



Occupational stress and its health outcomes among nurses in health facilities of Bushenyi district Western Uganda.

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Metadata

1. Highpoint

*Inability to cope with demands and job conditions as a result of understaffing, limited resources, and poor growth and development of human resource capital results in occupational pressure.

*Occupational pressure leads to occupational stress that clue to mental, physical, and behavioral complications

*Moderate to high occupational stress in nursing practice was identified and this is likely to impact nurses' mental, physical, and psychological well-being as they perform their duties.

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Abstract

Background: Globally, 82 percent of reported work-related pressure (occupational stress) is a responsible regular basis, and nearly one-third of the workforce experiences it daily. When an employee is unable to cope with the demands and conditions of the job, occupational pressure can lead to the onset of stress, which can lead to mental, physical, emotional, and behavioral complications.

Objective: The objective of the study was to assess the occupational stress and related health outcomes among nurses in the selected health facilities of Bushenyi district western Uganda.

Methods: A descriptive cross-sectional study survey of 181 nurses from various health facilities in Bushenyi was conducted, using both qualitative and quantitative data collection methods. All hospitals and health centers in the district were chosen using purposive sampling, while health centers II and III were chosen using simple random sampling. The Nurse Stress Index (NSI) modified on a five-point Likert scale, as well as interviewer-structured questionnaires, were used to collect data. The data was analyzed with the statistical package for social sciences (SPSS) version 16.0 and the appropriate statistical tool.

Results: Nurses reported high to moderate levels of occupational stress in all categories, with a mean NSI score ranging from 81.38 to 105.08. 26.0 percent were extremely stressed, 19.9 percent were highly stressed, 37.0 percent were moderately stressed, 12.7 percent were extremely stressed, and 4.4 percent were not stressed at all. The degree of stress varied according to demographic characteristics. Married nurses (p 0.017) experienced high levels of stress, with mean scores ranging from 95.80 to 60.0. The single, divorced or separated, and widowed experienced low levels of stress, with a mean score of 60.0. Job position/responsibility (P 0.012), with the unit in charge and ward nurses feeling significantly less stressed than the ward in charge and ward nurses. The most stressful factor was a lack of essential resources (P 0.005), followed by difficult patients (P 0.08), working with incompetent staff (P 0.009), and a lack of opportunities for growth and development (P 0.009). (0.005). Nurses who did not have opportunities for growth/development were 2.538 times more likely to have mental tightness or pressure as a stress health outcome (p 0.044).

Conclusions; The majority of nurses, particularly those working in government facilities, were found to be under high to moderate stress, and respondents identified several determinants that were statistically significant. A lack of opportunity for growth/development was 2.53 times more likely to cause tightness or pressure in their head as a stress health outcome. These findings could have an effect on nurses' mental, physical, and psychological well-being as they perform their duties.

Keywords: Occupational Stress, Stress, health outcome, Nurses, Health Facility

Introduction

Globally, occupational stress is regarded as a disease worse than infectious disease among nurses because it contributes to health problems and reduces efficiency. [1]. Extreme occupational stress as a result of human resource shortages, particularly in resource-constrained countries, has become a threat to nurses and the nursing profession [2]. Despite nurses' growing interest, and

importance in health care delivery, occupational stress has had a long-term impact on their performance, health, increased absenteeism, attrition rate, injury claims, infection rates, and errors in inpatient care [1-2].

Occupational stress has emerged as a serious issue, as it has recently been linked to 90% of physician visits [1]. Over 2 million cases are reported globally each year, and some have been linked to factors such as job threats, time constraints, a lack of job

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control, and work overload [3]. Occupational stress weakens the immune system and impairs brain functions such as memory, concentration, and learning, all of which are essential for effective job performance [4]. It can also manifest as ineffective coping patterns as a result of impaired thought processes or broken relationships, rendering the nurse temporarily incompetent and prone to errors in clinical decision-making and practice. Occupational stress reduces productivity, increases management pressures, and makes people sick in a variety of ways, with evidence of this growing [4]. Continuous and long-term occupational stress can lead to psychological, physical, and behavioral issues in nurses, as well as poor performance [5].

Stress is explained by the cognitive theory of stress [6] in four stages: general stress stimuli, general stress response, and stressful experience. Cognitive Stimulation Stress is defined by the Theory of Stress (CAT) as negative stimuli subjective to reports of a skill (humans only), resulting in an overall non-specific increase in stimulation. The theory is relevant to this study because it describes the human stress response chain. Stress is derived from the word "string," which means "to be drawn tight," and is further defined as a physiological or physical stimulus that can cause physiological and mental tension, potentially leading to breakdown (7).

Occupational stress-related diseases are common all over the world, and many people are already suffering from them. Stress is usually the cause of psychological and physiological responses to unpleasant and threatening environments [8].

