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Workload and Performance of Nurses: A Study of Nurses in Selected Medical Facilities in Ghana

Robert Mensah
Lecturer, Department of Social Sciences, Methodist University College Ghana, Accra, Ghana

Abstract:
The apparent heavy workload on hospital nurses has become a major problem for the health care system given that nurses are the backbone of every health care system. This study examined the relationship between nurses' workload and their performance using a sample of one hundred and eight (108) conveniently sampled clinical nurses from two teaching hospitals in Ghana. The Six Dimension Scale of Nursing Performance and the modified Safe Quest inventory were used to collect data. Results indicated a weak correlation between workload and the performance of nurses. In addition, sex difference, age-range, and level of education did not influence nurses' workload. Both male and female nurses also had similar levels of performance. It also emerged that nurses had heavy workload, but were still able to put up their best performance. It was concluded that, even though nurses' workload is high, it does little to negatively affect their performance.

Keywords: Workload, performance, demographic variables, nurses

1. Introduction

According to Dubois, D'Amour, Pomey, Girard and Brault, (2013), nurses make up the largest occupational group in the healthcare workforce, providing unparalleled care across all levels of the care spectrum (Pappas, 2008). Professional nurses play a vital role in the provision of health care globally. Over the years, several studies including Mehmet, (2013) and Awases, Bezuidenhout and Roos, (2013) have indicated that the performance of health care workers, including professional nurses, are closely linked to the productivity and quality of health care provision within health care organisations across the globe. Hence, one of the practical ways to improve health care delivery is to identify and enhance the factors that positively influence the performance of professional nurses in various healthcare institutions (Awases, et al., 2013).

The heavy workload on hospital nurses is a major problem for the health care system because nurses are the bedrock of every health care system irrespective of the country. Carayon and Gurses, (2009) have for instance observed that globally, it appears nurses are progressively experiencing increased workload than ever before as a result of factors including inadequate supply of nurses, increased demand for nurses,reduction in patient length of stay, reduced staffing and increased overtime. What is more worrying are the consequences of high nursing workload or perceived work load. For instance, studies have shown that a heavy nursing workload adversely affects patient safety (Needleman, Buerhaus & Mattke, 2002; Hegney, Plank & Parker, 2003; Lang, Hodge & Olson, 2004). Other studies have also discovered that, a heavy nursing workload adversely affects job satisfaction of nurses, contributing to high nursing turnover and the nursing shortage (Duffield & O'Brien-Pallas, 2003). Furthermore, it has been discovered that higher patient acuity, work system factors and expectations also contribute to the nurses' workload: it is expected that nurses perform schedules including food tray delivery and retrieval; transporting patients; and other housekeeping duties, all of which are nonprofessional tasks or ancillary services (Aiken, Clarke & Sloane, 2001).

1.1. Statement of the Problem

Excessive work load may result in counterproductive organizational behaviours such as inability to work as a team member, absenteeism, low productivity and poor interpersonal relations among others (McCreary & Thompson, 2006). Several studies have proven that, heavy workload on nurses has serious implications not only on themselves, but also patients seeking health care service(e.g. Ellis, 2014). Even though workload related burnout is found in almost every profession, nursing is a very stressful profession as studies have consistently reported a strong relationship between nursing work and burnout due to the excessive workload and stress nurses undergo at work (Berry & Curry, 2012).
Ironically, the public health sector is one of the sectors in the country that exposes its staff to excessive workload (Michie, 2002). This is because Ghana, just like most developing countries experience unending cycle of epidemics such as cholera, malaria, typhoid and other chronic diseases including asthma, diabetes and depression. Additionally, there are sub-standard, little or no facilities available to work with, and these have the potential of adding to the pressure faced by nurses. For example globally, nurses are nearly twice more likely to be absent due to illness or injury than the average of workers in other occupations (Berry & Curry, 2012). It is also estimated that, twenty 20% percent of nurses in hospitals

and clinics leave their jobs annually, with a cost to the hospital estimated between $25,000 and over $60,000 per nurse resulting from the transition(Berry & Curry, 2012).

