

Managerial Competencies of Nurse Managers in Ghana

Yennuten Paarima

<https://orcid.org/0000-0002-0598-4825>
University of Ghana
ypaarima@ug.edu.gh

Adelaide Maria Ansah Ofei

<https://orcid.org/0000-0002-0481-009X>
University of Ghana
aansahofei@ug.edu.gh

Atswei Adzo Kwashie

<https://orcid.org/0000-0002-7470-6968>
University of Ghana
aakwashie@ug.edu.gh

Abstract

Managerial competencies of nurse managers are believed to influence the efficiency of healthcare. Amidst the global shortage of nurses and the rising cost of healthcare, it is imperative to assess the managerial competencies of nurse managers. Using the Katz Skills Model as the organising framework, this study assessed the managerial competencies of nurse managers at the unit level. A quantitative cross-sectional design was used to collect data from 121 nurse managers in 10 hospitals in the eastern region of Ghana. The nurse managers showed knowledge and the ability to apply different managerial competencies depending on the situation. They were more inclined to apply technical skills, followed by human skills and conceptual skills. Experience as a nurse, experience as a nurse manager, qualifications, and training in management together predicted their technical skills ($R^2 = 0.154$, $p = 0.002$) and conceptual skills ($R^2 = 0.174$, $p < 0.001$). However, only training in management contributed significantly to the managerial competencies of the nurse managers. At the 0.05% alpha level, increasing qualifications above an advanced diploma was associated with having better technical skills. The study presents new empirical evidence congruent with the Katz Skills Model that nurse managers require the knowledge and ability to apply technical, human, and conceptual skills in the performance of their managerial functions, and that no particular competency is ideal for every situation.

Keywords: nurse manager, managerial competencies, human, technical and conceptual skills

Introduction

Healthcare is multifaceted and faced with several challenges including inadequate staffing and increasing workloads (Asamani, Naab, and Ofei 2016). As the largest healthcare group, nurses are mostly at the centre of these challenges. To deal with these clinical challenges that confront healthcare delivery, it is important for the nurse manager (NM) to possess the relevant critical managerial competencies for the effective management of the dwindling resources at the units.

Managerial competencies refer to the knowledge and ability required for optimum performance in a management position (Bhardwaj and Punia 2013; Gunawan and Aunguroch 2017). According to Yuan and Lo (2016), managerial competencies are the personal attributes that can be demonstrated in terms of knowledge and ability for maximum efficiency in an assigned job. As front-line managers, NMs are responsible for ensuring patient safety, quality of care, and staff satisfaction (Ofei 2015). The managerial competencies of NMs play a critical role in patient and staff outcomes. However, to navigate and effectively manage the dwindling resources, NMs need additional competencies to complement the generic managerial functions of planning, organising, leading and controlling to ensure continuous improvement in service delivery (Munyewende, Levin, and Rispel 2016). Katz (1974) identified technical, conceptual, and human skills as critical managerial competencies required for efficiency in management positions. Any manager deficient in any of these skills loses the chance of being successful.

Technical skills are the specialised knowledge and ability when using instruments and procedures (Katz 1974). Technical skills are a major tool in the fight against hospital-acquired infections (Chase 2010). Hospital-acquired infections are the major cause of hospital readmissions and 15 per cent of all patients admitted to hospitals suffer from these infections (Greco et al. 2015). Khan, Baig, and Mehboob (2017) found that hospital-acquired infections account for 10 per cent and 7 per cent of readmissions in low- and high-income countries respectively. Through technical skill nurses are able to use clear, precise, and contemporary nursing processes when providing quality evidence-based care (Anderson 2016), thereby reducing hospital-acquired infection rates. Studies have reported a positive correlation between technical skills and the application of the nursing process (Anderson 2016; Karathanasi et al. 2014).

Hospitals are under pressure to become more customer-friendly, however, this can only be achieved through human relation skills. Human skills are the ability to work effectively and relate well with people in an organisation (Katz 1955). According to Daly and Mort (2014), effective nurse–patient relationships afford nurses the opportunity to identify each patient’s problem and to deal with it accordingly using the nursing process. Patients’ perceptions and feelings are obtained and dealt with to allay any fear and anxiety.

