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PREVALENCE AND DETERMINANTS OF BURNOUT AMONG NURSES IN SELECTED PUBLIC HOSPITALS IN KENYA

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Abstract

Background: Burnout which is highly prevalent among nurses does not only affect them but patients and healthcare institutions. We determined the prevalence and determinants of burnout among nurses in sub-County public hospitals, Homa-Bay County.
Methods: We selected 85 nurses for this cross-sectional study. Simple random sampling and a self-administered questionnaire were used with an 80% response rate. Descriptive and inferential statistics were applied.
Results: Burnout was reported among 32 (47.1%) nurses; 43 (63.2%) had high emotional exhaustion, (48; 70.6%) had high depersonalization, and 63; 92.6% had low personal accomplishment. Marital status, a feeling of insecurity, and experience of reduced self-efficacy had a statistically significant relationship with emotional exhaustion (p=0.04, 0.00 and 0.01). A feeling of insecurity and perceived external control was statistically significantly related to depersonalization (p=0.02 and 0.04). Hours worked per week were statistically significantly related to reduced personal accomplishment (p=0.01). Gender (OR 0.11, 95% CI [0.00 to 0.52], p=0.02, the period of deployment in the current ward (OR 0.00, 95% CI [0.00 to 0.17]), p=0.01 job insecurity (OR 12.22, 95% CI [1.48 to 101.03]), p=0.02 perceived external control in one's job (OR 24.2, 95% CI [1.94 to 301.43]), p=0.01 and the experience of reduced self-efficacy (OR 19.1, 95% CI [1.23 to 324.91]), p=0.04 were the predictors of burnout.
Conclusion: Gender, period of deployment in a current ward, job insecurity, perceived external control, and experience of reduced self-efficacy were associated with burnout.

KEYWORDS: *Nurses; sub-County hospital; burnout; individual factors, professional factors*

INTRODUCTION

Burnout is highly prevalent among nurses who are the majority in health care and significantly contributes to patient care in most countries (Deldar *et al.*, 2018). Burnout has global significance (Schaufeli *et al.*, 2009) and among nurses, it has a significant

negative effect on patient recovery more than any other factor (Matthew Vanneman and Glenn Dranoff, 2011). Nurses just like other healthcare workers encounter many psychosocial stressors, making them at a higher risk of developing burnout syndrome (Portoghese *et al.,* 2014). We determined the prevalence and associated predictor factors of burnout among nurses in sub-County public hospitals, Homa-Bay County. The primary outcome was burnout and other outcomes were predictor factors of burnout. The current study conceptualizes burnout based on Maslach's theory which has three dimensions: emotional exhaustion (EE), depersonalization (DP), and reduced personal accomplishment (PA) in individuals involved in 'people work' of some kind (Maslach & Jackson, 1981). Emotional exhaustion is the feeling of an employee that he or she cannot contribute to the psychological well-being of other people with whom they deal at work. It is the main dimension of burnout (Maslach & Jackson, 1981) which is characterized by loss of energy and physical debilitation (Yao *et al.*, 2018).

Depersonalization is a concern with an individual's interest without regard to accepted standards for their achievement. Reduced personal accomplishment is the tendency of individuals to evaluate themselves negatively more so, in their work with clients.

Burnout levels fluctuate between, 22.7% to 96.4% depending on the work environment and other associated factors (Darban *et al.*, 2016). Moderate-to-high levels of burnout were reported among nurses in the United States of America (USA) and Brazil characterized by high levels of EE, DP and low PA (Zanatta & De Lucca, 2015).

In Venezuela (Parada, 2005) burnout was reportedly low because only 6.73% of nurses had burnout with 15.42±10.79 in emotional tiredness, 5.58±5.45 in depersonalization and 40.21±6.83 in personal fulfilment. A meta-analysis of twelve (12) studies conducted in Spain among pediatric nurses, reported the prevalence of burnout to be 30-70% to 73.70% for EE, 26.20-73.70% for DP and 46 85.50% for low PA (Pradas-Hernández *et al.*, 2018). A study conducted in Sao Paolo reported high depersonalization among nurses (29.8%) (Zanatta & De Lucca, 2015).

In a systematic review of 12 studies from seven African countries which used the Maslach Burnout Inventory, the prevalence of

EE was 66%, DP was 37%, and low PA was 49% (Owuor *et al.,* 2020). In Cameroon, (Mbanga *et al.,* 2018) found the prevalence of burnout in 143 nurses using the Oldenburg Burnout Inventory (OLBI) to be 38.36+/-5.68 and the mean EE 21+/-3.46. In Kenya, a study conducted among psychiatric nurses reported that 95% of the respondents experienced low to high emotional exhaustion while 87.8% reported depersonalization (Ndetei et al., 2008). Only 38.6% reported low personal accomplishments while 61.4% had average to high personal accomplishments. Another study conducted among medical workers at Kenyatta National Hospital reported that burnout was 95.4% (Kokonya *et al.,* 2014).