The urgent need to monitor the performance of personnel within the nursing services has heightened as a result of increasing expectations from the public with respect to the quality of healthcare service delivery, coupled with the persistent challenge about the shortage of nurses and the tendency for this to adversely affect safety of patients (Aiken, Clarke, & Sloane, 2000).For example, in Ghana the nurse-patient ratio currently stands at 1:542 (GHS Annual Report, 2017) as against an ideal ratio of 1:4. The frequently used indicator of unit-level workload has been the nurse-patient ratio at any given time. This fact is alarming because, the quality of patient care, as well as adverse nurse outcomes, is directly affected by nurses' workload. Precisely, insufficient staffing at nursing departments and units is said to lead to difficulties in meeting patient needs and subjects' nurses to increased work pressure (Plank, Parker &Hegney, 2003).

Clarke, Sloane, and Aiken (2002) further states that, two decades of research have consistently demonstrated a clear relationship between nursing workloads and poor patient outcomes and patient safety. In other words, as a result of the excessive workload nurses experience, their responsibility of providing good health care to patients is often compromised. Similarly, a study by Douri (2014) revealed among other things that, over the years, nurses in Ghana and other parts of the world have often cited high workload as one of the main reasons for their inability to provide holistic care to their patients. In addition, even though the work of nurses is so crucial in the provision of quality health care services in Ghana, and other developing countries, little studies have been done on how nurses' workload affects their performance and patients' outcome in Ghana's health care institutions(Dubois, D'Amour, Pomey, Girard & Brault, 2013). Hence, this study seeks to assess nurses' perception of workload on their performance at the medical units of selected teaching hospitals in Ghana. Specifically, the study seeks to determine the relationship between workload and performance of nurses; the extent to which differences in selected demographic variables (age, sex, and level of education) influence the level of workload of nurses; nurses' performance in terms of gender; and the overall performance, and workload of nurses.

It is expected that the findings of this study will help to improve on how nurses are managed in various healthcare institutions and also help relevant players in the healthcare profession appreciate the effects that excessive workload have on the quality of healthcare nurses give patients and also serve as a reference point for future research.

1.2. Objectives

To this end, the study seeks to achieve the following aims and objectives:
- To determine the relationship between workload and performance of nurses.
- To ascertain the extent to which differences in selected demographic variables (age, sex, tenure and level of education) influence the level of workload of nurses.
- To determine whether male nurses will perform better than female nurses.
- To find out the overall performance, and workload of nurses.

2. Theoretical Framework

2.1. The Crisis Theory

A number of theories have attempted to explain how the workload of nurses influences their performance at work. The crises theory (Caplan, 1964), for instance proposes that in situations when an individual faces a problem that appears to be unsolvable, the individual gets into a state of crises. In conceptualizing crisis, Slaikeu, (1990) for instance suggested that itis a momentary state of distress and disorganization, marked mainly by a person's inability to deal with or cope with a specific circumstance using routine approach to problem solving, resulting in a high tendency or likelihood for a radically negative or positive consequence or outcome. The crises state negatively affects the individual in his or her day-to-day functioning be it at home or at work. Thus, when nurses experience heightened workload over a long period of time, it leads to a crises state. This crises state in turn would cause deterioration in their performance at work.This is because excessive workload is likely to lead to negative stress and burnout (Unruh, 2003). It is expected that this situation can make people vulnerable to being struck with poor physical and mental health conditions. These conditions would therefore cause them to sometimes skip work, become less committed to work, become sick, thus leading to poor performance at work.

2.2. The Person-Environment Fit Theory

The Person-Environment Fit Theory advocates that the degree to which individuals are compatible to, or fit, their environment is related to the degree to which they experience stress or burnout. In other words, the Person environment fit is the degree to which a person or their personality is compatible with their environment (Kristof, 1996). This phenomenon occurs because to an extent, an individual gradually adapts to his or her environment, using their working conditions as example, and/or they successfully construct an environment or adapt it to their needs (Kristof, 1996).

Edwards, Caplan, and Harrison (1998), have established a number of distinctions on fit. The distinction between the individual and the environment has been identified as the foremost distinction, with the second being the distinction between the subjective representation and objective representation. The last distinction is between demands on an individual and his or her abilities (Chenevey, John & Susie, 2008).

