Influence of Socio-demographic Characteristics on Burnout among Nurses at Pumwani Maternity Hospital, Nairobi, Kenya

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Authors' contributions

This work was carried out in collaboration among all authors. Authors JWM and PWK designed the study. Author JWM carried out the study and wrote the manuscript. Author GMM reviewed the manuscript. All authors read and approved the final manuscript.

Article Information

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ABSTRACT

Aim: Burnout has detrimental effects on workers at both physical and psychological levels. This study sought to evaluate the influence of selected socio-demographic characteristics on burnout among nurses working in Pumwani Maternity Hospital.
Methodology: A descriptive cross-sectional study design was used. The study was conducted at Pumwani Maternity Hospital, Nairobi, Kenya between August 2015 and December 2016. Clustering, purposive and convenient sampling methods were used to select the sample size of 96 nurses. A self-administered questionnaire consisting of socio-demographic characteristics and Maslach Burnout Inventory-Human Services Survey was used. Data acquired was processed using SPSS version 21, utilizing descriptive and inferential statistics.
Results: The study revealed that most (88.6 %) of the respondents were experiencing burn out. Gender, religion, age, marital status and education level had a moderate relationship with burn out. Gender and marital status of nurses had a positive correlation with burnout levels. Female and married nurses experienced higher burnout levels. Religion was found to have a significance relationship with burnout and that Christians experienced less burnout. There was a negative

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relationship between age and education level with burnout. Young nurses with lower educational qualifications experienced more burnout levels.

Conclusion: The study confirmed high burnout levels among nurses working in Pumwani Maternity Hospital. Socio-demographic characteristics play a moderating role on development of burnout among nurses and can serve as predictors of employee burnout. Determination of the relationship between socio-demographic characteristics and burnout may aid the identification of high-risk groups as a critical step in developing effective preventive and alleviation strategies for this cadre of health care providers. This may help in development of coping strategies for burnout among nurses in maternity hospitals.

1. INTRODUCTION

Burnout is a major subject of concern in many institutions and occupations today especially those involved in health care. Besides having a toll on employees both psychologically and physically, burnout also affects institutional capacity for service provision [1]. Burnout is classified under problems related to difficulties in life management by International Classification of Diseases [1]. The concept of burnout was introduced by Freudenberger in early 1970`s and likened it to putting out of a candle due to diminishing resources [2]. Maslach *et al*., (1996) later described burnout as a psychological syndrome that make workers feel continually exhausted, emotionally detached and a feeling of decreased personal accomplishment. Burnout syndrome is often associated with feelings of emotional exhaustion, depersonalization, and reduced personal accomplishment [3]. This arises as a result of professionals working with other people in challenging situations.

Several studies on burnout among health care workers in African have been conducted. In Malawi, Javier *et al*., [4] reported moderate to high burnout levels among nurses working in maternal health care units mainly associated with inadequate resources and extended working time. A study by Khamisa *et al*., [5] in South Africa, reported that burnout among nurses was related to insecurity, reduced resource and poor work schedules. Burnout was reflected as reduced performance and compromise in quality of patient care. A study by Okwaraji and Aguwa [6] in Nigerian reported that 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. In Kenya, a study by Kokonya *et al*., [7] at Kenyatta National Hospital reported high levels of burnout among nurses compared to other medical personnel. Pindar *et al*., [8] reported that health care givers like nurses experience high rates of burnout as compared to other health workers. Most studies on burnout among health personnel tend to concentrate on medical professionals in general with few targeting nurses in maternity hospitals.

Bakker and Costa [9] placed causes of burnout into two categories; situational factors (work demands and resources) and individual factors (personality, socio-demographic and socioeconomic status). Several studies have reported correlations between burnout and work-place related factors [10,11]. In a study on nurses in a maternity hospital, Muriithi and Kariuki [11] reported that burnout was influenced by work-related factors such as workload, extended shifts, role conflict and ambiguity. Therefore, burnout has been reported to occur at a higher level among people whose work involves constant demands and increased interaction with people who have physical and emotional needs such as patients [4,12]. This explains occurrence of high burnout among health care givers such as nurses [13].