Among nurses, there are several factors associated with burnout, for instance, lack of support from the management (Fe *et al.,* n.d.) lack of social support, the presence of stressors related to private life and job insecurity (Lasebikan & Oyetunde, 2012). In the current study, sociodemographic, professional, and individual factors were investigated. The effects of burnout are far-reaching to the organization, nurses, and patients (Henry, 2014). It is associated with a negative impact on the quality or productivity of nurses (Salyers *et al.,* 2015). Burnout may also affect the safety of provided care (Portoghese *et al.,* 2014) and may lead to an imbalance in family-work life (Henry, 2014). Besides, it leads to withdrawal from others, reduced patience and less energy, poor communication and listening skills, worse consumer outcomes, and poor attitudes toward others both colleagues and clients (Salyers *et al.,* 2015).

There is significant stress related to physical labour, an encounter of human suffering, lengthy work hours, poor staffing, and interpersonal relationships associated with the role of nurses (Ojekou & Titilayo, 2015). Amid the stress, nurses are expected to remain humane, and empathetic while being able to offer culturally sensitive as well as proficient care in a work environment characterized by resource limitations and increasing responsibilities. This lack of balance between expected quality care to be provided and limited resources result in both physical and mental stress thus burnout among nurses.

In Kenya, nurses provide the bulk of health care services (Appiagyei *et al.,* 2014). Shortage of nurses paralyzes their role especially when there is a strike, for instance in 2013 when nurses went on strike to agitate

for better pay, better working conditions, promotions, and enforcement of a collective bargaining agreement signed by the government (Njuguna, 2018). The nurse-patient ratio is estimated at 49/per 100,000 population which is way below the WHO recommended ratio of 143/per 100,000. This imbalanced ratio contributes to a high workload among nurses characterized by long hours of work and often frequent industrial action. One hundred and thirty-eight (100%) healthcare workers involved in a study conducted in Homa-Bay County reported a lack of adequate health workers (Opon, 2016). In Homa-Bay County, there are increased stressors in the nurses' work environment such as a shortage of nurses, lack of adequate drugs, and poor infrastructure (Opon, 2016) which may predispose them to burnout.

A study in Homa-Bay County involving health workers reported; insufficient drugs in 138 (100%), 115 (83.3%) reported ambulances that are not operational, and 26 (18.8%) lack of medical equipment (Opon, 2016). Inadequate nursing personnel was reported as a predictor of burnout among nurses in Nigeria (OR = 2.6, 95% CI: 1.5–5.1) (Lasebikan & Oyetunde, 2012). Burnout syndrome is a sequela of chronic exposure to stressors associated with work (Lasebikan & Oyetunde, 2012). A nurse whose coping resources are insufficient and ineffective experiences a high predisposition to burnout which is the situation in the sub-County hospitals, in this County. Worldwide, the level of burnout among nurses has been widely investigated (Kaunti, 2018). However, there are only limited studies in Kenya. The current study may provide baseline information for future related studies in sub-County hospitals in Kenya. Further, it may contribute to the development of effective human resources for health policies in maximizing workers' productivity which is a priority in Kenya. Managers may also modify the predictor factors for burnout thereby developing relevant guidelines for preventing burnout.

MATERIALS AND METHODS

This cross-sectional study was conducted among Rachuonyo South, Rachuonyo North and Suba-sub-County Hospitals (SCH), Homa-Bay County. Homa-Bay County is located in Western Kenya and has two hundred and sixty-two public and private hospitals (Kaunti, 2018). It has eight sub-County hospitals but the three in the study were selected due to their bed capacity which

is higher than those of the other such facilities at the level.

The sample size was calculated by Yamane's formula due to its suitability for a small population; where n=N/ (1+N (e^2) where: n is the sample size; N is the population size; e is the level of precision (margin of error) (0.05). The targeted population were 107 nurses with a sample size of 85 nurses proportionally allocated in each of the three sub-County hospitals. Simple random sampling was used to select the participants until the sample size in each hospital is attained. Pretesting was conducted among 10% of the nurses involved in the study at Rachuonyo South sub-County hospital to assess the suitability of the questionnaire. The eighty-five nurses from the general wards with an 80% participation rate, filled out the validated questionnaires with socio-demographic, professional and individual characteristics through self-administration. The Maslach Burnout Inventory (MBI) was also used. The MBI is a globally validated tool with 22 items measuring where 9 items are for emotional exhaustion, five negative items for depersonalization and eight items assessing reduced personal accomplishment. It is a 7-point scale where a participant responds from never (0) to every day (6) and yields three subscale scores (Maslach & Jackson, 1981). Data were analyzed using both descriptive and inferential statistics through the Statistical Package for Social Scientists (SPSS) version 23. Relationships were analysed at a statistical significance of 0.05. The ethical approval was obtained from the Kenyatta National Hospital/ University of Nairobi Ethics and Review Committee (P342/04/2019).

RESULTS

The magnitude of burnout among the participants according to each of its dimensions as perceived by the participants

Thirty-two (47.1%) of the nurses experienced burnout. A majority of 43 (63.2%) of these nurses experienced high EE, 48 (70.6%) reported high DP and 63 (92.6%) had low PA.

