

Education and Hospital Manager's Administrative Competency: What Impact is of a Higher Degree?

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Abstract

Today's healthcare executives and leaders must have management talent sophisticated enough to match the increased complexity of the healthcare environment. Executives are

expected to demonstrate measurable outcomes and effectiveness and to practice evidence-based management. It has long been held that higher education could enhance the administrative competency of hospital managers and this study was constituted to examine that notion. Data for this study came from a cross-sectional survey distributed amongst management staff in twenty five (25) hospitals that were purposively selected. Descriptive statistics-- were used to summarize the items of the questionnaire. Inferential statistics--was used to determine whether significant difference existed between groups (those with 1st degree and those with higher degree) in the overall administrative competency scores. These statistical techniques were done using the IBM SPSS version 20. Overall, there was a significant competency difference between administrators with 1st degree and those with higher degree, $p = .048$ in favour of the latter. The mean rank indicates that administrators with higher degree (54.30) had higher overall managerial skill competencies than those with 1st degree (42.47). This work has no doubt demonstrated the positive effect of higher education on administrators' competency overall scores. The more educated a manager is, the better is his cognitive reasoning and administrative competency.

Keywords: *Hospital administrators, measurable outcomes, job performance, higher education, cross-sectional survey, Nigeria*

Introduction

Today's healthcare executives and leaders must have management talent sophisticated enough to match the increased complexity of the healthcare environment. Executives are expected to demonstrate measurable outcomes and effectiveness and to practice evidence-based management (Stefl, 2008). At the same time, academic and professional programmes are emphasizing the attainment of competencies related to workplace effectiveness (Stefl, 2008). Behind the thought of academic and professional programmes for work place effectiveness is for hospital executives to improve on their competencies through educational attainment so as to maximize measurable performance outcomes for the hospitals they serve. Within this background, is there a link between measurable managerial competency outcomes and higher educational attainment the question may ask? Does higher educational attainment improve managerial competency of hospital managers becomes the big question. This paper analyzes how much influence higher educational attainment has on managers' managerial competency. The shift to evidence-based management has led to numerous efforts to define the competencies most appropriate for healthcare (Stefl, 2008). The Healthcare Leadership Alliance (HLA), a consortium of six major professional membership organizations, used the research from and experience with their individual credentialing processes to posit five competency domains common among all practicing healthcare managers: (Stefl, 2008) communication and relationship management, (Criffith, 2001) professionalism, (Calhoun et al; 2002) leadership, (Westera, 2001) knowledge of the healthcare system, and (Bradley, 2003) business skills and knowledge (Stefl, 2008).

Our investigation which fits into the five competency domains for healthcare managers is centred on the following domains: Program and project management, financial management, service delivery and innovation, change management, knowledge management, human resource (HR) empowerment, communication skills, honesty and integrity, leadership and influence and clients care management. This paper has the responsibility of ascertaining if higher managerial education has the ability of influencing managers' competency in the above listed domains of hospital management.

In an environment of escalated public demand, it is only logical to question the competence of healthcare leaders and managers in the hospital. As noted in (Stefl, 2008), (Criffith, 2001), the increased difficulty of running a healthcare organization has led to the need for managers with more sophisticated capabilities which could be gotten through professional development and educational attainments. More broadly, higher education has struggled with the issue of competency-based education for some time (Stefl, 2008), (Calhoun JC, 2002), (Westera, 2001). The main idea behind this initiative is to design curricula based on the roles that graduates will assume after completing their degree and to incorporate the specific knowledge, skills, and abilities (KSAs) that future employees will need. However, little evidence shows a link between actual performance and competency attainment (Stefl, 2008), (Bradley, 2005), an area of inquiry that clearly needs more attention as competency models continue to develop. Aside from this work in the academia, the United States (US) National Center for Healthcare Leadership has expended considerable effort in creating a competency model that can be applied to professional development and to academic programmes (Stefl, 2008), (Caihoun IG, 2004), ((NCHL). 2005).

The explanation of the United States KSAs five competency domains that were common among the membership of all six associations as offered by Stefl (Stefl MB, 2003b) includes:

1. Communication and Relationship Management: The ability to communicate clearly and concisely with internal and external customers, to establish and maintain relationships, and to facilitate constructive interactions with individuals and groups.

2. Leadership: The ability to inspire individual and organizational excellence, to create and attain a shared vision, and to successfully manage change to attain the organization's strategic ends and successful performance.

3. Professionalism: The ability to align personal and organisational conduct with ethical and professional standards that include a responsibility to the patient and community, a service orientation, and a commitment to lifelong learning and improvement.

4. Knowledge of the Healthcare Environment: The demonstrated understanding of the healthcare system and the environment in which healthcare managers and providers function.

5. Business Skills and Knowledge: The ability to apply business principles, including systems thinking, to the healthcare environment; basic business principles include (a) financial management, (b) human resource management, (c) organizational dynamics and governance, (d) strategic planning and marketing, (e) information management, (f) risk management, and (g) quality improvement (Stefl MB, 2003b).

Evidence from the literature suggests a mix result in the relationship between higher educational attainment (training) and job performance of managers. From the UK (Melanie et al; 2008), we learned that while there is clear evidence that training is positively associated with job satisfaction, and job satisfaction in turn is positively associated with most measures of performance, the relationship between training and performance is complex, depending on both the particular measures of training and of performance used in the analysis.