Defence mechanisms and other coping schedules are utilised in response to misfit between abilities and demands. These further impact subjective and objective environments (Brewer & McMahan-Landers, 2003). Researchers (Unruh,

2003; Ghana Health, 2014) have noted that health sector employees who experience poor Person-Environment Fit as a result of high workload over long periods of time may experience misfit which in turn causes burnout which undermines nurses' performance at work. On the other hand when there is a good Person-Environment Fit, nurses are able to have the sound mind and health to perform well at work.

2.3. The Cognitive Load Theory

According to the cognitive load theory (Sweller, 1988), conditions that overload the working memory capacity lead to decreased performance. In the same way, as the demands on the working memory are decreased with practice, improvement in performance is achieved (Tomporowski, 2003). In determining mental effort expended at work, it is prudent to differentiate between the transitory efforts required of a task and the volume of work associated with its completion.

Time-pressure remains a critical determinant of the total effort associated with mental work. This may be triggered by the explicit instruction to hurry or by the demand characteristics of the task. Excessive time pressure results from tasks that impose a significant quantum of load on the short-term memory, given that the individual's level of activity must be paced by the rate of decay of the stored elements (Kahneman, 1973). Meanwhile, investing less than standard effort will cause deterioration in performance. Consciously increasing personal effort beyond what is usual for an individual is not enough in most cases to eliminate all performance errors (Kahneman, 1973). Understanding concepts that contribute to decreased performance and to errors is critical to improving quality and safety in patient care practices among nurses.

2.4. Review of Related Studies

2.4.1. Nurses' Workload

Hayajneh (2000) classified nurses' workload into physical and cognitive. Physical workload includes physical work nurses have to do such as moving from one place or the other, working long shifts among others. Whereas cognitive or mental workload includes aspects of nursing work that is cognitively straining, or conditions at the workplace that puts nurses under sustained mental pressure. Delucia, Ott and Palmieri, (2015) also distinguished between the types of nurses' workload and how these affect nurses' performance. They emphasized that nurses work under severe overload: physical, perceptual and cognitive. This is manifested in the fact that, it is a common practice that nurses have to contend with multiple tasks interspersed with frequent interruptions. Other demands include poorly illuminated office space, the stress of making meaning of Medical Doctors' illegible handwriting, and poorly designed labels. To add to these, nurses spend a significant amount of their working hours on long shifts, walking, and experience significant levels of musculoskeletal disorders, which adversely affect their performance.

Studies point to the fact that the schedule between administering medications and coordinating care, nurses are among the busiest in the health care chain, who are often the first point of contact for patients (Aiken, et al., 2013; Ellis, 2014; Ghana Health, 2014). It has also been suggested that patients are more likely to die after undergoing common surgical procedures when the nurses caring for them are overburdened with heavier workloads (Ellis, 2014).

2.4.2. Nurses Performance

A universal definition of "job performance" has not been made in the nursing literature until recently (Hayajneh, 2000; Alexander, 1997; Mehmet, 2013). McCloskey & McCain, (2007) for instance posited that the performance of nurses could be assessed by how they are able to effectively care for the needs of patients and their families. The increase in studies (Awases, et al., 2013) on employee job performance has led researchers to seek the quality of job performance instead of high or low job performance. According to Needleman, Kurtzman, and Kizer (2007), over the years the notions of quality and performance are frequently used interchangeably. This is because it is generally believed that a system can only be said to be performing if it delivers high quality interventions, care or services (Arah, Klazinga, Delnoij, Asbroek & Custers, 2003).

The Institute of Medicine for instance, conceptualizes quality as "the extent to which health services for individuals and populations are consistent with current professional knowledge and increase the likelihood of desired health outcomes" (Institute of Medicine, 2001).This is by far the most acceptable definition of quality. The definition suggests that quality is at best seen as a proxy of healthcare performance, which is conceptualized as a much broader construct (Dubois, et al., 2013).

