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Original Article

The Use of Competency Models to Assess Leadership in Nursing

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Abstract

Background: The efficiency of the health care system is significantly dependent on the appropriate leadership and guidance of employees. One of the most frequently used new approaches in human resources management is the study of competencies and competency models. The aim of this research is to develop a competency model for leaders in nursing, and to compare it with the leadership competency model for state administration.

Methods: A survey was conducted among 141 nurse leaders in Slovenia. The respondents were asked to complete questionnaire with 95 leadership behaviours that form the leadership competency model for leaders in nursing. The data were analysed by ANOVA and Tukey's honestly significant differences test.

Results: The levels of competencies set for themselves by leaders at the third leadership level in nursing (leaders of small units and teams) are significantly lower than those set by all other leaders, both in nursing and in state administration. Statistically significant differences were apparent in the majority of areas.

Conclusion: Within the context of the comparison of competency models, the greatest need for training can be observed at the third level of leadership in nursing. A comparison of models formulated in this way enables the exchange of good practices among leaders from various professional groups and easier identification of the training needs of individual groups of leaders in public administration. The proposed concept is designed to significantly simplify and unify the building of competency-based leadership models in public sector.

Keywords: Nursing, Leaders, Public health, Competency models, Slovenia

Introduction

Health care is a system whose importance is constantly growing. Health care expenditures in developed countries comprise 8% to 16% of GDP, while employees in the health and social work sector account for 6% to 20% of all employees (1, 2). The assurance of an efficient and effective health care system should be a priority in any country. A comparison of the health care systems of different countries revealed considerable differences in efficiency (3, 4). Leadership is without a doubt one of the factors that can improve the efficiency of expenditure of public funds.

Nursing care, which is an important part of the health care system, is the professional responsibility of nurses. In most developed countries nursing care employees comprise the largest professional group within the health care system (1, 2). Only efficient leaders are capable of guiding such large groups of employees towards a common goal – better health care for the population. New, up-to-date approaches need to be implemented in the education, selection and training of nurse leaders for their responsibilities. One of the most frequently used new approaches in human resources management is the study of competencies and competency models and the competency profiles derived from them (5-7).The ratio between the private and public sectors in health care systems

differs from country to country, but in the majority of countries health care systems are designed in such a way that important part, in terms of both health service providers and funding, is still within the public sector. On the one hand there are health care systems with characteristics very similar to the public sector (share of private expenditure in total health care expenditure: figures for 2010 – Slovenia, 26.3%, Turkey 24.8%, Germany 22.9 %, Austria 22.5%, Denmark 14.9%) which are predominantly funded from the state budget. On the other hand there are systems where a large part of health care institutions are in private ownership and also predominantly funded by private sources (e.g. Switzerland 40.1%, Greece 40.6%, USA 46.9%, Iran 59.8%, India 67.2%) (2). Slovenia belongs to the group of countries with a predominantly public health care system.

A whole range of different professional groups are employed in public administration. Those employed in state administration are the section of public administration employees who work in its most 'non-profitable' sector. On the other hand there are a whole range of professional groups in which the influences of the public and private sectors overlap, since some members of these groups are employed in the public sector and some in the private sector (health care, education, culture, etc.). This is particularly evident in the health care field, to which issues relating to the study of nurse leadership also belong. In Slovenia the majority of nurses (84.0%) are employed in the public sector and represent a significant proportion of public administration employees (8).

The excellence, efficiency and effectiveness of organizations in the public sector are based above all on the successful use of all available human resources or on the capacity of leaders to direct their co-workers towards the achievement of common goals (9). A major influence on the field of leadership in public administration is the actual (legal) definition of public administration. The functioning of public administration is determined by statutory provisions which to a large extent limit creativity and the possibility of encouraging flexibility at work. Leadership in public admin-istration is also significantly influenced by the traditional understanding of the organizational structure and prevailing hierarchical relations (10, 11). It is therefore necessary to develop systems of leadership that incorporate to a greater extent relations of cooperation, shared leadership and mutual respect (12). In order to select leaders at all levels it is necessary to shape a system that will enable their appropriate selection and the devel-opment of the competencies that enable excellence in leadership, along with education and training.