Burnout levels have been reported to vary with socio-demographic factors such as age, gender, marital status, education level and work position among nurses. These factors interact with work-related factors in determining burnout among workers. Several studies have evaluated the relationship between burnout and socio-demographic characteristics [6,7,14]. Some of them are discussed below;

1.1 Age and Burnout

There are several studies on association of age with burnout among nurses [6,14]. Nurses who are less than 35 years of age are considered to be young. The results from most studies on the relationship between age and burnout are

inconsistent. A study conducted in Nigeria by Lasebikan and Oyetunde [15] reported that older nurses experienced high levels of burnout compared to young ones. In contrast to these results, Lin *et al.*, [16] reported that younger nurses experienced less emotional exhaustion as compared to older nurses in China. Similarly, in study carried out in Kenya National Hospital in Kenya, Kokonya *et al.*, [12] reported the highest level (97.0%) of burnout to be among nurses below 30 years. It is postulated that young nurses are less likely to have techniques of managing work pressures and also lack of experience reduce personal accomplishment and therefore higher levels of burnout [6,14].

1.2 Gender and Burnout

Males and females have been known to respond to stressors differently. This is affirmed by a study conducted in Nigeria by Okwariji and Aguwa [6] that reported differences in burnout levels between male and female nurses. In this study, female nurses were reported to experience higher levels of burnout. This was attributed to the dual role played by females both as the home makers as well as their full time job. Unlike females, male workers were likely to visit social places to ease off the day's tension [6]. In contrast to these results, Kokonya *et al.*, [7] reported a higher level of burnout in males compared to females among medical workers in Kenyatta National Hospital in Kenya. A study in China by Lin *et al.*, [16] reported that there were no significant differences in the levels of burnout between females and males. This was attributed to the different cultural setups that define community gender roles.

1.3 Marital Status and Burnout

Marriage not only brings about extra responsibility for the health worker but also can be a source of support in case workers are experiencing stress. In a study in Nigeria by Lasebikan & Oyetunde, [15] marriage was found to be protective against high levels of burnout as married nurses were found to experience lower burnout levels. Similarly, in a study by Adekola [17], unmarried nurses experienced higher levels of burnout compared to the married ones. The difference was explained by the fact that among the unmarried nurses, majority could be young and therefore likely to be given more workload at the work place. The married female nurses were also likely to take maternity leave and therefore get time to recover away from work environment.

According to Okwaragi & Aguwa [6], married nurses with supportive spouses are also less prone to burnout. However, domestic duties may intensify the responsibilities of married health care workers and this may increase burnout. This creates family work conflict which at times is manifested by expression of detachment and feelings of reduced efficiency at work [18].

1.4 Education Level and Burnout

Lack of training in midwifery brings about shortage of nurses because certain skills are important for one to be able to manage obstetric emergencies. One way that hospitals try to deal with shortages is to hire locum staff to cover shortage. However, some of those who take up the locums are not trained in emergency obstetric care (EMOC). According to Bradley *et al.*, [19] lack of adequate and skilled staff undermines performance and professionalism**.** The nurses lacking proper skills may feel frustrated and can easily be stressed. According to Maslach *et al.*, [20] nurses with more years of education may experience higher levels of burnout due to bigger responsibilities.

1.5 Religion and Burnout

The use of religion as a source of social support brings about emotional stability and hope. In a qualitative study in Iran by Mohammad *et al.*, [21] nurses were found to use spirituality as way of coping with burnout. This was on the basis of their understanding of teaching in Muslim's holy book Quran. According to Mohammad *et al.*, [21], nursing care seems to be a religious duty where more attention is towards satisfying God and the spiritual rewards in it. Therefore, offering nursing care becomes more meaningful as it involves loving, empathizing and helping people. Other studies revealed that nurses who were religious suffered less depression and anxiety [22,23]. These studies relate the religious and spiritual beliefs to coping with work place challenges. A study carried out in Kenya (KNH) recorded that Christians who were majority among medical workers showed that burnout occurred irrespective of religious faith of the care giver [12].