There are a number of difficulties in establishing linkages between training and workplace performance (Melanie et al; 2008), (Akerlof, 1982), not least in measuring the latter, there being no single definition. Various measures of performance include productivity, product

quality, financial performance, pay rates, turnover, efficiency scrap rates, labour turnover, job creation, absenteeism, perceived organisational performance and perceived market performance (Melanie et al; 2008). Second, there is unlikely to be a single generic cause of productivity or profitability; there are a number of ways in which firms can become successful, including re-skilling and work intensification (Melanie et al; 2008). A further difficulty arises from the way data are collected. Many studies rely heavily on single respondents within an organisation, who may not be able to assess adequately relative performance. The cross-sectional nature of many studies also means that the causal links between the variables chosen cannot always be firmly established (Melanie et al; 2008). Training can have an indirect effect on performance if it increases job satisfaction by, for example, making it easier for employees (managers) to perform the job or feel more valued (Melanie et al; 2008). The relationship between academic qualification and performance is normally measured by the task completion and satisfaction but there is no general agreement on how it is best tested or which aspect is most important in measuring job performance (Jaoko, 2014), (Diamond et al; 2012). Van, Okechuku and Heeler (Jaoko, 2014), (Van et al; 1991), articulate that Job performance and academic qualifications are closely linked and that some professions directly link or prequalify employees based on academic qualifications. Academic qualifications increasingly determine job performance in that it ensures that the person has the basics in learning. Better job performance is highly possible when a person has strong basic grounding in the task given (Jaoko, 2014). Also, with academically qualified employees, job performance is improved as employees feel worthy and more secure in completing the tasks assigned. Research coming from Namibia provides that overall, educational qualifications have a significant bearing on job performance. The higher the education level, the more are the effects of education and skill on job performance (Kasika, 2015). As such people's ability to understand and use advanced technology is determined by the level of their education. The educated workers tend to be more responsive in receiving instructions and doing new tasks and easily adopt new technology, which increases their ability to innovate and improve job performance (Kasika, 2015). However, the main factors considered to limit the positive effect of educational qualifications on job performance at the workplace include the quality of the work environment, organisational structure and processes, the assignment of employees in posts which did not match their qualifications and the lack of incentive systems (Kasika, 2015). A research coming out of Nigeria confirmed that there is a significant relationship between educational qualification and job performance of employees. This, the authors posit was because professionalisation has long been established for efficiency and effectiveness for those well qualified for their job (Gede et al; 2011).

Having thoroughly gone through the literature, we were able to come to the understanding that though education plays an important role in managers' performance ability, there are also other reporting variables that do influence the performance of health care managers in the hospital. Putting too much weight on education as the sole factor or predictor of job performance will be erroneous. Our study took cognizance of that, and we adjusted our findings to mean if all other variables that may influence managers' job performance are held constant, education could possibly be seen as an influence on job performance. That is, all other things being equal, the influence of education on managers' job performance could be positive. Education cannot be ruled out as a positive contributor to job performance among other variables as educated persons are likely to have better cognitive power that enhances performance on the job. Never-the-less, our work looks at the difference education could make on the administrative competence of hospital managers everything being equal.

A study coming from Saudi Arabia (Al-Ahmadi, 2009) finds that job performance is positively correlated with organisational commitment, job satisfaction and personal and professional variables. Both job satisfaction and organizational commitment are strong predictors of nurse managers' performance. Job performance is positively related to some personal factors, including years of experience, nationality, gender, and marital status (Al-Ahmadi, 2009). Level of education was found to be negatively related to performance in that study (Al-Ahmadi, 2009). The study advised that emphasis should be placed on effective supervision, empowerment, and a better reward system in order to enhance job performance (Al-Ahmadi, 2009). Results from many other studies have strong inclination showing that education is positively related to *core task performance*. In two major studies, Hunter and his colleagues (THOMAS et al; 2009), (Hunter et al; 1984), (Schmidt et al; 1998) found that cognitive ability was strongly related to job performance and was an important contributor to success on virtually every job. Further, Hunter (Hunter et al; 1984) suggests that cognitive ability facilitates the learning of job-relevant knowledge and thereby indirectly promotes stronger job performance as well. Thus, although education facilitates performance in most jobs (THOMAS et al; 2009), (Hunter, 1986), (Kuncel et al; 2004), its effects are likely to be more pronounced in the case of managers. For example, it is particularly critical for managers to be persistent in their efforts and to seek out more responsibility (THOMAS et al; 2009), (Kuncel et al; 2004). Greater cognitive ability may be especially important on abstract managerial tasks like developing market strategy, whereas greater emotional intelligence may be especially important in managerial tasks like leading change (THOMAS et al; 2009), (Rose, 2004). Based on similar reasoning, we expect that the relationships between education and job performance will be stronger for individuals in high complexity jobs (THOMAS et al; 2009), (Avolio et al; 1990). Avolio and Waldman (THOMAS et al; 2009), (Avolio et al; 1990) define job complexity as the level of general intelligence, verbal ability, and numerical ability required to perform a job. Jobs of high complexity (e.g., doctors, engineers, lawyers, scientists) not only demand greater intellectual capacity and job knowledge, but also require incumbents to have strong motivation and persistence in order to excel (THOMAS et al; 2009), (Klehe et al; 2007). In contrast, jobs of low complexity (e.g., file clerks) are unlikely to put the same demands on individuals' abilities, knowledge, and effort levels. As a result, the positive outcomes of education (e.g., greater cognitive ability, greater job knowledge, and greater achievement motivation) are likely to accelerate performance on jobs with high complexity even further.