As a vital component in healthcare, nursing is linked to other areas of the health system. Therefore, to get an in-depth understanding and better decide what measures to take in a particular nursing action require competencies in conceptual skills. Chase (2010) defined conceptual skills as the ability to think and work with concepts and ideas. Studies have identified conceptual skills as the underpinning for nursing care (Merav and Ronit 2016; Seate, Poe, and Chinomona 2016). Therefore, nursing care should be through the lens of a specific nursing concept or theory. According to Karnick (2014), nursing is on a slippery slope owing to the ever-increasing lack of application of concepts or theories in practice. It is therefore significant for nurses to deliver care based on a specific nursing concept or theory.

Amidst these challenges, studies have reported a higher managerial competency score among NMs in the United States, Finland, and China (Anderson 2016; Kantanen and Kaunonen 2017; Lou et al. 2016). However, in the African context, Munyewende, Levin, and Rispel (2016) and Pillay (2011) found a low managerial competency score among several NMs. In Ghana, the NM is supposed to be at least a senior nursing officer (SNO) in designation which requires either a bachelor's degree or service experience (GHS 2005) but this is not always the case in most hospitals across the country. In Ghana, no study has explored the managerial competencies of NMs. Therefore, the knowledge of the managerial competencies of NMs in Ghana is unclear. Besides, there is no nationally accepted standard of assessing managerial competencies. The study, therefore, sought to explore the competencies of NMs at the unit level in the eastern region.

Problem Statement

The requirements and demands of the NM's role are challenging. Healthcare management competencies continually change because management is dynamic and is affected daily by the turbulent healthcare environment (Cathcart, Greenspan, and Quin 2010). Hospitals, in an attempt to fill vacancies of NM positions, reward proficient and expert clinical nurses with management appointments with little or no consideration of competency for the new role (Anderson 2016). As asserted by Chase (2010), competent NMs are vital to ensuring outstanding staff and patient outcomes. However, in Ghana, NMs are often perceived as figureheads who lack the requisite managerial competencies and therefore, resort to autocratic and intimidating approaches when dealing with their subordinates at the unit level (Azaare and Gross 2011). Some nurses abhor NMs and think that they are not assertive enough and lack confidence in performing managerial duties (Ofei 2015) even though they manage the largest group of the healthcare workforce in the hospital (World Health Organization 2017).

Stichler (2008) observed that NMs at the unit level are often not adequately prepared experientially and academically for the responsibilities expected of them. In Ghana, the appointment of NMs is not competitive and largely based on seniority (Asamani, Naab, and Ofei 2016). However, hospitals can develop and maintain the competencies of NMs

through delegation, coaching, modelling and specific educational courses (Cummings et al. 2018).

Despite the pivotal role played by NMs in Ghana's health system, nursing management has attracted little investment and research (Asamani, Naab, and Ofei 2016; Azaare and Gross 2011). Even more importantly there is a paucity of researched information on the managerial competencies of NMs in Ghana. This is the first study that explored the managerial competencies of NMs in Ghana using the Katz Skills Model as the organising framework.

Aim of the Study

The aim of the study was to examine the managerial competencies of NMs in the eastern region of Ghana using the Katz Skills Model.

Objectives

The study objectives were to:

- examine the technical skills of NMs at the unit level;
- examine the human skills of NMs at the unit level; and
- examine the conceptual skills of NMs at the unit level.

Katz Skills Model

Katz's (1974) seminal article on the skills approach to management proposed that management is based on three cardinal skills: technical, human, and conceptual. **Technical skills:** Technical skill refers to the proficiency when working with tools, based on specific knowledge, in a particular field of work. To have technical skills implies that one is knowledgeable and competent regarding activities specific to an institution, and the institution's standard operating procedures, rules, and services (Katz 1974). Technical skills are very critical for supervisory managers, less important for middle managers, and least important for top or senior managers.

Human skills: Human skills are proficiency when working and relating with people based on one's knowledge of people and the way in which they behave, operate in groups, the way to effectively communicate with them, and their feelings, attitudes, and motives. Human skills are required to successfully influence subordinates, peers, and superiors in the attainment of organisational goals. These critical skills enable managers to influence group members to work together as a team to achieve organisational goals and objectives. Human skills competency implies that managers know their thoughts on diverse issues and become conscious of the thoughts of others. Managers with higher

levels of human skills are better able to adjust their thoughts to other people's thoughts, which will help in achieving organisational goals more swiftly and effectively. These skills enable managers to become more empathetic and sensitive to what motivates others, create a favourable environment of trust for their subordinates, and consider their subordinates' needs and motivations when making decisions. Human skills are essential to all the levels of management (Katz 1974).