Table 1: Table 1: Socio-demographic characteristics and bivariate analysis of socio-demographic, professional and individual factors and emotional exhaustion (EE), depersonalization (DP) and personal accomplishment (PA) among nurses in sub-County hospitals, Homabay

Variable	n=68 (%)	Emotional Exhaustion		Depersonalization		Reduced Personal Accomplishment	
		Fisher's Exact Test	p-value	Fisher's Exact Test	P-value	Fisher's Exact Test	p-value
DEMOGRAPHIC FACTORS							
Gender		3.59	0.17	1.32	0.51	1.34	0.67
Female	51 (75)						
Male	17 (25)						
Age In Years		7.67	0.45	11.50	0.16	10.93	0.46
18-24	1 (1.5)						
25-35	36 (52.9)						
36-45	21 (30.9)						
46-55	8 (11.8)						
>55	2 (2.9)						
Marital Status		13.72	**0.04**	11.45	0.19	9.71	0.8
Single	10 (14.7)						
Married	50 (73.9)						
Divorced	1 (1.5)						
Separated	1 (1.5)						
Widowed	6 (8.8)						
PROFESSIONAL FACTORS							
Nursing Qualification		7.88	0.17	7.94	0.26	9.75	0.35
KRN	1 (1.5)						
KRN/M	8 (11.8)						
KRCHN	55 (80.9)						
BScN	4 (5.9)						
Attendance of Further Formal Courses		0.53	0.91	1.03	0.64	0.8	1.00
Yes	14 (20.6)						
No	54 (79.4)						
Designation		7.13	0.48	4.61	0.83	6.79	0.72
SNO	9 (13.2)						
NO I	8 (11.8)						
NO II	13 (19.1)						
NO III	34 (50)						
OTHER	4 (5.9)						
Years of Practice as a Nurse		11.04	0.07	1.72	1.00	6.17	0.26
1-4 years							
5-9 years	15 (22.1)						
10-15 years	23 (33.8)						
Over 15 years	14 (20.6)						
	18 (23.5)						
Period of deployment in the current ward		2.82	0.27	0.82	0.77	0.84	1.00
1-4 years	60 (88.2)						
5-9 years	8 (11.6)						

Hours worked per week		4.27	0.29	4.24	0.38	12.65	**0.01**
Less than 40 hours	3 (4.4)						
40-50 hours	53 (77.9)						
More than 50 hours	12 (17.6)						
Preference for any shift		0.32	0.92	1.97	0.41	0.65	1.00
YES	16 (23.5)						
NO	52 (76.5)						
INDIVIDUAL FACTORS							
Assessment of self-worth		1.58	0.48	0.82	0.77	5.34	0.10
High							
Low	60 (88.2)						
	8 (11.8)						
A feeling of insecurity in one's job		14.73	**0.00**	7.08	**0.02**	2.24	0.31
YES							
NO	30 (44.1)						
	38 (55.9)						
Dependence on others in work		0.17	1.00	0.26	1.00	0.81	1.00
YES							
NO	9 (13.2)						
	59 (86.8)						
Perceived external control in one's job		16.16	**0.00**	6.12	**0.04**	3.64	0.1
YES	22 (32.4)						
NO	46 (67.6)						
Experience of reduced self-efficacy		8.4	**0.01**	4.23	0.1	1.11	0.79
YES							
NO	40 (58.8)						
	28 (41.2)						
The accomplishment of daily planned work		4.30	0.10	4.76	0.08	2.7	0.29
YES	25 (36.8)						
NO	43 (63.2)						

Fisher's exact test
p-value 0.05

KEY

KRN=Kenya Registered Nurse, KRN/M=KRN midwife, KRCHN=Kenya Registered Community Health Nurse, BScN=Bachelor of Science in Nursing, SNO=Senior Nursing Officer, NO=Nursing Officer

The majority 51 (75%) of the nurses in the sub-County Hospitals, Homa-Bay County were female (table 1). Most 36 (52.9%) of the participants were aged 25 to 35 years. Fifty (73.5%) nurses were married. A majority 55 (80.9 %) of the nurses were Kenyan Registered Community Health Nurses (KRCHNs). Attendance of further training was minimal 14 (20.6%). Nursing Officer III (NO III) were the majority (34; 50%). Many 60 (88.2%) of the nurses had worked in their current ward for a period of 1 to 4 years.

Although the majority 53 (77.9%) worked between 40 to 50 hours each week while 12 (17.6%) reported having worked for more than 50 hours per week. The majority of the nurses 52 (76.5%) reported no shift preferences (table 1). The majority 60 (88.2%) of the participants had high self-worth. Many 30 (44.1%) nurses reported a feeling of a sense of insecurity in their jobs. A majority 59 (86.8%) reported no dependence on others at work in the SCHs. Perception of external control in one's job was not found among 46 (67.6%) of the participants. Many 40 (58.8%) of these nurses experienced reduced self-efficacy with the other majority 43 (63.2%) not being able to accomplish their daily planned work.

