EDITORIAL

Evidence Hierarchies

Systems for ranking research evidence are increasingly used as the basis for clinical decision-making and practice guidelines. These ranking systems are the backbone of evidence-based practice, both medical and nursing.

In evidence-based medicine, findings from randomized controlled trials [RCTs] are the highest level of evidence and are preferred when making a clinical decision about the effectiveness and applicability of a new treatment or intervention. However, evidence from other types of research studies, including qualitative studies, should also be considered, and at times may be more appropriate. Exploring other disciplines, such as nursing, that use both quantitative and qualitative research to develop scientific knowledge, may offer other evidence hierarchies that are broader.

Based on the categories of evidence from the Agency for Healthcare Research and Quality (AHRQ), nursing scholars[1] developed a more inclusive or broader ranking system of evidence for evaluating the level of evidence of research and other sources of information or knowledge. Their ranking systems consists of six levels that are based on the following sources of evidence: Level I – Meta-analysis of multiple controlled studies; Level II – An individual experimental study; Level III – Quasi-experimental studies [i.e. non-randomized controlled single group pre-post test, time series, or matched case-controlled studies]; Level IV – Non-experimental studies [i.e. descriptive, correlational, qualitative, or case studies]; Level V – Case reports or systematically obtained, verifiable quality improvement program evaluation or quality analysis; Level VI – Opinions of known authorities based on their experience or the opinions of an expert committee, including the interpretation of non-research-based information; regulatory or legal opinions.

A sub-classification is also reported for Level I to Level V. This sub-classification ranges from A to D. For instance, studies with an adequate level of evidence are classified as I-A. However, studies lacking evidence are classified as I-D and the findings of these studies are questionable.

In a more recent publication[2], the hierarchy of evidence is classified into seven levels with the respective sources of evidence as follows: Level I –systematic reviews or meta-analysis of all relevant RCTs; Level II – a single well-designed RCT; Level III – well-designed non-randomized controlled trials; Level IV – well-designed case-control and/or cohort studies; Level V – systematic reviews of descriptive and/or qualitative studies; Level VI – a single descriptive or qualitative study; Level VII – opinions of authorities and/or reports of expert committee.

Knowing these ranking systems provides nurses with the essential skills to critically evaluate the level of evidence of published research. This knowledge can facilitate nurses' decision-making about the application of potential studies findings to evidence-based practice.

References:

1. Stetler CB, Morsi D, Rucki S et al. Utilization-focused integrative reviews in a nursing service. Appl Nurs Res.1998;11(4):195-206.
2. Melnyk BM, Fineout-Overholt E. Making the case for evidence-based practice. In: Melnyk BM, Fineout-Overholt E. Evidence-based practice in nursing & healthcare. A guide to best practice. Philadelphia: Lippincot Williams & Wilkins;2005.p.3-24.

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