Defining the domains of our investigation

Defining our domains of investigation will make our findings less abstract to practicing hospital managers and administrators by conveying precisely our results, recommendations and conclusion to the understanding of stakeholders in the field of hospital management in a meaningful way by looking at how improved education could influence the performance of hospital managers. These domains of investigation contained in our project are a must for practicing hospital managers which they must all thrive to acquire and strive in practice. Programme and project management: As part of strategic planning process, programme planning is a process that is designed to address questions such as "What is needed?" and "How will the needs be addressed?" in a corporate body like hospital. Through a systematic process, the answers to these questions form the basis of an intervention approach as was shown in (www.oxfordbibliographies.com). The methods and approaches used in programme planning and evaluation occur throughout the lifecycle of a programme—from planning and implementing to assessing outcomes as (www.oxfordbibliographies.com) revealed. Typically, the program planning cycle begins with the needs assessment process, progresses to identifying strategies to address needs, and then moves into implementation and evaluation

that occurs in a continuous cycle, which facilitates ongoing review of needs and programme improvement as was indicated in (www.oxfordbibliographies.com). A typical corporate body like a hospital is constantly looking out for a competitive edge over other providers and by so doing seeks what needs to be done and how to do it to keep the hospital ahead of competitors. Project management has emerged as one of the most prominent business skills of our time because its use can help control costs, reduce risk, and improve outcomes (www.oxfordbibliographies.com). Used across disciplines, project management is the process of systematically planning, organizing, and then executing a pre-determined set of steps in order to maximize resource use and achieve specific objectives (A primer on project management, 2018).

Financial management: The primary role of financial management is to plan for, acquire, and utilize funds (capital) to maximize the efficiency and value of the enterprise. Because of this role, financial management is known also as *capital finance*. In larger organizations, financial management and accounting are separate functions, although the accounting function typically is carried out under the direction of the organisation's *chief financial officer (CFO)* and hence falls under the overall category of "finance" (Dong, 2015). In general, the financial management function includes the following activities: Evaluation and planning, long-term investment decisions, financing decisions, working capital management, contract management, financial risk management. Hospital financial condition is a multi-facet concept that can be measured along many dimensions: capital structure, cost, profitability, liquidity, and efficiency (Dong, 2015).

Service delivery and innovation: can be defined as—the intentional introduction and application within a role, group, or organisation, of ideas, processes, products or procedures, new to the relevant unit of adoption, designed to significantly benefit the individual, the group, or wider society (Omachonu et al; 2010), (West, 1990). This definition is largely accepted among researchers in the field (Omachonu et al; 2010), (Anderson et al; 2004), as it captures the three most important characteristics of innovation: (a) novelty, (b) an application component and (c) an intended benefit (Omachonu et al; 2010), (Lansisalmi et al; 2006). Innovation in healthcare continues to be a driving force in the quest to balance cost containment and health care quality. Innovation is considered to be a critical component of business productivity and competitive survival (Omachonu et al; 2010). Technological innovations present vast opportunities for 1) product innovation – the introduction of new types of goods and services for the external market and 2) process innovation – enhancement of internal production processes for goods and services (Omachonu et al; 2010)).

Change management: Is characterized by introduction of innovative changes to enable an organisation adapt to prevailing forces within or outside the organisation. As (Lee and Alexander (1999) note, it is "certainly not news" that change rather than stability is now the norm in health care organizations and that the ability to change and adapt is critical for success. Whether the change is in the structure of an organization or the adoption of new procedures or processes, summaries of these researches (David et al; 2008), (Bazzoli et al; 2004), (Fleuren et al; 2004) suggest that change and innovation fail not because the new strategies or goals are inappropriate but rather because organizations are unable to successfully implement them.

Knowledge management: The Knowledge Management (KM) process covers any form of managing, storing, distributing and using knowledge. This process involves the treatment of large data volumes, demanding the use of information technologies to achieve acceptable

efficiency. To enhance growth, development, communication and knowledge preservation in an organization, KM allows professionals to reach rapid and assertive responses, linked with the decisions they need to take (Rocha et al; 2017), (Montani et al; 2002). In that sense, information systems, present in many health institutions, such as e-learning, allow professionals in this area to develop tacit knowledge storage capacities, which will later be converted into explicit knowledge (Rocha et al; 2017), (Sandars et al; 2006). Explicit knowledge comprises text represented in books and written documents, or taxonomies and rules (Rocha et al; 2017), (Montani et al; 2002). It is reliable, formal, systematic, easy and rapid to disseminate and connects people (Rocha et al; 2017), (Sandars et al; 2006), (Mendes et al; 2002). Tacit knowledge results from personal experience accumulated for many years (Rocha et al; 2017), (Sandars et al; 2006), marked by intuition, good sense and insights (Rocha et al; 2017), (Mendes et al; 2002). In this type of knowledge, sharing is needed, which turns dialogue into an important learning mechanism. These two knowledge types intermingle in institutions (Rocha et al; 2017), (Mendes et al; 2002).