From the foregoing research studies, it can be concluded that findings from most studies on the relationship between burnout and socio-demographic characteristics are inconsistent to say the least. Further, such studies are relatively few. This study therefore sought to evaluate the

relationship between selected socio-demographic characteristics and burnout among nurses in Pumwani Maternity Hospital. Findings in this study provide information on the association between burnout and socio-demographic factors among nurses attending to maternal health clients in Pumwani Maternity Hospital. Insights gained from the study can be used by policy makers in the maternal health department in alleviating burnout among nurses.

2. METHODOLOGY

2.1 Research Design

The study adopted a descriptive cross-sectional study design. Data were obtained from the nurses working at Pumwani Maternity Hospital.

2.2 Study Area

This study was conducted in Pumwani Maternity Hospital in Nairobi City Count, Kenya. This maternity hospital serves as a referral maternity hospital as well as a local maternal child health facility. The hospital is located on the eastern side of Nairobi City. This hospital remains the largest maternity hospital in the Country and in the Sub-Saharan Africa. It is reported to be third busiest maternity hospital in the African continent. The hospital is organized into several sections; 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 and Sample Selection

Pumwani Maternity Hospital was purposefully selected because it is the largest maternal health care provider in the country that offers maternity services exclusively. The population of interest comprised of nurses who had worked in this hospital for at least last six months prior to the study. At the time of study, out of 154 nurses deployed in the hospital, 26 were on leave giving an accessible population of 128 nurses. A list of all service points was used to provide a sampling frame. Nurses working all the sections were selected using purposive and convenient sampling methods. Non-probability sampling was used because of the size and distribution of the population. Nurses on duty during the data collection period and had worked in the hospital for the last six months were included in the study.

However, those on part time/locum were excluded from the study to control for other intervening factors outside Pumwani Maternity Hospital practices.

2.4 Sample Size Determination

To ensure that the sample is a representative of target population and parameters of population are obtained with precision, a formula by Yamane [24] 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)

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

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

$$n = 96$$

2.5 Research Instruments

A self-administered researcher developed questionnaire was used in this study. This instrument had two parts. The first part was on socio-demographic characteristics while the second included Maslach Burnout Inventory-Human Services Survey (MBI-HSS) [25]. The socio-demographic part was used to collect data on gender, age, marital status, education level and religion. 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. 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 indicated presence of burnout.

2.6 Data Analysis

Data were processed through SPSS version 21. Analyses of data utilized descriptive and

inferential statistics. Analysis of variance (ANOVA) was used to compare means of socio-demographic characteristics on burnout. Linear regression was used to evaluate the relationship between socio-demographic 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. This response rate sufficiently surpassed the minimum threshold sample size of 30 % suggested by Kothari [26] and hence considered acceptable. The respondents were distributed equally across Pumwani Maternity Hospital where each and every respondent had an equal and independent chance.

3.1.2 Socio-demographic characteristics

The socio-demographic information of the study group in regards to gender, age, level of education, marital status and religion was follows:

3.1.2.1 Gender of the respondents

The study revealed that most of respondents (76.8 %) were females. This meant that over three quarters of nurses' population are males.

3.1.2.2 Age of the respondents

The study further revealed that nurses between 51 and 60 years age group were the majority

(Fig. 1). These were followed by 41 to 50 years age group (Fig. 1). These two groups consisted of 60.5 % of all the nurses. Nurses in the 21-30 years age group were the minority representing 16.7 % (Fig. 1).

3.1.2.3 Level of education of the respondents

The results of this study showed that majority of respondents (62.1 %) had attained secondary education (Fig. 2a). These were followed by those who had A-level education while those with bachelors' degree education were the minority (Fig. 2a). Further, on the highest professional qualification attained by respondents, results indicated that majority of respondents were Kenya Registered Community Health Nurses and these were followed by Enrolled Community Nurses at 27 % (Fig. 2b). These two cadres constituted 83.3 % of all nurses in the hospital. The midwife nurses were at 5.2 %, while those with BSc (Nursing) at 3.1 %. Those with other qualifications like MPH, MSc, BSc (counseling psychology) were the minority representing 2.1 % of nurses.