Relationship between the factors and dimensions of burnout and global burnout

Marital status, a feeling of insecurity in the job, perceived external control in one's job and the experience of reduced self-efficacy was statistically significantly related to EE (p=0.04, 0.00, 0.00, and 0.01) (table 1). A feeling of insecurity in one's job and the perceived external control in one's job were statistically significantly related to DP (p=0.02 and 0.04). Hours worked per week had a statistically significant relationship with reduced PA (p=0.01).

Table 2: Bivariate Analysis Using Pearson's Chi-Square Showing the Association Between the Independent Variables and Burnout among Nurses in sub-County Hospitals, Homa-Bay County, Kenya (January 2020- May 2020) (n=68)

Variable	Chi-Square test	p-value
SOCIO-DEMOGRAPHIC FACTORS		
Gender	7.87	**0.01**
Age in years	2.15	0.71
Marital status	6.37	0.17
PROFESSIONAL FACTORS		
Nursing qualification	2.44	0.49
Attendance of further formal courses	0.06	0.81
Designation	1.69	0.79
Years of practice as a nurse	4.48	0.21
Period of deployment in the current ward	5.95	**0.02**
Hours worked per week	2.27	0.87
Preference for any shift	0.09	0.79
INDIVIDUAL FACTORS		
Assessment of self-worth	0.33	0.56
Insecurity in one's job	8.29	**0.00**
Dependence on others in work	1.60	0.21
Perceived external control in one's job	11.92	0.00
Experience of reduced self-efficacy	6.53	**0.01**
The accomplishment of daily planned work	0.15	0.70

Pearson's Chi-square p-value=0.05

The bivariate analysis with the Chi-square test found that gender, period of deployment in the current ward, job insecurity, and experience of reduced self-efficacy had a statistically significant relationship with burnout among nurses in SCH (p= 0.01, 0.02, 0.00 and 0.01) at a p-value of 0.05 *(table 2*).

Table 3: Multinomial Logistic Regression for factors most associated with Burnout among nurses in sub-County Hospitals, Homa-Bay County, Kenya (January 2020- May 2020) (n=68)

Variable	Multivariable or Adjusted OR (95%CI)	p-value
SOCIO-DEMOGRAPHIC FACTORS		
Gender	0.11(0.00-0.52)	**0.02**
Age in years	0.13 (0.01-3.14)	0.21
Marital status	1.95 (0.56-6.86)	0.3
PROFESSIONAL FACTORS		
Nursing qualification	0.83(0.07-10.28)	0.89
Attendance of further formal courses	2.23 (0.2-25.19)	0.52
Designation	0.47 (0.14-1.58)	0.22
Years of practice as a nurse	1.52 (0.30-7.65)	0.61
Period of deployment in the current ward	0.00 (0.00- 0.17)	**0.01**
Hours worked per week	3.90 (0.44-34.93)	0.22
Preference for any shift	0.1 (0.01-2.01)	0.13
INDIVIDUAL FACTORS		
Assessment of self-worth	28.84 (0.97-854.38)	0.05
Job insecurity	12.22 (1.48-101.03)	**0.02**
Dependence on others in work	5.57 (0.28-110.19)	0.26
Perceived external control in one's job	24.2 (1.94-301.43)	**0.01**
Experience of reduced self-efficacy	19.1 (1.23-324.91)	**0.04**
The accomplishment of daily planned work	4.57 (0.35-60.32)	0.25

P-value=0.05

At a p-value of *0.05*, the logistic regression analysis above indicates that gender (OR 0.11, 95% CI [0.00 to 0.52], p=0.02 was the only demographic factor predictive of burnout. The period of deployment in the current ward (OR 0.00, 95% CI [0.00 to 0.17]), p=0.01 was the only professional factor that predicted burnout. Among individual factors, job insecurity (OR 12.22, 95% CI [1.48 to 101.03]), p=0.02 perceived external control in one's job (OR 24.2, 95% CI [1.94 to 301.43]), p=0.01 were predictors of burnout among nurses in HSH. The experience of reduced self-efficacy (OR 19.1, 95% CI [1.23 to 324.91]), p=0.04 were

also predictive of burnout among these nurses *(table 3).*

DISCUSSION

In this study 32 (47.1%) of the nurses in the sub-County hospitals, Homa-Bay experienced burnout. This finding was not supported by a study conducted in a psychiatric ward among nurses where only 10% had burnout (Berry & Robertson, 2019). This difference may be explained by contextual differences since our study was in general wards. A majority of 43 (63.2%) of these nurses experienced high EE 48 (70.6%) reported high DP and 63 (92.6%) had low PA. This is higher compared to a study conducted in Nigeria where 42.9% of the respondents reported EE, 47.6% had high DP and 53.8% experienced reduced PA (Fe *et al.,* n.d.). This difference may be explained by the differences in study settings; while our study was among nurses in three sub-County hospitals, the study in Nigeria was conducted in a tertiary health institution.

