the information in the journals presenting snapshots of the work published.

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