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ORIGINAL ARTICLE

Occupational health and safety, cost reduction in accident and employee task performance: perspectives of selected service organizations

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Abstract

Objective The right to safe and healthy working environment has dramatically gained a lot of interest at the global, regional, and national levels in recent years. Employers and employees need to recognise that, Occupational Health and Safety involves more than just first aid activities but the complete adherence to policy and best practices

Methods The study assessed the effect of workers awareness of the health and safety policy in the organisation on cost and occupational accidents. Using the convenience sampling technique, a total of 180 employees from both public and private sector organisations responded to questionnaire used in the data collection through google forms and direct contact. Ordinary least-squares (OLS) regression analysis was conducted using SPSS version 26 to analysed the data collected.

Results The study found that workers awareness was statistically significant and positively related to health and safety policy in the organisation. The cost implication of implementing occupational health and safety policy was statistically insignificant and negatively related to occupational accident in the organisation

Conclusion It is concluded that management of the organisations may use effective strategies that ensure strict adherence to safety best practices in the performance of assigned tasks for collective good.

Keywords Health and safety awareness · Health and safety policy · Occupational accident · Responsibilities in health and safety · Cost of occupational accident

Introduction

Occupational health and safety (OHS) procedures have been acknowledged as critical elements in lowering accidents, increasing employee productivity, and enhancing overall organizational performance. Employers have a responsibility to ensure the safety of their workers and to maintain a healthy work environment. Globally, an estimated 2.3 million workers die every year from occupational accidents and work-related diseases; this equates to 6,300 deaths daily (ILO 2014). Accident-related injuries have both physical and psychological effects on the employee and have a significant impact on organisations in terms of rising expenses, decreased productivity, and consequently the brand reputation. This increases organisations' financial burden and its ability to sustain operations for a long time. Use of legal and policy frameworks to ensure safety of workers have proven to be successful. For instance, Ponsonby (2017) reports that in the last 40 years, the number of deaths caused by fatal

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injuries in the United Kingdom has markedly decreased by 86% since the introduction of the Health and Safety at Work Act 1974. It has been said that in high-income countries if occupational health and safety control measures are relaxed, occupational diseases which were thought to be of historical interest can return (Sim et al. 2016).

Implementation and adherence to occupational health and safety at the workplace is increasingly becoming a challenge in most organisations in developing countries like Ghana. A large proportion of the workforce in Ghana is exposed to various health and safety hazards at the workplace as Ghana gradually turns to an industrialized nation (Asumeng et al. 2015). Occupational safety is one of the most crucial issues in high-risk and dangerous enterprises due to the financial and non-financial costs associated with workplace accidents, injuries, and near-misses (Ajmal et al. 2022). It would be a misconception to understate the additional financial effects of occupational accidents on both the victim and the employer (Asumeng et al. 2015). Accidents at work or in the workplace can have a serious impact on the mental health of both the victims and any employees who observed the events. One of the most crucial factors affecting professional stress and satisfaction at the workplace is Occupational safety. It is the duty of every employer to provide a safe and optimal working conditions, which is a great obligation (ILO 2014). However, one of the biggest costs to employers is caused by workplace accidents, sick leave, and employee turnover (Kline and Lewis 2019), which can be reduced through efficient occupational health and safety policy implementation.

There are legislative frameworks some of which are the Factories, Offices and Shops Act 1970, (Act 328), the Mining Regulations 1970 (LI 665), Workmen's Compensation Law 1987, Environmental Protection Agency Act 490, 1994, and the Ghana Health Service and Teaching Hospitals Act 526, 1999 and the Labour Act 2003 (Act 561), are the major regulatory frameworks that govern health and safety issues in organisations to help in minimizing workplace hazards as Ghana is yet to have a comprehensive national policy on occupational health and safety. The absence of a comprehensive national policy on occupational health and safety should be of concern to policy makers, business employers, union organizations, and researchers as well (Lingard 2013). One of the concerns is that these legal provisions are limited in scope as majority of industries, and the informal sectors are not specifically covered. However, these legal instruments make provision for the rights and duties of both employers and employees to be adhered to, they also provide regulations that are to be enforced by the Department of Factories Inspectorate.

However, awareness of employers and employees about occupational health and safety policy and their responsibilities are critical for compliance to legal frameworks to protect them from accident, injuries and occupational illness and reduce the financial burden of their organisations (Addai et al. 2016). Lack of awareness of employees on Occupational Safety and Health (OSH) management systems or policy contributes to workplace accidents (Jaafar et al. 2018). Greepherson (2013) reported a significant effect of OHS programme or policy on the business if it is made known to employees while Mahmoudi et al. (2014) indicated that in organisations where health and safety policies are highly promoted, employees feel valued because they are kept from danger at work.