2.5. Nurses' Workload and Performance

Several studies (Aikens et al, 2002; Josten, Ngatham & Thierry, 2003; McCloskey & McCain, 2007) have supported the view that organizational (institutional) factors such as workload influences the level of job performance among workers especially nurses. This is based on the premise that with minimal workload, workers are able to dedicate enough time and energy to their jobs which makes them more inclined to perform better than those who have higher workload.
Kang, Kim, and Lee (2015) found out that nursing workload has significantly negative influences on the services they provide to patients. Excessive workload has also been reported as the most influential organizational variable that affects nurses' job performance (Mehmet, 2013; Srinivasan, et al., 2013). Beyond workload, Awases, et al., (2013) have identified other factors that affect nurses' performance including absence of a robust performance management system and poor working conditions. A number of other factors that put strain on nurses have been identified including number of nursing workforce available (Duffield, Diers& O'Brien-Pallas, 2011); patient severity (Graf, Millar, &Feiteau, 2003); volume of non-

nursing tasks performed by nurses, such as transporting patients, delivering and retrieving food trays, and housekeeping duties (Aiken, Clarke & Sloane, 2001; Al-Kandari& Thomas, 2008). All these affect the quality of service they give to patients (Kim, 2007; Kang et al., 2015). It is worth noting that over the years, attempts to improve the productivity and performance of health care workers such as nurses in order to enhance efficiency in health interventions, has been an uphill task for most countries in African (Awases et al., 2013).

2.6. Nurses' Workload, Performance and Demographic Variables

Demographic variables such as age, sex marital status and level of education have been said to influence the level of workload and performance of workers. However, a cursory look at available literature indicates that there appears to be a paucity of studies examining the relationships among nurses' workload, performance and demographic variables. Al-Ahmadi (2009) for instance found that years of experience, gender, and marital status were predictors of job performance. Other studies also indicate that male nurses perform significantly better than female nurses (Downey, 2013; Hilton, 2015).This is because the average male nurse works more hours and a large share of nurses are paid on an hourly basis, especially in developed economies. In addition, male nurses are relatively more academically qualified than their female counterparts and are more likely to select highly compensated clinical specialties. Other studies also indicate that, male nurses usually migrate up the career ladder faster than their female counterparts (Forbes, 2012; Hilton, 2015).

From the above review, it appears previous research have looked at tasks associated with nursing work, but not the nurse's perception of workload demands. It has therefore becomes obvious to include a subjective perception of the nurse as part of any workload measure. Given that of all the health-care providers, nurses spend more time with patients than do any other category of health care providers, and patient outcomes are affected by nursing care quality, attempts at improving the safety of patients can be achieved when the performance of nurses is enhanced (Delucia, Ott, & Palmieri, 2015). It is therefore relevant to identify the correlates of nurses' performance as a first step to develop the most appropriate interventions. To fully understand the relationships among nurses' workload, performance and demographic variables, six hypotheses were stated and tested as follows:

2.7. Statement of Hypotheses

- A strong positive correlation will exist between workload and the performance of nurses.
- Female nurses will significantly experience higher levels of workload than male nurses.
- Younger nurses will significantly experience higher levels of workload than older nurses.
- Nurses with low educational qualification will experience significantly higher levels of workload than those with high educational qualification.
- Male nurses will perform significantly better than their female counterparts.
- The workload and performance of nurses will be significantly high.

3. Materials and Methods

3.1. Design, Target Population and Participants

Using a cross sectional survey, a total of 150 nurses were randomly selected from the Medical Units of two teaching hospitals in Accra, Ghana as the study sample. Nurses at the Medical Unit were targeted because they are the first point of contact on health related emergencies in Ghana. Out of these, 108 completed the questionnaire, with a response rate of 72 percent. The sample included 35 (32.4%) male and 73 (67.6%) female nurses with 11.1% of respondents having Higher National Diplomas or Diploma certificates as their highest level of education. Respondents with first degrees were 50.9%, whereas 34.3% had Second Degrees or had Higher qualifications. On respondents' age, 16.7% were below 26 years whilst 25.0% were between 26 to 35 years, with 34.3% between 36 to 45 years, and 14.8% between the ages of 46 to 55 years. The remaining 9.3% of the respondents were aged 56 years and above.

