

OCCUPATIONAL SAFETY AND HEALTH HAZARDS AMONG UNIVERSITY STAFF IN UGANDA

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ABSTRACT

Occupational health and safety is important in achieving Primary health care outcomes but it has not been given serious attention. Available data reveal that occupational health hazards are a great public health concern, resulting in increased occupational illnesses and injuries. This study aimed to assess the common occupational health hazards, the level of implementation of occupational safety and health (OSH) measures and the associated factors among staff of universities in Uganda.

The study employed a cross-sectional study that utilized both quantitative and qualitative methods to collect the data. The quantitative data involved a survey among 394 randomly selected participants from academic and no academic staff of two universities in Uganda. Quantitative data was collected using a semi-structured questionnaire, while a key informant interview guide was used to collect the qualitative data. The Data was analyzed using Microsoft Excel 2016 and STATA Version 16. Poisson regression was utilized to assess the factors associated with the implementation of occupational safety and health (OSH) measures at universities in Uganda.

Fifty (50%) of the respondents were exposed to occupational hazards ranging from ergonomic, physical, chemical and psycho-social hazards. More than 50% of the respondents reported a high implementation of occupational safety and health measures at the universities. Years of work at the institution, knowledge of OSH, perceptions regarding OSH, and commitment from management were significantly associated with the implementation of OSH measures. There was a need to prioritize OSH measures in Ugandan universities through staff training, policy enforcement, and good leadership and management commitment to promote safer working environment for staff.

Keywords: Occupational Safety, Health Hazards and Health Measures.

1. INTRODUCTION

Every year, approximately 2 million people globally succumb to diseases and injuries related to their work environments (WHO & ILO, 2021). These unfortunate occurrences stem from various occupational health hazards, including long working hours, air pollution, exposure to asthmagens, carcinogens, chemical substances, ergonomic challenges, and noise (Henry *et al.*, 2017). Occupational health hazards, as (Maier, 2009, ILO, 2019) notes, are risks to the health and safety of workers who are not home-based. Occupational safety and health (OSH) is a multidisciplinary field focused on enhancing and maintaining the highest level of physical, mental, and social well-being of workers across all professions (WHO & ILO, 2022). Despite

efforts by organizations to establish a robust occupational safety and health culture to achieve their corporate goals (Wariowe and Nwogu, 2018), challenges in managing occupational health hazards persist.

These hazards not only impact economic stability but also significantly affect the physical and emotional well-being of workers and their families (ILO, 2019). For instance, in countries like China and Bangladesh, many workplace accidents and injuries have been directly linked to occupational health hazards (Islam *et al.*, 2017; Zhou *et al.*, 2019). Although data on OSH in Ugandan universities are scarce, studies from universities in Canada, the United Kingdom, and Australia indicate that staff are concerned about working under precarious conditions with insecure contracts, which expose them to various occupational health complications (Thomas *et al.*, 2020; University and College Union, 2020; Jerg-Bretzke *et al.*, 2021).

The WHO reports that occupational safety and health hazards and work-related deaths majorly occur in low-developing countries (LDCs) in Southeast Asia, the Western Pacific and Africa (WHO, 2021). No wonder these countries continue to report a high number of cases due to occupational related non-communicable diseases emanating from exposure to poor working conditions (WHO, 2020a, Akseer *et al.*, 2020, Akpansung and Peter, 2021). The world has made significant progress in improving the health and well-being of the population, as reaffirmed in the 2030 Agenda for Sustainable Development (United Nations, 2015). This progress is evidenced by a reduction in maternal, neonatal, and child deaths, as well as a decrease in deaths from HIV/AIDS, malaria, tuberculosis, and vaccine-preventable diseases (WHO, 2020b). However, occupational hazards have not received enough attention, despite being a significant threat to population health in the workplace.

In sub-Saharan Africa (SSA), there are limited studies that have been conducted on occupational health hazards and safety practices among university staff. Therefore, the implementation of safety practices is not clear although educators and researchers in universities are expected to be at the forefront in the implementation of OSH practices (Li, 2022).

The factors that have been reported to influence the implementation of occupational safety and health measures include both institutional and individual such as unsafe working environment, work overload, lack of personal protective equipment (PPE), lack of enough work facilities and long working hours (Senso, 2017, Simukonda *et al.*, 2020). However, these factors have been studied in health and engineering workers and may not necessarily apply among the university staff. To achieve the commitments made in the declaration of Astana for universal health coverage (WHO, 2018), occupational hazards such as, biological, chemical, physical, ergonomic, psycho-social, fire and explosion, and electrical hazards that affect the population's health at work need to be given focus in all professions.