Human resource (HR) empowerment: Human resources, when pertaining to health care, can be defined as the different kinds of clinical and non-clinical staff responsible for public and individual health intervention (Stefane, et al; 2006), (World Health Organization, 2000). As arguably the most important of the health system inputs, the performance and the benefits the system can deliver depend largely upon the knowledge, skills and motivation of those individuals responsible for delivering health services (Stefane, et al; 2006), (World Health Organization, 2000). Human resources in health sector reform also seek to improve the quality of services and patients' satisfaction. Health care quality is generally defined in two ways: technical quality and socio-cultural quality. Technical quality refers to the impact that the health services available can have on the health conditions of a population. Human resource technical improvement deals with staff empowerment to deliver quality health care (Stefane, et al; 2006), (Zurn et al; 2004)

Communication skills: A doctor's communication and interpersonal skills encompass the ability to gather information in order to facilitate accurate diagnosis, counsel appropriately, give therapeutic instructions, and establish caring relationships with patients (Fong et al; 2010), (Duffy et al; 2002), (Van Zanten et al; 2007), (Brédart et al; 2005). These are the core clinical skills in the practice of medicine, with the ultimate goal of achieving the best outcome and patient satisfaction, which are essential for the effective delivery of health care (Fong et al; 2010), (Brédart et al; 2005), (Henrdon et al; 2002). Effective doctor-patient communication is a central clinical function in building a therapeutic doctor-patient relationship, which is the heart and art of medicine. This is important in the delivery of high-quality health care. Much patient dissatisfaction and many complaints are due to breakdown in the doctor-patient relationship. However, many doctors tend to overestimate their ability in communication (Fong et al; 2010).

Honesty and integrity: Understanding the role of integrity and trust at an individual and organizational level are metrics to build the absolute standard of what a great workplace is (Shahidet al; 2013). At its most basic level integrity, respect and trust is the assurance people have that one will certainly act in their best interest, never knowingly committing actions that might harm them. There is no particular activity that will build integrity; rather, you institute both over time by consistently exhibiting a number of behaviours and conduct. Integrity, as a measure of coherence and consistency, is key to establishing and sustaining trust (Shahidet al; 2013). We trust those who are honest and consistent in their actions, who fully acknowledge valuable information, who are willing to deal with tough issues, and who are open about their

ambitions and motives. At the corporate level it takes individuals of integrity to cultivate a consensus around mutual values. As this consensus builds, the corporation fosters a culture of Integrity. A culture of integrity creates a highly respected work environment; it impacts the quality of corporate administration; and it provides a foundation for worthy long-term financial performance. This paper focuses on the issues of the integrity of the individual and its importance at the corporate level in creating a culture of integrity and trust (Shahidet al; 2013).

Leadership and influence: Leadership has been described as the behavior of an individual when directing the activities of a group toward a shared goal. The key aspects of the leadership role involves influencing group activities and coping with change (Al-Sawal et al; 2013). Interactional leadership theories (1970 to the present) focus on influence within the specific organizational environment and the interactive relationship of the ‘leader’ with the ‘follower’. An emerging theory involves supportive leadership, which states that supporting and building relationships with employees will increase the likelihood that they will be positively influenced and motivated to work towards goals. The theory is founded on organizational behaviour studies that suggest that people are happier and more satisfied in their work when they have supportive leaders who empathize at a personal level (Al-Sawal et al; 2013), (Garman et al; 2010), (Collins et al; 2004). Healthcare systems are composed of numerous professional groups, departments, and specialties with intricate, nonlinear interactions between them; the complexity of such systems is often unparalleled as a result of constraints relating to different disease areas, multidirectional goals, and multidisciplinary staff. Within large organizations such as healthcare systems, the numerous groups with associated subcultures might support or be in conflict with each other. Leadership needs to capitalize on the diversity within the organization as a whole and efficiently utilize resources when designing management processes, while encouraging personnel to work towards common goals. A number of leadership approaches can be adapted to the healthcare setting to optimize management in this highly complex environment (Al-Sawal et al; 2013), (Bolman et al; 2003).

Clients care management: Managers in healthcare have a legal and moral obligation to ensure a high quality of patient care and to strive to improve care. These managers are in a prime position to mandate policy, systems, procedures and organisational climates. Accordingly, many have argued that it is evident that healthcare manager possesses an important and obvious role in quality of care and patient safety and that it is one of the highest priorities of healthcare managers (Parand et al; 2007), (Kizer,2001a), (Kizer,2001b), (Berwick, 2007). Significant positive associations with quality included compensation attached to quality, using quality improvement measures and having a Board quality committee (Parand et al; 2007).

Search of the literature revealed very little on the direct influence of education on hospital managers’ administrative competency generally and Nigeria in particular justifying the undertaking of this project. The results of this work it is hoped will help understand the specifics of the how and influence of education on managers’ administrative competency and help fashion out strategies on how to use education to enhance managers’ administrative ability through curricula designs and professionalism.

Methods and Subjects

Data for this study came from a cross-sectional survey using self-administered questionnaire distributed among management staff in twenty five (25) hospitals that were purposively

selected. The criteria for selection were that each of the hospitals must be at least twenty (20) bedded and employs at least twenty five [25] persons. A pre-tested structured self-administered questionnaire was used during the period January to April 2015 to collect the preliminary data from each respective respondent. Emphasis on data collection included respondents' socio-demographics, levels of managers' education and administrative competence of hospital managers.

