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Work-related Determinants of Nurses' Burnout in Pumwani Maternity Hospital, Nairobi City County, Kenya

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Authors' contributions

This work was carried out in collaboration between both authors. Authors JWM and PWK designed the study. Author JWM carried out the study and wrote the manuscript while author PWK supervised the study and reviewed the manuscript. Both authors read and approved the final manuscript.

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ABSTRACT

Aim: This study sought to examine work-related factors of burnout among nurses working in Pumwani Maternity Hospital, Nairobi City County in Kenya.
Methodology: A descriptive cross-sectional design was used. The study was conducted at Pumwani Maternity Hospital, Nairobi City County in Kenya. Study period was from August 2015 to December 2016. A total of 96 nurses were included in the study selected through Non-probability sampling. Clustering, purposive and convenient sampling methods were used to select the sample. A self-administered data collection instrument consisting of work related factors questions and Maslach Burnout Inventory -Human Services Survey were used. Data acquired were processed using SPSS version 21, utilizing descriptive and inferential statistics. The theoretical frame work for the study is based on job demands and resources model by Demerouti, Bakker, Nachreiner and Schaufeli (2001).
Results: Finding showed that majority (88.6%) of the respondents were experiencing burn out. Although no work-related factor was found to be statistically significant in influencing burnout levels, role ambiguity and conflict was found to be a significant predicator of burnout. Together with workload, the two were positively related to burnout levels. Provision of essential material reorders, remuneration and extended work shift (in hours) were negatively related to burnout.

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Conclusion: The implication of the study shows the need to implement strategies to reduce the incidence of burnout among nurses working in maternal health care facilities. These relate to increase in provision of adequate essential material resources, proper remuneration, compensation for extended shifts, reduced workloads, proper job specifications and description and conflict resolution.

Keywords: Burnout; conflict; nurse; workload; work-related factors.

1. INTRODUCTION

Burnout has become a subject of concern for institutions in many occupation settings globally. This is because it has the potentiality of affecting negatively an individual`s psychological and physical health as well as the effectiveness of rendering organizational services. International Classification of Diseases classifies burnout under problems related to difficulties in life management. Freudenberger introduced burnout in early 1970`s and likened burnout to putting out of a candle. This implied fire burning out because of diminishing resources [1]. Other associated factors were working long hours and frequent overtime and professional relationship which fail to bring up expected rewards resulting into fatigue or frustration. Work demands leads to emotional exhaustion, which in turn leads to feelings of detachment in the dimension of burnout [2,3,4].

According job demands resources model, work that requires one to expend both physical and psychological energy, sustained goals and high levels of functioning coupled with insufficient resources trigger negative effects on worker leading to burnout [5]. This idea was further expounded by Bakker and Costa [6] who put causes of burnout into two categories individual factors (personality; socio-demographic and socioeconomic status) and situational factors work demands and (lack of) work resources. According to Maslach et al. [3] excessive workload, time pressure, number of work hours or numbers of clients, role conflict and role ambiguity, undefined job responsibilities, physical environment and shift work, lack of resources, reduced support by in charges and fellow workers increase the likelihood of having burnout. Increase in work demands has been associated with systemic and psychological effects such as increased heart rate and fatigue [6]. On the physiological aspect it involves the activation of autonomic nervous system and the hypothalamic-pituitary-adrenal cortical- axis important for an individual's potential to adapt to stressful challenges. The constant increase activation of these systems can cause harmful allostatic load leading to heart diseases, muscle and mental problems. Burnout effects on individual may include elevated blood pressure, digestive problems, skin ailments, flu, lack of or increased sleep and feelings of undefined illness. It can also bring about psychological lack of concentration, reduced concern for clients, reduced motivation and justifying of failure by blaming clients. Furthermore, burnout causes mental fatigue, anxiety, lack of motivation and absconding from work leading to poor health for both the health care provider and the patient [7].

Occupational setting studies done to assess burnout among groups of helping professions such as health care givers, showed burnout to occur more among people whose work involve constant demands and increased interaction with people who have physical and emotional needs [8]. A study by Shanafelt et al. [9] pointed out that the health care professionals were leading in high rates of burnout. In comparison with physicians or other health care workers nurses were identified to have higher levels of burnout [10].

Burnout has been related to work domain and therefore its risk factors are work-related. The factors can be put into two of these that involve work demands and other work resources. Work demands are attributes of job that require constant effort and involve physical energy or psychological cost. The work demands include work overload, role conflict, and longer shifts. Major stressors that are associated with burnout among nurses include inadequate physical facilities, being in an environment where there are critically ill patients, lack of support from supervisors, interpersonal conflicts, communication problems, lack of knowledge and insufficient social support [11]. Several researches pointed out that inadequate resources, extended shift work and long working hours, extreme number of patients, heavy workload, inadequate remuneration and intensive work that involves emotions as contributing factors of burnout among nurses [11,12,13].

In their study, Bakker et al. [14] pointed that lack of adequate resources could be a contributor to burnout among nurses. Long working period may contribute to burnout among health care givers. A Poncet et al. [15] reported that the number of hours per week a nurse puts into nursing work was significantly related to burnout on the aspects of emotional exhaustion and depersonalization dimensions, especially in situations where nurses are pressured to take overtime. Working for longer shifts could also contribute to nurses' burnout. A study by Ilhan et al. [16] reported that nurses who worked in shifts of more than thirteen hours had higher levels of burnout than nurses who worked shorter shifts [16]. Long working periods may arise due to shortage of enough qualified personnel. A study by Lasebikan and Oyetunde [17] in Nigeria reported that shortage of nurses was a predictor for burnout on the area of emotional exhaustion. Role conflict could also contribute to nurse's burnout. A role conflict arises when the nurse has to perform many roles in maternal health facility within their scope of training and beyond. This study also showed that nurse/doctor conflict is associated with burnout among nurses. The nurses would require paying additional attention to the patients or even trying to tackle complex situations beyond their expertise leading to stress. Conflict can also arise between the nurses and their clients or their relatives.

