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Validation of mentorship model for newly qualified professional nurses employed in community health care services at Limpopo Province, South Africa

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Abstract
Newly qualified professional nurses (NQPNs) allocated to community health care services require the use of validated model to practice independently. Validation was done to adapt and assess if the model is understood and could be implemented by NQPNs and mentors employed in community health care services. The results provided evidence that suggested adoption of the model for mentorship of NQPNs employed in community health care services. To achieve the adequacy of the mentorship model, validation was done by use of validation design involving questionnaires. The population consisted of all NQPNs and mentors employed in Sekhukhune district, Limpopo Province. Purposive sampling was used to select 12 NQPNs and 12 mentors who participated in the study. The NQPNs and mentors agreed on the validation aspects of the model. The adoption and use of the mentorship model by NQPNs and mentors in community health care services is thus recommended.

Keywords: Validation, mentors, model, newly qualified professional nurse, community health care services.

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Introduction

The validation of a model includes a process of conceptualisation that arises from empiric knowledge in nursing which focuses on the accuracy of conceptual meanings in terms of empirical evidence. Chinn and Kramer (2005) state that validation and replication interact to provide a means of forming clear and accurate understanding of empirical knowledge. Bland, Rossen, Barlett, Kautz, Carnevale and Benfield (2009) indicate that testing of models is the process of evaluation of present state and outcome state using defined criteria for the outcome state. In their study designed to test a theoretical model specifying relationships among structural empowerment, burnout and work satisfaction, Sarmiento, Laschinger and Iwasiw (2003), used nurse educators to evaluate Kanter's theory of organizational empowerment. The results of the study

provided support for Kanter's organizational empowerment theory in the Canadian college nurse educators' population. Validation of the model involves selection of the setting, determining and selecting variables that are not directly studied and selecting and implementing a systematic method of validation (Chinn & Jacobs, 1987). Validation design was deductive as it was conducted after the development of the model, i.e the model was already existing (Mouton, 2006). The purpose of deductively testing any relationship statement is to provide empirical evidence that the relationships proposed in the theory are adequate when represented in a specific situation (Chinn & Kramer, 2005). Fitzpatrick and Whall (1996) stated that a variety of research methods may be used to test models wherein operational definitions of the model concepts are formulated.

Validation of models is done to determine the worth of the model and evidence that could support or refute its relevance. According to Walker and Avant (1995) it is necessary to empirically validate the clinical relevance of concepts and to check if the concepts represent a phenomenon in reality; and to obtain evidence if the concept is relevant to practice in terms of client needs and clinical outcomes. Pearson, Vaughan and Fitzgerald (1998), also support that models influence the care that nurses render to patients.

Goossen, Ozbolt, Coenen, Park, Mead, Ehnfors and Marin (2004) stated that models should be improved and validated by clinicians in nursing with respect to the workflow and content needed and the way that the content should be structured. Davis, Stullenbarger, Dearman and Kelley (2006) developed and validated the competencies that are required to guide the preparation of nurse educators. Wilson (2011) indicated that models used in communication contribute to a shared view of problems, leading to improved patient outcome.

In our study, a mentorship model was developed. The goal of the model was to facilitate transition of NQPNs employed in community health care services (Chinn & Kramer, 2005). The goals of a theory determine its use for research and practice (Higgins & Moore, 2000). The concepts that were validated are competencies, performance, adaptation, organizational culture, health practice culture and interaction with the community. The outcome of the mentorship model was to produce a competent professional nurse. Validation of the model was done to adapt and assess if the model was understandable and could be implemented by NQPNs and mentors. Fawcett (1989) indicates that a model should provide complete description of the concepts used and should be socially significant. In validation the relationship between validated items and those items in the content should be tested (Babbie & Mouton, 2009; George, 2010). Theoretical thinking in nursing uses concepts and their relationship to organise and critique existing knowledge and guide new discoveries to advance practice (Higgins & Moore, 2000).

The process of validation included population and sampling, administration of the model, data collection, data analysis and reporting. Therefore, the purpose of this study was to validate the model for mentorship of NQPNs employed in community health care services in Limpopo Province, South Africa.

Methodology

Research design

Quantitative and validation design was used in order to collect data from NQPNs and mentors about the self-worth of the model.

Population and sample

The target population comprised NQPNs employed in community health care services of Sekhukhune district. Purposive sampling was used to select 12 NQPNs and 12 mentors who participated in the validation of the mentorship model. The selected NQPNs and mentors were employed in community health care services and could provide relevant information regarding validation of the model (Burns & Grove, 2005).

Questionnaire

A questionnaire consisting of a 4-point Likert scale, with four sections and 26 items was used to collect data. The questionnaire was also constructed after extensive literature review. Section A of the questionnaire comprised 11 items related to clarity of mentorship model concepts. Section B which had 6 items was related to the scope of mentorship model application. Section C also had 6 items concerning the extent of the model used in mentorship of NQPNs and section D comprised 3 items concerning logical development of the mentorship model (Walker & Avant, 1995).

