Care dependency
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Document Version
Publisher's PDF, also known as Version of record

Publication date:
1998

Link to publication in University of Groningen/UMCG research database

Citation for published version (APA):

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10 Summary and Discussion

Ate Dijkstra

Introduction

This thesis presents a series of studies about the application of the care dependency concept to nursing research and to the field of long-term care practice. Each of these studies contains one aspect of the aim of this research project. The key questions of the project focus on analysing and clarifying the meaning of the concept of nursing-care dependency, on developing an instrument to assess the patient's dependency on nursing care, on determining the psychometric properties of the instrument, and on investigating the practical significance of the instrument. The study is reported in eight chapters, which were written as articles for Journals. Underneath, each chapter is summarized and the findings concerning the aforementioned research questions are discussed. This chapter concludes with some recommendations for further research.

Summary

The first chapter gives a general outline of the rationale and the research objectives on which this study was based. The research objectives were:

1. To analyse and clarify the meaning of the concept 'dependency', in this thesis defined as 'nursing-care dependency', for use in the nursing practice of long-term care facilities.
2. To develop an instrument to assess the patient's dependency on nursing care in long-term care facilities, and to determine the psychometric properties of the instrument.
3. To investigate the clinical significance of the instrument.

Chapter 2 reports about the operationalization of the Nursing-Care Dependency (NCD) concept. On the basis of a literature survey, the meaning of the concept of dependency as well as the relationship between the dependency concept and nursing care was discussed.
Additionally, a frame of reference for nursing-care dependency was
developed and a theoretical definition of nursing-care dependency
was stated. A second literature survey led to a framework which was
useful in specifying the variable properties of the nursing-care
dependency concept as established in the theoretical definition.
Henderson's framework consisting of 14 components of nursing care
was translated into 14 nursing-care dependency items.
In Chapter 3, a further account is given of the development and
content validity of an instrument assessing nursing-care dependency.
By means of a Delphi survey, it was determined whether the 14
separate items, item descriptions, and item criteria adequately
represent the content of nursing-care dependency. Henderson's 14
human needs appeared useful, and supplied a basis for the ultimate
model of the assessment instrument. In general, the panellists' comments
were consistent with the literature on Henderson's original list of human needs. Only one item, 'communication', was added to
Henderson's original frame of 14 human needs. It was argued that the
15 NCD items represent a textually clear and comprehensible list of
NCD features. It was remarkable, that panellists from psychogeriatric
nursing homes as well as from institutions of the mentally handicapped did not differ fundamentally in their opinion, so that for
each group of patients an identical structure in content regarding
NCD items, their item descriptions, and criteria could be developed.
Besides these clinical versions, which will be used for routine
assessments and diagnostics within the framework of the nursing
process, a research version of the NCD instrument was developed.
This version is intended for use in those situations in which an
approximate assessment of care dependency is sufficient or for academic research. The clinical and research versions are identical
with regard to the 15 care dependency items and the accompanying
item descriptions. Both versions differ in the way nursing-care
dependency is assessed. In the version which is applicable to use in
research, the degree of care dependency is assessed on a five-point
Likert-scale. The version for use in practice required a judgment of
care dependency by selecting one criterion out of five written criteria.
For both versions, a NCD sumscore could be computed by adding the
item scores of the 15 items. The theoretical range for the NCD
sumscore will be from 0 till 75; the higher the score, the less
dependent on nursing care. A 16th question was added to the two
versions of the scale.
This question asks for a specific rating of the degree of the patient’s dependency on a 5-point Likert-scale ranging from 1 for completely dependent to 5 for almost independent of nursing care.