3.2. Instruments

The Six Dimension Scale of Nursing Performance (SDNS): The 52-item SDNS inventory, developed by Schwirian (1978) allows for a quick and easy measurement of nursing performance by nurses themselves, or others. The SDNS is categorised into the following six (6) subscales on performance: 5 items for the Leadership subscale, 7 items for Critical Care subscale, 11 items for Teaching/Collaboration subscale, 7 items for Planning/Evaluation subscale, and two other subscales: 10 items for Professional Development and 12 items for Interpersonal Relations/ Communications. The scoring of the scale was based on a 4-point Likert scale as follows: 1= Not expected in this job, 2 = Never or seldom, 3 = Occasionally, and 4 = Frequently. The first set of items (1-42) were scored twice - one representing the frequency of a given behaviour by the nurse (displaying self-confidence, for example), and the other reflecting the quality of that particular behaviour. The second set of items (43-52) are measured solely in terms of quality. In spite of the large number of scales developed since the (SDNS), it is still considered a useful and robust tool in measuring the performance of nurses (Battersby & Hemmings, 1991; Dyess, & Parker, 2012). The SDNS has impressive psychometric properties with Cronbach alpha between .84 and .98, which is fairly high, thus making it very reliable (Schwirian, 1978).

The Nurses Workload scale: This scale was adopted from one of the subscales of the Safe Quest inventory. The SafeQuest was designed by De Wet, Spence, Mash, Johnson, and Bowie (2010) to measure perceptions of work climate among primary care workers. It is originally intended for all members of the primary care team, whether they have clinical or non-clinical roles and whether they are based in a community or in practice. The data collection instrument comprises

of thirty (30) items that are categorised into five (5) different sections as follows: Workload, Leadership, Teamwork, Communication and Safety systems. The reliability coefficients of the entire instrument was quite impressive (α=0.94 and ρ=0.93). The workload subscale which was adopted into the Workload Scale had a Cronbach alpha of .72. The instrument was scored on a seven-point Likert scale as follows: 1 = Strongly Disagree, 2 = Disagree, 3 = Somewhat Disagree, 4 = Neutral, 5 = Somewhat Agree, 6 = Agree and 7 = Strongly Agree.

3.3. Procedure

After institutional approval had been granted by the two medical facilities, the researchers and their trained assistants commenced and completed data collection within four weeks. Prior to data collection, the researchers and assistants met both day and night shift nurses in small groups and explained the purpose of the study to them, assuring them of confidentiality and the freedom to willingly withdraw at any point during the study. Questions from participants were duly addressed. Thereafter, nurses who volunteered to be part of the study were given the data collection instrument to complete.

4. Results

The Statistical Product and Services Solution (IBM-SPSS) version 22 was used to analyse data in this study. Analysis of data collected was done using descriptive and inferential statistics. The demographic characteristics of respondents was analysed using the descriptive statistics whilst estimate for significant differences and relationships among the dependent variable (nurses' performance) and the independent variables (nurses' workload and selected demographic variables) were estimated using inferential statistics.

Hypothesis 1: "a strong positive correlation will exist between workload and the performance of nurses". The results are presented in table 1 below:

Variables	M	SD	r	Sig.
Nurses Performance	281.83	40.13		
Nurses Workload	19.90	3.00		
Total			-.09	.34

Table 1: Pearson Product Moment Correlation Coefficient Test Results on the Relationship between Workload and the Performance of Nurses

Table 1 above presents the mean score for Nurses Performance (M=281.83, SD=40.13) and Nurses Workload (M=19.90, SD=3.00). These results were subjected to the Pearson Correlation Coefficient test to determine whether a strong positive correlation exists between workload and the performance of nurses. Results (r= -.09, Sig. =.34) revealed a weak negative correlation between workload and the performance of nurses. In other words, the workload of nurses is not a significant predictor or nurses' performance. Hypothesis one is therefore rejected.

Hypothesis 2: "female nurses will significantly experience higher levels of workload than male nurses". The results are presented in table 2 below:

Sex	M	SD	df	t	Sig.
Male	20.60	3.16			
Female	19.56	2.88			
Total	20.80	3.02	106	1.70	.09

Table 2: Independent T-Test Results on the Level of Workload among Male and Female Nurses

The mean score for male nurses (M=20.60, SD=3.16) and that of female nurses (M=19.56, SD=2.88)shown in table 2 above indicate that males perceive more workload than their female counterparts. However, the independent t-test used to test for significance between the two mean values showed that no significant difference exists between the workload of female and male nurses (t= 1.70, Sig.= 09).This implies that female and male nurses have similar levels of workload. The second hypothesis is therefore rejected.