The Oxford Dictionary of Human Resources Management states (13) that competence is focused on the skills and talents that an individual needs to execute specific tasks to a set standard. Spencer and Spencer (14) state that the term competence emphasises the basic characteristics of the individual that are causally related to factors determining the effectiveness and/or excellent performance in work or a set solution. A competence, as an individual's internal characteristics is a combination of his/her motivation, personal values, character, cognitive skills, and knowledge and social roles. Competences have found also an important place in standards used in public sector (9). A competence is an action that can be monitored, evaluated and whose efficiency can be measured. On that basis, we can define a leadership competence model as a system of key competences, designed based on research of key indicators of effective behaviour of leaders. Competencies have become an important tool for introducing changes in organizations and in changing the behaviour of the individual. Within the context of competency models, we define what competencies a leader should have and in what areas the highest level of competencies is required (10, 11).

The requirements of the job or the characteristics of public administration affect the activity and behaviour of staff, which in addition to role-specific competencies should possess the competencies characteristic of all public administration employees. All of this is especially typical of leaders, since they work in similar institutional environments that differ from the private sector. For leaders in public administration, a specific part of the environment in which they must lead is the same for all of them (public administration, predominantly

non-profit work, problems with motivating staff, etc.) – something we can try and illustrate with generic competencies – while another part of the environment varies from profession to profession – role-specific competencies (in other words additional competencies for leaders in state administration, education, health care, etc.).

In the field of competency models, models already exist for larger groups of leaders (leaders in state administration, leaders in health care, change leaders, etc.), which indicate one of the possible directions for greater integration (12, 15, 16). It has become apparent that additional approaches will be necessary, since the formulation of competency models for each individual slightly larger group of employees does not lead to greater quality of selection (5, 12). Nevertheless, it is necessary to maintain at least a certain level of specificity to define conduct in areas that are essential for the communication of leaders with their professional groups. The competency model of leadership in state administration was presented in Slovenia in 2007 (10) and tested in various professional groups (10, 17, 18). The basic leadership competency model in state administration covers 77 behaviours or actions that are divided into seven groups of competencies. We will call this group of competencies 'Generic competencies', while competencies that are only characteristic of leadership in nursing will be called 'Role-specific competencies' (19-21). Generic competencies are: flexibility at work, creativity, leadership, organizational climate, organization, networking/influencing and realization skills.

These competencies are also assumed to be characteristic of leaders in nursing, at least those working in the public sector. Slovenia has 24 public hospitals (general hospitals, specialist hospitals and two university medical centres) and 64 public health centres, which in 2009 employed 84.0% of all graduate nurses, midwives and nurse assistants in Slovenia (8). It is therefore also logical to use state administration competency model for employees in nursing, which is part of the health care system, although the model needs to be expanded to include the specific competencies characteristic of this field of work.

On the basis of analysis of theory of nursing, leadership, competency models (22-25) and the results of researches carried out between 2000 and 2006 on representative sample of nurses in Slovenia (26-28), 18 nursing care specific behaviours were added to the behaviours characteristic of leadership in state administration. Three groups of competencies considered to be characteristic of leaders in nursing were developed:

- ethical/unethical behaviour (priority is not given to relatives, acquaintances and colleagues, violations of nursing regulations are reported, patient privacy is protected, patient is informed about nursing activities).
- interprofessional relationship indicating a correct understanding of the position of nurses in the health care system and their relationship with doctors (cooperation and communication with doctors on equal footing, differentiation between nursing and medicine, knowledge of nursing and its role in the health care system, taking responsibility for the sphere of nursing in the health care team).
- attitude of nurse leaders to the education of their subordinates and their own education (knowledge of work in the management and economics/business fields, ability to communicate in foreign languages, knowledge of work with new technologies, knowledge of quality standards, encouraging education of co-workers).

The first aim of this paper was to formulate a competency model for leadership in nursing and competency profiles for three leadership levels. The second aim was to compare competency model for leadership in nursing with the competency model for leaders in state administration.

Materials and Methods

Study design

The questionnaire contained a total of 95 items organized into ten groups or competences. Respondents indicated to what extent each of 95 different behaviours or actions was characteristic of a

person at their leadership level. They used a five-point scale, from 1: completely uncharacteristic behaviour, to 5: decisive behaviour. Respondents did not describe the actual situation (how they behave or should behave), but instead what behaviour should be characteristic of a person at their leadership level. Based on the results for individual behaviours, a simple arithmetic mean was used to calculate values for 10 competencies.