In Uganda, the Occupational Safety and Health Act (2006) stipulates the conditions under which an employee must work, and the conditions that make a workplace safe for workers (Government of Uganda, 2006). However, it is not clear whether the institutions of higher learning, like universities in Uganda, have clear occupational health and safety policies in place to prevent, control and improve the work environment in order to control the associated hazards. Elsewhere, unsafe learning and teaching environments have been reported to expose both teaching and non-teaching staff to various safety and health risks. These risks include workplace accidents, work stress, drug abuse, suicide attempts, fights, rapes, and diseases such as lung diseases, HIV and AIDS among others (Njeru, 2015, USAID, 2013). This study aimed to assess the common occupational health hazards, level of implementation of occupational health and safety measures among University staff in Uganda.

2. MATERIALS AND METHODS

2.1 DESCRIPTION OF THE STUDY AREA

This study was conducted in two universities one government and the other Private. These were Kyambogo University (KYU) is located in Kampala City on Latitude 0.3474 N, and Longitude 32.6321 E and Uganda Christian University (UCU) is located on Latitude 0.3553 N, Longitude 32.6321 E. in Mukono Municipal Council respectively. Both universities are regulated by Government under the Universities and Other Tertiary Institutions Act of 2001. Kyambogo University is located on Kyambogo Hill, approximately 8 Km east of the central business district of Kampala, the capital city of Uganda. Most courses are offered at the undergraduate and postgraduate levels. The university has a total enrolment of 32,724 students as of 2019 (KYU, 2019). UCU is a privately owned university founded in 1997 by the Anglican Church of Uganda. It is located in Mukono Municipal Council, approximately 25 kilometres, east of Uganda's capital city, Kampala. offers both undergraduate and postgraduate levels. The study will be conducted in these two universities because they have a high number of students despite their limited infrastructure capacity and therefore,

2.2 STUDY DESIGN

This was a cross-sectional study which utilized quantitative methods to collect data. The study population included both the teaching and non-teaching staff in both Kyambogo University, Kampala and Uganda Christian University, Mukono. All the teaching and non-teaching staff members that were available at the time of data collection were included in the study.

2.2. SAMPLE SIZE

The sample size was computed using the Kish Leslie formula (Li *et al.*, 2013).

$$n = \frac{Z^2 Pq}{d^2}, \text{ where,}$$

z is z-statistic at a 95% confidence interval for a 2-tailed test = 1.96

p is the prevalence of outcome of interest, estimated at 50% due to limited evidence=0.5

q is the inverse of the outcome of interest = 0.5

d is the desired degree of precision, estimated at 5% = 0.05

$$n = \frac{1.96^2 \times 0.5 \times 0.5}{0.05^2}$$

n = 384 respondents

After adjusting for non-response rate of 10%, the adjusted sample size (n)=422 respondents

2.3. SAMPLING STRATEGY

Stratified random sampling was used to select four departments of Education, Administration, Biological Sciences and Engineering where the data were collected. Each of the departments acted as a stratum. A complete list of staff members in each of the selected departments was obtained from the departmental heads. Probability proportionate to size was used to determine the number of staff members that were interviewed in each of the departments. The number of staff members to be interviewed was obtained randomly using computer-generated random numbers.

Data were analyzed using Stata version 16.0. Descriptive statistics like the mean and proportions were used to present the participants' socio-demographic characteristics. Modified Poisson regression was used in bivariable and multivariable analysis to test for associations

between the implementation of occupational safety and health measures and the independent variables. Associations were tested at a 95% confidence interval.

Any factors in the bivariate analysis which had a p-value <0.2 were included in the multivariable analysis. All the results have been presented in the tables below.