Conceptual skills: Conceptual skills competency means the manager is good at thinking through the ideas or concepts that form the foundation of the organisation, its vision, and goals. Conceptual skills enable managers to ask "what if" or hypothetical questions working with abstract ideas. Conceptual skills allow managers to give abstract ideas meaning and to make sense of abstract ideas for their subordinates, peers, and superiors. These skills are most important for top managers, less important for middle managers, and least important for supervisory managers (Katz 1974). However, to be promoted to higher levels of management requires one to develop and demonstrate conceptual skills.

Methodology

Design and Setting

A quantitative cross-sectional approach was used to assess the managerial competencies of NMs in 10 selected hospitals in the eastern region located in the southern part of Ghana. It is the sixth-largest region and the third most populous region with a total population of 2 633 154, representing 11.1 per cent of Ghana's population. The region was chosen because most of the hospitals are located in deprived and peri-urban towns which are far from the national capital with limited social amenities. The study hospitals included one regional hospital, eight district hospitals, and one specialised hospital.

Study Population and Data Collection

The target population was all the NMs in the 10 hospitals. Inclusion criteria were NMs who worked for at least one year as a manager and who were interested in participating in the study. Nurses who were not NMs and nursing service administrators were all excluded. A census approach was used when administering the questionnaires. A census approach is a data-gathering technique that allows the researcher to collect data from all the elements in a target population and to examine one or more characteristics of those elements (Cantwell 2011). Since there were not many NMs, the researchers chose this approach in order to have adequate representation of each hospital.

Once official permission was obtained from the management of the hospitals, the researchers proceeded with the data collection process. In each hospital, a specific number of questionnaires were allocated based on the total number of NMs. At the unit level, NMs were approached individually and after a vivid explanation of the study and its intent, NMs who agreed to participate in the study was given a voluntary consent

form to sign after which the questionnaire was administered. A period of 12 weeks (January to March 2018) was used for the data collection. Out of 123 NMs, 121 (98.4%) completed and returned the questionnaire for analysis.

The Nurse Managers Competencies Instrument (NMCI) developed by Linda Chase was adopted and slightly modified to suit the study methods and objectives. The questionnaire has 5 dimensions, but this study adapted 3 (the technical, human and conceptual dimensions). The 3 dimensions had 32 items (technical 11, human 13, and conceptual 8). The questionnaire was grouped into 2 sections: section A gathered sociodemographic data, and section B contained the NMCI questionnaire. The original instrument is measured on a 4-point Likert scale (1 to 4) but in this study, the instrument was modified into a 5-point scale (1 = poor, 5 = excellent). The fifth point was added to indicate the highest (excellent) level of competencies.

Validity and Reliability

The validity of the tool was maintained primarily through the face and content validity. Face validity was ensured by arranging the questions to reflect the study objectives. The authors equally ensured that all the study objectives were specific and captured by the questionnaire. The questionnaire was grouped into sections that captured all the variables under study. To maintain content validity, the study constructs were thoroughly conceptualised to ensure that the questionnaire adequately captures the content domain. The tool was scrutinised by nursing management experts.

To ensure reliability, the tool was pretested at a different hospital with 12 NMs, and the results used to modify any areas of ambiguities. The overall Cronbach's alpha coefficient of the original instrument was 0.88, technical 0.80, human 0.85, and conceptual 0.84. In this study, the NMCI yielded an overall Cronbach alpha coefficient of 0.984, technical 0.963, human 0.971, and conceptual 0.977, which is considered acceptable (Polit and Beck 2014).

Ethical Clearance

Ethical clearance was obtained from the Noguchi Memorial Institute for Medical Research (NMIMR-IRB 023/17-18) at the University of Ghana. An introductory letter from the School of Nursing, University of Ghana, describing the study purpose and the questionnaires were sent to each hospital for official permission to collect data. In this study, there was no physical harm to the respondents as it was a non-experimental study and the research questionnaire did not contain items that may trigger stress or anxiety in the respondents. The researchers ensured that the ethical principles of respect for autonomy, beneficence, non-maleficence, and justice were applied. All the respondents received full disclosure of the study nature, purpose, risk, benefits and the right to withdraw at any time without giving reasons. Confidentiality was maintained throughout the study by ensuring that the respondents' rights were protected, and that the information divulged to the researchers was not disclosed to unauthorised persons.

Benevolence was maintained by ensuring that the respondents were not physically and psychologically harmed from fatigue resulting from completing the questionnaire. To maintain anonymity, no names or other identifying information were collected. Written consent was obtained from each respondent after which the questionnaire was administered.