A study conducted in Nigeria among 259 nurses from two Neuropsychiatric hospitals did not support our findings on EE and DP as theirs was lower; EE was 44.4%, DP 31.7% (Alabi *et al.,* 2021). These differences may be explained by the larger sample size in the Nigerian study and a different study setting. The very study in Nigeria however corroborated our finding on reduced personal accomplishment where we found 63; 92.6% while they found 98.8%. Our study is also supported by a study conducted in Ghana among 232 registered nurses which reported that 91.1% of them experienced moderate to high rates of emotional exhaustion (Poku *et al.*, 2020). Besides, high DP was also found among 48; 70.6% of nurses. In contrast, low PA was reported among a few (1; 1.5%) of these nurses. A study revealed that greater resilience protected nurses from emotional exhaustion and contributed to personal accomplishment (Ettings *et al.,* 2015). Some nurses in Homa-Bay sub-County hospitals may experience high personal accomplishments that may indicate that they had been cushioned with high resilience despite their experience at work. The current study is also corroborated by a systematic review that considered seven studies in sub-Saharan Africa which reported the prevalence of EE as 66% (95% confidence interval [CI], 37% to 89%), 60% (95% CI, 31% to 85%) for depersonalization, and

49% (95% CI, 19% to 80%) for low personal achievement (Owuor *et al.*, 2020).

Majority 51 (75%) of the nurses were female this is supported by a study that reported only 9 (4%) male nurses (Basińska & Wilczek-Rużyczka, 2013). African traditional culture has influenced women to be predominant in nursing, unlike their male counterparts. This finding is consistent with the finding of a study conducted in China among 860 nurses (Yao et al., 2018). Most 36 (52.9%) of the participants were aged 25 to 35 years. This finding was corroborated by a study conducted in South Western Saudi Arabia where a majority (54.3%) of the nurses were between 31 and 35 years old (Alqahtani *et al.*, 2019). Fifty (73.5%) nurses were married in the current study. A study in Cameroon among nurses reported being in a personal relationship being the only significant determinant of burnout (Mbanga *et al.*, 2018). This may be because the nurses in personal relationships find themselves devoting a lot of time and energy to trying to resolve emotional, financial as well as health problems in their relationships, instead of work-related duties. This may quickly result in exhaustion and cynicism thus burnout.

Majority 51 (75%) of the nurses in this study were Kenyan Registered Community Health Nurses (KRCHNs). This is supported by a study conducted in Homa-Bay County where most healthcare workers, had diploma qualifications (Opon, 2016). Comparably the Bachelor of Science Nurses were few 4 (5.9%). This contradicts the finding among nurses in Poland, (Basińska & Wilczek-Rużyczka, 2013). This difference may be attributed to the contextual differences and human resource policies and legislature in Kenya and Poland. Attendance of further training was minimal 14 (20.6%). This is supported by a study conducted in the same County where the majority (90%) of the nurses did not attend a course in the past six months (Anyango, 2018). Nursing Officer III (NO III) was popular 34 (50%) in the sub-county this is because they were majorly diploma prepared. In addition, the years of experience were well distributed, for instance, those nurses who worked for 5 to 9 were 23 (33.8%). Besides, the majority (60; 88.2%) had worked in their current ward for a period of 1 to 4 years. Although a majority (53; 77.9%) of the nurses worked between 40 to 50 hours a week (n=12, 17.6%) reported having worked for more

than 50 hours per week. This is supported by a finding reported in Poland where the work hours were extensive (Basińska & Wilczek-Rużyczka, 2013). Besides, no shift preferences were reported by the majority of the nurses 52; 76.5%. Therefore, all duties are covered according to the planned hospital schedules enabling 24 –seven-hour hospital coverage. This contradicts the findings of a study conducted in Nigeria in which there was too frequent night duty which was a predictor (OR = 3.1, 95% CI: 1.7–5.6) of burnout (Lasebikan & Oyetunde, 2012).

The majority 77; 89.5% of the participants had high self-worth as high. A significant 38 (44.2%) of the nurses reported a feeling of a sense of insecurity in their jobs. This finding corroborates that in Poland where job security had also deteriorated (Basińska & Wilczek-Rużyczka, 2013). A majority (57; 83.8%) reported no dependence on others at work across the three settings**.** A study in Northern India asserted that patients are dependent on nurses for proper care and quick recovery during illness. Thus nurses a stressed or burned-out nurse may make a patient suffer if not attended to professionally as care should be (Thakur, n.d.). It is important that whoever the nurse depends on at work provide good support to ensure the nurse remains professional and can attend to each person through tailor-made care. No perception of external control in one's job was not found among 58; 67.4% of the participants. Managers' ability to strengthen the individual control resource may make nurses less prone to the depletion effects of meeting self-control demands at their job. Many (48; 55.8%) of these nurses experienced reduced self-efficacy. This is almost similar to a study conducted in Italy among 1,005 nurses employed in various wards which reported low self-efficacy among 50.65% of the nurses (Simonetti *et al., 2021*). Besides, a majority of 55; 64% of the nurses were not able to accomplish daily planned work. Being able to accomplish the roles of a nurse requires an understanding of role overload, role insufficiency and role ambiguity which were found to be significant predictors of depersonalization (Thakur, n.d.). Many nurses may not accomplish their work due to their work environment characterized by role overload.