3. RESULTS

3.1. SOCIO DEMOGRAPHIC CHARACTERISTICS

The results were stratified by the study sites. More than half, 55.3% were male, with a notably higher percentage at UCU (63.3%) compared to Kyambogo University (48.6%). This indicates a gender disparity that is more pronounced at UCU. About 51.3% were aged between 30-45 years, suggesting a workforce that is relatively mature and possibly more experienced. A significant majority, 72.6%, reported being married, with a higher prevalence at Kyambogo University (79.0%) than at UCU (65.0%). This could imply a more stable social environment, potentially affecting job satisfaction and stability. About a third, 33.2% held a master's degree and 30.7% a bachelor's degree, which is reflective of the staff requirements at academic institutions. Among the respondents, lecturers constituted the largest professional group at 33.2%, with Kyambogo University having a higher proportion of lecturers (37.9%) compared to UCU (27.8%). In terms of tenure, 40.6% have worked for 5-10 years, with a larger proportion at UCU (50.0%) in this range compared to Kyambogo University (32.7%). This may suggest higher staff retention or recent expansions at UCU.

3.2. EXPOSURE TO OCCUPATIONAL HAZARDS AMONG UNIVERSITY STAFF

Overall, about half, 50.3% reported exposure to occupational hazards. The most prevalent hazards experienced by university staff were predominantly ergonomic. Notably, 57.1% of the respondents consistently experienced repetitive movement with their hands for at least 3 hours during the day, pointing to a significant ergonomic risk. Additionally, 37.3% frequently worked in awkward positions, such as bending, twisting, or engaging in heavy manual labour factors that significantly contribute to musculoskeletal disorders. Other significant ergonomic concerns included prolonged standing and poor sitting postures, with 39.1% of staff frequently standing for more than three hours daily, and 38.6% exposed to poor sitting postures. While still critically important, the least prevalent hazards among university staff were exposure to electric shock and workplace violence including physical, sexual, and emotional harm, with only 20.8% and 22.6% experienced these respectively. Table 1. Below explored the occupational health and safety hazards among the staff in the universities.

Table 1: Exposure to occupational hazards among university staff in Kyambogo and Uganda Christian University.

Variable	Attribute	Frequency (N=394)	Percentage (%)
Level of exposure	Low	196	49.7
	High	198	50.3
Repetitive movement with their hands for at least 3 hours during the day	Never	46	11.7
	Rarely	35	8.9
	Sometimes	88	22.3
	Always	225	57.1

Variable	Attribute	Frequency (N=394)	Percentage (%)
Interaction with chemicals or inflammable substances	Never	88	22.3
	Rarely	71	18.0
	Sometimes	117	29.7
	Always	118	29.9
Working in awkward positions (bend, twist, heavy manual labor)	Never	51	12.9
	Rarely	68	17.3
	Sometimes	128	32.5
	Always	147	37.3
Working in high noise levels	Never	27	6.9
	Rarely	62	15.7
	Sometimes	154	39.1
	Always	151	38.3
Standing for more than 3 hours a day	Never	19	4.8
	Rarely	48	12.2
	Sometimes	154	39.1
	Always	173	43.9
Work involving sitting without changing position for prolonged hours	Never	57	14.5
	Rarely	77	19.5
	Sometimes	164	41.6
	Always	96	24.4
Occurrence of exposure to poor sitting postures	Never	58	14.7
	Rarely	61	15.5
	Sometimes	152	38.6
	Always	123	31.2
Occurrence of exposure to frequent lifting	Never	51	12.9
	Rarely	60	15.2
	Sometimes	154	39.1
	Always	129	32.7
Manually push or lift items that are more than 20 Kgs	Never	112	28.4
	Rarely	70	17.8
	Sometimes	123	31.2
	Always	89	22.6
Occurrence of exposure to poor lighting	Never	72	18.3
	Rarely	84	21.3
	Sometimes	137	34.8
	Always	101	25.6

Variable	Attribute	Frequency (N=394)	Percentage (%)
Occurrence of exposure to toxic fumes and gases	Never	64	16.2
	Rarely	98	24.9
	Sometimes	137	34.8
	Always	95	24.1
Occurrence of exposure to slips/Falls/trips	Never	61	15.5
	Rarely	81	20.6
	Sometimes	152	38.6
	Always	100	25.4
Occurrence of exposure to cuts, needle prick and injuries from sharps	Never	72	18.3
	Rarely	79	20.1
	Sometimes	151	38.3
	Always	92	23.4
Occurrence of exposure to violence including physical, sexual and emotional in their workplace	Never	101	25.6
	Rarely	71	18.0
	Sometimes	133	33.8
	Always	89	22.6
Occurrence of exposure to electric shock	Never	112	28.4
	Rarely	83	21.1
	Sometimes	117	29.7
	Always	82	20.8
Occurrence of exposure to vibrations	Never	84	21.3
	Rarely	93	23.6
	Sometimes	138	35.0
	Always	79	20.1
Occurrence of exposure to contagious pathogens/agents or microorganisms	Never	104	26.4
	Rarely	75	19.0
	Sometimes	128	32.5
	Always	87	22.1