In today's modern society, occupational accidents cost much to society at large and occupational accidents cause important financial loss in workplaces (Yilmaz and Çelebi 2015). The financial loss caused by occupational accidents is estimated as 1.2 trillion dollars (Takala et al. 2014). These costs can be variable depending on the level of insurance coverage chosen by the employee; however, it is important to note that these overall costs can increase due to the number of claims filed at the facility court and legal fees, and settlements can greatly increase the direct financial burden (Yilmaz and Çelebi 2015). Usually, the costs caused by occupational accidents are categorised into direct and indirect costs (Tompa et al. 2021; López-Alonso et al. 2016). Recent studies increasingly include a third cost category, human costs (also called pain and suffering costs). Essentially, human costs are based on the value of the change in the quality of life of the injured worker and those in his circle (family, friends, co-workers, and other members of the community) (López-Alonso et al. 2016). Leppink (2015) indicated that at national level, there is a clear link between the competitiveness of a national economy and its level of OSH investment, therefore, investing in workers' health and safety is an important factor for future sustainability as it increases the competitiveness of a country.

There are limited studies on the employee's awareness of occupational health and safety policies of organisations and cost savings relating to accidents, which create knowledge gap to be filled. There have been studies on socio-economic cost of occupational accidents (Leppink 2015), accidents at work and costs analysis (Battaglia et al. 2014; Liu et al. 2020), impact of health and safety management on employee safety at the Ghana Ports and Harbour Authority (Agbola 2012), among others. Other researchers have focused on the impact of the management system on developing occupational safety awareness among employees on (Sukiennik et al. 2019) and impact of occupational health and safety policies on employees' performance in the Ghana (Dwomoh et al. 2013). The question then is, will awareness and adhering to occupational health and safety policy and best practices cause employees to perform at their highest levels? The study

attempts to contribute to address the knowledge gap on the awareness of occupational health and safety policy, workers performance and reduction in cost of accidents.

The paper is organized as follows. Immediately after this introductory section is a the review of the extant literature, and the theoretical framework to give meaning to the hypothesis for the study. The methodology used in the study is presented followed by the analysis of data collected from the field. The final section concludes the paper with practical implications and some suggestions for future research. The following hypotheses were test by the study:

Awareness of health and safety policy

Awareness of employees on Occupational Safety and Health (OSH) policies and practices is one of the important things to be consider to ensure that work is done successfully without accidents and injuries. Employee's awareness of the responsibilities of their employers in relation to the laws on Occupational Health and Safety in Ghana is in the interest of ensuring protection of workers from work-related injuries and illnesses as well as preventing accidents in the industry (Addai et al. 2016). The lack of awareness of employees on Occupational Safety and Health (OSH) management systems or policy contributes to workplace accidents (Jaafar et al. 2018). Many of the injuries at the workplace are a direct result of the attitude and actions of the individual themselves (Ali et al. 2009) due to the lack of awareness of the policies. According to British Safety Council (2014), the awareness of OHS policy by the workers of an organisation, will increase productivity of employees' substantially. Therefore it is important to communicate the health and safety policy of an organisation to all employees and ensure its implementation to lead to a constant behaviours of workers.

Furthermore, staff are efficiently managed when suitable and undesirable behaviours are defined to them (Legge 2014) through the creation of awareness of the OHS policies and practices. This is because there was a significant effect of OHS programme or policy on the business if it is made known to employees (Greepherson 2013). Consequently, the awareness of OHS policies and practices will help save time by permitting health and safety issues to be managed steadily using establish procedures (Mahmoudi et al. 2014). This is why in organisations where health and safety policies are highly promoted, employees feel valued because they are kept from danger at work (Mahmoudi et al. 2014).

H1: Awareness of Occupational Safety and Health (OSH) policies ensures work is done without accidents and injuries.

Cost implications of occupational accidents

In today's modern society, occupational accidents cost much (Yilmaz and Çelebi 2015). Developed countries attach much more importance to occupational health and safety management (OHSM) practices based on a preventive (proactive) approach (Bayram et al. 2017). The financial loss caused by occupational accidents is estimated as 1.2 trillion $. There is an economic burden such as social security system and treatment costs on the back of society due to occupational accidents and diseases (Yilmaz and Çelebi 2015).

Aside society at large, occupational accidents cause important financial loss in workplaces (Yilmaz and Çelebi 2015). Workers' compensation and insurance costs are calculated into the direct costs the company will be responsible for after a workplace injury. These costs can be variable depending on the level of insurance coverage chosen by the employee; however, it is important to note that these overall costs can increase due to the number of claims filed at the facility. In these cases, court costs, legal fees, and settlements can greatly increase the direct financial burden (Yilmaz and Çelebi 2015). According to Osei-Asibey et al. 2021, on the Ghanaian situation, the percentage of construction industry to the national indicators of occupational injury is 4.7%. The accident frequency rate of the construction industry is 65 compared with national indicator of 43, a percentage of 151% higher (GSS, 2016). Again, GSS (2016) the severity rate of the occupational injury is 418 nation -wide which is higher than 346 recorded in Ghana Construction Industry in the 2015.