Data Analysis

The data were analysed using descriptive and multiple linear regression analyses. Descriptive statistics were used to summarise the respondents' sociodemographic data and managerial competencies. Multiple linear regression analyses were performed to determine the influence of the experience as a nurse, experience as an NM, qualifications, and training in management on managerial competencies.

Results

Respondents' Characteristics

In Table 1, the mean age of the respondents was 38.8 years ($SD = 9.83$) and the modal age was 32 years. The majority ($n = 66, 54.5\%$) of the respondents were between 30 and 39 years. Most respondents ($n = 89, 73.6\%$) were females and 24.7 per cent ($n = 30$) were males. Respondents in the nursing officer's grade constituted the majority ($n = 47, 38.8\%$). In addition, most of the respondents ($n = 58, 47.9\%$) were first-degree holders and only 7.4 per cent had a master's degree. Furthermore, the majority of the respondents ($n = 57, 47.1\%$) have worked between 6 and 10 years. Most of the respondents ($n = 81, 66.9\%$) have worked between 1 and 5 years as NMs. Finally, most of the respondents ($n = 68, 56.2\%$) have not received any training in management.

Table 1: Respondents' characteristics

Variables		Frequency (<i>n</i>)	Percentage (%)
Age (in years) Mean = 38.8 (SD = 9.83) Modal age = 32	20–29	10	8.3
	30–39	66	54.5
	40–49	10	8.3
	50–59	25	20.7
	≥ 60	1	0.8
	Missing data	9	7.4
	Total	121	100
Gender	Male	30	24.7
	Female	89	73.6
	Missing data	2	1.7
	Total	121	100

Variables		Frequency (n)	Percentage (%)
Rank	Staff nurse/Midwife	4	3.3
	SSN/SSM	17	14.0
	NO/MO	47	38.8
	SNO/SMO	30	24.8
	PNO/PMO	23	19.0
	Total	121	100
Highest academic qualification	Certificate	15	12.4
	Diploma	20	16.5
	Advanced diploma	19	15.7
	First degree	58	47.9
	Masters	9	7.4
	Total	121	100
Experience as a nurse	0–5	15	12.4
	6–10	57	47.1
	11–15	19	15.7
	16–20	9	7.4
	≥ 21	21	17.4
	Total	121	100
Experience as an NM	1–5	81	66.9
	6–10	23	19.0
	11–15	6	5.0
	16–20	2	1.7
	≥ 21	1	.8
	Missing data	8	6.6
	Total	121	100
Training in management	Yes	48	39.7
	No	68	56.2
	Missing data	5	4.1
	Total	121	100

Key: NM: nurse manager, SSN: senior staff nurse, SSM: senior staff midwife, NO: nursing officer, MO: midwifery officer, SNO: senior nursing officer, SMO: senior midwifery officer, PNO: principal nursing officer, PMO: principal midwifery officer

Technical Skills of Nurse Managers

Table 2 shows that the mean score of the knowledge of technical skills was 3.85 (SD = 0.57) and that the ability to apply technical skills was 3.68 (SD = 0.62). The knowledge of infection control practices (mean = 4.40, SD = 0.68) and the ability to apply infection control practices (mean = 4.19, SD = 0.83) were the highest rated technical skills, whereas the knowledge of new technology (mean = 3.39, SD = 0.88) and the ability to apply new technology (mean = 3.26, SD = 0.93) were the least rated technical skills.

In Table 3, experience as a nurse, experience as an NM, qualifications, and training in management together accounted for 15.4 per cent of the variance in NMs' technical skills [$R^2 = 0.154$, $F_{(4, 104)} = 4.558$, $p = 0.002$]. However, only the qualifications and

training in management contributed significantly to the regression model. To further explore which qualification had a greater impact on NMs' technical skills, the One-way ANOVA was conducted using the least significant difference to identify the minute differences. The results showed that increasing qualifications above the advanced diploma was associated with having better technical skills. However, having a master's degree had a statistically significant impact on technical skills among NMs at 0.05 alpha level. Details are shown in Table 4.