Hospitals in the federal capital territory (FCT) Abuja, Nigeria were used in the study with the surveyed staff being designated as Hospital Director, Hospital Manager, Hospital Administrator, Hospital Chief Executive Officer or Chief Medical Director. Those provided with the questionnaire were also heads of units responsible for the day to day administration and operation of hospital amenities with a minimum of diploma or bachelor's degree (or equivalent) obtained in any academic discipline. Questionnaires were distributed directly to the respondents. One hundred and twenty (125) questionnaires were distributed, out of which one hundred and four (104) were answered and returned giving a response rate of 83.2%. The twenty five (25) hospitals surveyed are:

1. NISA Premiere Hospital, Jabi Abuja
2. Garki Hospital, Garki Abuja
3. M&M Hospital, Karshi, Abuja
4. Kelina Hospital, Gwarimpa , Abuja
5. Zanklin Medical Center, Abuja
6. Primus supper Specialty Hospital, Karu, Abuja
7. RUZ Medical and Diagnostic Center, Abuja
8. St Francois Medical Center Abuja
9. Asokoro General Hospital, Abuja
10. Alhassan Hospital, Abuja
11. Amana Medical Center, Abuja
12. First Hospital and Maternity, Abuja
13. Horizons Medical center, Abuja
14. Ideal Hospital, Abuja
15. Iduna Specialists Hospital, Abuja
16. Kings Care Hospitals, Abuja
17. University of Abuja teaching Hospital, Gwagwarada, Abuja
18. Federal Staff Clinic , Abuja
19. Wuse general Hospital, Abuja
20. National Hospital, Abuja
21. Cedar Crest Hospital, Abuja
22. Silver Fountain Hospital ,Abuja
23. Abuja Unity Hospital and Maternity, Abuja
24. Bio Royal Hospital, Abuja
25. Corner Stone Specialists Hospital, Abuja

Ethics approval and consent to participate

Ethics approvals were obtained from the respective research ethics committees of the individual hospitals as above so listed. While the data were being collected, verbal consent was obtained from respective respondent. The respondents were assured of their confidentiality and were provided with the choice of not partaking in the study if they so wished. The research was conducted according to Helsinki declaration and local legislations.

Method of Data Analysis

The collected data was subjected to both descriptive and inferential statistics. Descriptive statistics--frequency, percentage, mean and standard deviation were used to summarize the items of the questionnaire. Inferential statistics-- Mann-Whitney U Test was used to determine whether significant difference existed between groups (those with 1st degree and those with higher degree). The test was adopted as a result of normality assumption violation. Decisions were made on all inferential statistics was at 5% level of significance. A logistic regression was performed on the data to predict the logit of being a competent administrator. The demographic data served as the predictors while the competent status (overall competent score categorized to binary variable) served the predicted variable. These statistical techniques were done using the IBM SPSS version 20.

Results

Table 1: Demographic Data of the Participants

		Frequency	Percent
Age	25-35 years	14	13.5
	35-45 years	55	52.9
	45-60 years	35	33.7
Gender	Male	66	63.5
	Female	38	36.5
Academic qualification	Bachelor's degree (First)	36	34.6
	Post graduate diploma (Higher)	29	27.9
	Master's degree & higher (Higher)	35	33.7
	Others	4	3.8
Respondents from different Hospital type	Private	44	42.3
	Government	41	39.4
	Non-governmental	5	4.8
	Faith based	14	13.5
Current designation	Administrative officer	25	24.0
	Hospital administrator	19	18.3
	CEO/Hospital director	19	18.3
	Medical director	41	39.4
Experience in hospital management	Less than 2 years	24	23.1
	3-10 years	49	47.1
	> 10 years	31	29.8
Informal training obtained in healthcare management	In-service training	88	84.6
	Mentoring	15	14.4
	Non certified courses	1	1.0
Intention to attend healthcare management programme within the next 5 years	Yes	65	62.5
	No	39	37.5
No. of staff in the hospital	Below 24	20	19.2

	25-50	35	33.7
	50-100	36	34.6
	100 and above	13	12.5
No. of hospital beds	25-50 beds	26	25.0
	50-100 beds	52	50.0
	> 100 beds	26	25.0

Table 1 displays the demographic data of the Hospital Administrators. Majority of the administrators were aged between 35-45 years (52.9%). There were more males (63.5%) than females (36.5%) amongst them, and more bachelor's degree (34.6%) and Master's degree holders (33.7%) as well. Most of them were either in the private hospital (42.3%) or government hospital (39.4%) of which medical directors (39.4%) and those with 3-10 years hospital management experience (47.1%) were predominant.

In informal healthcare management training, all had obtained training of which in-service training predominated (84.6%). Most of the administrators also had the intention of attending healthcare management programme within the next five years (62.5%).

In number of staff, greater part had either 25-50 staff (33.7%) or 50-100 staff (34.6%) in the hospital while in the number of beds, it was 50-100 beds (50.0%).

Table 2: Competences in Developed Abilities of Administrators with 1st Degree and those with Higher Degree

Developed Abilities	1st Degree M±SD	Higher Degree M±SD
Program and project management	2.72±1.00	2.69±0.64
Financial management	2.33±0.83	2.50±0.73
Service delivery and innovation	2.56±0.84	2.81±0.61
Change management	2.69±0.82	2.98±0.58
Knowledge management	3.03±0.65*	3.00±0.59*
HR empowerment	2.67±0.76	3.05±0.63*
Communication skills	2.78±0.80	3.23±0.56*
Honesty and integrity	3.14±0.87*	3.27±0.51*
Leadership and influence	3.25±0.84*	3.31±0.53*
Clients care management	3.11±0.78*	3.28±0.52*

* implies developed ability in which administrators were competent (ability with $M \geq 3$)

Table 2 displays the managers'/administrators' competence in developed abilities. Administrators with 1st degree and those with higher degree were competent in knowledge management, honesty and integrity, leadership and influence and clients care management. However, administrators with higher degree were also found more competent in human resource (HR) empowerment and communication skills.