Uganda is experiencing severe human resource constraints in health care, resulting in moderate levels of occupational stress among nurses in Ugandan hospitals [9]. However, no research has been conducted in the Bushenyi district of western Uganda to assess occupational stress and its health consequences.

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The Ugandan situation is one nurse/midwife to a population of 3,065 patients, which is very challenging and stressful when compared to the World Health Organization's recommended ratios of 1:2 for complicated illnesses and 1:5 for common illnesses [10]. This has resulted in ongoing complaints from nurses in Uganda about work overload, as evidenced by a low staff retention rate, which is exacerbated by many opting to leave the profession with little or no intervention. These nurses work in overcrowded health facilities with very sick patients and limited supplies to work on patients, which exacerbates occupational stress [11-12].

The enormous occupational stress jeopardizes nursing practice, which is likely to be to blame for the public outcry over deteriorating nursing care in Uganda's health care system. This is exacerbated by the ongoing loss of nurses as a result of death and resignation due to stress-related diseases or attrition [12]. There is a paucity of literature on the prevalence and magnitude of occupational stress and health outcomes in the study area, so it is time to assess the prevalence of occupational stress and its health outcomes among nurses in selected health facilities in the Bushenyi district of western Uganda.

Objective: The study assessed occupational stress and its health outcomes among nurses in the selected health facilities of Bushenyi district Uganda.

Materials and Methods

Study Design and setting: The data was collected by a descriptive cross-sectional study survey that included both qualitative and quantitative methods of data collecting. In this study, a sample of nurses working in chosen health facilities in the Bushenyi District was recruited and interviewed. Bushenyi is located in southwestern Uganda, 320 kilometers from Kampala, the country's capital city, and 65

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kilometers from Mbarara, the state capital. The district is bordered on the north-west by Rubirizi district, on the northeast by Buhweju district, on the east by Sheema district, and on the south by Mitooma district. The district's geographic coordinates are 00 32S and 30 11E. There are 38 health facilities in the district, 14 of which are private not-for-profit facilities and 24 of which are government facilities. There are three government-run facilities: the 03 Health Subdistrict, the 11 Health Center III, and the 10 Health Center II. According to the researchers, the total number of staff nurses in all health facilities was 375 at the time of this survey.

Population: The study was carried out among all cadres of nurses working in the selected health facilities in the Bushenyi district, who were at the facility at the time of the survey.

Sample Size determination: The sample size was chosen using the table developed by Krejcie and Morgan [14]. The sample size in the table is proportional to the size of the population, which is appropriate. Given the total number of nurses in the Bushenyi area (375), the suitable sample size is determined by the table to be 181.

Sampling procedure: All hospitals and health facility IVs were purposefully tested because there are so few of them in the district, and it was important to guarantee that everyone was represented. Simple random sampling was used to select 5 and 6 health centers IIs and IIIs, respectively, from a list of all of the health centers in the study. On a small piece of paper, the names of all the health facilities IIs and IIIs were written and then pressed together before being placed in a basket.

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The pieces in the basket were reshuffled, and then pieces were chosen at random from the basket, with the pieces in the basket being reshuffled after each selection until the appropriate number of health centers was attained. The different nursing cadres were chosen via stratified sampling,

A simple random selection method was employed to pick nurses to participate in the study from among the several professional cadres, which were divided into strata. Yes and No were scribbled on small pieces of paper and then pressed together before being placed in a small basket. The healthcare personnel was instructed to choose one component apiece, and whoever selected the word Yes was included in the group. Stratification guaranteed that each cadre of nurses was represented and that there was less fluctuation in the results.

Data collection tools: The information was gathered through the use of a structured and interviewer-administered questionnaire that was developed and adjusted based on reviewed literature and tailored to the study conditions and population. This collected information on the nurses' demographics as well as their health outcomes. According to [15], the degree and quantification of stress in the nurse's everyday life were examined utilizing The Nurse Stress Index is a measure of how stressed nurses are. Work and stress have been converted into a 5-point Likert scale as follows: 1. There is no pressure (this is categorized as no stress), 2. There is very little pressure (this is defined as mild stress), and 3. There is moderate pressure (moderate stress) 4. Excessive exertion (severe stress) 5. a great deal of pressure (severe stress)

Data quality control

Validity: Based on the reviewed literature, a data collecting method was developed and validated to be appropriate for the study settings and population to assure the validity of the information

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obtained. Also employed to assess the degree and quantify of stress was a validated Nurse Stress Index [15], which was developed by the American Psychological Association. Additionally, training of research assistants was provided to ensure that they had an acceptable understanding of the sampling technique and data collection equipment. The lead investigator extensively oversaw data collecting to ensure that the information gathered was complete and consistent throughout the study.

Reliability: The sampling technique was designed to be as random as possible to eliminate errors and bias. On 10% of the sample drawn from a similar population at Mitooma Health Centre IV, pretesting of the data collection tools was carried out to eliminate ambiguous questions and improve the clarity and reliability of the collection tools. To determine dependability, Cronbach's alpha was computed.