Table 2: Technical skills of nurse managers

Technical skills	N	Min.	Max.	Knowledge of competency		Ability to apply competency		Mean difference
				Mean	SD	Mean	SD	
Technical skills (Mean score)	116	1	5	3.85	0.57	3.68	0.62	0.17
Nursing practice standards	121	1	5	4.02	0.65	3.82	0.74	0.20
Nursing care delivery systems	120	1	5	4.03	0.74	3.87	0.86	0.16
Nursing care planning	121	1	5	4.12	0.73	3.80	0.79	0.33
Clinical skills	119	1	5	4.20	0.65	3.99	0.75	0.21
Patient classification systems	121	1	5	3.87	0.79	3.70	0.84	0.17
Infection control practices	121	1	5	4.40	0.68	4.19	0.83	0.22
Research and evidence-based practice	120	1	5	3.43	0.88	3.27	0.90	0.16
New technology	119	1	5	3.39	0.88	3.26	0.93	0.13
Case management	120	1	5	3.87	0.82	3.69	0.91	0.17
Information system and computers	121	1	5	3.56	1.01	3.43	1.03	0.13
Regulatory agency standards	121	1	5	3.59	0.91	3.47	0.91	0.11

Source: Field data 2019.

The mean score is the average mean scores of the managerial skills (a high score indicates adequate knowledge and the ability to apply). The scores are based on a five-point scale.

Table 3: The influence of nurse manager characteristics on technical skills

Model 1 (Technical skills)	B	t-value	p-value	95% CI for B	
				Lower	Upper
Constant		16.144	< .001	2.854	3.654
Experience as a nurse	.218	1.583	.117	-.003	.031
Experience as an NM	-.234	-1.716	.089	-.071	.005
Highest academic qualification	.200	2.131	.036	.007	.198
Training in management	.327	3.542	.001	.167	.593
Model summary R² = 0.154, F_(4, 104) = 4.558, p = 0.002					

Dependent variable: technical skills. Criterion level: 0.05

Table 4: Mean difference technical skills among nurse managers with different levels of education

	Certificate	Diploma	Advanced diploma	First degree	Masters
Certificate		0.23%	3.01%	1.36%	14.87%*
Diploma			2.85%	1.59%	15.14%*
Advanced diploma				4.51%	18.44%*
First degree					13.93%*

* $p < .01$

Human Skills of Nurse Managers

The results in Table 5 indicate that the mean score of knowledge of human skills was 3.78 (SD = 0.62) and that the ability to apply human skills was 3.60 (SD = 0.66). The knowledge of effective communication (mean = 4.32, SD = 0.66) and the ability to apply effective communication (mean = 4.21, SD = 0.74) were the highest rated human skills. The knowledge of recruitment strategies (mean = 3.37, SD = 0.88) and the ability to apply them (mean = 3.20, SD = 0.98) were the lowest rated human skills.

Furthermore, the experience as a nurse, experience as an NM, qualifications, and training in management jointly accounted for 6.5 per cent of the variance in NMs' human skills [$R^2 = 0.65$, $F_{(4, 103)} = 1.711$, $p = 0.154$]. However, further evaluation of the individual variable contribution to the model indicated that only training in management has a statistically significant influence on the regression model ($p = 0.049$). Details are shown in Table 6.

Table 5: Human skills of nurse managers

Human skills	N	Min.	Max.	Knowledge of competency		Ability to apply competency		Mean difference
				Mean	SD	Mean	SD	
Human skills (Mean score)	114	1	5	3.78	0.62	3.60	0.66	0.18
Effective communication	121	1	5	4.32	0.66	4.21	0.74	0.11
Effective staffing strategies	121	1	5	3.91	0.79	3.84	0.83	0.07
Recruitment strategies	116	1	5	3.37	0.88	3.20	0.98	0.17
Retention strategies	117	1	5	3.44	0.92	3.24	0.96	0.20
Effective discipline	120	1	5	3.96	0.82	3.77	0.85	0.19
Effective counselling strategies	121	1	5	3.91	0.85	3.74	0.87	0.17
Constructive performance strategies	120	1	5	3.75	0.85	3.55	0.89	0.20
Staff development strategies	119	1	5	3.62	0.92	3.35	0.92	0.27
Group process	119	1	5	3.52	1.01	3.31	0.98	0.21
Interview techniques	120	1	5	3.71	0.87	3.58	0.92	0.13
Team-building techniques	120	1	5	3.92	0.92	3.77	0.93	0.15
Humour	121	1	5	3.98	0.86	3.74	0.90	0.24
Optimism	121	1	5	4.04	0.81	3.84	0.88	0.20

Source: Field data 2019.

The mean score is the average mean scores of the human skills (a high score indicates adequate knowledge and ability to apply). The scores are based on a five-point scale.

Table 6: The influence of nurse manager characteristics on human skills

Model 1 (Human skills)	B	t-value	p-value	95% CI for B	
				Lower	Upper
Constant		13.444	< .001	2.739	3.687
Experience as a nurse	.040	.253	.801	-.021	.028
Experience as an NM	.057	.357	.722	-.040	.058
Highest academic qualification	.157	1.618	.109	-.021	.207
Training in management	.197	1.991	.049	.001	.512
Model summary R² = .065, F_(4, 103) = 1.711, p = .154					

Dependent variable: human skills. Criterion level: 0.05.