3.1.2.4 Marital status of the respondents

This study showed that majority of respondents were married (Fig. 3). They were followed by those who were single and widowed at 21 % and 4 %, respectively. The divorced/separated were the minority (Fig. 3).

3.1.2.5 Religion of the respondents

This study showed that most of the respondents were Christians at 95.5 % while other religions were at 4.5 %.
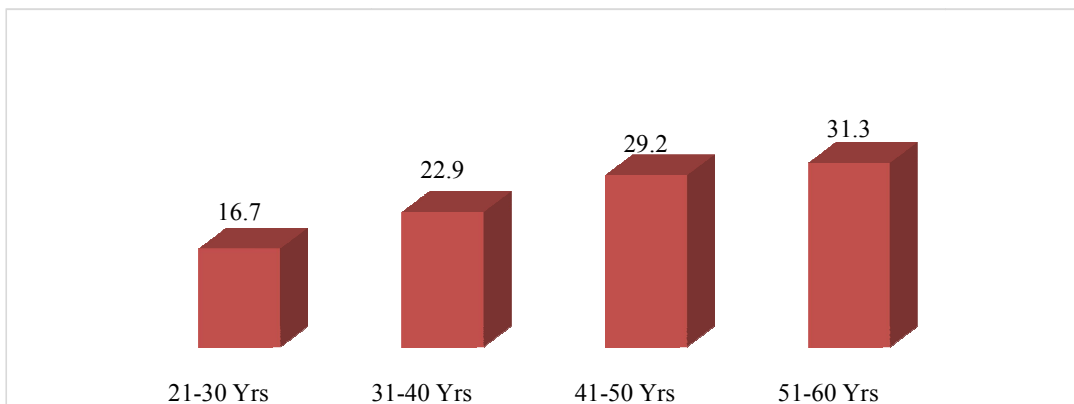

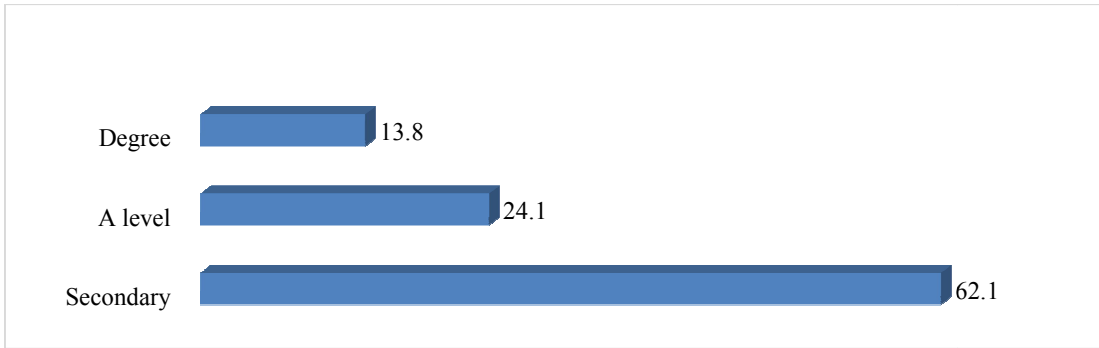**Fig. 1. Age structure of respondents at pumwani maternity hospital**

Fig. 2a. Level of education of the respondents at pumwani maternity hospital
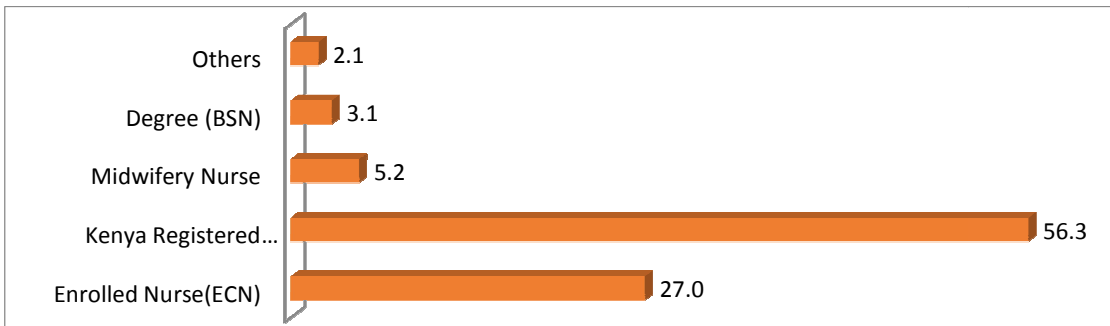