Data analysis:

The statistical analysis of the data was carried out using the SPSS version 16.0 software. The analysis was conducted at three levels, including univariate, bivariate, and multivariate, to find the significant predictors of occupational stress in the study participants. Descriptive statistics were employed to assess the socio-demographic characteristics of the respondents, which included their age, gender, and religion, at the univariate level of analysis. This analysis produced the frequencies, means, and percentages of the response variables that were under investigation.

To determine the significance of the association between occupational stress and health outcomes among nurses working in Bushenyi district health facilities, a bivariate level of analysis with linear regression was conducted using bivariate data.

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The bivariate level of analysis was followed by linear regression of components that were found to be significant at the multivariate level of analysis.

Ethical considerations:

The Research and Ethics Committee of Kampala International University provided Approval of the technical and ethical validity of the study. After approval, permission was sought from the office of the DHO to allow the research to be carried out in various health facilities in the district. At the health facility level, permission from the facility administrators was sought to allow access to the facility.

Participation was voluntary; Informed consent was obtained prior, and after detailed information about the study was explained to the participants.

Privacy was ensured by making sure that information collected does not contain an individual identity. All questionnaires were coded, and no provision for the name of respondents was included. Confidentiality of the information collected was kept under key and lock and only accessible to the researcher for study purposes.

Every respondent was given an equal opportunity to participate in the study random sampling method was used to select the participants to ensure that all respondents had an equal chance of being selected for the study. The balance of risks and benefits of the research had been assessed by the researcher and no harm was knowingly caused. The safety of the participant throughout the research period was of paramount concern. The benefits and risk ratio was considered. There was no benefit to the participants. However, the management of the facilities would get the final report and be able to identify which areas they needed to improve on according to the participants' views.

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Study limitations and delimitations:

The measurement of occupational stress was based on self-report rather than physiological and biochemical studies of blood or an evaluation of mental status in the workplace. Because confidentiality had been assured, the researcher encouraged the participant to be completely honest in their self-report of occupational stress.

Results

Socio-demographic characteristics of the study population (age, gender, qualifications, marital status, salary earned, type of facility, nursing experience, hours worked per day, job position, employing body)

Table 1: Demographic characteristics

The vast majority of people 108 (59.7%) of the respondents were between the ages of 18 and 29 years, 64 (35.4 percent) were between the ages of 30 and 39 years, 6 (3.3 percent) were between the ages of 40 and 49 years, and three (1.7 percent) were over the age of fifty-one years. Females outnumbered males by a margin of 109 to 72 (60.2 to 39.8 percent), respectively. Certificate nurses accounted for 54.1 percent of the total, diploma nurses accounted for 35.9 percent, and bachelor nurses accounted for 9.9 percent. 89 (49.2 percent) of those who answered the survey were single, 88 (48.6 percent) were married, 02 (1.1 percent) were divorced or separated, and 02 (1.1 percent) were widowed, according to the results of the survey.

The vast majority of respondents (144, or 79.6 percent) stated that their pay was insufficient, with only 37, or 20.4 percent, stating that their compensation was adequate. One hundred and twenty-two (56.4 percent) of those who responded worked in hospitals, with 35 (19.3 percent) working in HCIV IV, 33 (18.2 percent) working in HCIII, and just 11 (6.1 percent) working in HCII. 129 (71.3 percent) of those

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with nursing experience had worked for 1-5 years, 49 (27.1 percent) for 6-10 years, 01 (0.6 percent) for 11-15 years, 01 (0.6 percent) for 16-20 years, and 01 (0.6 percent) for 20 years or more, according to the survey.

The findings also revealed that 96 percent (53 percent) of the respondents worked for 8-10 hours per day, with only 85 percent (47 percent) working for 11-12 hours. In terms of employment positions and responsibilities, Ward nurses accounted for the vast majority (136, or 75.1 percent), with 29 (16.0 percent) serving as a ward in charge and 16 (8.8 percent) serving as a unit in charge. Organizations and the private sector received more responses than the government, with 93 (51.4 percent) and 88 (46.6 percent) respondents, respectively.

Table 2: Occupational stress among nurses

Occupational stress was influenced by several demographic factors, which are listed below. A mean score of 95.80 was reported by married people, followed by single people with a mean score of 90.34, then widowed people with a mean score of 75.0, and finally divorced or separated people with a mean score of 60.0. There was a statistically significant difference in mean occupational stress levels between nurses who were married and those who were not married ($F = 3.520, P 0.017$). At ($F = 4.521, P 0.012$), a statistically significant difference in mean ratings for occupational stress by job position/ responsibility was discovered, with the unit in charge reporting considerably lower stress levels than the ward in charge and ward nurses ($P 0.005$).