Conceptual Skills of Nurse Managers

The results in Table 7, indicate that the mean score of knowledge of conceptual skills was 3.51 (SD = 0.73) and that the ability to apply them was 3.32 (SD = 0.77). The knowledge of ethical principles (mean = 3.91, SD=0.87) and the ability to apply them (mean = 3.70, SD = 0.92) were the highest rated conceptual skills. The lowest rated

conceptual skills were the knowledge of the political process (mean = 3.15, SD = 1.07) and the ability to apply that knowledge (mean = 2.99, SD = 1.07).

Table 7: Conceptual skills of nurse managers

Conceptual skills	N	Min.	Max.	Knowledge of competency		Ability to apply competency		Mean difference
				Mean	SD	Mean	SD	
Conceptual skills (Mean score)	116	1	5	3.51	0.73	3.32	0.77	0.19
Nursing theories	119	1	5	3.59	0.86	3.31	0.95	0.28
Organisational theories	121	1	5	3.28	0.95	3.13	0.98	0.15
Strategic planning	119	1	5	3.50	0.90	3.36	1.00	0.14
Ethical principles	121	1	5	3.91	0.87	3.70	0.92	0.21
Teaching/learning theories	121	1	5	3.66	0.90	3.49	1.02	0.17
Political process and advocacy	120	1	5	3.15	1.07	2.99	1.07	0.16
Quality improvement	119	1	5	3.61	0.98	3.44	0.97	0.17
Legal issues	121	1	5	3.51	0.77	3.29	0.86	0.17

Source: Field data 2019.

Mean score is the average mean scores of the conceptual skills (a high score indicates adequate knowledge and ability to apply). The scores are based on a five-point scale.

Finally, the results in Table 8 show that experience as a nurse, experience as an NM, qualifications, and training in management together explained 17.4 per cent of the variance in NMs' conceptual skills [$R^2 = 0.174$, $F_{(4, 105)} = 5.322$, $p < 0.001$]. When the variables were further evaluated for their contribution to the model, only training in management was statistically significant ($p < 0.001$).

Table 8: The influence of nurse manager characteristics on conceptual skills

Model 1 (Conceptual skills)	B	t-value	p-value	95% CI for B	
				Lower	Upper
Constant		10.781	< .001	2.267	3.290
Experience as a nurse	.221	1.659	.100	-.004	.043
Experience as an NM	-.241	-1.823	.071	-.095	.004
Highest academic qualification	.170	1.852	.067	-.008	.236
Training in management	.376	4.118	<.001	.290	.829
Model summary $R^2 = .174$, $F_{(4, 105)} = 5.322$, $p = .001$					

Dependent variable: conceptual skills. Criterion level: 0.05

Discussion

Respondents' Characteristics

The mean age of the respondents was 39 years (SD = 9.83) and the modal age was 32 years. This finding is consistent with the average age of nurses in Ghana which is said to be between 25 and 39 years (GHS 2017). Earlier studies have reported similar findings (Asamani, Naab, and Ofei 2016; Azaare and Gross 2011). This means there is a young cohort of nurses in Ghana. This suggests that these NMs might possess limited or no managerial competencies. Furthermore, the study established that the majority (73.6%) of the respondents were female and 24.7 per cent were male. This finding concurs with a widely held opinion that nursing is a female-dominated discipline. But this finding also suggests that this view might be gradually changing with many males choosing nursing as a career in Ghana.

The majority (38.8%) of the respondents were in the nursing officer's grade and have been working for 3 to 5 years. This finding contradicts the work of Asamani, Naab, and Ofei (2016) who reported that senior staff nurses or senior enrolled nurses constituted the majority. Even though both studies were conducted in the eastern region of Ghana, Asamani, Naab, and Ofei (2016) explored five hospitals using 275 nurses, whereas this study was carried out in 10 hospitals using 121 NMs. Again, the finding is inconsistent with the job description for nurses as outlined by the GHS which stipulates that an NM should be at least an SNO in rank (GHS 2005). This means that the majority of the respondents are not qualified to occupy such a vital position. However, owing to the circumstances at hand, they are compelled to assume the position of an NM without the requisite qualifications and competencies. This can have serious implications on both patient and staff outcomes.