Hypothesis 3: "younger nurses will significantly experience higher levels of workload than older nurses". The results are presented in table 3 below:

Age Range	M	SD	df	F	Sig.
Below – 26yrs	20.94	2.46			
26 – 35yrs	20.59	1.57			
36 – 45yrs	19.32	4.08			
46 – 55yrs	18.75	1.91			
56yrs & above	20.10	2.88			
Total	19.90	3.00	107	1.91	.11

Table 3: One-Way Analysis of Variance Test Result on the Effect of Age Differences on Nurses' Workload

Table 3 above presents the mean values showing workload of nurses across different age ranges. The One-Way Analysis of Variance (ANOVA) test used to determine whether age differences significantly influence the workload of

nurses showed that no significant difference exists between nurses age workload (F = 1.91, Sig.=.11). This implies that age difference does not influence the amount of workload nurses experience at work, meaning, hypothesis threeis rejected.

Hypothesis 4: "Nurses with low educational qualification will experience significantly higher levels of workload than those with high educational qualification". The results are presented in table 4 below:

Level of Education	M	SD	df	F	Sig.
HND/Diploma	19.67	2.06			
First Degree	19.64	3.40			
Second Degree or Higher	20.46	2.75			
Other (nursing certificate)	19.00	0.00			
Total	19.90	2.99	107	.71	.55

Table 4: One-Way Analysis of Variance Test Result on the Effect of Level of Education on Nurses' Workload.

The One-Way Analysis of Variance test was used to estimate whether nurses with low educational qualification will experience higher levels of workload than those with high qualifications. Results (F = .71, Sig.=.55) as shown in Table 4 above indicates that, no significant difference exists between nurses' workload and their levels of education. This implies that nurses with low educational qualification do not experience higher levels of workload than those with high educational qualification. Hypothesis four is therefore rejected.

Hypothesis 5: "male nurses will perform significantly better than their female counterparts". The results are presented in table 5 below:

Sex	M	SD	df	T	Sig.
Male	282.71	39.84			
Female	281.40	40.55			
Total	282.06	40.20	105	.16	.88

Table 5: Independent T-Test Results on the Level of Performance among Male and Female Nurses

A cursory look at the data presented in Table 5 above shows a marginal difference between the mean for male nurses (M=282.71, SD=39.84) and that of females nurses (M=281.40, SD=40.55). The independent t-test that was used to estimate whether a significant difference exists between performance of males and females showed no significant difference between the means of the two groups (t= .16, Sig.= .88). This implies that male nurses do not perform significantly better than their female counterparts. Hypothesis five that states that male nurses will perform significantly better than their female counterparts is rejected.

Hypothesis 6: "The workload and performance of nurses will be significantly high". The results are presented in table 6 below:

Variables	M	SD	df	t	Sig.	Min.	Max.
Nurses Performance	281.83	40.13	106	72.64	.00	274.14	289.52
Nurses Workload	19.90	3.00	107	68.97	.00	19.33	20.47

Table 6: One-Sample T Test Result on the Overall Level of Workload and Performance of Nurses

The mean scores on nurses performance (M=281.83, SD=40.13), and nurses workload (M=19.90, SD=3.00) presented were subjected to the One-Sample t test to find out the whether the workload and performance of nurses will be significantly high. Results for both Nurses Performance (t = 72.64, Sig. =.00), and nurses workload (t = 68.97, Sig. =.00) were statistically significant. This implies that the overall workload of nurses in general is high. In addition, the general performance of nurses is significantly high. It could therefore be deduced from the results that even though nurses have extreme workload, they are still able to put up their best performance. Hypothesis six is therefore accepted.

5. Discussion of Results

5.1. Nurses' Workload and Performance

As its general objective, this study assessed nurses' workload on their performance at selected medical facilities in Accra, Ghana. The first hypothesis sought to determine whether a strong positive correlation will exist between workload and the performance of nurses. Results revealed a weak correlation between workload and the performance of nurses. In other words, the workload of nurses does not directly influence their performance. A possible explanation for this result may be because even though the workload on nurses is high, nurses have learnt to adapt to their heavy workload to the level where it does not negatively affect their performance at work, contrary to the proposition by the crises theory (Caplan, 1964). Another plausible explanation might be that perhaps, there is a good fit between the nurses and their environment and that irrespective of the level of workload on nurses, performance is not directly affected. The cognitive load theory (Sweller, 1988) for instance explains that conditions that overload the working memory capacity lead to decreased performance, however, this study reveals that the performance of nurses is not directly influenced by the level

of workload they experience on the job. Perhaps, the level of workload nurses are exposed to though quite high, is not sufficient enough to affect their performance.