In African countries few burnout studies have been done and published. Some studies have confirmed a relationship between work-related factors and burnout [8,18,19,20]. In Nigeria tertiary health institution, out of the 210 nurses in a study, 42.9% of them presented with high level of burnout [21]. Javier et al. [8] in Malawi study pointed out lack of increase and upgrading of health facilities and shortage of human resources in a growing population has caused increased and complicated workload for health care givers. Among those identified included shortages in equipment, physical facilities extended working time leading to in adequate rest to regenerate reduced energy creates demand-resource imbalance leading to burnout which was found to be moderate and high among nurses working in Malawi maternal health care (pregnant, laboring and postnatal women) units. In South Africa, a study by Khamisa et al. [22] reported that burnout among nurses was related to poor work schedules, reduced resource and insecurity. Consequently the study showed a positive correlation of these work factors with three dimensions (emotional exhaustion, depersonalization and personal accomplishment). The consequences identified include low levels of productivity, reduced performance and compromised in the quality of patient care [22]. A study in Nigerian by Okwaraji and Aguwa [21] reported that the factors associated with burnout included inadequate staff, complicated patients, increased workload, conflict with staff and lack of social support. Burnout manifested with symptoms such as depression, anxiety, irritability, headache and insomnia [21].

There are few published researches on burn out among medical workers in Kenya which brings limitations in documentation and management of burnout syndrome. In Kenya, medical workers have been on and off strikes to agitate for better terms of service, provision of resources and better working environments, while some have opted to abandon working in public sector and develop own private practice or migrate to foreign countries. A study by Kokonya et al. [23] at Kenyatta National Hospital (KNH) (Nairobi, Kenya) found that medical workers have high levels of burnout. Comparatively nurses working at KNH had higher levels of burnout than other medical cadres. The contributing factors identified by the study included social demographic characteristics and work-related such as work overload, role conflict or ambiguity, lack of opportunities for growth or poor remuneration among others.

Maternity health services were declared free of charge in all public health facilities (by the president of Kenya) in June 2013. The aim was to increase accessibility to maternal health care and help reduce maternal and neonatal death. Consequently reduced cost for maternity care led to an increase in the number of people using the maternal health care facilities. This has caused an increase in the workload for nurses and without concurrent expansion of facilities, equipment and number of nurses it is likely to lead to burnout. Furthermore, health services in Kenya have been decentralized from being the responsibility of Ministry of Health to County Governments as a result of the implementation of devolution. The County Governments have the responsibility of equipping the hospital facilities with human and material resources. Among the issues sighted as affecting nurses in tertiary medical institutions were financial problems, lack of social support, disruptive or difficult relationships, and lack of adequate physical facilities, proper equipment, ergonomic issues

and overcrowding [17]. There has been dissatisfaction among medical workers who frequently complain of poor remuneration and working conditions. This has resulted in go slows, nurses going on strike in some of the Counties and has the likelihood of causing burnout.

The nursing profession is highly demanding both physically and psychologically. On the physical aspect, a nurse has to be physically able to move around, stand for long hours or even lift the patients. Psychologically they are required to be humane and empathetic. The society or the recipients of the services also expect the nurse to be culturally and morally sensitive and be proficient. In some cases the facilities are ill equipped in terms of both human and material resources while others have less equipment than the demand of the recipients. In the maternity units, nurses provide care and services before, during and after delivery. They are also called upon to provide services during obstetric emergency, including care for the new born. The imbalance that results between the nurses' duty, resources available and commitment to provide quality care and working in a stressful environment increase risk for burnout [20].

The implementation of free maternity services, devolution, the consequent decentralization of maternal health services from national to county government, and an ongoing `beyond zero` initiative (since January 2014) without concurrent upgrading of both human and material resources may be precipitating factors for burnout among nurses working in Pumwani Maternity Hospital. Most of the research on in burnout previously targeted medical workers in general [23]. Researches targeting maternal health care workers are minimal particularly in Kenya in the period of devolution implementation and restructuring of the health care provision and control from central government to the country governments.

Documentation is minimal on the relationship between work-related factors and burnout in nurses in this health facility. This study therefore examined work-related factors of burnout among nurses providing services at Pumwani Maternity Hospital in Nairobi City County, Kenya. Health managers can use the information to develop effective interventions to prevent burnout among their maternal health nursing staff. Data acquired in this study adds to the existing body of knowledge on burnout as psychological syndrome.

1.1 Conceptual Framework

This study intends to examine work related factors of burnout among nurses and the relationship between the two concepts. The conceptual framework for the study is based on theory on perception of stressors by Folkman and Lazarus [24]. In this study, transactional theory is reflected in the relation between the nurses' burnout and work-related factors. The theoretical model of burnout agree on that continuous discrepancy between what are expected and unconducive working conditions [24].

1.2 Study Model

The Demerouti et al. [25] Job Demands – Resources (JD-R) model of burnout was adopted in this study (Fig. 2). It has two processes. The first process involves the increase of factors related to job demands that constantly over task the worker leading to exhaustion. The second process is where there is lack of resources which makes accomplishing job requirements difficult for the worker leading to withdrawal behavior and consequently disengagement. The JD-R model is validated in occupations where workers are in constant contact with people such as nurses. An imbalance of demands over resources is a contributor to burnout. When demands increase such as more clients/patients with more intense