Finally, the majority of the NMs (56.2%) have not received any management training before or after their appointment as a manager. This suggests that these NMs might not possess the requisite managerial competencies to navigate and properly manage the dwindling resources for optimum performance. This situation necessitates the training of both future and current nurses in management. However, this finding is inconsistent with the work of Ofei (2015) who reported that 79.8 per cent of NMs in the Greater Accra Region had received training in management. This contrasting finding may stem from the fact that the hospitals in the Greater Accra Region, the nation's capital, attract a high calibre of nurses because of their geographical location.

Technical Skills of Nurse Managers

Technical skills are a major concept in nursing since healthcare delivery even at the smallest nursing unit is complicated. To avoid medical errors, waste, and confusion, the appropriate technical skills are required. The study found that the NMs had the knowledge and ability to apply all the technical skills of the Katz Skills Model. Infection control practice was the highest rated technical skill. A similar finding has been reported among NMs in a United States Military Hospital (Anderson 2016). Hospital-acquired

infections are the major cause of patients' readmission to hospitals (Rahmqvist et al. 2016). This means there is a need for effective infection control practices to reduce the risk of infections. In Ghana, there has been extensive training on infection control by the GHS or the Ministry of Health in all the regions. A national team and regional teams provide the training periodically. This possibly explains why NMs scored higher in the knowledge and the ability to apply infection control practices in this current study. This finding also suggests that NMs have a deeper understanding of the importance of infection control practices.

The knowledge and the ability to apply new technology were the lowest rated technical skills. This finding is inconsistent with the work of Collins et al. (2017) and Yang et al. (2014) who concluded that NMs in the United States and South Korea exhibited a higher understanding of and ability when using new technology. Although technology comes with its challenges, it improves the process of workflow and outcomes tremendously. It is long overdue for NMs in Ghana to improve their skills in technology and to advocate the computerisation of the nursing process to ensure efficiency. However, if these are provided, NMs would have to increase their monitoring and supervisory roles to ensure staff would not use the technology for pleasure, therefore, neglecting the purpose of its installation.

Furthermore, the study found that experience as a nurse, experience as an NM, qualifications, and training in management together accounted for 15.4 per cent of the variance in NMs' technical skills. However, only training in management and qualification were statistically significant predictors of the regression model. Anderson (2016) reported similar findings in which management training significantly predicted 21.6 per cent of NMs' technical skills. This finding strengthens the call for the training of managers or senior leaders for future and current NMs, especially in Ghana. This will empower them to appreciate the fundamentals of managerial competencies and their impact on the unit performance.

Also, the study revealed that having a master's degree had a significant impact on the technical skills of NMs. This concurs with previous studies in which in-patient care was improved when care was delivered by nurses with a master's degree (Ge, Xi, and Guo 2015; Zwanikken et al. 2013). This implies that a master's degree can potentially alleviate several challenges that confront healthcare delivery at the unit; therefore this area should be explored further. NMs should be given opportunities to pursue masters' degrees in nursing to help improve their managerial competencies.

Human Skills of Nurse Managers

The failure of human relationships in the healthcare industry can negatively affect service delivery. The study found that NMs have knowledge of human skills (mean = 3.78, SD = 0.62) and the ability to apply them (mean = 3.60, SD = 0.66). Warshawsky, Havens, and Knafl (2012) and Lou et al. (2016) reported similar findings in the United States and China. The ability of the NMs to effectively relate to their

subordinates improves cohesion and team dynamics. Effective interpersonal relationships enable NMs to successfully and efficiently work with their subordinates. Lee and Doran (2017) reported a positive correlation between human skills, staff and patient satisfaction.

Furthermore, the study revealed that the knowledge and ability to apply effective communication were the highest rated human skills. This means NMs have the knowledge and ability to apply effective communicative skills required of them. This finding gives credence to the claim that nurses continually achieve patient-centred care through effective communication when patients' perceptions and feelings are obtained and dealt with to allay any fear and anxiety (Lee and Doran 2017). The need for NMs to effectively communicate with their subordinates to ensure efficiency and cohesiveness in the provision of patient care cannot be overemphasised. Chase (2010) reported similar findings among NMs in the United States.

The knowledge and ability to apply recruitment strategies were the least rated human skills. This contradicts the work of Anderson (2016) who reported in-depth knowledge and the ability to apply recruitment strategies among NMs in a United States Military Hospital. The lack of professional autonomy and involvement in policy formulation is responsible for low recruitment strategies. In Ghana, the recruitment of nurses in hospitals is done at the Regional Health Directorate and the distribution of staff made in line with the workload and human resource gaps of hospitals. Although NMs are not involved at this high-profile level, they are expected to understand the importance of nurse staffing strategies to enable them to make adequate inputs of the staffing needs of the unit.