Table 3: Competences in Planning Skills of Administrators with 1st Degree and those with Higher Degree

Planning skills	1st Degree	Higher Degree
	M±SD	M±SD
Programme planning	2.42±0.77	2.53±0.80
Preparation of a strategic plan	2.42±0.84	2.61±0.77
Creating a vision for your hospital	2.83±0.88	2.75±0.64

* implies planning skill in which administrators were competent (skill with $M \geq 3$)

Table 3 displays the administrators' level of competency in planning skills. Amongst the administrators, those with 1st degree and those with higher degree were not competent in the listed planning skills.

Table 4: Competences in Leading Skills of Administrators with 1st Degree and those with Higher Degree

Leading skills	1st Degree	Higher Degree
	M±SD	M±SD
Team management	3.28±0.74*	3.11±0.69*
Communicating organizational goals	3.14±0.49*	3.09±0.53*
Managing conflicts	3.14±0.49*	3.09±0.53*
Motivating employees	2.94±0.58	3.09±0.58*
Labour relations	2.92±0.69	2.95±0.65
Setting organizational culture	3.08±0.55*	3.03±0.67*

* implies leading skill in which administrators were competent (skill with $M \geq 3$)

Table 4 displays the administrators' competences in leading skills. Administrators with 1st degree and those with higher degree were competent in team management, communicating organizational goals, managing conflicts and setting organizational culture. Administrators with higher degree were also competent in motivating employees.

Table 5: Competences in Controlling Skills of Administrators with 1st Degree and those with Higher Degree

Controlling skills	1st Degree	Higher Degree
	M±SD	M±SD
Measurement of organizational performance	2.56±0.69	2.83±0.83
Assessing the quality of hospital care	3.00±0.63*	3.00±0.62*
Evaluating health services delivery progress	3.28±0.61*	3.13±0.63*
Financial performance evaluation	2.11±0.92	2.14±0.77
Assessing patients satisfaction	3.00±0.53*	3.00±0.44*
Implementing health quality improvement system	3.00±0.41*	3.13±0.33*
Nursing quality management	3.22±0.54*	3.06±0.61*
Providing feedback to patients and staff	3.31±0.47*	3.23±0.43*

* implies controlling skill in which administrators were competent (skill with $M \geq 3$)

Table 5 displays the administrators' competency levels in controlling skills. Both administrators with 1st degree and those with higher degree were competent in assessing the quality of hospital care, evaluating health services delivery progress, assessing patients'

satisfaction, implementing health quality improvement system, nursing quality management and providing feedback to patients and staff.

Table 6: Competences in Organisational Skills of Administrators with 1st Degree and those with Higher Degree

Organisation skills	1st Degree M±SD	Higher Degree M±SD
Structure health service organisations	2.69±0.79	2.61±0.83
Budgeting	2.47±0.61	2.48±0.84
Resource planning	2.94±0.47	2.78±0.70
Human resource planning	2.92±0.60	2.84±0.72
Use health technology	2.72±0.85	2.69±0.61
Performance appraisal	2.92±0.44	2.95±0.45
Organising nursing training	2.83±0.65	2.90±0.53
Allocation of financial resources	2.83±0.74	2.92±0.63

* implies organizational skill in which administrators were competent (skill with $M \geq 3$)

Table 6 displays the administrators' competency levels in organisational skills. Both for administrators with 1st degree and those with higher degree, none reported being competent in the use of technology, performance appraisal, organizing nursing training and allocation of financial resources.

Table 7: Competences in Self-Assessment Skills of Administrators with 1st Degree and those with Higher Degree

Self-assessment skills	1st Degree M±SD	Higher Degree M±SD
Time management	3.50±0.61*	3.37±0.70*
Acting independently	3.56±0.61*	3.58±0.56*
Awareness of personal weakness and strength	3.31±0.79*	3.44±0.61*
Balancing work and life issues	3.53±0.88*	3.45±0.71*
Ability to learn from experience	3.61±0.64*	3.50±0.67*
Self-development	3.42±0.60*	3.58±0.50*

* implies self-assessment skill in which administrators were competent (skill with $M \geq 3$)

Table 7 displays the administrators' competences in self-assessment skills. Both administrators with 1st degree and those with higher degree were competent in all the listed self-assessment skills: time management, acting independently, awareness of personal weakness and strength, balancing work and life issues and self-development.

Table 8: Competency Comparison on Managerial Skills between Administrators with 1st degree and those with Higher Degree

Competence in	Administrators' academic qualification	M±SD	Mean Rank	Mann- Whitney	p-value
Developed abilities	1st Degree (n = 36)	28.28±5.84	45.26	963.5	.170
	Higher Degree (n = 64)	30.12±2.90	53.45		
Planning skills	1st Degree (n = 36)	7.67±2.03	49.47	1115.0	.778

	Higher Degree (n = 64)	7.89±1.95	51.08		
Leading skills	1st Degree (n = 36)	18.50±2.57	53.15	1056.5	.465
	Higher Degree (n = 64)	18.38±3.01	49.01		
Controlling skills	1st Degree (n = 36)	23.47±3.05	48.07	1064.5	.521
	Higher Degree (n = 64)	23.52±2.69	51.87		
Organisation skills	1st Degree (n = 36)	22.33±3.25	48.47	1079.0	.683
	Higher Degree (n = 63)	22.30±3.51	50.87		
Self-assessment skills	1st Degree (n = 36)	20.92±3.23	50.60	1148.5	.979
	Higher Degree (n = 64)	20.92±3.07	50.45		
Overall managerial skills	1st Degree (n = 36)	121.17±9.61	42.47	863.0	.048
	Higher Degree (n = 63)	123.29±11.99	54.30		