Relationship between the Factors and Dimensions of Burnout

There was no (p=0.17; 0.45) statistically significant relationship between gender, age

and emotional exhaustion in the SCH. This contradicts the finding of a study conducted in the United Kingdom where moderate-to-severe burnout was reported among younger healthcare workers (49% vs. 33% under 40 years, p=0.004) (Ferry *et al.,* 2021). This may be explained by the difference in the study context and culture. Marital status, a feeling of insecurity in the job, perceived external control in one's job, and the experience of reduced self-efficacy was statistically significantly related to EE (p=0.04, 0.00, 0.00, and 0.01).

Gender, age, and marital were not statistically significantly related to personal accomplishment (PA) (p=0.67, 0.46 and 0.8). This contradicts the findings of a study conducted in China among eight hundred and sixty nurses who reported a significant relationship between gender, age, as well as marital status and PA (Yao *et al.,* 2018). This difference can be attributed to the contextual differences in the study and culture of the Chinese compared to that of the Africans. A feeling of insecurity in one's job and the perceived external control in one's job were statistically significantly related to DP (p=0.02 and 0.04). Hours per week and experience of reduced self-efficacy also had a statistically significant relationship with reduced PA (p=0.01)**.** The bivariate analysis with the Chi-square test found gender, period of deployment in the current ward, job insecurity, and experience of reduced self-efficacy had a statistically significant relationship with burnout among nurses in HSCH (p= 0.01, 0.02, 0.00 & 0.01). As in our study, job security among nurses was attributed to reducing burnout among nurses (Njuguna, 2018). In the logistic regression

analysis, gender was a predictor of burnout (OR 0.11, 95% CI [0.00 to 0.520], p=0.02. This is not supported by a study conducted in Jordan among nurses in which gender was not statistically significantly related to the level of burnout in nurses (Alfuqaha & Alsharah, 2018). The period of deployment in the current ward (OR 0.00, 95% CI [5.6 - 6 to 0.17]), p=0.01 was statistically significantly associated with burnout in the regression analysis. This was asserted by a study that found higher stress among nurses who had worked for only between 0 and 3 years (Ojekou & Titilayo, 2015). Job insecurity (OR 12.22, 95% CI [1.48 to 101.03]), p=0.02 was also a predictor of burnout. This is corroborated by a study conducted in Nigeria among nurses in a

teaching hospital who reported that though work conditions and environment are not favourable, job security and good interpersonal relationship among the nurses is protective in stressful situations (Pauline Ojekou & Titilayo Dorothy, 2015). The perceived external control in one's job (OR 24.2, 95% CI [1.94 to 301.43]), p=0.013 was also a predictor of burnout in our study. A study in Italy reported that job control moderated the relationship between fear of future violence and emotional exhaustion. When an employee is the one who controls the job it is likely to be beneficial but external job control may potentiate both burnouts since emotional exhaustion is the key component in burnout.

Therefore perceived external control of an employee's job should be eradicated or reduced. Our study found the experience of reduced self-efficacy (OR 19.1, 95% CI [1.23 to 324.91]), p=0.04 to predict burnout among nurses. This is supported by a systematic study that reported a medium correlation between self-efficacy and burnout (Shoji *et al.,* 2016). However, another study conducted in China among 444 nurses found that self-efficacy and burnout were not associated (Liu & Aungsuroch, 2019).

LIMITATIONS OF THE STUDY

Since all subjects were selected from the sub-County hospitals, Homa-Bay County only, generalizability may be limited to these settings. The current study used a cross-sectional research design where a relationship between variables is measured at one point in time.

RECOMMENDATIONS

Nurse managers have a role in enhancing job security by reducing the number of nurses on contracts and locums while engaging them on a permanent and pensionable basis. They should also minimize perceived external control in one's job by reducing interference from stakeholders such as caretakers and politicians from the county governments. Further, the nurses' self-efficacy should be promoted through the provision of incentives for training either on-job or formal training and development opportunities both sponsored and unsponsored.

The nurse managers should also provide clear and well-communicated mechanisms for engaging nurses among all stakeholders to reduce perceived external control. Besides, they should negotiate with county

governments to employ more nurses so that each can work for no more than 40 hours weekly. The current study supported the adoption of healthcare strategies to address the cause of burnout among nurses in the sub-County hospitals instead of managing it as it emerges. This can be done by building effective resilience and hardiness among the nurses in this setting. These strategies may be useful to the county government to enhance the recruitment and retention of nurses for an effective healthcare system.