The findings of this study is unique and sharply contradicts the study by Mehmet (2013) and Awases et al., (2013) which showed that the performance of health care workers such as nurses, is closely linked to their volume of work they contend with at work. Similarly, several other studies have also found that, a clear relationship exists between nursing workloads and performance leading to poor patient outcomes and patient safety respectively (Clarke, Sloane, & Aiken, 2002; Jostenet al., 2003; McCain, 2007; Douri, 2014)

5.2. Nurses' Sex and Workload

The second hypothesis sought to find out if female nurses will significant experience higher levels of workload than male nurses. Results presented showed that no significant difference existed between the workload of female and male nurses respectively. Thus, it appears that both male and female nurses in Ghana are subjected to the same working conditions such as shifts, working hours as well as the same levels of workload and these perhaps, do not give room to feelings of being discriminated against which is a major problem among nurses in some developed countries such as the United States (Hilton, 2015). For instance in the United States, most female nurses are aggrieved because they have the perception that male nurses are paid higher, preferred by patients, and have a better chance of rising through the ranks in terms of promotion than female nurses (Hilton, 2015).Contrary to the findings of this present study, Michie (2002) found out that women in general have significantly more workloads than their male counterparts. This is because unlike their male counterparts, women as a result of their higher domestic responsibilities have to work longer hours so as to earn enough to cater for their dependents. In addition, employees usually give women more to do at work because of their discrimination against females (Michie, 2002). Other studies reinforce the findings by Michie (2002), arguing that higher workloads and stress is significantly prevalent among women than men at work due to the extra burden women bear at home due to their domestic responsibilities (Smith et al., 2000; Nagra& Arora, 2013). These researchers have therefore refuted the findings of this study whose results claim that both males and females experience the same level of workload.

5.3. Age and Nurses' Workload

The third hypothesis examined whether younger nurses will experience significant levels of workload than older nurses. The research findings, however, revealed that no significant difference exists between nurses' age and workload, consistent with the findings by the Center for Quality and Productivity Improvement, (2015) that age (being older or younger) does not in any way influence the level of workload among nurses. However, other studies have found that younger nurses experience higher workloads than their older counterparts (Al-Ahmadi, 2009). This is because seniority is a respected aspect of the Middle Eastern culture and its implications is reflected at the workplace as well. It is generally expected that younger nurses would experience higher workloads than their older counterparts given that the older ones may be more experienced and are likely to approach the work demands with ease than their younger counterparts. Results from this study, however, suggest that both younger and older nurses have learned to cope with the demands that come with the job.

5.4. Nurses' Educational Qualification and Workload

The hypothesis that nurses with low educational qualification will significantly experience higher levels of workload than those with high educational qualifications was also rejected. Thus, nurses' educational qualification has no bearing on the workload they experience at work. Although it appears high-ranked nurses generally have higher educational qualification besides work experience, results of this study suggest that it appears there are robust workplace stress management systems that help nurses manage varied work demands. Therefore, irrespective of a nurse's level of education, the level of workload they are exposed to is almost the same.

Smith et al., (2000), have however, argued that, educated people experience higher levels of workload which leads to higher stress and burnout than their low educated counterparts. Similarly, Kovner, et al., (2000) and Cho, et al., (2003) have discovered a significant relation between nurses' qualification and the amount of workload given to them at work. Hilton, (2015) for instance argued that higher workload among well-educated nurses are usually compensated for with higher remunerations.