Table 3 Levels of employees occupational stress

26.0 percent reported being extremely anxious, 19.9 percent reported being highly stressed, 37.0 percent reported being moderately pressured, 12.7 percent reported having very little stress, and the smallest

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number reported having no stress was 4.4 percent. With a mean score of 87.95 and a standard deviation of 34.4 (F= and P0.0097), working with incompetent and inadequate employees contributed to high-stress levels.

Table 4: Determinants of occupational Stress

According to the findings in Table 3, there are a variety of factors that contribute to occupational stress. The following factors have been found as being associated with stress. Among the factors contributing to stress among nurses were needlestick injuries, which received a mean score of 95.64 and a standard deviation of 32.2 9 (F=5.0289 and P=0.026), and a lack of opportunities for growth and development, which received 96.0 (31, 8) as the mean score and standard deviation, respectively, and a statistically significant (p-value of 0.005 for being statistically significant.

Furthermore, decisions made without their understanding resulted in moderate stress for 55 (30.4 percent) of the participants.

With a mean score of 95.47 42.5, receiving unsatisfactory performance feedback was ranked as the third most stressful event in the workplace, with 55 (30.4 percent) respondents reporting extreme stress, 16 (8.8 percent) reporting high stress, 36 (19.9 percent) reporting moderate stress, 55 (30.4 percent) reporting little stress, and only 19 (10.5 percent) reporting no stress. Respondents, on the other hand, ranked dealing with relatives as the least stressful factor, with a mean score of 81.38 (36.5 percent), resulting in only 17 (9.4 percent) experiencing extreme stress, 34 (18.8 percent) experiencing high stress, 40 (22.1 percent) experiencing moderate stress, 60 (33.1 percent) experiencing little stress, and 30 (16.6 percent) experiencing no stress.

Table 5: Occupational stress with its health outcomes

Tightness and pressure in the heads were reported by 81 (44.8 percent) of the respondents as a statistically significant

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somatic result of professional stress (P 0.050, 95% confidence interval: 0.018–0.081) by the researchers.

Furthermore, it was discovered that 70 (38.7 percent) of the respondents reported missing much sleep due to concern, whereas 111 (61.3 percent) did not (P = 0.017, 95% confidence interval: 0.000 – 0.035).

68 (37.3 percent) of the respondents reported feeling constantly under strain, and 113 (62.4 percent) said they were not feeling so. There was a statistically significant link between occupational stress and anxiety and insomnia health outcomes with (P = 0.022, CI; 0.00 – 0.044), and 53 (32.9 percent) reported feeling that life is not worth living, according to the study.

Table 6: Occupational stress determinants and health outcomes

As demonstrated in Table 6, all of the stressors listed above were statistically significant (p 0.05) predictors of stress-related health outcomes when analyzed at the multivariate level of analysis.

When it came to stress-related health outcomes, nurses who did not have opportunities for growth or development were 2.538 times more likely to experience tightness or pressure in their brains (P = 0.044, 95% confidence interval: 1.076–2.276).

In comparison to bachelor's degree holders, those with certificates (P = 0.029) and diplomas (P = 0.004) were less likely to feel consistently stressed at work (CI: 0.015–0.797, and 0.007–0.389, respectively) than those with bachelor's degrees. Certificate nurses (P = 0.035) and diploma nurses (P = 0.031) were also more likely than bachelor's degree holders to enjoy their typical workday, compared to bachelor's degree holders.

Additionally, as a stress health outcome, nurses who cared for challenging patients were 4.149 times more likely to believe that life is not worth living (P = 0.018, 95% confidence interval: 1.027 – 6.276).

Table 1; Socio-demographic characteristics of the study population

Characteristics	Frequency (n= 181)	%
Age group (years)		
18-29	108	59.7
30-39	64	35.4
40-49	6	3.3
≥ 50	3	1.7
Gender		
Female	109	60.2
Male	72	39.8
Qualifications		
Certificate	98	54.1
Diploma	65	35.9
Bachelor	18	9.9
Marital status		
Single	89	49.2
Married	88	48.6
Divorced/separated	2	1.1
Widowed	2	1.1
Salary earned		
Enough	37	20.4
Not enough	144	79.6
Type of health facility		
HC II	11	6.1
HC III	33	18.2
HC IV	35	19.3
Hospital	102	56.4
Nursing experience (years)		
1-5	129	71.3
6-10	49	27.1
11-15	1	0.6
16-20	1	0.6
≥ 2	1	0.6
Hours worked per day		
8-10	96	53
11-12	85	47
Job position/ responsibility		
Ward nurse	136	75.1
Ward in charge	29	16.0
Unit in charge	16	8.8
Employing body		
Government	88	48.6
Organization	93	51.4