Source: primary data

Overall, about half, 50.3% reported exposure to occupational hazards. The most prevalent hazards experienced by university staff were predominantly ergonomic. Notably, 57.1% of the respondents consistently experienced repetitive movement with their hands for at least 3 hours during the day, pointing to a significant ergonomic risk. Additionally, 37.3% frequently worked in awkward positions, such as bending, twisting, or engaging in heavy manual labour—factors that significantly contribute to musculoskeletal disorders. Other significant ergonomic concerns included prolonged standing and poor sitting postures, with 39.1% of staff frequently standing for more than three hours daily, and 38.6% exposed to poor sitting postures. While still

important, the least prevalent hazards among university staff were exposure to electric shock. (Table 1).

3.3. IMPLEMENTATION OF OCCUPATIONAL SAFETY AND HEALTH MEASURES

The level of implementation of occupational safety and health measures was also assessed in the two universities (Table 2 below).

Table 2: Implementation of occupational safety and health measures

OSH measures	Agree (%)	Neutral (%)	Disagree (%)
The university has a safety and health policy in place	59.9	31.5	8.7
The university enforces health and safety regulations	47.7	42.6	9.6
There is always an orientation program for new staff on health and safety in the university	52.5	40.4	7.1
The university ensures that only authorized, adequately trained workers operate equipment	56.1	33	10.9
The university ensures that the equipment they use is properly maintained to prevent accidents	54.5	35.5	9.9
The university promotes safety awareness and information among staff	54.6	32.7	12.7
The University provides medical and remedial first aid facilities to staff	55.8	34.3	9.9
The university ensures that personal protective equipment is available to all staff all the time	51	31	18
Firefighting equipment such as fire extinguishers are available and staff is trained on how to use them	55.3	29.4	15.3
There is an emergency response plan on health and safety in the university	53.3	30.7	16
Risk Assessments are usually done to identify risks and hazards in the university	45.4	37.8	16.7
Performance on Health and safety is regularly evaluated in the university	45.5	41.6	13
There is a health and safety committee constituted by staff that meets regularly to review health and safety within the university	49	34.3	16.7
There is a health and safety committee in place to handle occupational health and safety issues	48.7	36.3	14.9
There are mechanisms in this university to reduce the extent and severity of work-related injuries and illnesses	46	37.8	15.2
There are clear established channels of communication in the university for handling occupational health issues and awareness	44.4	36.3	19.3
The staff members are involved in the program and in the decisions that affect their health and safety	45.7	37.6	16.7
The university carries out risk assessments, to identify not only existing hazards but also conditions and operations where changes might occur to create hazards	39.3	43.4	17.2
The university conducts comprehensive baseline and periodic surveys for health and safety	40.6	38.8	20.5

OSH measures	Agree (%)	Neutral (%)	Disagree (%)
The university investigates the accidents so that their causes and means of prevention are identified	43.7	39.3	17
The university has adequate lighting	51.8	35.3	12.9
There are adequate sanitary facilities such as toilets for all including the disabled people	47.9	39.6	12.5
All the offices and lecture rooms in the university have adequate ventilation facilities	47.5	40.9	11.7
The offices are cleaned regularly	50.5	36.5	12.9
Every staff receives compulsory health and safety training	49.8	33.8	16.5
There's an appointed person within your workplace responsible for health and safety matters	51	31.2	17.7
Workplace health and safety is considered extremely important	56.1	33.2	10.7
Every employee receives medical check-ups before employment	54.6	30.5	14.9
Every employee in the university receives frequent medical check-ups	53.3	30.7	16

Source: primary data

More than half, 53.6% of the respondents reported a adequate level of implementation of occupational safety and health measures. More than half of staff, 59.9%, agreed that the university had a safety and health policy in place, 52.5% agreed that there is always an orientation program for new staff on health and safety, suggesting a strong on boarding process. Additionally, 56.1% agreed that only authorized and adequately trained workers operate equipment, and 54.5% confirmed that equipment was properly maintained to prevent accidents. About 54.6%, agreed that the university promotes safety awareness and information among staff. Less than half of the respondents, 45.4%, agreed that risk assessments are usually done to identify risks and hazards, showing a need for more consistent risk management practices. The establishment of clear communication channels for handling health issues was agreed upon by 44.4% of the respondents. About 45.7% felt that staff members are actively involved in decisions affecting their health and safety.