Finally, the study established that experience as a nurse, experience as an NM, qualifications, and training in management together predicted 6.5 per cent of the variance in NMs' human skills. However, only training in management contributed to the regression model. This means that NMs who received training in management are more likely to exhibit more human skills. This is substantiated by the report of the GHS (2018) which indicates that staff should be trained in leadership and management before they are appointed to administrative positions. Earlier studies have reported similar findings (Anderson 2016; Asamani, Naab, and Ofei 2016).

Conceptual Skills of Nurse Managers

In today's competitive healthcare industry, knowledge of conceptual skills is crucial to achieving quality patient care. The study found that the knowledge and the ability to apply conceptual skills were the lowest rated managerial competencies. This finding corroborates the growing concern that NMs in Ghana to some extent lack the requisite conceptual skills because they are appointed to management positions based on long service and seniority rather than competence (Asamani, Naab, and Ofei 2016). Karathanasi et al. (2014) reported similar findings in a study in Greece in which NMs showed inadequate knowledge and ability in conceptual skills.

The study found that the knowledge and ability to apply ethical principles were the highest rated conceptual skills. This finding is inconsistent with the claim that several NMs in Ghana tend to lack the requisite ethical behaviour for management functions (Ofei 2015). In case this is the reality, then these NMs may not possess the required managerial competencies to ensure efficiency at the units. Azaare and Gross (2011) alluded that this claim can be dealt with by hospital managers through the allocation of a substantial budget for training in management for future and current NMs. This will enable NMs to be conscious of the consequences of unethical decisions to the nurses and the hospital.

The study further established that the knowledge and ability to apply the political process and advocacy were the least rated conceptual skills. This is consistent with the findings of an Australian study in which NMs felt ill-prepared and powerless in advocating for their subordinates in the politically dominating environment (Maclellan, Levett-Jones, and Higgins 2016). Although the findings of Maclellan, Levett-Jones, and Higgins (2016) and this current study seem similar, nurses in Australia have more professional autonomy compared to nurses in Ghana who grapple with restricted professional autonomy. Available literature indicates that inadequate formal education on health politics, lack of awareness, and limited opportunities for involvement are a few reasons that limit nurses' participation in political and advocacy roles (Brokaw 2016). Even though nurses shy away from politics, as they move up their professional ladder into management positions, politics and advocacy become part of their daily responsibilities. Given this, the need to advocate the inclusion of nurses in the policy formulation process cannot be overemphasised.

The study found that experience as a nurse, experience as an NM, qualifications and training in management together explained 17.4 per cent of the NMs' conceptual skills [$R^2 = .174$, $F_{(4, 105)} = 5.322$, $p = .001$]. However, only training in management contributed significantly to the model. This finding concurs with the work of Ofei (2015) and Asamani, Naab, and Ofei (2016). Similarly, Anderson (2016) reported that training in management explained 21.6 per cent of NMs' conceptual skills among NMs in a United States Military Hospital. This means that hospitals can increase one-fourth of NMs' conceptual skills by training them in management. Thus, management training appears to be one of the utmost important tools for enhancing the managerial competencies of NMs without huge financial implications. This highlights the need for continuous professional training programmes for nurses to indoctrinate in them the modern managerial competencies.

Conclusion

The study focused on the managerial competencies (technical, human and conceptual) of NMs in the eastern region of Ghana. The findings show that NMs exhibited all the managerial competencies consistent with the Katz Skills Model. The results demonstrate that the respondents' characteristics (experience as a nurse, experience as

an NM, qualifications, and training in management) together explained a significant proportion of the technical, human and conceptual skills of NMs. Only training in management contributed significantly to the regression models. However, the majority of the respondents had not received any training in management. Also, a master's degree had a significant impact on NMs' technical skills.

Recommendations

- Managerial competencies programmes should be designed in the Ghanaian context with more emphasis on technical, human and conceptual skills to enhance the managerial capacity of NMs in Ghana.
- In-services units of the Ghana Health Service should be strengthened to coordinate and plan the training needs of nurses and NMs to offer regular management and leadership training.
- Motivational packages should be instituted at the hospitals for all levels of management to make the NM position attractive and competitive.
- NMs should also be given the opportunity to pursue master's degrees to help improve their competencies. Also, consideration should be given to nurses with master's degrees during the appointment of NMs.

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