Table 2: Socio-demography and Nurse Occupational Stress scores

Socio-demography	Mean (SD)	F- (p-value)	Adjusted OR (p-value)	95% C I
Age group (years)				
18-29	90.56 (31.5)	1.255 (0.288)	1.000 (0.854)	1.584-2.161
30-39	94.22 (32.9)		4.445 (0.164)	0.335-3.104
40-49	95.0 (48.1)		5.095 (0.026*)	0.034-2.909
≥ 50	120.0 (30.0)		1.000 ^{ref}	
Gender				
Female	93.30 (32.5)	0.773 (0.381)	0.807 (0.834)	0.109-0.598
Male	91.25 (32.8)		1.000 ^{ref}	
Qualifications				
Certificate	92.14 (32.6)	0.391 (0.677)	8.109 (0.005*)	3.827-4.179
Diploma	93.23 (30.5)		9.252 (0.003*)	4.832-5.914
Bachelor	91.67 (40.8)		1.000 ^{ref}	
Marital status				
Single	90.34 (32.7)	3.520 (0.017*)	0.906 (1.000)	0.006-0.398
Married	95.80 (31.5)		0.280 (1.000)	0.012-0.065
Divorced/separated	60.0 (42.4)		6.150 (0.998)	0.045-1.235
Widowed	75.0 (63.63)		1.000 ^{ref}	
Salary earned				
Enough	85.95 (34.0)	3.349 (0.069)	1.833 (0.568)	0.229-0.464
Not enough	94.17 (32.0)		1.000 ^{ref}	
Type of health facility				
HC II	90.0 (37.95)	1.662 (0.178)	0.735 (0.884)	0.012-0.464
HC III	100.0 (27.7)		0.286 (0.501)	0.007-0.109
HC IV	91.71 (35.6)		1.229 (0.900)	0.022-0.781
Hospital	90.59 (32.4)		1.000 ^{ref}	
Nursing experience (yrs)				
1-5	91.16 (32.8)	1.860 (0.139)	2.870 (1.000)	0.026-0.924
6-10	94.29 (31.8)		1.140 (1.000)	0.056-0.680
11-15	150.0 (32.5)		0.022 (1.000)	0.071-0.814
16-20	90.0 (32.5)		5.046 (1.000)	0.034-0.678
≥ 20	120.0 (32.5)		1.000 ^{ref}	
Number of children				
0	90.0 (32.7)	1.805 (0.168)	0.225 (0.573)	0.001-4.056
1-2	95.60 (32.8)		0.073 (0.271)	0.001-0.773
3-4	91.90 (31.9)		1.000 ^{ref}	
Hours worked per day				
8-10	94.59(34.8)	0.373 (0.542)	9.205 (0.047*)	1.025-1.078
11-12	90.63(30.5)		1.000 ^{ref}	
Job position/ responsibility				
W ard nurse	92.21 (33.2)	4.521 (0.012*)	0.014 (0.867)	0.530-0.577
Ward in charge	100.34 (32.3)		0.143 (0.878)	0.836-0.901
Unit in charge	80.61 (23.8)		1.000 ^{ref}	
Employing body				
Government	96.48 (32.6)	5.403 (0.021*)	0.176 (0.265)	0.080-0.373
Organization	88.70 (32.2)		1.000 ^{ref}	

*Statistically significant at 95% level of confidence, ref; Reference category at multivariate analysis

Table 3; Levels of occupational stress

Stressor	Different levels of occupational stress					Mean score for stressor (SD)
	No stress n(%)	Very little n(%)	Moderate n(%)	High n(%)	Extremely high n(%)	
Time pressures and deadlines	14(7.7)	39(21.5)	64(35.4)	46(25.4)	18(9.9)	92.49(32.5)
The demands of others for my time at work conflict.	30(16.6)	36(19.9)	54(29.8)	38(21.0)	23(12.7)	88.0(37.8)
Management interrupts my work for new Priorities.	27(14.9)	38(21.0)	41(22.7)	54(29.8)	21(11.6)	90.66(37.7)
My nursing and administrative roles conflict.	37(20.4)	39(21.5)	34(18.8)	47(26.0)	24(13.3)	87.0(40.5)
Shortage of essential resources	8(4.4)	23.4(12.7)	67(37.0)	36(19.9)	47(26.0)	105.08(34.2)
Decisions made without my knowledge affect me.	13(7.2)	31(17.1)	55(30.4)	35(19.3)	47(26.0)	101.93(37.2)
Lack of support from senior staff.	24(13.3)	48(26.5)	54(29.8)	41(22.7)	14(7.7)	85.52(34.4)
Get unsatisfactory performance feedback	19(10.5)	55(30.4)	36(19.9)	16(8.8)	55(30.4)	95.47(42.5)
Difficulty in dealing with aggressive people	34(18.8)	23(12.7)	41(22.7)	53(29.3)	30(16.6)	93.65(40.6)
Difficult patients	11(6.1)	45(24.9)	32(17.7)	49(27.1)	44(24.3)	101.6(37.9)
Involvement with life and death situations.	18(9.9)	44(24.3)	47(26.0)	43(23.8)	29(16.0)	93.48(36.9)
Bereavement counseling.	30(16.6)	31(17.1)	64(35.4)	29(16.0)	27(14.9)	88.67(37.9)
Dealing with relatives.	30(16.6)	60(33.1)	40(22.1)	34(18.8)	17(9.4)	81.38(36.5)
Tasks outside of my competence.	13(7.2)	63(34.8)	44(24.3)	39(21.5)	22(12.2)	89.0(34.8)

Table 4. Scores for sources/determinants of stress in nurse's everyday life.