Fig. 1. Conceptual framework for the study

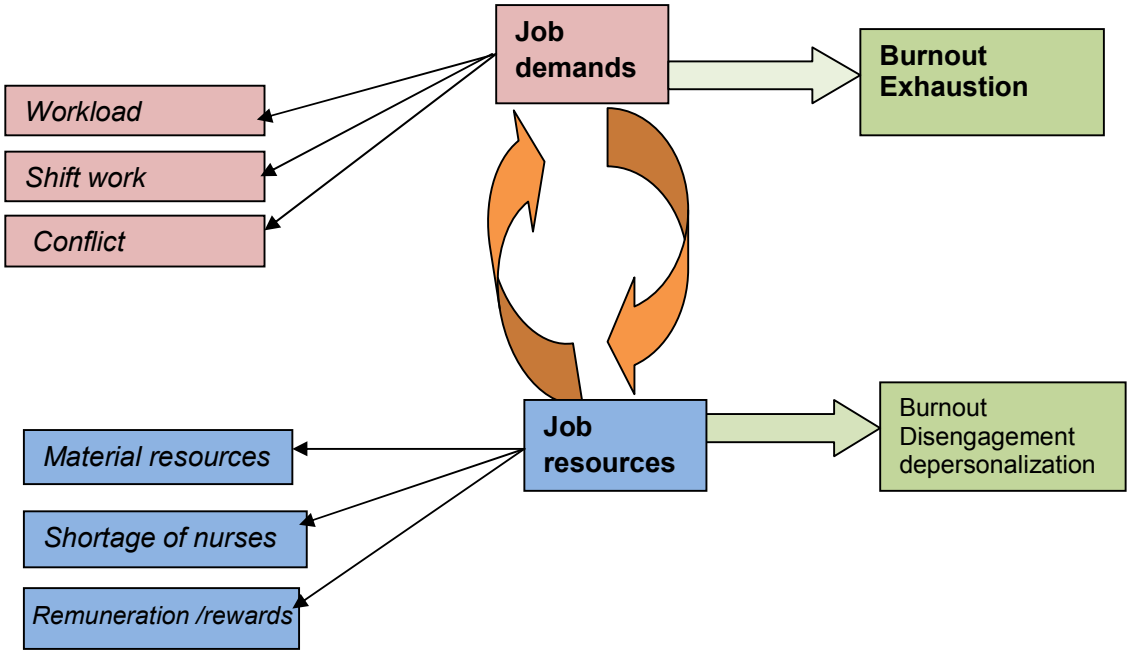

Fig. 2. Job demands - Resources model of burnout adopted and modified (Demerouti et al. [25])

requirements resources fail to keep pace. The resources could be insufficient personnel and equipment supplies, or space to meet the demands. Insufficient opportunity to rest and regenerate depleted energy aggravate the exhausting impact of demand-resource imbalances.

2. MATERIALS AND METHODS

2.1 Research Design

This was a hospital based descriptive cross-sectional study design which sought to examine work-related factors as determinants of burnout among nurses in the maternal health units, departments and maternity wards. Primary data was obtained from the nurses working at Pumwani Maternity Hospital, while secondary data was obtained from hospital records, published information from journals, books, and internet sources.

2.2 Study Area

Pumwani Maternity Hospital is located on the eastern side of Nairobi city. It serves as a referral maternity hospital as well as a local maternal child health facility for Nairobi City County and the slum dwellers in its environs. The Hospital falls under the jurisdiction of Nairobi City County. A Pumwani Maternity Management Board that is appointed by County Government oversees its operation. To date the Hospital remains the largest maternity hospital in the Country and in the Sub-Saharan Africa. It is equivalent to a Provincial Hospital in status and is reported to be third busiest maternity hospital in the African continent. The hospital is organized into two surgical wards, maternal child health/family planning clinic, inpatient wards (labor ward and post-delivery ward), newborn unit, theatre and an accommodation hostel which is used for the women awaiting labor, discharge or with infections.

2.3 Target Population

Pumwani Maternity Hospital was purposefully selected because it is the largest maternal health care provider offering only maternity services. The population of interest comprised of nurses who had worked in this hospital for at least six months. However those on part time/locum were excluded from the study to control for other intervening factors outside Pumwani Maternity Hospital practices. All the cadres of nurses were targeted; enrolled nurses (EN), registered nurses (RN), degree holders in nursing (BSN), as well as nurses specialized in midwifery (NM). At the

time of study, Pumwani Maternity Hospital had a total of 154 nurses (Pumwani Maternity Hospital Matron`s office records-February 2016). During this time, out of the 154 nurses, 20 of them were on annual leave, 4 on study leave and 3 on maternity leave. Accessible population therefore was 128 nurses.

2.4 Sampling Techniques and Determination of Sample Size

A list of all service points was used to provide a sampling frame. The list included surgical wards, maternal child health/family planning clinic, inpatient wards (labor ward and post-delivery ward), newborn unit and theatre. Among the service points, accommodation hostel was excluded from the study since it is served by student's nurses. Nurses working in these areas were selected using purposive and convenient sampling methods. Non-probability sampling was used because of the size and distribution of the population.

To ensure that the sample is a representative of target population and characteristics or parameters of population are obtained with precision a formula by Yamane [26] was used where n" is the sample size, N" is the population size and e" is the level of precision.

Level of precision (sampling error) e = 5 %(0.05)
Confidence level (For social sciences) = 95%
Degree of variability 50% (0.5)

$$\mathrm{n} = \frac{N}{1 + N\ (e^2)}$$

$$\mathrm{n} = \frac{128}{1 + 128\ (0.05^2)}$$

$$n = 96$$

2.5 Research Instruments

The instruments for the study included Maslach Burnout Inventory-Human Services Survey (MBI-HSS) [27] and a researcher developed questionnaire. The research instrument was presented in the form of a self-administered questionnaire. The MBI-HSS has 22 items elaborated for health care professionals. It has a likert type response format with options of never (0), a few times per year or less (1), once a month or less (2), a few times per month (3), once per week (4) a few times per week (5) and every day (6). Emotional Exhaustion (EE) has a nine items; Depersonalization (DP) has five items while Personal Accomplishment (PA) has eight items. All 22 items were considered as one-dimensional in this study. The word recipient was replaced by maternal child health clients to limit the scope of study to maternal health care work. To avoid difficulties in interpretation, callous was replaced by insensitive, exhilarated by refreshed. Burnout was conceptualized as a continuous variable ranging from low to moderate to high degrees. Respondents were classified as experiencing high, moderate or low burnout. High and moderate levels indicate presence of burnout.