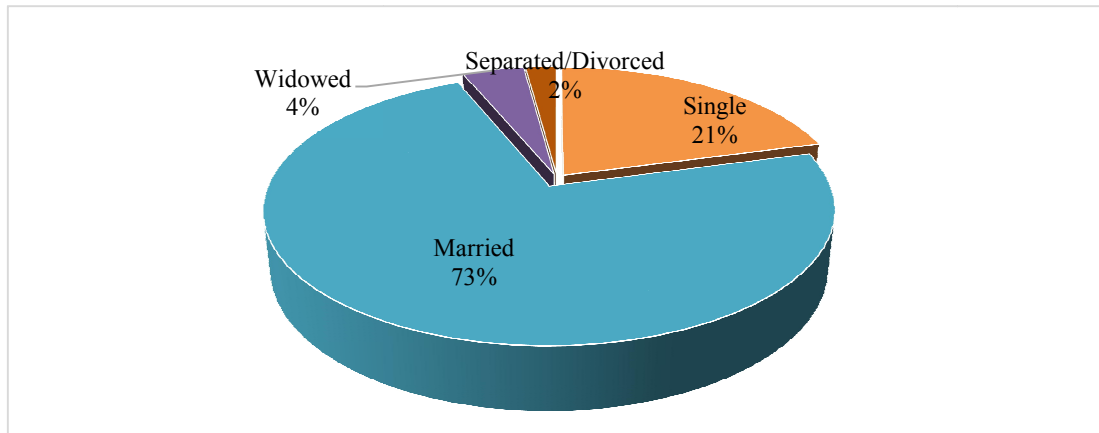**Fig. 2b. Highest professional qualification of the respondents**

Fig. 3. Marital status of the respondents at Pumwani Maternity Hospital

3.1.3 Burnout

The level of burnout among the nurses varies from one nurse to another and therefore nurses may have a high, moderate, or low burnout. Those with high and moderate levels are considered to have burnout while those with low levels were considered not to have experienced burnout. This study revealed that majority of respondents (88.6 %) had experienced burnout.

This study revealed a moderate correlation (R=0.409) between burnout levels and selected socio-demographic characteristics (Table 1). Further, it was revealed that 16.7 % of the variations in the burnout levels can be attributed to changes on socio-demographic characteristics (Table 1). Hence 83.3 % of variation in burnout levels can be explained by other factors that are not within the control of the research.

Table 1. Relationship between socio-demographic characteristics and burnout among nurses working in pumwani maternity hospital

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.409	.167	.110	.302

Table 2. Regression analysis on the relationship between socio-demographic factors and burnout among nurses working in pumwani maternity hospital

	Regression coefficients				
	Unstandardized coefficients		Standardized coefficients	t	Sig.
	B	Std. Error	Beta		
(Constant)	2.207	0.380		5.804	0.000
Gender:	0.106	0.084	0.147	1.254	0.214
Religion	-0.608	0.194	-0.366	-3.139	0.002
Age	-0.030	0.039	-0.099	-0.764	0.447
Marital status	0.053	0.060	0.100	0.888	0.377
Education;	-0.065	0.056	-0.148	-1.157	0.251

a. Dependent Variable: burnout

Using the Standardized Coefficients, gender was found to have the greatest influence on burnout levels ($\beta=0.147$, t =1.254, p = 0.214) and thus, gender is a significant forecaster of burnout levels (Table 2). The next largest contribution is made by marital status ($\beta=0.100$, t=0.888, p = 0.377). This was followed by education level ($\beta= -0.148$, t= -1.157, p= 0.251) and age ($\beta =-0.099$, t =-0.764, p =0.447) (Table 2). Religion contributed the least ($\beta= -0.366$ t=-3.139, p= 0.002) but was found to be statistically significant in influencing burnout levels among nurses (Table 2).