Predictor variables	Mean (SD)	F-value (p-value)	Adjusted OR (p-value)	95% CI
Inadequate staffing	91.35 (33.0)	0.224 (0.636)	0.209 (0.211)	0.018-0.242
Yes				
No	99.23 (29.1)		1.000 ^{ref}	
Nursing Difficult pts.	97.56 (32.5)	7.175 (0.008*)	2.704 (0.148)	0.701-1.042
Yes				
No	86.60 (30.9)		1.000 ^{ref}	
Supervision				
Yes	94.83 (32.4)	1.767 (0.186)	0.214 (0.096)	0.035-0.132
No	88.1 (32.5)		1.000 ^{ref}	
Harassments/aggression				
Yes	89.42 (32.4)	0.289 (0.591)	1.069 (0.925)	0.267-0.428
No	96.62 (32.5)		1.000 ^{ref}	
Nursing patients without caretakers				
Yes	90.67 (33.2)	1.854 (0.175)	0.558 (0.544)	0.085-0.367
No	97.66 (30.3)		1.000 ^{ref}	
Frequent night duties.	97.56 (31.3)	4.039 (0.046*)	4.380 (0.046*)	0.023-0.087
Yes				
No	87.7 (33.2)		1.000 ^{ref}	
Work with inept staff				
Yes	87.95 (34.4)	7.044 (0.009*)	0.689 (0.559)	0.197-0.240
No	95.6 (31.0)		1.000 ^{ref}	
Handling a large number of patients				
Yes	99.0 (36.2)	0.854 (0.05*)	7.583 (0.013*)	0.152-0.377
No	91.19 (31.7)		1.000 ^{ref}	
Work very long hours				
Yes	98.2 (36.1)	1.153 (0.284)	2.278 (0.362)	0.388-1.337
No	91.70 (32.1)		1.000 ^{ref}	
No chance for growth and dev/promo				
Yes	96.0 (31.8)	8.213 (0.005*)	1.263 (0.800)	0.202-0.797
No	75.94 (31.4)		1.000 ^{ref}	
Infections exposure	92.70 (32.0)	0.525 (0.470)	15.315 (0.031*)	1.277-1.836
Yes				
No	90.0 (37.7)		1.000 ^{ref}	
Needlestick-injuries	95.64 (32.2)	5.028 (0.026*)	1.071 (0.027*)	0.010-0.754
Yes				
No	83.75 (32.1)		1.000 ^{ref}	

*statistically significant at 95% level of confidence, ref; Reference category at multivariate analysis

Table 5; Bivariate analysis of occupational stress and its health outcomes

Health outcomes of occupational stress	Frequency of stress outcomes		Chi-square value (p-value)	95% C I
	Yes (%)	No (%)		
a) Somatic				
i) Been feeling run down and out of sorts?	90 (49.7)	91 (50.3)	0.938 (0.884)	0.837-0.931
ii) Felt that you are ill?	99 (54.7)	82 (45.3)	4.599 (0.309)	0.242-0.377
iii) Been getting a feeling of tightness or pressure in your head?	81 (44.8)	100 (55.2)	10.254 (0.050 [*])	0.018-0.081
i) Anxiety and insomnia				
i) Lost much sleep over worry?	70 (38.7)	111 (61.3)	11.044 (0.017 [*])	0.000-0.035
ii) Felt constantly under strain?	68 (37.6)	113 (62.4)	12.250 (0.022 [*])	0.001-0.044
j) Social dysfunction				
i) Felt capable of making decisions about things?	149 (82.3)	32 (17.7)	9.065 (0.066)	0.030-0.103
ii) Been able to enjoy your normal day at work.	109 (60.2)	72 (39.8)	1.728 (0.818)	0.761-0.874
iii) Felt, on the whole, you were doing things well?	141 (77.9)	40 (22.1)	6.685 (0.199)	0.141-0.257
k) Depression				
i) Been thing about yourself as a worthless person?	46 (25.4)	135 (74.6)	3.436 (0.503)	0.430-0.576
ii) Felt that life isn't worth living?	53 (29.3)	128 (70.7)	9.709 (0.033 [*])	0.007-0.059
iii) Found that the idea of taking yourself keeps coming into your mind?	34 (18.8)	147 (81.2)	3.669 (0.481)	0.408-0.553

^{*} statistically significant association between Occupational stress score and the health outcome.