Sample and methods of data collection

The survey was carried out at the 7th Congress of Nursing and Midwifery of Slovenia from 11 to 13 May 2009. This is a biennial congress, bringing together nurses from all Slovene healthcare institutions. A total of 250 questionnaires were distributed to the participants in the Congress, with 141 nurse leaders (56.4%) returning completed questionnaires. The sample included nurses employed in hospitals and health centres with at least a three-year higher education qualification (registered nurses) and holding a leadership position (Table 1).

Statistical analysis

The data was analysed using SPSS 19.0. Descriptive statistics were used to describe the sample.

Table 1: Demographic data on the sample of nurse leaders

		Leadership level[a]				Total
		First level	Second level	Third level	N/A	
Gender	Female	40	56	38		134
	Male	2	2	3		7
Age (years)	21 to 30	1	4	5		10
	31 to 40	10	19	16		45
	41 to 50	21	24	17		62
	51 to 60	7	11	3		21
	N/A				3	3
Education	Post-secondary (Three-year higher education)	0	13	7		20
	Professional college	22	34	31		87
	Bachelor's degree or higher	20	10	3		33
	N/A				1	1
Total		42	57	41	1	141

[a] First leadership level: head nurses of hospitals and clinics, assistant directors of nursing.
Second leadership level: leaders of wards, clinical departments, operational blocks, hospital units, outpatients' clinic groups, hospital centres.
Third leadership level: team leaders, senior nurses, small department heads.

The values of competencies were standardized due to different variability within individual groups of leaders. Relationships between variables were analysed using one-way analysis of variance (ANOVA) and Tukey's honestly significant differences test (HSD). A significance level of alpha = 0.05 was used for all statistical tests.

Results

According to the scores of the respondents, the most important competencies for leaders at the first leadership level (Head nurses in hospitals and clinics) in nursing are from the areas of creativity (4.9) and leadership (4.8)(Table 2). The most important competencies for leaders at the second

level (ward managers and section managers) are from the areas: organizational climate (5.0), leadership (4.8), flexibility at work (4.7) and interprofessional relationships (4.7). These are the areas in which the norms of competencies at the second leadership level in nursing are set higher than at the other two levels.

The required level of competencies at the third leadership level in nursing (leaders of small units and teams) is significantly lower than that required at the first and second leadership levels. The lowest norms at the third leadership level are in the field of networking and influencing (3.2), while the highest are in the areas of realization skills (3.8).

Table 2: Norms for the competency profiles for three leadership levels in nursing

	Leadership level – competency norms			Comparison of leadership groups in nursing - ANOVA		Comparison of leadership groups in nursing – Post hoc test – Tukey's HSD test – Sig.		
	First level	Second level	Third level	F-test	Sig.	First level - Second level	First level - Third level	Second level- Third level
Flexibility at work	4.6	4.7	3.6	7.72	0.00	0.96	0.01	0.00
Creativity	4.9	4.5	3.5	9.02	0.00	0.59	0.00	0.00
Leadership	4.8	4.8	3.5	12.73	0.00	1.00	0.00	0.00
Organizational climate	4.6	5.0	3.4	14.50	0.00	0.33	0.00	0.00
Organization	4.7	4.5	3.5	6.57	0.00	0.82	0.00	0.01
Networking and influencing	4.6	4.5	3.2	8.84	0.00	0.93	0.00	0.00
Realization skills	4.7	4.5	3.8	3.59	0.03	0.91	0.04	0.07
Ethics	3.9	4.6	3.7	3.49	0.03	0.13	0.88	0.04
Interprofessional relationship	4.4	4.7	3.6	6.86	0.00	0.56	0.04	0.00
Positive attitude towards knowledge and education	4.4	4.4	3.7	2.45	0.09	1.00	0.14	0.12

ANOVA analysis was carried out using the basic values and clearly shows that norms differ among the three leadership levels. Statistically significant differences between groups appeared in all observed fields except education. We can see, however, from the arithmetic means that a deviation from the other two groups was particularly marked in the case of nurses at the third leadership level. We therefore verified the differences between each pair of leadership levels. The test (Post hoc test – Tukey's Honestly Significant Differences test) showed that no statistically significant differences can be seen between the first and second leadership levels in nursing in any of the observed fields. Leaders at the third leadership level, however, show lower norms in the majority of competencies than the other two groups of leaders ($P<0.05$).

For each leadership level in nursing and each competency or competency dimension, Table 3 shows the index, which has as its basis the norm from the competency model of leadership for state administration (2). Indices are only calculated for generic competencies.