3. 4 INDIVIDUAL FACTORS ASSOCIATED WITH IMPLEMENTATION OF OCCUPATIONAL SAFETY AND HEALTH MEASURES AMONG UNIVERSITY STAFF IN UGANDA

At bivariate analysis, the respondent's university, education level, designation, period worked in the institute, and knowledge of OSH were significantly associated with high implementation of OSH measures. Respondents working at UCU had 2.99 times reported a higher level of implementation of OSH measures (CPR=2.99, 95% CI: 2.39-3.74, P-value < 0.001) compared to those working at Kyambogo university. The level of implementation of OSH measures was 2.19, 2.33, and 2.24 times higher among respondents with a diploma (CPR=2.19, 95% CI: 1.09-4.40, P-value = 0.028), those with a bachelor's degree (CPR=2.33, 95% CI:1.21-4.48, P-value = 0.011), and those with a master's degree (CPR=2.24, 95%

CI:1.16-4.31, P-value = 0.016) respectively compared to those with certificates. Respondents with more than 10 years working experience in the institution (CPR=0.66, 95% CI:0.50- 0.86, P-value = 0.002) had a 24% lower level of implementation of OSH measures compared to their counterparts. Furthermore, those with a low knowledge level reported a 25% (CPR=0.65, 95% CI:0.54- 0.79, P-value < 0.001) lower level of implementation of OSH measures compared to those with a high knowledge level.

After adjusting for potential confounders, working experience and knowledge remained significantly associated with the implementation of OSH measures. Respondents with 5-10 years and more than 10 years of experience reported a 16% and 28% lower level of implementation, respectively (Adjusted PR [APR] for 5-10 years = 0.84, 95% CI: 0.71-0.99, P-value = 0.036; APR for >10 years = 0.72, 95% CI: 0.58-0.92, P-value = 0.007). Respondents with a low level of knowledge reported a 30% lower level of implementation compared to those with high knowledge (APR=0.70, 95% CI: 0.59-0.83, P-value < 0.001). (Table 3)

Table 3: Institutional and societal factors associated with the implementation of Occupational Safety and Health measures among staff in Kyambogo and Uganda Christian Universities

Variables	Attribute	Implementation of OSH measures		Crude PR (95% CI)	P-values	Adjusted PR (95% CI)	P-values
		Low n (%)	High n (%)				
University handles occupation safety and health of the staff well	Yes	153 (83.6)	202 (95.7)	1		1	
	No	30 (16.4)	9 (4.3)	0.40 (0.23-0.72)	0.002	0.58 (0.31-1.07)	0.081
Feelings about the way the occupational health safety measures are in place	I feel bad	41 (22.4)	6 (2.8)	1		1	
	I don't know	26 (14.2)	13 (6.2)	2.61 (1.09- 6.23)	0.031	2.15 (0.89-5.20)	0.088
	I feel good	87 (47.5)	150 (71.1)	4.95 (1.09- 6.23)	<0.001	3.38 (0.53- 7.48)	0.300
	I feel very good	29 (15.8)	42 (19.9)	4.63 (2.14- 10.04)	<0.001	3.49 (1.56- 7.77)	0.002
Feel motivated with the way occupational safety and health measures are managed in this university	Yes	141 (77.0)	184 (87.2)	1		1	
	No	42 (23.0)	27 (12.8)	0.69 (0.51- 0.94)	0.019	1.23 (0.87-1.73)	0.236
Feelings about their job in the university	So stressing	31 (16.9)	18 (8.5)	1		1	
	I feel like I want to give up	17 (9.3)	11 (5.2)	1.07 (0.59- 1.93)	0.823	1.01 (0.62-1.93)	0.743
	Somehow okay	93 (50.8)	90 (42.7)	1.34 (0.90- 1.99)	0.149	1.12 (0.77-1.63)	0.561
	Very okay	42 (23.0)	92 (43.6)	1.87 (1.27- 2.75)	0.001	1.18 (0.80-1.75)	0.396
Occupation	Yes	127 (69.4)	169 (80.1)	1		1	