5.5. Nurses' Sex and Performance

The fifth hypothesis sought to determine whether male nurses will perform significantly better than their female counterparts. Results indicated that male and female nurses do not differ significantly in terms of their performance. It therefore appears that irrespective of gender differences, nurses are given the same level of work and other responsibilities which translate into similar levels of performance. The findings of this study are not really surprising given the rise in Affirmative Action Movements in Ghana in recent times. This finding, however, undermines the traditional Ghanaian cultural mindset and Judeo-Christian belief that women are a weaker sex. As such, women cannot perform better or equal to men in any task especially when it is work-related. As a result, much more may be expected from men by society than women. Contrary to the above finding, Al-Ahmadi (2009) argues that differences in sex (being male or female) influences one's performance. Similarly, several studies indicate that, male nurses perform significantly better than female nurses (Forbes, 2012; Downey, 2013; Hilton, 2015). This is as a result of the fact that the average male nurse works more hours, which is an important factor since a large share of nurses are paid on an hourly basis, a trend that is prevalent in developed economies. In addition, male nurses are more likely to select highly compensated clinical specialties and are also more likely to practice in geographic areas with higher compensation (Hilton, 2015).

5.6. Workload and Performance of Nurses

The sixth hypothesis sought to determine whether the level of workload and performance of nurses will be significantly high. Results indicate that even though nurses have extreme workload, they are still able to put up their best performance. The results suggest that in spite of the heavy workload that nurses are exposed to, it appears they have good Person-Environment fit, coupled with sound mind and health to perform well. However, the workload problem nurses have is a global phenomenon (Carayon & Gurses, 2009). Whilst the UK for instance has a nurse-patient ratio of 1:8, the situation in most African countries is entirely different. The nurse-patient ratio in Ghana for instance has seen a study improvement from a gloomy position of 1:1,251 in 2012, 1:2,172 in 2013, 1:959 in 2014, 1:569 in 2015 to 1:542 in 2016. In spite of the steady improvement over the years, the situation is very disturbing. It is obvious that there is excessive workload on nurses which has negative implications not only on the nurse but on patients' well-being as well (Hegney, Plank & Parker, 2003; Lang, et al., 2004; Needleman, Buerhaus & Mattke, 2002). Too much workload on nurses negatively affects their performance (Ellis, 2014), job satisfaction, commitment to work and, as a result, contributes to high turnover (Duffield & O'Brien-Pallas, 2003; Baumann, et al., 2001).

7. Summary of Findings

To conclude, the goal of this study was to assess nurses' perception of workload on performance at the Medical Units of two teaching hospitals in Accra, Ghana. After data analyses, results revealed a significantly weak correlation between workload and the performance of nurses. Results also showed that no significant difference exists between the workload of female and male nurses. Findings further indicated that no significant difference exists between age range and nurses' workload. Further, no significant difference existed between the workload of nurses with deferent levels of education. Both male and female nurses had the same level of performance and finally, the overall workload and performance of nurses in general is high. Hence, even though nurses have extreme workload, they are still able to put up their best performance. It could therefore be said that, even though nurses' workload is worrisomely high, it does little to negatively affect their performance. It is therefore concluded that the nursing profession is a highly specialised and significant function in the healthcare chain. It is therefore important for healthcare administrators and other stakeholders to collaboratively create the enabling environment for the nursing profession to flourish, given that it appears heavy workload has become a function of the nursing profession in recent times.

8. Limitations and Recommendations

The current study is one of the few investigations of nurses' perception of workload on performance, and like most studies is not without limitations. The study established that nurses have to contend with high workload. However, apart from the items in the global measure of workload used in this study, no attempt was made to explain the peculiar circumstances and situations that induce high workload for nurses. Variables including nurses' personality and some organisational dynamics are likely to influence nurses' perception of workload. The study though exhaustive, did not explore the likely effect of nurses' perception of workload on patients' outcomes. These concerns should be given the needed consideration and attention in future studies. Although the sample for the study was selected from two of the largest health care institutions in the study area, the study was limited by a low response rate which has potential implications and concerns on sample bias and generalizability of the findings. Nevertheless, it is suggested that this study does provide some initial worthwhile insights into the dynamics of nurses' workload and performance but there is still much to be investigated.

It is therefore recommended that, even though findings showed that workload had little effect on the performance of nurses, it is recommended that management of health institutions and other relevant stakeholders should put measures in place to address the excessive workload nurses have to contend with at work. Secondly, although nurses are performing well, their level of commitment to work may be compromised when they continue to undergo such excessive workload for a long time.

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