2.6 Validity and Reliability of MBI-HSS

MBI-HSS was examined in study using Cronbach's alpha coefficients to establish its psychometric properties of validity and reliability. The results showed that the instrument has good internal consistency (a = 0.767). Construct validity of MBI-HSS with regard to its reliability, coefficients of internal consistency of the three subscales varied between 0.82 and 0.90 for EE, 48 and 79 for DP and 0.57 for PA [27,28].

2.7 Data Analysis

Data was processed through SPSS version 21. Analysis of data utilized descriptive and inferential statistics. Percentages, means and standard deviation represent descriptive statistics. Linear regressions were used to determine whether there is a significant relationship/association between work-related factors and burnout.

3. RESULTS AND DISCUSSION

3.1 Results

3.1.1 Response rate

A total of 96 respondents representing 98% response rate were successfully reached during data collection stage of the research. This response rate sufficiently surpassed the minimum threshold sample size of 30% as suggested by Kothari [29] hence considered as acceptable. The respondents were distributed equally across Pumwani Maternity Hospital where each respondent had an equal and independent chance and each respondent had only one chance.

3.1.2 Work-related factors

Work-related factors also called job characteristics are the aspects specific to a job that require knowledge, skills, mental and

physical demands and working conditions that can be recognized, defined and assessed. They are workload, number of work hours or numbers of clients, conflict and role ambiguity, job responsibilities, physical environment shift length, and resources among others. This study was limited to the following work-related factors; essential material resources, remuneration, extension of work shift apart from the normal shift, work load and conflict and role ambiguity.

3.1.2.1 Essential material resources

Essential material resources are used in the day to day workings. In a hospital setting these materials include the consumables products such as sterilizations and disinfection products, drugs/medicines, equipment's, stationeries, protective gears among the many. This study sought to identify whether nurses are provided with materials and resources required to perform their job at Pumwani Maternity Hospital. Majority of the nurses (59%) reported that they are provided with essential material resources required to do their duties effectively.

On what type of essential material resources provided, majority of the respondents indicated protective gear followed by drugs/medicines while the least provided were stationeries (Fig. 3). Essential material resources provided include protective gears drugs/medicines, equipment, consumables, disinfections/sterilizations and stationeries.

The materials that were reported to be lacking included but not limited to delivery packs, some important medical and pharmaceuticals products, patients' linen, personal protective equipment, theatre drugs, surgical supplies and detergents (such as Endozyme solution), working equipment such as monitors, BP machines, thermometers.

3.1.2.2 Remuneration

On remuneration, majority of the respondents (69%) indicated that they don't consider themselves to be adequately remunerated. For those who consider themselves not well remunerated, they recommended that the management do the following with their remuneration; provide allowances for extra duties, avoid delays in promotion, appreciation for good performance; harmonization of the remuneration, to be placed in the right job group and given promotion, increase of salary and overtime payment, Job evaluation and promotion, risk allowance improvement; extraneous allowance to be given, non practicing allowance to be given, automatic promotions, call allowance to be enhanced and salary to be commensurate to level of training, experience and responsibility.

The study also sought to identify the frequency of nurses' appraisal. Results indicated that, majority of the nurses (85.4) were appraised annually while 13.4% reported never to have been appraised (Fig. 4).

3.1.2.3 Extension of work shifts

This study sought to establish the length (in hours) of a normal shift in the hospital. Majority of the respondents (67.7%) indicated they worked for a 6 to 8 hours (Fig. 5). This was followed by those who worked for 8 hours during day shift and 14 hours on night shift at 19.4% while the minority respondents (4.3%) indicated they worked for 9-11 hours (Fig. 5).

This study further established that majority of the nurses (87.5%) had worked for extended shifts from normal shifts (over time) in the previous six months before the study (Table 1).

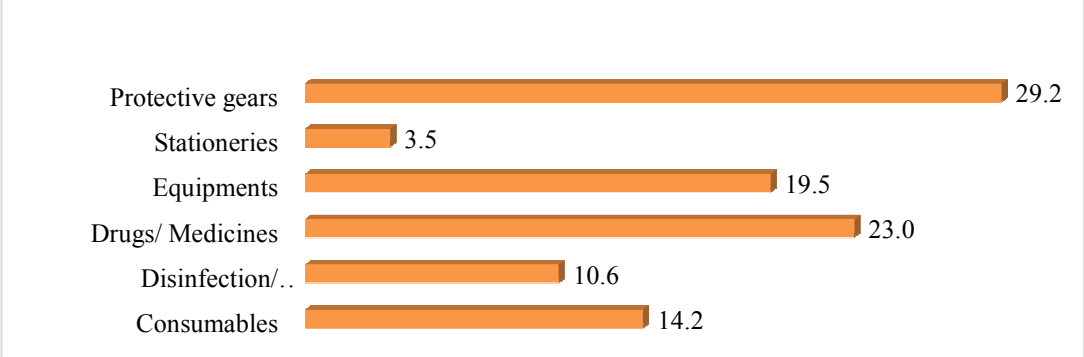

Fig. 3. Essential material resources provided for nurses to carry out your duties

