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Titolo tesi: The Nursing Information System as instrument of standardization, measure and continuity of care for chronic patients

ABSTRACT

Background

The use of a standardized nursing terminology (SNT) is very important for the development of nursing science and care. Including an SNT in a nursing information system (NIS) allows nursing care to be measurable and continuous and supports accurate nursing documentation.

The potential of NISs fits perfectly with the care that chronic patients need. In Italy, chronic diseases define about the 77% of the disease burden, and promoting functional dependence and quality of life for these patients is therefore urgent and important. These objectives are intrinsic to community nursing-led inpatient units (NLIU), a new type of intermediate care in which chronic patients receive a high-level of individualized nursing care. An NIS can assume a useful role in describing the care of such patients because it can produce data for the assessment of provided care in terms of quality, effectiveness, efficiency, and cost.

Nowadays, nursing documentation in Italy is mostly paper-based, and, generally, the use of an SNT is not a common practice. Moreover, there are no studies that have evaluated whether an NIS with an SNT can improve the accuracy of nursing documentation and, so far, no study has described the healthcare provided by a community NLIU using an NIS.

Objective

The objectives of this doctoral research were 1) to evaluate whether the nursing terms used by nurses in paper-based Italian nursing documentation are semantically equivalent to SNTs (NANDA-I, NIC, NOC [collectively NNN]); 2) to evaluate whether an NIS can improve the accuracy of nursing documentation in an Italian hospital unit; and 3) to describe the healthcare provided by a community NLIU to chronic patients, through its NIS.

Methods

Three studies were conducted to achieve the three objectives. For the first objective, a multicenter design was used, which adopted cross-mapping processes for nursing diagnoses, interventions, and outcomes. For the second objective, a quasi-experimental longitudinal design was conducted, collecting data from a hospital NIS using the D-Catch instrument. For the third objective, a descriptive-comparative design was used, with data for the study extracted from the NIS of the NLIU in the town of Palombara Sabina (Rome, Italy). Results

The first study found that more than 80% of nursing diagnostic terms, interventions, and outcomes recorded by nurses were semantically equivalent to NNN terminology (that is, they were cross-mapped onto NNN terminology).

The second study showed that the NIS implementation significantly improved ($p < .001$) the chronologically descriptive accuracy and diagnostic accuracy of the nursing documentation after periods of four months, eight months, and one year.

The third study described the healthcare provided to chronic patients by an NLIU. The most frequent nursing diagnoses for patients were bathing/hygiene self-care deficit (78.3%) and impaired physical mobility (74.8%), and the most frequent nursing interventions were vital signs and other values monitoring (94.5%) and medication administration: enteral (89%). Hypertensive heart disease was the most frequent medical diagnosis (32.4%) and microscopic examination of a blood sample (97.9%) was the most provided medical intervention. A significant improvement in patient dependency levels at the time of discharge was observed (p < .001).

Discussion and conclusion

This doctoral program represented the first Italian study in which a cross-mapping process was applied to the three main nursing process phases, the first Italian study that showed a relationship between an NIS that uses an SNT and nursing documentation accuracy, and the first Italian study that described nursing care provided in a community NLIU through its NIS.

The first study showed that the free-text language used by Italian nurses in patients' documentation can be mapped onto NNN taxonomy, which is therefore adequate for the Italian context. In general, the Italian documentation was poor, and nurses were unlikely to identify a patient's need from a nursing perspective. However, this situation can be improved through the implementation of an NIS that includes an SNT, as our second study proved, because the NIS could support nurses in applying nursing processes and, at the same time, improve their clinical reasoning skills.

The third study showed how the use of an NIS in a community NLIU is useful in describing the care provided to chronic patients. Moreover, the healthcare outcomes extracted from the NIS could allow a deeper assessment of the impact of nursing care and the potential of the unit.

Keywords

Cross-mapping, nursing documentation, standardized nursing terminology, nursing documentation accuracy, nursing process, electronic nursing documentation, clinical decision support system, nursing-led unit, chronic diseases, continuity of care, nursing minimum data set.