Table 8 displays the comparison between administrators with 1st degree and those with higher degree in managerial skills competency. In developed abilities ($p = .170$), planning skills ($p = .778$), leading skills ($p = .465$), controlling skills ($p = .521$), organisation skills ($p = .683$) and self-assessment skills ($p = .979$), there was no significant competency difference between administrators with 1st degree and those with higher degrees. This implies that their competencies in the aforementioned managerial skills were the same. However, in the overall managerial skills, there was a significant competency difference between administrators with 1st degree and those with higher degree, $p = .048$. This implies that their competencies were not the same compared overall. The mean rank indicated that administrators with higher degree (54.30) had higher overall managerial skills than those with 1st degree (42.47).

Table 9: Competency Classification of Overall Managerial Skills of Administrators

		Frequency	Percent
Competency status	Not competent (competent score < 123)	43	41.3
	Competent (competent score \geq 123)	61	58.7

Competent score 123 implies to have a good skill on the average in all the listed skills

Table 9 displays the classification of overall managerial skills competency. A little above fifty eight percent (58.7%) of the administrators were classified to be competent while 41.3% were classified to be non-competent.

Table 10a: Logistic Regression Classification Table, Model Summary and Omnibus Test of Model Coefficients on Assessment of Managerial Competence of Hospital Administrators

Classification Table		Model Summary				Omnibus Test of Model Coefficients				
Observed	Predicted	Competence Status		% Correct	-2 LogCox likelihood	& Nagelkerke R ²	χ^2	df	p	
		Not competent	Competent							
Competence Status	Not competent	32	8	80.0	82.284	.387	.519	45.934	17	< .001
	Competent	12	42	77.8						
Overall %				78.7						

The cut value is .500

Table 10b: Logistic Regression Model Coefficients

	B	S.E.	Wald	df	Sig.	Exp(B)	95% C.I. for EXP(B)	
							Lower	Upper
Constant	.089	2.421	.001	1	.971	1.093		
Age			.337	2	.845			
35-45 years	.420	1.080	.151	1	.697	1.522	.183	12.645
45-60 years	.879	1.516	.336	1	.562	2.410	.123	47.041
Gender (Female)	1.412	.912	2.399	1	.121	4.105	.687	24.512
Academic Qua. (Higher degree)	.994	.936	1.128	1	.288	2.702	.431	16.921
*Hospital type			8.570	2	.014			
Private	-1.791	1.076	2.770	1	.096	.167	.020	1.375
Faith-based	-4.483	1.564	8.214	1	.004	.011	.001	.242
Current designation			7.566	3	.056			
Administrative officer	-2.010	.939	4.580	1	.032	.134	.021	.844
Hospital administrator	-1.519	1.066	2.031	1	.154	.219	.027	1.769
CEO/hospital director	-2.725	1.197	5.179	1	.023	.066	.006	.685
*Experience in hospital mgt			5.998	2	.050			
3-10 years	-1.945	.903	4.637	1	.031	.143	.024	.840
Above 10 years	.625	1.745	.128	1	.720	1.868	.061	57.070
Informal training (Mentoring)	.346	1.056	.108	1	.743	1.414	.178	11.205
Intention to attend (Yes)	.017	1.087	.000	1	.988	1.017	.121	8.562
*No of hospital staff			11.998	2	.002			
25-50	4.895	1.427	11.768	1	.001	133.609	8.152	2189.775
51-100	2.660	1.086	5.997	1	.014	14.299	1.701	120.230
No of hospital beds			3.163	2	.206			
50-100	-1.593	1.480	1.158	1	.282	.203	.011	3.699
Above 100	-0.021	1.614	.000	1	.989	.979	.041	23.153

Predictors: Age, Gender, Academic qualification, Hospital type, Current designation, Experience in hospital mgt, Informal training received in healthcare mgt, Intention to attend healthcare mgt prog in next 5 years, No. of hospital staff & No. of hospital bed

Reference category: Age (25-35 yrs), Gender (Male), Academic qual. (Higher degree), Hosp. type (Government), Designation (Med. Director), Experience in hosp. mgt (≤ 2 yrs), Informal training (In-service), Intention to attend healthcare mgt prog (No), Hosp. staff (< 25), Hosp. bed (25-50)

The logistic regression model (Tables 10a&b) (logit (being a competent administrator) = $0.089 + 0.420*35-45$ years) + $0.879*(45-60$ years) + $1.412*gender$ + $0.994*academic$ qualification – $1.791*private$ hospital – $4.483*faith-based$ hospital – $2.010*administrative$ officer – $1.519*hospital$ administrator – $2.725*CEO/hospital$ director – $1.945*(3-10$ years) + $0.625*(above 10$ years) + $0.346*informal$ training + $0.017*intention$ to attend + $4.895*(25-50$ staff) + $2.660*(51-100$ staff) – $1.593*(50-100$ beds) – $0.021*(above 100$ beds)] explained 51.9% (Nagelkerke R^2) of the variation in the administrators' competence status (that is, whether competent or not competent). It also correctly predicted the status of 78.7% of persons. The omnibus test of model coefficients using the Chi-Square revealed that the model coefficients were significant, $\chi^2(17) = 45.934$, $p < .001$.