Data analysis

The Statistical Package for Social Sciences (SPSS) version 18 was used for data analysis. Descriptive and inferential statistics were calculated. Kammeyer-Mueller and Judge (2008) used the mean of the measures of mentoring from different studies and conducted an analysis to test the model. The mean score of 3 served as a standard in this analysis which indicated respondents' agreement with the items on the questionnaire. Data from each section were presented in frequency Tables and the findings were discussed based on the various sections of the questionnaire (Burns & Grove, 2005). Data obtained from NQPNs and mentors were analysed concurrently to facilitate comparison of the responses from the two groups.

Validity and reliability

Validity and reliability was ensured by conducting pre-testing of the questionnaire on 3 NQPNs and three 3 mentors who did not participate in the actual study (Polit & Hungler, 1997). The questionnaire was improved in terms of modifying the concepts for clarity. Content validity revealed that the questions tested what they were supposed to test (Polit & Hungler, 1997). The statistician was consulted in the construction of the questionnaire and a quantitative research expert was requested to review the questionnaire for content and face validity. Reliability was ensured by doing a correlation coefficient using Cronbach's test and was found to be .88 and considered acceptable and reliable (Polit & Hungler, 1999).

Ethical considerations

Ethical clearance was obtained from the Health Safety and Research Ethics Committee of the University of Venda. Permission to conduct the study was also obtained from the Department of Health and Social Development, Limpopo Province and the managers of the health care services.

Results and Discussion

The results of the model validation are shown in Tables 1 to 4.

Table 1: Section A: Clarification of model concepts

	Items	NQPNs (n=12)		Mentors (n=12)		
		Mean	SD	Mean	SD	Total mean
1.	Self-care deficiencies	3.08	0.996	3.26	0.622	3.17
2.	Competencies	3.72	0.452	3.25	0.622	3.50
3.	Adaptation	3.67	0.492	3.50	0.492	3.50
4.	Organizational culture	3.58	0.669	3.42	0.669	3.50
5.	Influence of community	3.08	0.793	3.50	0.522	3.29
6.	Health practice culture	3.58	0.515	3.50	0.522	3.54
7.	Community health care services	3.67	0.492	3.50	0.798	3.58
8.	Self-explanatory	3.50	0.674	3.58	0.699	3.54
9.	Simple in expression	3.42	0.669	3.33	0.651	3.38
10.	Understandable	3.58	0.515	3.67	0.498	3.63
11.	Complex in expression	2.75	1.055	2.83	1.193	2.79
	Mean total					**3.40**

Section A consisted of 11 items related to clarification of the model concepts which were aimed to determine if the model defined the concepts used clearly and whether the words used were self-explanatory, simple in expression, understandable or complex in expression. The concepts used in the model were self-care deficiencies of NQPs employed in community health care services, competencies performance, adaptation, organizational culture, health practice

culture, interaction with the community and the outcome of producing a competent professional nurse.

There was a high level of agreement between NQPNs and mentors on clarity of mentorship concepts. The highest mean of 3.63 was obtained for item 10 which indicated that the concepts used were understood. The lowest mean of 2.79 noted for item 11 indicated that the words used in a model were complex. The NQPNs and mentors agreed that the model defined the concepts clearly and the total mean for both groups was 3.40. Chinn and Jacobs (1987) stated that the diagram used in a model should be self-explanatory and simple; and that each concept should contribute to clarity of the model. Goossen et al. (2004) also explored the fundamental concepts and relationships that define each phase of the nursing process. The number of elements in the model was limited to simplicity to enable understanding of the concepts used in the nursing process. Furthermore, Fawcett (2006) stated that there is a reciprocal relationship between conceptual models of nursing and nursing practice and that conceptual models influence clinical nursing practice by specifying standard for and purposes of practice.

Table 2: Section B: Scope of mentorship model application

		NQPNs (n=12)		Mentors(n=12)		
	Item	Mean	SD	Mean	SD	Total mean
12.	Describes area of mentorship adequately	3.42	0.515	3.42	0.515	3.42
13.	Applicable to nursing practice	3.42	0.515	3.42	0.793	3.42
14.	Time consuming	3.42	0.669	3.25	0.452	3.33
15.	Can be used to guide novice researchers	3.08	0.996	3.33	0.651	3.21
16.	Complex to guide mentors	3.17	0.835	2.92	1.165	3.04
17.	Applicable to nursing education	3.00	0.953	3.00	1.128	3.00
	Mean total					**3.24**

The 6 items in section B were related to the scope of mentorship model application. The items included whether the model describes areas of mentorship adequately, applicability to nursing practice, whether the use of model was time-consuming, whether the model could be used to guide novice researchers or was complex to guide mentors and if the model could be applicable to nursing education. The highest total mean of 3.42 was found in items 12 and 13 which indicated that the model describes areas of mentorship adequately and is applicable to nursing practice. The lowest mean obtained was 3.00 (item17) indicates the model's applicability to nursing education. The NQPNs and mentors concurred with regard to items on the scope of mentorship model application and the mean was 3.24. The findings are consistent with those of Chinn and Kramer (2005) regarding the importance of describing the scope of theory, because it reflects its usefulness for practice and research purposes.