Table 6: Significant occupational stress determinants and health outcomes

Health outcomes	Stress determinants	Adjust OR (p-value)	95% C I
a) Somatic			
i) Feeling tightness head pressure	No opportunity for growth and dev/promote (Yes, No ^{ref})	2.538 (0.044)	1.027-6.276
ii) Felt that you are ill	Needlestick injury (Yes, No ^{ref})	2.403 (0.0036)	0.172-0.943
b) Anxiety/insomnia			
ii) Always under strain	Qualifications		
	Certificate	0.108 (0.029)	0.015-0.797
	Diploma	0.051 (0.004)	0.007-0.389
	Bachelor ^{ref}	1.000	
	Hours worked per day		
	8-10	2.862 (0.045)	1.025-7.990
	11-12 ^{ref}	1.000	
c) Social dysfunction			
i) Felt, you were doing things well	Handling a large number of patients (Yes, No ^{ref})	4.069 (0.018)	1.541-1.742
enjoy your normal day at work	Qualifications		
	Certificate	8.174 (0.035)	1.159-5.767
	Diploma	8.759 (0.031)	1.221-6.286
	Bachelor ^{ref}	1.000	
d) Depression			
life isn't worth living	Hours worked per day		
	8-10	9.204 (0.002)	2.207-3.838
	11-12 ^{ref}	1.000	
	Employing body		
	Government	12.119 (0.033)	1.222-2.298
	Organization ^{ref}	1.000	
	Nursing difficult patients (Yes, No ^{ref})	4.149 (0.018)	1.281-1.344
	Frequent night duties (Yes, No ^{ref})	2.868 (0.044)	1.029-7.997
	Working with inept staff (Yes, No ^{ref})	4.266 (0.004)	1.580-1.701
	Having to work very long hours (Yes, No ^{ref})	4.203	2.538-6.862
	A lack of opportunity for growth and dev/promotion (Yes, No ^{ref})	2.624 (0.011)	0.059-0.698

Reference category at multivariate analysis Statistical significance was taken at p-value ≤ 0.05

Discussion

Prevalence of occupational stress.

181 nurses participated in the study from chosen health institutions in the Bushenyi region, and the findings revealed that nurses face moderate to high levels of professional stress daily. The older age groups of 40 to 49 years and above, as well as nurses working in government facilities, reported the highest levels of stress. This is consistent with the findings of research conducted in Kampala hospitals by [10] to a certain extent. Therefore, it would be necessary to address the topic of occupational stress management in the nursing profession early in a nurse's career to avoid negative outcomes.

According to [16], nurses with bachelor's degrees reported significant levels of stress, which could be ascribed to the additional administrative responsibilities that were assigned to them. These findings are consistent with earlier studies. Because Bachelor's degree nurses in Uganda are highly qualified in clinical nursing practice, in addition to their administrative responsibilities, their job description is well understood; as a result, issues of role ambiguity and conflict may contribute to increased stress for these nurses in the workplace.

Determinants of occupational stress.

According to [17], there are a variety of variables that can exacerbate occupational stress. Input from a large number of stressors identified by the study has resulted in a priority ranking system, with each of these stressors needing to be handled independently when developing stress management programs at healthcare institutions.

$P = 0.636$ was found to be non-significant when it came to inadequate staffing levels,

which is a common factor of occupational stress in healthcare systems. The conclusions of this study conflict with the findings of a study conducted by [18] in Ethiopia, which found that nurse shortages in health institutions increased the burden on existing personnel, resulting in stress. According to [13], Bushenyi district health sector staffing was at 93 percent, and the district is home to teaching hospitals such as KIU-TH and Ishaka Adventist, which means their staffing must be adequate for them to have enough student mentors for each clinical placement.

Nursing patients who were difficult to care for were shown to be statistically significant at ($P = 0.008$). In government facilities, this was linked to an excessive amount of political involvement in inpatient care, in which political officials sought to influence the care/treatment provided, which was not always based on medical prescription and case management. As a result, nurses become embarrassed and demotivated. A supervisor is usually assigned to the situation because he or she has authority and is, therefore, able to assist in problem-solving; however, when such assistance is unavailable or perceived to be inadequate, the level of occupational stress may be perceived to be higher. Patients who pay for non-governmental/private facilities anticipate too much, which they do not receive at the facility, resulting in harsh complaints to the immediate service provider, who in this case will be the nurse, increasing the strain on the daily routine care. Furthermore, as stated by [19] in his study conducted in Delhi, a lack of independence and decision-making capacity has been linked to poor patient care and a breakdown in communication between patients and nurses.