The Wald statistic further indicated that the model coefficient of hospital type ($p = .014$), experience in hospital management ($p = .050$) and number of hospital staff ($p = .002$) were significant. This implies that in classifying an administrator to be competent, holding other predictors constant, administrators in faith-based hospitals had odds .011 times the odds of administrators in government hospitals. In other words, the odds of faith-based hospital

administrators being competent were 90.9 times the odds of government hospital administrators. The odds of private hospital administrators and government hospital administrators were the same. In experience in hospital management, those with 3-10 years' experience had odds .143 times the odds of those with 2 years' experience or less. In other words, the odds of those with 2 years' experience or less being competent were 7.0 times the odds of those with 3-10 years' experience. Those with 2 years' experience or less had the same odds as those with above 10 years' experience. In hospital staff, administrators with 25-50 staff and those with 51-100 staff had odds 133.6 times and 14.3 times the odds of those with below 25 staff respectively.

For the coefficients of age ($p = .845$), gender ($p = .121$), academic qualification ($p = .288$), current designation ($p = .056$), informal training received ($p = .743$), intention status to attend healthcare management programme within the next 5 years ($p = .988$) and number of hospital beds ($p = .206$), the Wald statistic revealed no significance. This implies that holding other variables constant, the administrators grouped by their different age groups had the same odds in being competent; likewise when grouped by gender, academic qualification, current designation, informal training received, intention status to attend healthcare management programme within the next 5 years and number of hospital beds in their hospitals.

Discussion

The result shows that administrators with 1st degree and those with higher degrees were competent in knowledge management, honesty and integrity, leadership and influence and clients care management. However, administrators with higher degree were found more competent in human resource (HR) empowerment and communication skills. Administrators with 1st degree and those with higher degree equally reported being competent in team management, communicating organizational goals, managing conflicts and setting organizational culture. However, administrators with higher degree reported being more competent in motivating employees. Overall, the result shows that there was a significant competency difference between administrators with 1st degree and those with higher degree in favour of the latter. This implies that their competency level is not the same compared in the final and overall analysis. The mean rank indicates that administrators with higher degree had higher overall managerial skills than those with 1st degree.

These findings are reasonably expected in that the cognitive reasoning of a higher educated manager would be much better everything being equal thereby improving for the better, his job performance. This finding is indirectly supported by (Melanie et al; 2008), (Al-Ahmadi et al; 2009) where it was found that training can have an indirect effect on performance if it increases job satisfaction by, for example, making it easier for employees (managers) to perform the job or feel more valued. But a more direct link was established by (Kasika, 2015) which states in essence that the higher the educational level attainment, the more are the effects of education and skill on job performance. As such people's ability to understand and use advanced technology is determined by the level of their education posits (Kasika, 2015). This finding even though true to an extent, may not be applicable to all the industries as jobs with high complexity as found by (THOMAS et al; 2009),(Klehe et al; 2007) e.g., doctors, engineers, lawyers, scientists) not only demand greater intellectual capacity and job knowledge, but also require incumbents to have strong motivation and persistence in order to excel. But obviously, notwithstanding, education has been established as a plausible influence on job performance, all things being equal. With improved technical competence brought on by higher education as indicated in our study, hospital administrators with a

second degree are invariably expected to perform better than managers with first degree alone.

Human resource (HR) empowerment and communication skills including motivation of employees in which areas managers with higher degree excelled better in demand greater knowledge and expertise which could be gotten from higher education as has been demonstrated in (THOMAS et al; 2009),(Klehe et al; 2007). As arguably, the performance and the benefits the hospital system can deliver depend largely upon the knowledge, skills and motivation of those individuals (human resources) responsible for delivering health services. Improvement in human resource management which is very technical could be strengthened by additional trainings obtainable from higher degree in master of business management or hospital administration (Stefane et al; 2006), (World Health Organization, 2000).

Effective doctor-patient communication is a central clinical function in building a therapeutic doctor-patient relationship, which is the heart and art of medicine. This is important in the delivery of high-quality health care. Much patient dissatisfaction and many complaints are due to breakdown in the doctor-patient relationship (Fong et al; 2010). Improvement in this act could be enhanced with higher trainings in healthcare administration. An emerging theory in management involves supportive leadership, which states that supporting and building relationships with employees will increase the likelihood that they will be positively influenced and motivated to work towards goals. The theory is founded on organizational behaviour studies that suggest that people are happier and more satisfied in their work when they have supportive (motivating) leaders who empathize at a personal level (Al-Sawal, 2013),(Garman et al; 2010), (Collins et al; 2004). The knowledge on supportive leadership could also be enhanced through the acquisition of specialized trainings in psychology beyond first degree. Enhancing the competency of hospital managers through higher education must be structured through curricula reforms that take into consideration other factors that have been witnessed as contributing factors to managers' administrative competency. Some of the main factors considered to limit the positive effect of educational qualifications on job performance at the workplace that includes the quality of the work environment, organisational structure and processes, the assignment of employees in posts which did not match their qualifications and the lack of incentive systems should have to be managed and controlled in future studies to improve on the positive effects of education on job performance.

Conclusion

This work has no doubt proven the positive effect of education on hospital manager's administrative competency and job performance. The more educated a manager is, the better is his cognitive reasoning and administrative competency. But as well, it be should taken into consideration that there are many confounding factors that may affect job performance beyond education. The influence of these factors should as much as possible, be controlled in future studies to maximize the knowledge of the influence and impact of education on job performance and administrative competency of hospital managers.

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