



Meta-Instrumentation: An Emerging Necessity in Interdisciplinary Acute Care Studies

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Did the study use valid and reliable instruments?

Were the instruments validated in the cultural context of the study?

These are the questions that we, as researchers, are asked to answer or discuss in our study. Although many researchers have not yet been involved in the design of new instruments, it is crucial to assess the validity and reliability of measures using a standardized or published instrument to interpret data.

Psychometric properties are critical in determining the efficacy and consistency of an instrument in measuring its intended construct over time or across different users. These properties also facilitate the detection of temporal changes.

In acute care settings, a variety of instruments are independently employed to assess diverse conditions, such as dependence and frailty, fall risk, skin integrity loss, sensory changes, impaired sleep quality, malnutrition, mental health issues, and quality-of-life concerns. This approach mitigates subjectivity in patient assessments and enhances the decision-making processes within the healthcare team. However, it may also result in staff, particularly nurses, becoming

entangled in bureaucratic processes or restricted in providing direct care.

In acute care, especially within interdisciplinary research, a substantial amount of data can be extracted and utilized to improve treatment outcomes. The complexity of patients in acute care units is elevated, necessitating that nurses simultaneously organize, prioritize, and manage changes in clinical information for multiple patients. It has been suggested that the complexity of care dimensions be measured across different departments [1]. Patient safety is a significant concern in acute care settings, where unwanted complications may arise from failures in organizational principles, work methods, or tools, rather than staff errors.

However, the extent to which data can be recorded using valid and reliable measurement tools remains uncertain. Some departments may employ several validated instruments and a range of 8-15 existing tools. Addressing training needs and identifying the resources and specific requirements of the healthcare team should also be measured using various tools. Frequent assessments evaluate health needs and problems associated with hospitalization, which can lead to skepticism and a perception of wasted time, making acceptance or application challenging. Nurses'

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assessments may become more generalized and erroneous, reducing the validity of the measurement and resulting in patients not being diagnosed as at risk. Consequently, mortality rates, patient satisfaction, and quality of care may decline, and there is a tendency for staff to leave these units.

To address some of these limitations, a meta-instrument could be designed. Meta-instrumentation involves consolidating other instruments with at least the same psychometric properties and diagnostic capabilities as the original tools, based on their measurement of related constructs and shared dimensions or items, with the goal of creating a more streamlined tool [2]. However, literature on such tools is limited. One proposed meta-tool is a Meta-Instrument for the assessment of functional capacity, the risk of falls and pressure injuries [3]. Establishing methodological foundations and alternatives could facilitate the future development of this type of measuring instrument. Additionally, designing comprehensive assessment systems based on these instruments in electronic nursing records could enhance assessment efficiency.

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