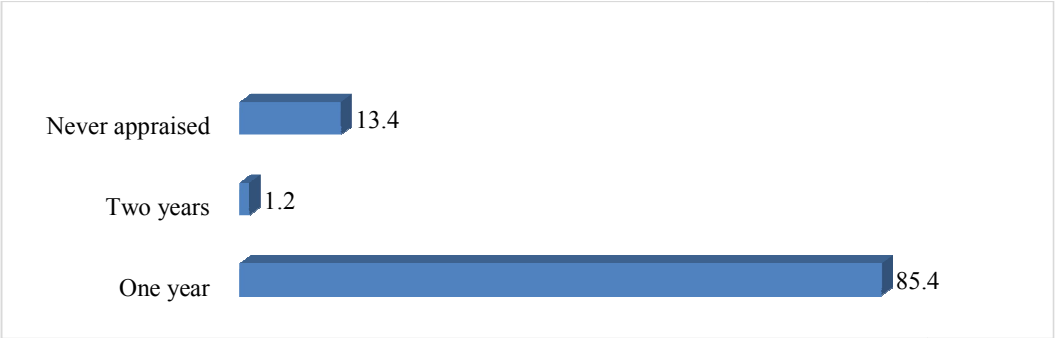

Fig. 4. Nurses' response on frequency of appraisal by their supervisors

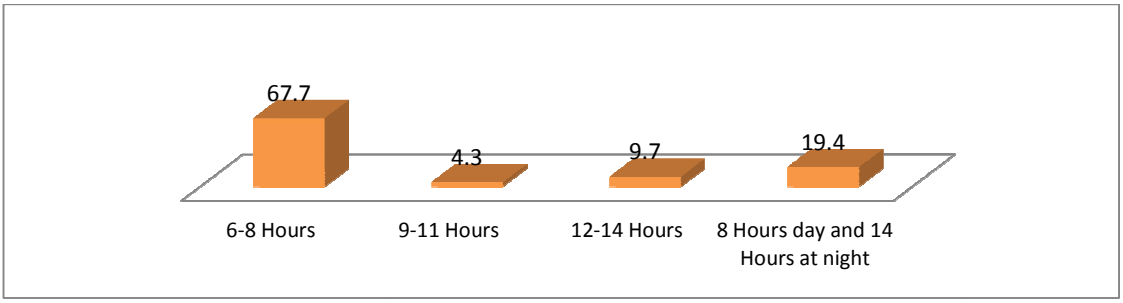

Fig. 5. Duration of normal working shift in Pumwani maternity hospital in hours

Table 1. Nurses' response on extension of work shift beyond the normal shift

Nurses' response	Frequency (n)	Percent (%)
Yes	84	87.5
No	12	12.5
Total	96	100.0

The study further sought to determine the number of hours extended by the nurses above their normal shift in the last six months before the study. It was revealed that majority of the nurses (42.5%) had extended their shift by 4 to 6 hours, followed by those who extended by 1 to 3 (Fig. 6). The least did double shift hour majority (Fig. 6).

The reasons for the extended working shift beyond the normal working shift of the respondent's (nurses) were; carrying out extra duties that had not been completed, clients who came late just when about to close, due to shortage of staff, emergencies happening towards the to end a shift, finishing some packing procedures in maternity unit, matters that arise like meetings with stakeholders, a colleague not turning up, Referrals to be made, too many clients, counseling a client among others.

3.1.2.4 Work load

Increased workload is a situation where there is a lot of work with just a few employees or when there is a lot of work to complete in a short period thus overworking the employees. This study sought to determine the number of nurses in the hospital on duty at any one time in the unit/ward/department as one of the indicators of workload. It was established that majority (26.0%) of the units/wards/departments had three nurses at any given time, followed by those with 2 nurses at a shift (18.8%) while the minority (3.1%) had 7 nurses (Fig. 7).

Further, the study indicated that majority of the nurses (95.8%) felt that the number of nurses in the unit/ward/department was inadequate (Table 2).

Table 2. Extent to which nurses consider the number of nurses in the unit/ward/department adequate

Nurses' response	Frequency (n)	Percentage (%)
Yes	4	4.2
No	92	95.8
Total	96	100.0

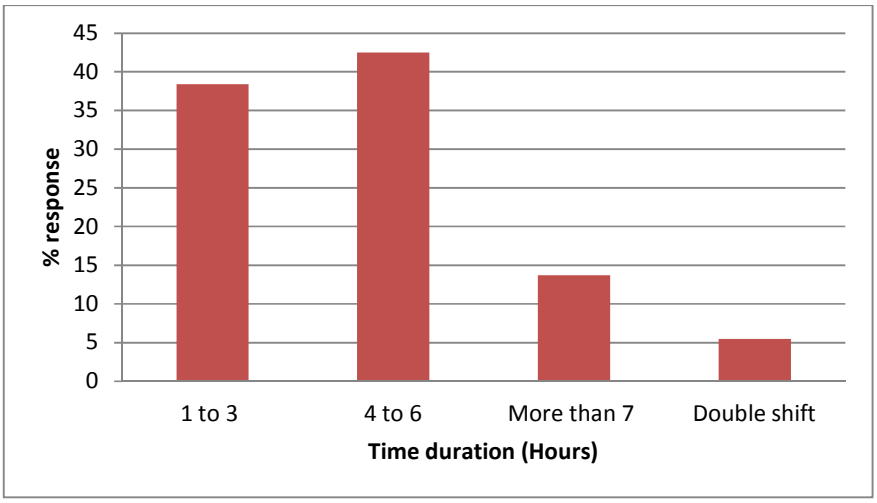

Fig. 6. Level of extension of working above normal shift by nurses

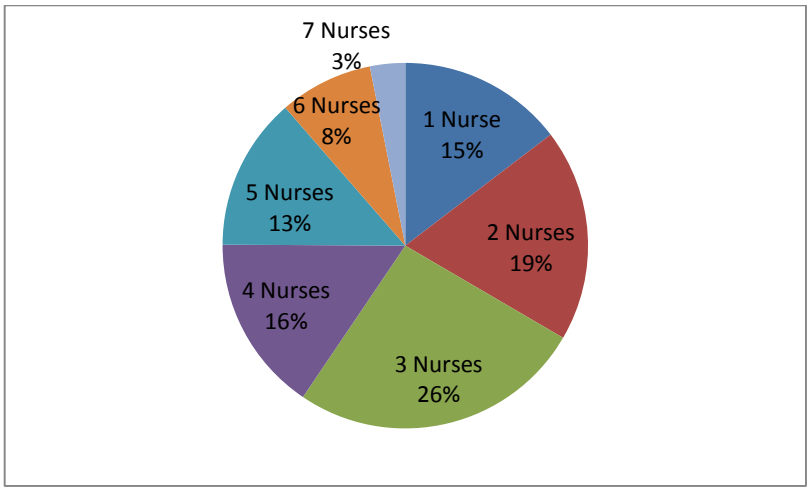

Fig. 7. Number of nurses on duty in unit/ward/department at any one time

Those who reported that the nurses are not adequate gave reasons like; some nurses were removed from payroll and have not been replaced and before then employed nurses were not enough; in case of an emergency one has to continue with the next shift; some procedures require more than one nurse to serve clients well and avoid overworking; the nurse-patient ratio is overwhelming and too many patients compared to nurses on duty among others.