Table 3: Section C:Tthe extent of using the model

		NQPNs(n=12)		Mentors (n=12)		
	Item	Mean	SD	Mean	SD	Totalmean
18.	Model use lead to independent practitioners	3.75	0.452	3.67	0.651	3.71
19.	Model lead to exploitation of mentors by NQPNs	3.00	1.044	3.25	0.622	3.13
20.	Contributes to future roles of mentors and NQPNs	3.42	0.669	3.42	0.515	3.42
21.	Model will increase dependence of NQPNs to mentors	3.25	0.866	2.83	1.115	3.04
22.	Model will lead to competence of NQPNs	2.42	0.996	3.83	3.89	3.63
23.	Model will lead to inability of NQPNs to recognize their strengths and weaknesses	3.33	0.888	2.75	1.128	3.04
	Mean total					**3.33**

Section C consisted of 6 items that determined the extent of using the model in the mentoring of NQPNs to become independent practitioners, or leading to exploitation of mentors by NQPNs, contributing to future roles of mentors and NQPNs, the increasing dependence of NQPNs to mentors, attainment of competence by NQPNs or resulting in the inability of NQPNs to recognise strengths and weaknesses. The NQPNs and mentors agreed regarding the extent of model use in mentorship of NQPNs with a mean of 3.33. The highest total mean of 3.71 was recorded for item 18, namely, the use of the model will lead NQPNs to be independent practitioners. The lowest total mean was 3.04 for items 21 and 23 and these indicated that the use of the model will increase dependence of NQPNs on to mentors and that the model might result in the inability of NQPNs to recognize their strengths and weaknesses. This implies that the model can be used in the mentoring of NQPNs, thereby providing remedy for their self-care deficiencies and dependency (George, 2010).

The use of mentorship model should have a time frame to make NQPNs aware that after some exposure they should be independent and practise without supervision. Arthur, Sohng, Noh and Kim (1998) indicated that mentors should set up specific times with their trainees, evaluate their progress and performance in regular and informative ways. Wimpenny (2002) concurs that models are useful structures for use by student nurses in practice settings. The use of models could yield positive results whereby theory and practice are connected and co-ordinated within the clinical area. Therefore, it is the relationship of thinking and doing that is central as these are not often aligned with the model used in practice.

Table 4: Section D: Logical development of the model

		NQPNs (n=12)		Mentors (n=12)		
	Item	Mean	SD	Mean	SD	Total mean
24.	There is logical sequence of the concepts	3.58	0.515	3.33	0.651	3.46
25.	Conclusions drawn from model are logical	3.42	0.669	3.42	0.515	3.42
26.	Sequence of concepts is complex	3.08	1.084	2.83	1.337	2.96
	Mean total					**3.28**

Section D consisted of 3 items that focused on the logical sequence of the concepts used in the development of a model for mentorship of NQPNs and the logical conclusions drawn from the model. The NQPNs and mentors agreed that the logical sequence of the concepts appear understandable and that the conclusions drawn from the model are logical with a mean total of 3.28. The highest mean of 3.46 was found in item 24 which indicated that the concepts were logically sequenced. The lowest mean of 2.96 (item 26) suggests that the sequence of concepts is complex. These findings imply that the sequence of concepts used in the model was generally logical. Macal (2005) indicated that the ultimate goal of model validation is to make the model useful to address the right problem and provide accurate information about the concepts being modelled. The model could provide professional independence of the NQPNs.

The total mean score of 3.31 found for sections A, B, C and D imply that the NQPNs and mentors generally agreed with the concepts used in the model, scope of application of model, extent of model use and its logical development. The highest overall mean of 3.71 was obtained for item 18, i.e use of model will lead NQPNs to be independent practitioners. The items in all the sections had a SD of 1 and < 1, and this shows that the responses to the items in the questionnaire were homogenous (Polit & Hungler, 1997). Therefore, the findings imply that NQPNs and mentors consistently agreed that the model could lead to possible development toward professional competence.

Recommendations

Contractual agreement should be drawn between the mentor and the mentee to identify mentorship needs and expectations jointly and this could lead to ownership of the model and mentoring activities. Also that self-assessment of NQPNs followed by assessment done by mentors could lead to gradual attainment of competence coupled with improved communication and interpersonal relationships between NQPNs and mentors. In using the model, the mentors should make NQPNs to feel that they are part of the community health care services. Mentors should be willing to support NQPNs and guide them in the performance of specific cognitive, psychomotor and affective skills relevant to community health care services. Further research should be conducted on the validation of models in nursing education and practice.

Conclusion

The validation of the model demonstrated that it was understood by the potential users and could be implemented in community health care services. In using the model, mentors should make NQPNs feel a sense of belonging that they are part of the community health care service. Mentors agreed on the clarity of mentorship concepts, that the model describes areas of mentorship adequately and is applicable to nursing practice.

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