On the basis of the findings of the previous chapters, chapters 4, 5, and 6 deal with the psychometric testing of the clinical version of the NCD instrument to assess patient’s dependency on nursing care. Chapter 4 was designed to study the reliability and utility of the NCD instrument analysed in two samples: patients living in psychogeriatric nursing homes and patients living in institutions for the mentally handicapped. Three aspects of reliability were investigated. In terms of internal consistency, Cronbach’s alphas that were found were high enough to use the NCD instrument in clinical practice, both on a group and an individual level. The second focus in the reliability assessment was on establishing equivalence among observers on rating behaviour, which was tested by intrarater reliability procedures. Here, reliability of the NCD instrument on item level gave a moderate to substantial intrarater reliability. The third aspect of the NCD scale’s reliability was the stability aspect, which was evaluated by test-retest procedures. For all items, the test-retest reliability was moderate to substantial. Concerning the usefulness of the instrument in practice, it could be concluded that both the instructions and the criteria to choose from were evaluated by the raters as clear and understandable. Chapter 5 describes the results of a study determining construct validity of the NCD instrument. Construct validity in this study was analysed by Factor analysis and Mokken scale analysis. Findings from Factor analysis revealed that the individual items represent one dimension of care dependency. Mokkenscale analysis gave a high H-coefficient, which implied a strong hierarchical scale. Therefore, the separate NCD item scores could be added. Besides, it is statistically acceptable that patients with both an identical sumscore and the same items, are equally dependent on care. The psychometric attributes of the NCD instrument that were found in this study were such that it is justifiable to speak of an NCD scale. Further it was notable, that the internal consistency of the NCD scale gave again Cronbach’s alpha statistics higher than .90. Therefore, it could be concluded that the scale can be used for making group level comparisons as well as for making decisions about individuals. Also in this study, the research version of the NCD instrument was validated with corresponding statistic results on internal consistency, Factor analysis and Mokkenscale analysis in comparison with the clinical version.
In Chapter 6, the criterion-related validity of the NCD scale was investigated by studying the relationship between the Nursing-Care Dependency scale, the Rating Scale for Elderly Patients (RSEP), the Behaviour Observation Scale for Intramural Psychogeriatrics (BOSIP) and the Scale for Social Functioning (SSF). Two types of criterion-related validity were applied: convergent validity and discriminant validity. High correlations were found between NCD and four RSEP subscales, and NCD and SSF, which means convergent validity. There was a low relationship between the NCD sumscore and BOSIP subscales-scores. Investigation into the differentiating power made it clear that the NCD scale offers an adequate possibility for classifying demented patient groups in nursing homes, according to the so-called ‘Nieuw Toutenburg classification’.

Chapter 7 contains the presentation of an international study which aims to assess similarities in psychometric properties of the NCD scale and to determine whether the NCD scale scores were comparable across the countries involved. From four countries NCD data of patients with dementia were available. Psychometric evaluation of the NCD scale for each country separately and for the four countries simultaneously was carried out. Like most cross-cultural research, this study was designed to identify similarities in reliability and validity aspects for the Dutch, English, Italian and Norwegian versions of the NCD scale and to assess whether the NCD scale scores were comparable across the countries. Taking the results together, findings showed that the NCD scale may be useful in measuring nursing-care dependency in each country as well as across the four countries on a group and an individual level. Furthermore, the NCD sumscore can be used safely as an overall indicator of nursing-care dependency. Besides, the NCD scale items proved to be related to fundamental human needs which appear in every patient-nurse relationship independent of cultural background. Although further research is needed, there is evidence that the NCD scale can be used for international comparison and can contribute to the development of international standards for nursing need assessment of patients with dementia.

Chapter 8 and 9 deal with the clinical significance of the instrument in psychogeriatrics. During a 2-years-period a psychogeriatric nursing home population was examined twice.
The questionnaire that was used included the NCD scale. Data obtained from this longitudinal study were used in two studies. Chapter 8 considers the relationship between the severity of patient’s nursing-care dependency on the one hand and causes of death, co-morbidity and survival on the other. Therefore, two subsamples were formed, based on the median score of the NCD scale. One subsample could be typified as severely dependent and the other subsample could be characterised as mildly dependent. At study entry, both subsamples differed significantly on duration of Alzheimer’s disease, duration of admission, and on all nursing-care dependency features, however, the two subsamples did not differ significantly on age, age at onset of Alzheimer’s disease, and co-morbidity. In both groups, the main causes of death were cachexia and/or dehydration. The study showed that survival prognosis varies with the level of nursing-care dependency. Compared to those with mild dependency, patients with severe dependency showed an excess mortality of 20%. The findings from the analysis to predict survival could be categorized in the demographic factor ‘marital status’, the social-economic factor ‘education’, the medical factor ‘cardiovascular disease’ and the following four nursing factors: body posture, day/night pattern, communication and contact with others. It is unclear whether the patient group studied is representative of the total population of Alzheimer patients. Chapter 9 presents a study to investigate longitudinal changes and differences in patients’ nursing-care dependency. As possible predictors of care dependency, social-demographic and clinical factors were also included into the research design. Descriptive statistics indicated an increase in almost all 15 features of dependency over a 2-year period. The loss of social relationships, the loss of the ability to communicate, and the degree of nursing-care dependency at T1 were the strongest predictors of the follow-up ratings. An interesting conclusion was that age did not appear to be a significant factor. The pattern of findings revealed that the NCD scale is sensitive to nursing-care dependency increase after a 2-year period, and that the scale has utility in establishing longitudinal patterns of nursing-care dependency.