



Optimizing Quality Nursing Research: A Call for Action

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Abstract: One of the key success indicators of peer-reviewed nursing journals is to publish high-quality research manuscripts. In reality, only small numbers of published research are of high quality resulting in limited utility either for guiding evidence-based practice or for subsequent research projects. Quality nursing research does not occur by chance but it requires competencies and genuine efforts of all people involved in the research process. In this article, an emphasis is on three essential groups of people including research educators, nurse researchers, and peer reviewers. Each group contributes to the quality of research at different stages of research endeavors. Recommendations and a call for action to these identified groups are highlighted.

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Evidence-based practice has been well acknowledged in nursing communities worldwide. This can be confidently implemented when there are adequate (quantity) and excellent (quality) numbers of studies that can be used to inform decision-making. For quantity, a recent longitudinal bibliometric study that included published studies from the Web of Science revealed that the number of nursing research papers has increased more than five times between the study period of 2000 and 2019.¹ This may be a result of promoting nursing credentialing and status based on research production in some countries² including Thailand. Whether or not these published studies have merit is an issue of most concern to editors, reviewers, and institutional and individual evidence-based practitioners.

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To examine the quality of published research papers by Thai researchers over the past three years (July 2018 to June 2021), 839 papers were reviewed.³ These papers were published in Tier 1 of the well-established Thai journal citation index, namely, the Thai-Journal Citation Index (TCI) Centre⁴ as well as the papers from the internationally accepted indexes: Scopus, PubMed, and CINAHL. We found that only one-fourth of the studies were of high quality. This finding is in line with other reports of international nursing literature,^{5,6} even in medical

literature,⁷ and especially the quality of statistical analyses.⁸

To date, numerous systematic reviews with and without meta-analysis or meta-synthesis have been published. It has been observed that a huge number of papers were identified and screened but finally, only a small number of them were used. One of the key reasons the studies were excluded was low methodological quality. The value of systematic review studies depends largely not only on the quantity but also on the quality of the included studies. Therefore, from the Editorial Board's viewpoint, researchers who would like to publish their work in the *Pacific Rim International Journal of Nursing Research (PRIJNR)* should try their best to generate high-quality evidence, starting from the development of their proposals to the publication of research findings. This editorial article aims to make a call for action to those involved in the process of research generation and dissemination through publication. Our proposed means for action are based on what we have been through in reviewing in-coming papers to the *PRIJNR* and the findings of the recent scoping review.³

The common drawbacks we have encountered are as follows: unclear justification of the need for the study, inconsistency between the underpinning theory/ies and the research framework (especially in causal model studies), weak and inappropriate selection of research designs, low statistical power, and failure to control the risk of biases in quantitative studies (i.e., sampling bias, selection bias, attrition bias, performance bias, detection or measurement bias, analysis bias, and interpretation and reporting bias) or failure to demonstrate methodological rigor in qualitative studies (i.e., credibility, dependability, transferability, and confirmability), non-compliance to the instructions for authors and ethical standards for publication, submitting outdated studies (more than 4 years). The replication of studies without good justification and the failure of researchers to address the health priorities of a country or region are also issues. Accordingly, we recommend here that research educators (individuals responsible

for teaching/training/supervising students or trainees), researchers, and peer reviewers undertake steps to strengthen and improve the quality of research studies submitted to our journal and/or other journals.

Research Educators: The Essential Builder

Nurse educators teaching research courses of all levels, especially at the graduate levels, play a significant role in preparing and building qualified researchers. Traditionally, teaching research courses is by giving lectures and discussions, and assigning students to develop and carry out research proposals. This may be due to the educators' perception that the foundation of research methodology and its contents must be given thoroughly through lectures. These traditional teaching methods may not adequately inspire, motivate, and enhance cognitive ability related to the essential course contents. Innovative and active teaching-learning strategies to strengthen students' capacity in research methods are needed. We recommend educators teaching research courses review and apply Dawson's book, entitled: *100 activities for teaching research methods*.⁹ In this book various activities aimed at engaging and strengthening students' knowledge, attitudes, and skills are presented and can be used or modified to teach students at three levels: beginner (undergraduate students), intermediate (experienced undergraduate students or trainees who already have some background research knowledge and skills), and advanced levels (postgraduates—master's and doctoral levels). The activities cover the following topics: searching and using sources of information, planning a research project, conducting research, using and analyzing data, disseminating results, acting ethically, and developing deeper research skills. In addition to utilizing these active teaching-learning strategies, nurse educators must demonstrate, guide, and coach how to become good researchers to produce quality nursing research throughout the student's course of study. This includes encouraging students early in the planning process to identify health and nursing priorities to ensure that there is a focus on generating a body of knowledge that

contributes to the achievement of the World Health Organization's Sustainable Development Goals or the needs of the country or region they are researching in.

Researchers: The Essential Evidence Generator

Nurse researchers need to work to discover new knowledge that can be used to guide evidence-based practice. Thus, they have full accountability to offer valid and trustworthy evidence. In so doing, the following means at each phase of the research process are recommended.

First: Proposal or protocol development. During the proposal development, inexperienced researchers should build a strong research team representing mixed competent members relevant to the proposed research problem as well as having time commitments to the project.² It is also wise to use consultants (e.g., statisticians) to fill the gaps and weaknesses of the research team. Moreover, adhering to the standard guidelines for writing a research project or a clinical trial protocol is advised. For instance, if the researchers aim to conduct an experimental study, the Standard Protocol Items: Recommendations for Interventional Trials (SPIRIT) 2013 statement¹⁰ should be used; or if a systematic review study is planned, the Preferred Reporting Items for Systematic Review and Meta-Analysis protocols (PRISMA-P)-2015 statement¹¹ is suggested.