The required levels of competencies in the case of the highest nurse leaders were 4.70 on average, which was slightly higher than for leaders in state administration (3.1%). In the case of the 'leadership' competency, norms for the first leadership level in nursing are set at 4.7 which is 14.3% higher than in the case of the first leadership level in state administration, and for the 'flexibility' competency, norms are 7% higher.

Table 3: Comparison of norms for three leadership levels in nursing and state administration

	Index: state administration =100		
	First level	Second level	Third level
Total generic competencies	103.1	117.3	95.0
Flexibility at work	107.0	120.5	94.7
Creativity	104.3	112.5	97.2
Leadership	114.3	120.0	92.1
Organizational climate	102.2	135.1	85.0
Organization	104.4	128.6	85.4
Networking and influencing	97.9	104.7	97.0
Realization skills	94.0	104.7	118.8

In the comparison of the second leadership level, major differences were apparent between leaders in state administration and in nursing. The average of the seven competencies for second-level leaders in state administration is 3.96, while for nurse leaders it is 4.64. The norms for the second leadership level in nursing are significantly higher than norms for leaders in state administration in the field of organizational climate (35.1%) and organization (28.6%).

A comparison of the third leadership level shows that this is the area where norms in state administration are significantly higher (average value 3.69) than norms in nursing (3.50). The competency norms at the third leadership level are significantly lower among leaders in nursing than among leaders in state administration in the following areas: organizational climate (15%) and organization (14.6 %).

Discussion

The results of the research show that the levels of competencies set for themselves by leaders at the third leadership level in nursing are significantly lower than those set by all other leaders, both in nursing and in state administration. This point to the fact that leaders at the lowest leadership level are torn between the actual provision of nursing care and leadership, and are not prepared to fully accept the role of leaders. The problem of role transition has also appeared in other research (29). Nurse leaders even at the lowest leadership level should be aware of the importance of their role as leaders and should be building up their professional identity, which should already have formed during their time as students. Professional identity is in fact formed throughout the entire process of education and training and does not end with graduation (30). Nurse leaders at the lowest leadership level should already be aware of the importance of achieving high levels of individual leadership competencies. This leadership level is in fact a link between other healthcare employees and leaders, and likewise acts as a mentor to nursing students and plays an important role at the start of the career of every nurse. It is these leaders who must help nursing graduates apply their theoretical knowledge after completing their formal education and become active in developing and changing health care practices and leadership (31). The level required for competencies at the lowest leadership levels in nursing needs to be significantly increased, since this would ease the transition between different leadership levels in nursing and increase the number of potential candidates for middle and higher leadership positions. Leadership training should begin on completion of formal education and continue systematically throughout the entire process of the nurse's professional development (4, 32), and no longer randomly depending on the needs of the organization. Training programmes should focus on the specifics of leadership in nursing (33). It is also important that such programmes are evaluated to make sure they are achieving their aims (34). A greater contribution should be made by educational institutions and by nurses' professional associations, in whose interest

it should be to construct an integrated and interconnected system of leadership training in nursing. A permanent solution to the problem of leadership in nursing will only be possible if leadership subjects are introduced at the higher education stage. Leadership education at university faculties should take the form of several years of permanent theoretical education and practical training for leadership in health care organizations. Nurses need theoretical and practical basic knowledge of leadership even before they begin working in health care organizations. This way they will be able, as their careers progress, to make a positive contribution to better nursing leadership, better quality of health care, and the excellence of the organizations where they are employed.

Conclusions

The competency model of leaders in nursing thus comprises generic competencies which are common to all public sector employees and are taken from the competency model for state administration, and role-specific competencies that are characteristic for leadership in nursing. On the basis of a model formulated in this way, we are able to define competency profiles for several leadership levels and compare norms for the generic competencies of different professional groups. Most competency models have been formulated for individual, relatively homogeneous groups of employees with role-specific competencies, comparison of which was not possible. The added value of common competency models is in the possibility of mutual comparison of the norms established and the achievement of these norms among different professional groups. An instrument designed in this way would be useful for several interrelated professional groups and for various purposes (selection of leaders, preparation of education programmes, performance appraisal, etc.). Developing a concept that is only useful for one precisely determined professional group or purpose is, on the one hand, too expensive and too time-consuming, while on the other hand it is illogical from the point of view of the pursuit of a uniform leadership culture.

Ethical considerations

Ethical issues (including plagiarism, informed consent, misconduct, data fabrication and/or falsification, double publication and/or submission, redundancy, etc) have been completely observed by the authors.

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