CONCLUSION

Burnout was substantial among the nurses characterized by high emotional exhaustion, high depersonalization and low personal accomplishment. Marital status, a feeling of insecurity and experience of reduced self-efficacy had a statistically significant relationship with emotional exhaustion. A feeling of insecurity and perceived external control was statistically significantly related to depersonalization. Hours worked per week were statistically significantly related to reduced personal accomplishment. Gender, period of deployment in the current ward, job insecurity, and experience of reduced self-efficacy had a statistically significant relationship with burnout among nurses in the sub-County Hospital, Homa-Bay County. Gender, the period of deployment in the current ward, job insecurity, the perceived external control in one's job and the experience of reduced self-efficacy were the predictors of burnout.

References

Alabi, M. A., Ishola, A. G., Onibokun, A. C., & Lasebikan, V. O. (2021). *Burnout and quality of life among nurses working in selected mental health institutions in South West Nigeria*. *21*(3), 1428–1439

Alfuqaha, O., & Alsharah, H. S. (2018). Burnout among nurses and teachers in Jordan: A comparative study. *Archives of Psychiatry and Psychotherapy*, *20*(2), 55–65. https://doi.org/10.12740/APP/80168

Alqahtani, A. M., Awadalla, N. J., Alsaleem, S. A., Alsamghan, A. S., & Alsaleem, M. A. (2019). Burnout Syndrome among Emergency Physicians and Nurses in Abha and Khamis Mushait Cities, Aseer Region, Southwestern Saudi Arabia. *Scientific World Journal*, *2019*. https://doi.org/10.1155/2019/4515972

Anyango, C. (2018). *Relationship Between Career Stagnation and Self-Efficacy Among Nurses Who Have Served for More Than Five Years in Homabay County. a Research Project Submitted in Partial Fulfilment for the Requirement of the Degree of Master of Psychology (Industrial/Orga*. *November*.

Appiagyei, A. A., Kiriinya, R. N., Gross, J. M., Wambua, D. N., Oywer, E. O., Kamenju, A. K., Higgins, M. K., Riley, P. L., & Rogers, M. F. (2014). Informing the scale-up of Kenya's nursing workforce: A mixed methods study of factors affecting pre-service training capacity and production. *Human Resources for Health*, *12*(1), 1–10. https://doi.org/10.1186/1478-4491-12-47

Basińska, B. A., & Wilczek-Rużyczka, E. (2013). The role of rewards and demands in burnout among surgical nurses. *International Journal of Occupational*

Henry, B. J. (2014). Nursing Burnout Interventions. *Clinical Journal of Medicine and Environmental Health*, *26*(4), 593–604. https://doi.org/10.2478/s13382-013-0129-8

Berry, S., & Robertson, N. (2019). Burnout within forensic psychiatric nursing: Its relationship with ward environment and effective clinical supervision? *Journal of Psychiatric and Mental Health Nursing*, *26(7–8)*, 212–222. https://doi.org/10.1111/jpm.12538

Darban, F., Balouchi, A., Narouipou, A., Safarzaei, E., & Shahdadi, H. (2016). Effect of communication skills training on the burnout of nurses: A cross-sectional study. *Journal of Clinical and Diagnostic Research*, *10*(4), IC01–IC04. https://doi.org/10.7860/JCDR/2016/19312.7667

Deldar, K., Froutan, R., Dalvand, S., Gheshlagh, R. G., & Mazloum, S. R. (2018). The relationship between resiliency and burnout in Iranian nurses: A systematic review and meta-analysis. *Open Access Macedonian Journal of Medical Sciences*, *6*(11), 2250–2256. https://doi.org/10.3889/oamjms.2018.428

Ettings, H. I. G. H. N. S., Cynda, B., Rushton, H., & Batcheller, J. (2015). *R a n p h -i s*. *24*(5), 412–421.

Fe, O., En, A., Medicine, P., & Medicine, C. (n.d.). *Burnout and psychological distress among nurses in a Nigerian tertiary health institution*. 237–245.

Ferry, A. V, Wereski, R., Strachan, F. E., & Mills, N. L. (2021). Predictors of UK healthcare worker burnout during the COVID-19 pandemic. *QJM: An International Journal of Medicine*, *114*(6), 374–380. https://doi.org/10.1093/qjmed/hcab065

Oncology Nursing, *18*(2), 211–214. https://doi.org/10.1188/14.cjon.211-214

Kaunti, T. (2018). *Homabay County Health Fact Sheet*. *2023*, 3.