Using the unstandardized coefficients, the relationship between socio-demographic characteristics and burnout levels were evaluated. Gender and marital status on burnout had positive regression coefficients. Although gender has no significant influence on the burnout levels among the nurses in Pumwani Maternity Hospital, increase in the number of females nurses resulted to increase in the burnout levels ($\beta= 0.106$, p= 0.214). The null hypothesis that there is no significant influence of gender on the burnout levels among is accepted (p = 0.214). Similarly, although marital status had no significant influence on burnout, increase in married nurses was associated with increase in burnout levels ($\beta= 0.053$, p= 0.377) (Table 2). Therefore, the null hypothesis that there is no significant influence of marital status on the burnout levels is accepted (p = 0.377).

Religion, age and education level of respondents on burnout levels had negative regression coefficients (Table 2). Religion had a significant influence on burnout levels among nurses. Increasing Christians was associated with decreased burnout levels ($\beta= -0.608$, p= 0.002). The null hypothesis that religion has no significant influence on burnout levels among nurses in Pumwani Maternity Hospital is rejected (p = 0.002). Although age had no significant influence on burnout levels among the respondents (p = 0.447), increase in proportion of older nurses reduced burnout levels ($\beta= -0.03$, p= 0.447) (Table 2). The null hypothesis that there is no significant influence age of respondents on the burnout levels is accepted (p = 0.447). Further, the education level on burnout levels had a negative regression coefficient indicating a negative relationship between education level and burnout levels ($\beta = -0.065$, p = 0.251) (Table 2). This implies that that as education level increases, there is a decrease in the burnout levels. The null hypothesis that there is no significant relationship between education levels and burnout levels is accepted (p = 0.251).

ANOVA analysis was carried out to determine whether there is a significant difference between the group means in regards to burnout levels. It was revealed that there is significant difference in the mean burnout levels between the different socio-demographic characteristics (*p* = 0.018).

3.2 Discussion

This study revealed that majority of nurses (88.6%) experience burnout. The results are similar to those reported by Hooper *et al*., [27] where over 80% of the nurses had high or very high levels of burnout. Nurses have been

Table 3. ANOVA on the relationship between socio-demographic characteristics and burnout among nurses working in pumwani maternity hospital

ANOVA[a]						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.331	4	0.266	2.926	.018[a]
	Residual	6.643	73	0.091		
	Total	7.975	77			

a. Predictors: (Constant), Gender; Religion; Age, Marital status; Education. b. Dependent Variable: burnout

grouped as at high risk of burnout [15] among the health professionals. These results are congruent to those reported by Kokonya *et al*., [7] involving nurses at Kenyatta National Hospital. Selected socio-demographic characteristics such as gender, religion, age, marital status and education level were found to have moderate relationship with burn out. Gender and marital status had a positive correlation with burnout levels. A higher number of females as well as married nurses were associated with increased burnout levels. There was a negative relationship between religion, age and education and burnout. Religion was found to have a significance relationship with burnout. Being a Christian was associated with decrease in burnout levels. As the age increased, burnout decreased. Similarly, the more educated the respondent the less the burnout.

There are several studies on the influence of socio-demographic factors on burnout [6,7,14]. The current study revealed that gender was positively associated with burnout levels. An increase in females was associated with increase in burnout levels. These results are incongruent to those reported by Rashedi *et al*., [28] that there was no significant relationship between burnout and gender. However, results of the present study are consistent with those reported by Ohue *et al*., [29] which indicated that males are likely to experience less burnout compared to females. Similarly, Lasebikan and Oyetunde [15] reported that female nurses tended to experience higher burnout levels when compared with their male counterparts. A study by Caccese & Mayerberg, [30] showed that there is an association between burnout and gender. Some studies have reported higher burnout levels among women nurses over their men counterparts [25,31]. However, a research by Maunz and Steyrer [32] have reported higher burnout levels in men over women while Rashedi *et al.,* [33] reported no difference in burnout levels between men and women.