It was discovered in this study that dealing with a large number of patients was statistically significant ($p = 0.05$) when it came to occupational stress and that the

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reactions were similar in both government and non-government facilities, which is consistent with findings from a previous study [20]. This is primarily because the government of Uganda provides 100 percent free medical treatment in government institutions, as well as discounted fares in non-government facilities available in the Bushenyi district, as well as positive healthcare-seeking behaviors.

Moreover, as indicated by [10], while the results of this study show that there is a significant lack of opportunities for growth and development/promotion ($p=0.005$), these nurses may be interested in becoming involved in decision-making and policymaking at their workstations, as well as receiving recognition for their efforts. Administrative personnel should meet regularly to address the need for appropriate delivery of study leaves and promotions for those who have advanced in their positions by public service norms as a means of relieving the stress experienced by nurses. To address the individual perception of occupational stress, it should be recommended that they employ problem- and emotion-based coping techniques.

Health outcomes of occupational stress.

The majority of diseases are caused by stress, and there is a clear link between occupational stress and a wide range of physical and psychological problems [21]. Occupational stress hurts an employee's health in a variety of ways, including physical, psychological, emotional, and behavioral health. This was significant in the current investigation.

Somatic; The stated somatic symptoms were reported by nurses because they are affected in different ways. 99 percent (54.7 percent) said they felt ill all the time, 90 percent (49.7 percent) said they felt run down and out of sorts, and 81 percent (44.8 percent) said they felt tightness or pressure in their head, which was statistically

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significant to occupational stress, were reported by nurses.

Anxiety and insomnia: Additionally, the present study found that nurses expressed anxiety and sleep problems as a result of stress, with 70 percent (38.7 percent) reporting losing much sleep over worry and 68 percent (37.6 percent) reporting feeling continually under strain, both of which were statistically significant. The findings are similar to [22], who claimed that persistent pressure always results in anxiety, which hurts the performance of employees.

Social dysfunction: Social dysfunction as a health outcome was recognized by this research as follows: of the participants, 149 (82.3 percent) felt capable of making decisions about things, 109 (60.2 percent) could function normally at work, and 141 (71.9 percent) believed they were doing things correctly; none of these factors was significant in causing occupational stress, which was in agreement with [23]. According to the findings of the study, if employees accept responsibility for their stress levels, this will improve stress management and result in fewer health consequences. This may explain why nurses continue to provide service to those in need despite the hurdles and criticism they face.

Depression: Occupational stress was found to be statistically significant in 46 (25.4 percent) of the respondents, with 53 (29.5 percent) reporting that life was not worth living. This was consistent with a study by [24] which found that negative health outcomes are typically the result of psychological stressors. In the form of decreased production, absenteeism, and malingering, as well as increased costs, this raises the cost of doing business for firms.

What this study adds. Key findings in this study

1. The lack of proper resources, poor participation in decision-making, influence

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and intervention in their job by non-medical politicians, and a high degree of inappropriate demand from private patients cause nurses to experience moderate to intense levels of stress at their workplace.

2. The study has revealed that stress has a negative influence on the health of nurses, leading to the development of somatic, anxiety, sleeplessness, and depressive health outcomes, which in turn hurts their performance.

Implication to practice

1. There is a need for a clear job definition for all cadres of nurses to prevent role conflicts from occurring.
2. Identifying motivational approaches such as recognition of outstanding work, effective communication and the development of positive socialization are all important for nurse managers to consider. These approaches can increase job satisfaction while also motivating employees and reducing their perception of occupational stress.
3. Including occupational stress management in nursing education so that nurses are prepared for any eventualities that they may meet and know how to overcome them before they hurt their health and productivity. Continuous Medical/Nursing Education (CME/CNE) on occupational stress and management could be organized by administrators for individuals already in service to reduce the likelihood of bad effects.
4. Advocacy for a more progressive approach to providing nurses with the resources they need to carry out their responsibilities.

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Implication to policy

1. Need to institute occupational safety and hazards committees' and mandate them to do regular audits to ensure a good occupational safety practice.
2. Policies to support advocacy and progressive improvements in providing adequate resources needed.
3. The nurse in charge need to arrange more continuous CME/CNEs to identify occupational stress and its management

Areas for further research

1. A comparative study to assess occupational stress and related outcomes among health workers in private facilities and public facilities
2. Assessment of health workers job satisfaction and its correlates

Conflict of Interest

The authors declare no competing interests.

List of abbreviation

CAT	Cognitive Activation Theory of Stress
CBO	Community Based Organization
DHO	District Health Officer
GAS	General Arousal System
HSD	Health Sub District
HIMS	Health Information Management Systems
MOH	Ministry of Health
PNF	Private Non-For Profit
RCT	Routine Counselling and Testing
SPSS	Statistical Package for Social Sciences
UNEPI	United Nations Expanded Program for Immunization.
UBOS	Uganda Bureau of Statistics
NSI	Nurse Stress Index
CVI	Content Validity Index

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