Variables	Attribute	Implementation of OSH measures		Crude PR (95% CI)	P-values	Adjusted PR (95% CI)	P-values
safety and health measures are well managed in the university	No	56 (30.6)	42 (19.9)	0.75 (0.58- 0.96)	0.024	1.00 (0.77- 1.30)	0.989
People in charge of implementing occupational safety have done their work well	Yes	137 (74.9)	164 (77.7)	1		1	
	No	46 (25.1)	47 (22.3)	0.93 (0.74- 1.16)	0.515		
Interested in adhering to occupational health safety measures	Not interested	34 (18.6)	23 (10.9)	1		1	
	Interested	72 (39.3)	103 (48.8)	1.46 (1.04- 2.05)	0.029	1.16 (0.83- 1.61)	0.383
	Somehow interested	77 (42.1)	85 (40.3)	1.3 (0.92- 1.84)	0.14	1.20 (0.86- 1.68)	0.273
Government has put in place regulations to help in implementing occupational health and safety	Yes	124 (67.8)	94 (44.5)	1		1	
	No	59 (32.2)	117 (55.5)	1.54 (1.28-1.85)	<0.001		
Certifications done to ensure safety of the work place	Yes	139 (76.0)	160 (75.8)	1			
	No	44 (24.0)	51 (24.2)	1.00 (0.81-1.24)	0.977		
University gets external audits on occupational safety and health from responsible authorities	Yes	124 (67.8)	128 (60.7)	1			
	No	59 (32.2)	83 (39.3)	1.15 (0.96- 1.38)	0.136		
Normally get pressure from the students and other stakeholders requesting them to put in place occupational health measures	Yes	124 (67.8)	121 (57.3)	1		1	
	No	59 (32.2)	90 (42.7)	1.22 (1.02- 1.47)	0.030	0.98 (0.78- 1.23)	0.863
Description of the management's commitment to safety	Not committed at all	39 (21.3)	15 (7.1)	1		1	
	Somehow committed	70 (38.3)	76 (36.0)	1.87 (1.18- 2.96)	0.007	1.57 (0.98- 2.49)	0.058
	Neutral	53 (29.0)	46 (21.8)	1.67 (1.03- 2.70)	0.036	1.38 (0.83- 2.28)	0.215
	Very committed	21 (11.5)	74 (35.1)	2.80 (1.80-4.37)	<0.001	1.77 (1.09- 2.87)	0.021

Variables	Attribute	Implementation of OSH measures		Crude PR (95% CI)	P-values	Adjusted PR (95% CI)	P-values
Institutional policies in place aimed at facilitating the implementation of occupational health and safety measures	Yes	116 (63.4)	116 (55.0)	1			
	No	67 (36.6)	95 (45.0)	1.17 (0.98- 1.41)	0.087		
Description of the leadership of the university in relation to occupational safety and health	Very poor	12 (6.6)	4 (1.9)	1		1	
	Poor	12 (6.6)	6 (2.8)	1.33 (0.46-3.90)	0.599	1.14 (0.44- 2.97)	0.787
	Fair	28 (15.3)	15 (7.1)	1.39 (0.54-3.58)	0.489	0.98 (0.41- 2.33)	0.957
	Neutral	31 (16.9)	36 (17.1)	2.15 (0.89-5.17)	0.088	1.40 (0.62-3.15)	0.412
	Good	45 (24.6)	93 (44.1)	2.69 (1.14-6.35)	0.023	1.29 (0.58- 2.88)	0.527
	Very good	44 (24.0)	40 (19.0)	1.90 (0.79- 4.59)	0.151	1.15 (0.51- 2.58)	0.733
	Excellent	11 (6.0)	17 (8.1)	2.43 (0.99- 5.98)	0.053	1.38 (0.60- 3.20)	0.449