3.1.2.5 Role ambiguity and conflict

The roles and responsibilities of nurses in Pumwani Maternity Hospital are diverse. Information on whether the nurses' duties and responsibilities were always specified by the in charge was obtained. Majority of the respondents (57%) indicated that the duties and responsibilities are not always specified. This means that most of the roles that the nurses conduct are not assigned but just follow a routine of what is given as a role of a nurse and do what arises as per situation.

In order for nurses to perform their roles well, they require continuous training. The study sought to establish whether nurses have attended continuous medical education in maternal health while working in the hospital. Majority (77%) of the nurses reported to have attended continuous medical education while working in the hospital.

Table 3. Attendance rate by nurses of the various trainings that have been offered in Pumwani Maternity Hospital

Type of training	Frequency (n)	Percent (%)
Maternal and Child health (Short courses CME)	32	43.2
Family planning	1	1.4
Emergency Obstetric Care/Emergency neonatal rescue	24	32.4
Disabilities and Abnormalities	12	16.2
Other trainings	5	6.8
Total	74	100

On the type of training obtained at Pumwani Maternity Hospital, majority of the respondents (42.9%) indicated that it was on maternal and child health (short courses) (Table 3). The least was training on family planning at 1.3% (Table 3).

Whereas a minority of the nurses working on the hospital, have never attended continuous medical education in the maternal child health, the reasons given included shortage of nursing staff therefore had to remain and work, continuous medical educations are conducted while on off duty or on night shift, have not been given any chance to go for seminar, high workload in the maternity unit due to few staffs, new in the department, was not recommended by supervisor and lack of enough time.

The study further sought to evaluate whether the nurses had experienced role conflict while carrying out their duties like having two jobs at the same time. Majority of the respondents (65%) reported to have had role ambiguity and conflict in the course of their duty.

The study further evaluated whether the nurses experienced any interpersonal conflicts in the course of duty. Majority of the nurses (61.5%) reported to have had conflicts in their line of duty. The study revealed that most of interpersonal conflicts were nurse-nurse conflicts (21.1%), followed by nurse-relatives conflicts while nurse-physician conflicts were the least reported at 10.2% (Table 4).

It was reported that some of the interpersonal conflict resulted from: relatives refusing their clients to be moved to referral hospitals; relatives protesting of either a loss of a loved one or something not done their way; police relatives who demand for discharge of their patient; having intruders in the hospital at night; mothers absconding from hospital and a nurse on duty told pay for the absconders, patients absconded from ward and nurses made to write statement/harassed; death of babies or still births among others sources.

Table 4. Type of interpersonal conflict experienced by nurses while carrying out their duties

Interpersonal conflict	Percentage of nurses (%)
Nurse-nurse conflict	21.1
Nurse-nurse in charge conflict	17.5
Nurse physician conflict	10.2
Nurse- Supportive staff conflict	12.7
Nurse-patient conflict	18.1
Nurse-relatives conflict	20.5

3.1.3 Burnout

The level of burnout vary from one nurse to another due to various characteristics down from personal characteristics, job characteristics and also environmental characteristics and therefore nurses may have a high, moderate, or low burnout. Those with moderate and high levels are considered to have burnout while those with low levels have no burnout. The study revealed that there was a high level of burnout (88.5%) among nurses in Pumwani Maternity Hospital.

Correlation analysis revealed that there is a low relationship between work-related factors (essential material resources, remuneration, extension of work shifts, workload, and role ambiguity and conflict) on burnout levels (R=0.241) (Table 5). The (R^2) obtained was 0.058 which means that 5.8% of the variations in the burnout levels can be explained by changes on work-related factors (essential material resources, remuneration, extension of work shifts, workload, and role ambiguity and conflict) and 94.2% of variation in burnout levels can be explained by other factors that are not within the control of the research.

Table 5. The relationship between work-related factors and burnout among nurses working in Pumwani Maternity Hospital

Model summary				
Model	**R**	**R square**	**Adjusted R square**	**Std. error of the estimate**
1	.241	.058	-.013	.325

Regression analysis was carried out to evaluate the influence of each of the work-related factors on the burnout among nurses. Using the Standardized Coefficients, role ambiguity and conflict is found to have the greatest influence on burnout levels (β=0.197, t =1.692, *p* =0.095) (Table 6). Therefore, role ambiguity and conflict is a significant forecaster of burnout levels. Workload is the next work-related determinant of burnout levels making a contribution of (β= 0.038 t=0.319, *p*= 0.750) (Table 6). Extended work shift makes the least contribution (β = -0.148, t =-1.256, *p* =0.213) (Table 6). However, no work-related factor was found to be statistically significant in influencing burnout levels.

Using the unstandardized coefficients, the relationship between work-related factors (essential material resources, shift extension, remuneration, work load and role ambiguity and conflict,) on burnout levels is as shown in Table 6. Essential material resources on burnout levels has a negative regression coefficients (β= -0.017, *p* = 0.810) indicating a negative relationship between essential material resources and burnout levels. This means that for every increase in essential material resources, there is a decrease in the burnout levels. The *p* value for essential aterial resources is greater than 0.05 implying that the null hypothesis that there is no significant relationship between essential material resources on the burnout levels is accepted. There is a negative regression coefficients (β= -0.014, *p* = 0.866) between remuneration and burnout levels, indicating a negative relationship between remuneration and burnout levels. This means that for every increase in remuneration, there is a decrease in the burnout levels. The p value for remuneration is also greater than 0.05 implying that the null hypothesis that there is no significant relationship between remuneration and burnout levels is accepted.

Similarly, extension of work shifts on burnout levels has a negative regression coefficients (β= -0.142, p = 0.213) indicating a negative relationship between extension of work shifts and burnout levels. This means that for every increase in extension of work shifts, there is a decrease in the burnout levels. The p value for extension of work shifts is greater than 0.05 implying that the null hypothesis that there is no significant relationship between extension of work shifts and burnout levels is accepted.