Kokonya, D. A., Mburu, J. M., Kathuku, D. M., Ndetei, D. M., Adam, A. H., Nshimirimana, D. A., Biraboneye, P. S., & Kpoto, L. M. (2014). Burnout syndrome among medical workers at Kenyatta National Hospital (KNH), Nairobi, Kenya. *African Journal of Psychiatry (South Africa)*, *17*(6), 1–7. https://doi.org/10.4172/Psychiatry.1000142

Lasebikan, V. O., & Oyetunde, M. O. (2012). *Burnout among Nurses in a Nigerian General Hospital : Prevalence and Associated Factors*. *2012*. https://doi.org/10.5402/2012/402157

Liu, Y., & Aungsuroch, Y. (2019). Work stress, perceived social support, self-efficacy and burnout among Chinese registered nurses. *Journal of Nursing Management*, *27*(7), 1445–1453. https://doi.org/10.1111/jonm.12828

Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of Organizational Behavior*, *2*(2), 99–113. https://doi.org/10.1002/job.4030020205

Matthew Vanneman and Glenn Dranoff. (2011). 基因的改变NIH Public Access. *Nat Rev Cancer*, *12*(4), 237–251. https://doi.org/10.1097/01.mlr.0000109126.50398.5a.Nurse

Mbanga, C., Makebe, H., Tim, D., Fonkou, S., Toukam, L., & Njim, T. (2018). Determinants of burnout syndrome among nurses in Cameroon. *BMC Research Notes*, *11*(1), 1–5. https://doi.org/10.1186/s13104-018-4004-3

Poku, C. A., Donkor, E., & Naab, F. (2020). Determinants of emotional exhaustion among nursing workforce in urban Ghana: a cross-sectional study. *BMC Nursing*, *19*(1), 1–10. https://doi.org/10.1186/s12912-020-00512-z

Portoghese, I., Galletta, M., Coppola, R. C., Ndetei, D. M., Pizzo, M., Maru, H., Ongecha, F. A., Khasakhala, L. I., Mutiso, V., & Kokonya, D. A. (2008). Burnout in staff working at the Mathari psychiatric hospital. *African Journal of Psychiatry (South Africa)*, *11*(3), 199–203. https://doi.org/10.4314/ajpsy.v11i3.30269

Njuguna, J. (2018). Impact of nurses' strike in Kenya on number of fully immunized infants in 18 county referral hospitals. *Journal of Health Care for the Poor and Underserved*, *29*(4), 1281–1287. https://doi.org/10.1353/hpu.2018.0095

Opon, S. O. (2016). Provision of essential health package in public hospitals: A case of Homabay county hospitals, Kenya. *Pan African Medical Journal*, *24*, 1–8. https://doi.org/10.11604/pamj.2016.24.8.9280

Owuor, R. A., Mutungi, K., Anyango, R., & Mwita, C. C. (2020). *Prevalence of burnout among nurses in sub-Saharan Africa : a systematic review*. https://doi.org/10.11124/JBISRIR-D-19-00170

Parada, M. (2005). Satisfacción laboral y síndrome de burnout en el personal de enfermería del Instituto Autónomo Hospital. *Rev. Facultad Nacional de Salud Pública*, *23*(N° 1), 33–46.

Pauline Ojekou, G., & Titilayo Dorothy, O. (2015). Effect of Work Environment on Level of Work Stress and Burnout among Nurses in a Teaching Hospital in Nigeria. *Open Journal of Nursing*, *05*(10), 948–955. https://doi.org/10.4236/ojn.2015.510100

Finco, G., & Campagna, M. (2014). Burnout and workload among health care workers: The moderating role of job control. *Safety and Health at Work*, *5*(3), 152–157. https://doi.org/10.1016/j.shaw.2014.05.004

Pradas-Hernández, L., Ariza, T., Gómez-Urquiza, J. L., Albendín-García, L., De la Fuente, E. I., & Cañadas-De la Fuente, G. A. (2018). Prevalence of burnout in paediatric nurses: A systematic review and meta-analysis. *PLoS ONE*, *13*(4), 25–37. https://doi.org/10.1371/journal.pone.01

Shoji, K., Cieslak, R., Smoktunowicz, E., Rogala, A., Benight, C. C., & Luszczynska, A. (2016). Associations between job burnout and self-efficacy: A meta-analysis. *Anxiety, Stress and Coping*, *29*(4), 367–386. https://doi.org/10.1080/10615806.2015.1058369

Simonetti, V., Durante, A., Ambrosca, R., Arcadi, P., Graziano, G., Pucciarelli, G., Simeone, S., Vellone, E., Alvaro, R., & Cicolini, G. (2021). Anxiety, sleep disorders and self-efficacy among nurses during COVID-19 pandemic: A large cross-sectional study. *Journal of Clinical Nursing*, *30*(9–10), 1360–1371. https://doi.org/10.1111/jocn.15685

Thakur, R. (n.d.). *Role of Stress and Burnout among Nurses in the Private Hospitals*. https://doi.org/10.6007/IJARBSS/v4-i3/720

Yao, Y., Zhao, S., Gao, X., An, Z., Wang, S., Li, H., Li, Y., Gao, L., Lu, L., & Dong, Z. (2018). General self-efficacy modifies the effect of stress on burnout in nurses with different personality types. *BMC Health Services Research*, *18*(1), 1–9. https://doi.org/10.1186/s12913-018-3478-y

Zanatta, A. B., & De Lucca, S. R. (2015). Prevalence of Burnout syndrome in health professionals of an onco-hematological pediatric hospital. *Revista Da Escola de Enfermagem*, *49*(2), 253–258. https://doi.org/10.1590/S0080-623420150000200010