4. DISCUSSION

The socio-demographic analysis across the two universities highlights distinct disparities in gender, age, marital status, educational attainment, and professional roles. There was a notable gender imbalance at UCU compared to Kyambogo University. The workforce was generally mature, which might imply greater experience and potentially affects organizational stability and knowledge continuity. A larger proportion of staff at Kyambogo University were married compared to UCU. This may have influenced job satisfaction and stability. Both institutions have high levels of educational attainment appropriate for academic positions, with lecturers forming the largest professional group. The tenure analysis suggests better staff retention or recent expansions at UCU. Comparatively, the demographic patterns observed at UCU and Kyambogo University align with global trends in higher education institutions but also show unique local nuances. Studies from academic institutions from Uganda and elsewhere often report a more balanced gender distribution among faculty (Kitone *et al.*, 2018, Mwebaza *et al.*, 2023, Owusu and Andoh, 2021). This suggests cultural or policy differences that affect gender equality in academic employment. The prevalence of mature academic staff mirrors findings from universities in North America, where tenure and higher education roles are typically associated with higher age profiles, underscoring the value placed on experience and stability (OECD, 2022). In terms of marital status and educational attainment, the results are similar to those seen in European universities, where higher educational qualifications and a stable personal life are common among academics (OECD, 2022). This however differs from what has been previously reported in Uganda (UBOS, 2022). However, the high retention rates and professional grouping at UCU indicate a possibly unique institutional strategy or local academic culture that emphasizes long-term commitment and specialized roles more than some international counterparts.

On Occupational health and Safety Hazards, the study revealed that more than half of the respondents reported experiencing repetitive hand movements for at least three hours per day, while about third reported working in awkward positions, such as bending, twisting, or heavy manual labour. Additionally, a higher number of respondents reported standing for more than three hours a day, and being sometimes exposed to poor sitting postures. These factors pose a significant risk of musculoskeletal disorders such as carpal tunnel syndrome, tendonitis, and other repetitive strain injuries, as well as back pain, neck pain, and shoulder pain. The findings corroborate with those from a cross-sectional study conducted in Saudi Arabia where teachers developed musculoskeletal disorders in the last 12 months, with lower back pain being the most common site of the pain, followed by shoulders, neck, knees, hips/thighs/buttocks, upper back, wrists/hands, ankles/feet, and elbows that concurs with Althomali (2022).

Regarding physical hazards, the study found that the majority of the respondents were exposed to electric shock. Exposure to electric shocks can cause serious injuries, including burns, heart damage, and nerve damage. There is need for employers to prioritize electrical safety training and implement proper safety protocols to prevent electrical injuries in the workplace. Additionally, the study revealed that the prevalence of exposure to slips, falls and trips was higher. These findings are consistent with other studies which have reported related workplace injuries from slips, falls, trips and injuries from sharp objects (Amoakohene, 2022, Njeru, 2015). Institutions must implement proper safety measures and provide adequate training to prevent these types of injuries from occurring.

The study further found that higher number of the respondents were exposed to violence, including physical, sexual, and emotional abuse. Exposure to violence in the workplace can have significant negative impacts on workers' mental and physical health. Other studies in Nigeria and South Africa have reported similar findings (Agbaje *et al.*, 2021, Godbless and Enoch, 2022, Mahlori *et al.*, 2018). These findings indicate a need for institutional violence prevention programs and policies in order to protect workers' safety and well-being.

More than half of the respondents reported a high level of implementation of occupational safety and health measures. One potential explanation for this finding is that some universities may have resources or be committed to OSH measures. Occupational safety and health measures are important for preventing occupational injuries and illnesses, and promoting the overall health and well-being of workers (Islam *et al.*, 2017, Zhou *et al.*, 2019). However, it is important to note that this finding is self-reported and may not necessarily reflect the actual implementation of safety measures in the workplace. Therefore, it is necessary to continue to monitor and evaluate the implementation of OSH measures in the universities to ensure that workers are adequately protected from occupational hazards.

5. CONCLUSIONS

In assessing the occupational safety and health hazards in university staff, ergonomic, physical, chemical and psycho-social hazards were prevalent. Among the ergonomic hazards, issues such as poorly designed workstations and prolonged sitting or standing were predominant while physical hazards.

More than half of the respondents reported a adequate level of implementation of occupational safety and health measures at the universities. A number of recommendations suggested include; Universities to have well-defined safety and health policies in place, which should be regularly reviewed and updated. The policy should cover all aspects of OSH, including hazard identification, risk assessment, and control measures, as well as the provision of necessary

safety equipment and first aid facilities.: the government of Uganda need to enforce health and safety regulations to ensure that all employees are compliant, universities to promote preventive measures such as ergonomically designed work stations, job rotation and breaks to reduce the risk of musculoskeletal disorders.

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