Table 6. Regression analysis on the relationship between work-related factors and burnout among nurses working in Pumwani Maternity Hospital

Regression coefficients					
	Unstandardized coefficients		**Standardized coefficients**	**t**	**Sig.**
	B	**Std. error**	**Beta**		
(Constant)	1.128	0.519		2.175	0.033
Essential material resources	-0.017	0.071	-0.027	-0.241	0.810
Remuneration	-0.014	0.082	-0.020	-0.169	0.866
Extended work shift	-0.142	0.113	-0.148	-1.256	0.213
Workload	0.066	0.206	0.038	0.319	0.750
Role ambiguity and conflict	0.135	0.08	0.197	1.692	0.095
a. Dependent Variable: burnout					

Table 7. ANOVA on the relationship between work-related factors and burnout among nurses working in Pumwani Maternity Hospital

Model		**Sum of squares**	**df**	**Mean square**	**F**	**Sig.**
1	Regression	.514	6	.086	.813	.563
	Residual	8.323	79	.105		
	Total	8.837	85			

In contrast with the above factors, work load on burnout levels has a positive regression coefficients (β= 0.066, p = 0.750) indicating a positive relationship between workload and burnout levels. This means that for every increase in work load, there is an increase in the burnout levels. The p value for Work load is greater than 0.05 implying that the null hypothesis that there is no significant relationship between workload and the burnout levels is accepted.

Role conflict on burnout levels also has a positive regression coefficients (β= 0.135, *p* = 0.095) indicating a positive relationship between role conflict and burnout levels. This means that for every increase in role conflict, there is an increase in the burnout levels. The p value for role conflict is greater than 0.05 implying that the null hypothesis that there is no significant relationship between role ambiguity and conflicts on the burnout levels is accepted.

Further, ANOVA was carried out to compare difference between group means in regard to burnout levels. This analysis revealed that there is no significant difference in means of burnout levels (*p* = 0.563) between the different work-related factors at 95% confidence interval (Table 7).

4. DISCUSSION

This study revealed that majority of nurses (88.5%) could have experienced burnout in their work. Nurses have been grouped as at high risk of burnout [17] among the health professionals. The findings of this study agree with those of Kokonya et al. [23] who also reported high levels of burnout among nurses in Kenyatta National Hospital in Nairobi. In this study more than 80% of the respondents were found to have burnout.

Regression analysis was carried out to evaluate the influence of each of the work-related factors on the burnout levels among nurses in this study. Although no work-related factor was found to be statistically significant in influencing burnout levels, role ambiguity and conflict was found to have the greatest influence. This means that it is a significant forecaster of burnout levels. This was followed by workload while extended work shift made the least contribution. However, ANOVA revealed that there is no significant difference in means of burnout levels (*p* = 0.563) between the different work-related factors. Several studies have pointed out that extreme number of patients, heavy workload, shift work and long working hours, inadequate remuneration and intensive work are factors that contributes to burnout at work places [11,12,13]. This study revealed that inadequate essential material resources, remuneration, extended work shifts, workload, role ambiguity and conflict contribute to burnout among nurses.

Further, essential material resources, remuneration and extended work shifts were shown to have negative relationship with burnout levels. This means that with increase in these factors, burnout levels would decrease. In contrast, workload and role ambiguity and conflict have a positive relationship with burnout levels. This means that increase in these factors increases burnout levels.

Material resources help nurses to effectively carry out duties and responsibilities and when adequately provided reduce job demands, stimulate personal growth and professional development for nurses [14]. Shortage or lack of resources and equipment makes skilled health workers frustrated and angered, increasing the risk of burnout. In this study although material resources were provided, 41% of the respondents reported that the materials were inadequate. Material resources and burnout showed a negative relationship. Increase in provision of material resources led to decrease in burnout. Similarly, remuneration was found to be negatively related with burnout. This means increase in remuneration reduces burnout among the nurses. This is in agreement with many studies [19,20]. Proper remuneration motivates the employee who feels they are adequately motivated for the services they render.

This study revealed that, extended work shift was negatively related to burnout levels. This means that increase in extended work shifts reduces burn out levels. This finding disagrees with most previous studies [12,20]. This could be explained by the fact that a nurse who extended shift by more than 4 hours was compensated with 1 day off therefore allows the nurse to rest and also view of day off as an alternative to monetary compensation. Previous studies reported that registered nurses who were under duress to work overtime or expected to work beyond a shift length and not paid for overtime had higher levels of burnout [15]. This study further revealed that high workloads and role ambiguity and conflict relate positively with burnout levels among the nurses. These results are in agreement with previous studies [11,13,19]. High workloads and ambiguous roles and conflicts

only serve to demoralize the employees leading to burnout.

5. CONCLUSION

This study was designed to assess the influence of work-related factors on burnout among nurses at Pumwani Maternity Hospital in Nairobi City County. This study has demonstrated high level of burnout among the nurses. The study concludes that increase in essential material resources, remuneration, extended work shifts (in hours) and decrease in workloads and role ambiguity and conflict can reduce burnout levels among nurses. In view of this, burnout preventive approaches need to be instituted such as modification of work environment related to work demands and resources, increase in number of nurses in the Hospital which would lead to reduction of workload, duties and responsibilities to be clearly specified for nurses to reduce role ambiguity and conflict.

CONSENT AND ETHICAL APPROVAL

The study was carried out in line with the guidelines stated by the Helsinki declaration on competent persons. Ethical approval was sought from Kenyatta National Hospital -University of Nairobi research and ethics committee. Permission to conduct study was sought from National Commission for Science, Technology and Innovation (NACOSTI); County director of health (Nairobi City County). Permission to collect data was obtained from the Hospital Superintendent in charge and Matron in charge of Pumwani Maternity Hospital, as well as nursing officers in charge of various sections. Consent was sought through written requisition attached to the questionnaire. Respondents consent was sought and only those willing were enlisted in the study. Respondents who agreed to participate in this study signed a consent certificate. To ensure confidentiality, coding of participants was used instead of the participants' real names. Besides these basic research ethics requirements, the study upheld the highest ethical standards.