High burnout levels in female nurses can be explained by dual roles of home making as well as job commitments which may make them feel overwhelmed. Females may lack time to relax and unwind leading to more stress and hence burnout. Gender allocated roles in Kenyan community settings could be used to explain the higher levels of burnout among females, where besides being employed in formal setting females are expected to be care givers at family and community level. In Kenya, males may have more time to spend in social enabling them to overcome work-related stressors. However, the results of this study are in contrast with those reported by Ang *et al.,* [34] who reported higher burnout levels among nurses in Singapore General Hospital.

This study revealed a positive relationship between marital status and burnout levels. Increase in married nurses was associated with increased burnout levels. These results are similar to those reported by Albaladejo *et al*., [35] indicating married nurses having higher burnout levels. A study conducted by Rashedi *et al*., [28] reported that there was no significant relationship between burnout and marital status. However, a higher burnout was experienced in married nurses compared unmarried ones. Married nurses may have extra responsibilities and may experience conflict in roles emanating from their jobs as well as their families. A study by Atance, [36] showed that single, separated, widowed, or divorced nurses score significantly lower on burnout compared with married nurses. Being married may result in greater responsibilities inducing family-work conflicts leading to burnout.

The current study also revealed that religion was negatively related to burnout levels. This implies that increase in the number of Christian nurses was associated with a decrease in burnout levels. A link between religious and spiritual beliefs and burnout has been reported [21]. Spirituality has a way of helping nurses in coping with challenges at work and this makes nursing responsibilities more endurable In their study, Mohammad *et al.,* [21] reported that nursing is affected by ones spirituality and belief system. Some studies have reported that religious nurses experience less stress and anxiety compared to

non-religious ones [22,23]. However, a study carried out in Kenya among nurses in Kenyatta National Hospital showed that Christians experienced high burnout levels just like non-religious nurses or nurses subscribing to other faiths [7]. Results of the present study may imply that Christian nurses may have strong social support that enables them to handle work-related stresses. Further, such nurses may possess particular beliefs and attitudes that would enable them to cope with job demands.

The present study further revealed that age of the nurses was associated with burnout. The younger nurses were reported to experience higher burnout levels compared to older nurses. These results are consistent with those reported by Ang *et al.,* [34] who revealed highest burnout levels to be among nurses below 30 years. There are several studies that have reported higher burnout levels among younger health care providers than older ones [37,38,39,40]. Rashedi *et al.*, [28] reported a negative significant association between burnout and age where burnout decreased as one gets older. They reported that older nurses are less likely to experience burnout. These associations may be explained by the development of better coping strategies to deal with various facets of work-related stress in more experienced nurses [31,41].Younger nurses may have less experience and training and therefore experience more burnout due feelings of inadequacy as well as stressful job demands. Older nurse are likely to possess prerequisite experiences that enable them to cope with job demands.

This study further revealed that educational level was negatively related to burnout levels. In their study, Rashedi *et al.,* [28] reported a significant relationship between the level of education and burnout. Nurses with lower levels of education experience more burnout [42]. Several studies have reported lower burnout in nurses with higher the education level [27,31,43]. Nurse with higher education level may be in a better position to cope with job-related stress. Based on the results, inadequate professional training may lead to burnout among nurses. This implies that the nurses with higher education levels experience less burnout. This may arise from less stressful jobs due to higher job positions as well as feeling of commensurate remuneration.

4. CONCLUSIONS

This study has confirmed high burnout levels among nurses working in Pumwani Maternity Hospital in particular and has contributed to the understanding of burnout among nurses in Kenya in general. Socio-demographic characteristics play a moderating role on development of burnout among nurses at Pumwani Maternity Hospital and can serve as predictors of employee burnout. Determination of the relationship between socio-demographic characteristics and burnout in nurses may aid the identification of high-risk groups a critical step in developing effective preventive strategies for this cadre of health care providers. The findings would help in development of strategies of coping with burnout among nurses in maternity hospitals in a Kenyan context. Administrators could also consider the usefulness of profiling of the socio-demographic characteristics in order to direct resources in prevention of burnout among nurses. Results of the current study suggest that programmes to prevent the onset of burnout should be targeted especially at younger married female nurses. A follow up study can be conducted in Pumwani Maternity Hospital to assess the effects of burnout among the nurses in relation to socio-demographic characteristics.

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.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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