Second: Proposal implementation. Researchers should carry out their research projects as planned after obtaining ethics clearance. Unexpected events or protocol deviations or any decision makings that may lower the quality of the study should be documented for justifiable reasons. This information is necessary when it comes to writing for publication. For the data management and analysis process, a statistical consultant may be necessary.

Third: Reporting and writing for publication. "No study is complete until the findings have been shared with others"^{2,p727}, so that knowledge can be utilized to guide practice or guide other researchers to further build upon new research projects including, but not limited

to, systematic review, meta-analysis, and other types of review projects, rather than repeating existing knowledge. The steps of the writing process and common reasons why manuscripts are rejected can be found in our previous editorial articles.^{12,13} We recommend authors strictly follow the instructions for authors of the PRIJNR or other selected journals and make use of the reporting guidelines, specific to research designs, provided by the EQUATOR network available at <http://www.equator-network.org> as well as rigorously conform with publication ethics. All of these are available at our journal website: <https://he02.tci-thaijo.org/index.php/PRIJNR/>. For example, the CONSORT 2010 statement for reporting parallel group randomized controlled trials¹⁴ and its extension guidelines for reporting other types of randomized trials should be followed (www.consort-statement.org).

Peer-Reviewers: The Essential Gateway

A peer review process is one of the significant mechanisms to ensure the worth, quality, methodological rigor, and research and publication ethics. Peer reviewers are an essential gateway for the quality assurance of a research project and its findings. From the start of the project, research funders usually apply this process to support funding decisions to ensure that researchers advocate excellent standards when designing and implementing their research projects.¹⁵ At the end of the research journey, scholarly journals have utilized this process as the key indicator of journal quality. We recommend that all authors get their manuscripts peer reviewed by an expert in their field, outside of the research team before submission since feedback is important at this stage. After submission to a journal, at least two reviewers are practically accepted but identifying and selecting qualified reviewers is a tedious task for funders, editors, and editorial teams. It has been observed that in many instances, interrater reliability between reviewers is of concern due to several reasons, especially when novice, untrained reviewers are assigned, along with other criticisms of the traditional peer review process.^{15,16} Efforts have been made to identify effective

interventions to help improve a peer review process including training of reviewers. In the realist synthesis study, Recio-Saucedo *et al.*¹⁵ summarized that training reviewers has the potential improvement on quality and reliability of peer review outcomes for both novice and experienced reviewers, but single-shot training may not adequately sustain their skills. With this, we recommend that scholarly journals offer training programs for peer reviewers and provide booster training as deemed necessary; whereas reviewers should also self-learn to update knowledge in their nursing field of specialty and keep their methodological expertise.

In summary, quality nursing research can be optimized by these three groups of people. As research builders, nurse educators not only teach the content but act as role models to their students on how to produce quality research work. As evidence generators, it is the full responsibility of nurse researchers to improve their research competencies and comply with standard guidelines for conducting and reporting their research. As a research gateway, reviewers' work is essentially beneficial to the editors in making the decision. It is also useful for reviewers themselves as it helps gain knowledge and expertise in their field of specialty. Improving skills in reviewing pre-published manuscripts make their contribution to the profession worth acknowledging. Taking the above recommendations into action would contribute to a higher number of quality nursing research.

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การยกระดับคุณภาพการวิจัยทางการแพทย์: ข้อเสนอแนะการปฏิบัติ

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บทคัดย่อ: หนึ่งในข้อบ่งชี้ความสำเร็จของวารสารทางการแพทย์ที่มีการตรวจสอบโดยผู้ทรงคุณวุฒิ คือ การเผยแพร่บทความวิจัยที่มีคุณภาพ ในสภาพการณ์ที่เป็นจริง บทความวิจัยที่ได้รับการตีพิมพ์เผยแพร่ ที่มีคุณภาพสูงมีจำนวนไม่มาก ส่งผลให้การนำผลการวิจัยไปใช้เพื่อให้ข้อเสนอแนะการปฏิบัติ หรือนำไปต่อยอดงานวิจัยในอนาคตมีข้อจำกัด คุณภาพของงานวิจัยทางการแพทย์ไม่ได้เกิดขึ้นด้วยความบังเอิญ แต่ต้องอาศัยสมรรถนะและความเพียรพยายามของผู้ที่เกี่ยวข้องทั้งหมดของการดำเนินการวิจัย บทความนี้ มุ่งเน้นที่ผู้เกี่ยวข้องที่มีความสำคัญมากสามกลุ่ม ได้แก่ อาจารย์ผู้สอนวิจัย พยาบาลนักวิจัย และผู้ทรงคุณวุฒิตรวจสอบงานวิจัย ทั้งนี้ผู้เกี่ยวข้องแต่ละกลุ่มมีความสำคัญต่อคุณภาพงานวิจัย โดยให้การสนับสนุนที่แตกต่างกันในแต่ละระยะของกระบวนการสร้างงานวิจัย สาระสำคัญของบทความ เน้นการให้ข้อเสนอแนะการปฏิบัติแก่ผู้เกี่ยวข้องในกลุ่มต่าง ๆ ดังกล่าว

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