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

REFERENCES

1. Freudenberger HJ. Staff burnout. Journal of Social Issues. 1974;30:159-165.
2. Lin F, Winsome St. J, Carol M. Burnout among hospital nurses in China. Journal of Nursing Management. 2009;3:294-301.
   Available:www.ncbi.nlm.nih.gov/pubmed/21456318
3. Maslach C, Schaufeli W, Leiter MP. Job burnout. Annual Review of Psychology. 2001;52:397-422.
4. Leiter MP, Maslach C. The impact of interpersonal environment on burnout and organizational commitment. Journal of Organizational Behavior. 1988;9:297-308.
5. Demerouti E, Bakker AB, Nachreiner F, Schaufeli WB. The job demands-resources model of burnout. Journal of Applied Psychology. 2001;86(3):499−512.
6. Bakker AB, Costa PL. Chronic job burnout and daily function; Theoretical analysis in burnout research. Science Direct, Elsevier. 2014;112-119.
7. Xiaofei L, Lili G, Hui C, Bo Z. Core self-evaluation and burnout among nurses: The mediating role of coping styles. Journal pone.0115799; 2014.
   DOI: 10.1371/
8. Javier F, Carod-Artal, Carolina V. Burnout for experts prevention in the context of living and working. Springer Science Business Media New York; 2013. ISBN: 978-1-4614-4391-9.
9. Shanafelt TD, Bradley KA, Wipf JE, Back AL. Burnout and self-reported patient care in an internal medicine residency program. Ann Intern Med. 2002;136:358-367.
10. Embriaco N, Papazian L, Kentish-Barnes N, Pochard F, Azoulay E. Burnout syndrome among critical care healthcare workers. Current Opinion in Critical Care. 2007;13:482–488.
11. Kalemoglu M, Keskin O. Burnout syndrome at the emergency service. Scand J Trauma Resusc Emerg Med. 2006;14:37-40.
12. Circenis K, Millere I, Deklava L. Stress-related psychological disorders among surgical care nurses in Latvia. Review of

Global Medicine and Healthcare Research. 2011;2(2):131-138.
13. Schreuder JAH, Plat N, Magerøy N, Moen BE, van der Klink JJL, Groothoff JW, Roelen CAM. Self-rated coping styles and registered sickness absence among nurses working in hospital care: A prospective 1-year cohort study. International Journal of Nursing Studies. 2011;48(7):838-846.
Available:http://dx.doi.org/10.10 16/j.ijnurstu.2010.12.008
14. Amy WS, Douglas MS, Linda HA. The longer the shifts for hospital nurses, the higher the levels of burnout and patient dissatisfaction. Health Affairs. 2012;31(11): 2501-2509.
DOI: 10.1377/hlthaff.2011.1377
15. Poncet MC, Toullic P, Papazian L, Kentish-Barnes N, Timsit JF, Pochard F, et al. Burnout syndrome in critical care nursing staff. American Journal of Respiratory and Critical Care Medicine. 2007;175:698–704.
16. Ilhan MN, Durukan E, Taner E, Maral I, Bumin MA. Burnout and its correlates among nursing staff: Questionnaire survey. Journal of Advanced Nursing. 2008;61: 100-106.
17. Lasebikan VO, Oyetunde MO. Burnout among nurses in a Nigerian general hospital: Prevalence and associated factors. International Scholarly Research Network, IRSN Nursing; 2012.
DOI: 10: 5402/2012/402157
18. Vahey DC, Aiken LH, Sloan DM, Clarke SP, Vargas D. Nurse burnout and patient satisfaction. Medical Care, Supplement. 2004;42(2):57-64.
19. Thorsen VC, Tharp A, Meguid T. High rates of burnout among maternal health staff at a referral hospital in Malawi: A cross sectional study. BMC Nursing. 2011;10:9.
20. Bradley S, Kamwendo F, Chipeta E, Chimwaza W, Pinho H, McAuliffe E. Too few staff, too many patients: A qualitative study of the impact on obstetric care providers and on quality of care in Malawi. BMC Pregnancy and Childbirth. 2015;65.
DOI: 10.1186/s12884-015-0492-5
21. Okwaraji FE, Aguwa EN. Burnout and psychological distress among nurses in a Nigerian tertiary health institution. African Health Sciences. 2014;14(1):237-245.
Available:http://dx.doi.org/10.4314/ahs.v14i 1.37
22. Khamisa N, Peltzer K, Oldenburg B. Burnout in relation to specific contributing factors and health outcomes among nurses: A systematic review. Int. J. Environ. Res. Public Health. 2013;10: 2214–2240.
23. Kokonya DA, Mburu JM, Kathuku DM, Ndete DM. Burnout syndrome among medical workers at Kenyatta National Hospital (KNH), Nairobi, Kenya. Journal of Psychiatry. 2014;17(6):14-32.
Available:http://dx.doi.org/10.4172/1994-8220.1000142
24. Folkman S, Lazarus RS. Coping as a mediator of emotion. J Pers Soc Psychol. 1988;54:466–475.
25. Demerouti E, Bakker AB, Nachreiner F, Schaufeli WB. The job demands-resources model of burnout. Journal of Applied Psychology. 2001;86(3):499−512.
26. Yamane T. Statistics, an introductory analysis, 2nd Ed. New York: Harper and Row; 2001.
27. Maslach C, Jackson SE, Leiter MP. Maslach burnout inventory manual. 3rd Ed. Consulting Psychologists Press; Palo Alto, CA, USA; 1996.
28. Angel BP, Anton AF, Joan BG. Burnout syndrome and coping strategies: A structural relations model. Psychology in Spain. 2003;7(1):46-55. Freudenberger HJ. Staff burnout. Journal of Social Issues. 1974;30:159-165.
29. Kothari C. Research methodology-methods and techniques. 2nd Edn. New Delhi, India: New Age International Publishers; 2004.

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