Costs caused by occupational accidents are well investigated in many different studies. Most studies separate the costs into two categories: direct costs and indirect costs (López-Alonso et al. 2016). In this study, we use the terms direct and indirect costs, as we consider these by far to be the terms most widely used in the literature. Direct costs include first aid expenses, disability allowances, compensations, court expenses, the costs of penal provisions of the accidents involving death. Indirect costs include workday loss, working time loss in workplace, time loss for investigating the accident and legal processes, pausing the production after the accident, delay in work-flow and program, damage in working machines or stopping to use these machines, low efficiency of workers, loss of reputation for the company, fine payments for late delivery (Yilmaz and Çelebi 2015).

H2: Occupational Accidents has a cost implication on the organisation.

Strategies in implementing health and safety

Occupational health and safety matters are the sine qua non of an organisation's success. It is thus important that

appropriate strategies of occupational health and safety management systems are employed. For the purpose of this study, Strategies such as management support, institution of health and safety committees, job hazard analyses and communication, safety and health orientation training, reward and incentives, frequent worksite inspections and emergency response planning were identified (López-Arquillos et al. 2015; Hallowell 2010). Management's safety attitudes greatly influence workers' safety attitude and attitudes towards safety virtually predicts occupational injuries (Siu et al. 2004). Job site safety begins in the executive suite. For a remarkable influence on workers, safety need to be a core value of the organisation and Chief Executives are required to inculcate safety consciousness in every level of management that they have the responsibility to ensure safety collectively (Landrum et al. 2014).

Health and Safety committees involving upper management, risk managers, safety directors, operational staff and workers regularly deliberate and review safety performance and its continuance. If labour becomes part of the discussion, it will also reinforce the personal commitment to safety (Landrum et al. 2014).

Job hazard analyses and communication usually integrates occupational health and safety into a given task through the identification of probable hazards as well as determining preventive measures prior to the beginning of work (Landrum et al. 2014). Awareness of hazards at the workplace could be created through Jobsite talks to guard against accidents and injuries. Haslam et al. (2005) believed that poor communication among members in the work teams caused accidents.

Statistically, nearly 20 per cent of all injuries to workers occur within their first 30 days on the job and therefore orientation is crucial for first time workers on any project (Construction Health and Safety Manual 2009). Strong occupational health and safety training programmes improve employee retention as well as compliance with occupational health and safety requirements (Wilkins 2011).

Reward and incentives are the means for encouraging workmen for good occupational health and safety in an organisation. In essence, their use ensures: compliance of occupational health and safety procedures; excellent occupational health and safety result; support for good occupational health and safety `culture on site; that workers take part in safety programmes; reward for and reinforcement of a particular safe behaviours (Teo and Ling 2009) motivate workers to perform tasks in a safe manner hence, contractors should provide monetary rewards, bonuses and job promotions as incentives.

Frequent work site inspections. the most effective management tool to solve the fundamental root causes of accidents, like worn out equipment, misplaced tools or equipment or unsafe actions by workers is frequent inspections. Emergency response planning involves a blueprint for documenting the policies of a firm and procedures in the advent of a serious incident like fatality (López-Arquillos et al. 2015; Hallowell 2010). This emergency preparation facilitates minimizing the human suffering and economic losses in consequent of possible emergencies.

H3: Implementation of occupational health and safety strategies reduces casualties at the workplace.

Challenges in implementing health and safety practices

Realising its poor health and safety performance, Ghana has enacted and ratified various statutes and regulations that are aimed at safeguarding the health and safety (H S) of workers. However, regulation which is not enforced rarely achieves its objectives and sadly this is the reality with OHS regulations in Ghana. Eyiah et al. (2019) assessed OHS regulations in some Ghanaian firms and found that laxity in the enforcement of OHS regulations is a key factor causing poor H S performance in organisations. For the purpose of this study, a number of challenges in implementing health and safety practices will be discussed:

Funding and logistical constraints; Occupational health and safety enforcement departments suffer from perennial budget cuts, which makes it difficult to implement their programmes. These departments need funds to employ more inspectors and train them, as well as purchase the appropriate tools and office equipment to ensure the provision of adequate services. For example, Kheni (2008) found that, in Ghana the yearly approved budget for some OHS enforcement departments are not released to them in full and in time. Also, the OHS departments lacked the requisite equipment and technology to undertake surveys and inspections; and even existing equipment were outdated and insufficient to enable them to effectively carry out various assessments in relation to OHS standards (Eyiah et al. 2019).

Inadequate OHS regulations, standards, and policies; The lack of comprehensive OHS regulations, standards and policies, is a key challenge to the management of OHS in Ghana (Amponsah-Tawiah and Dartey-Baah 2012; Eyiah et al. 2019). Also, the existing OHS laws in Ghana are fragmented, generic, inadequate and limited in scope (Kheni and Braimah 2014; Clarke 2005). An assessment carried out by the ILO (2015) identified that OHS laws in Ghana do not make provisions for key OHS management systems, lack national OHS research programme or institute with clear mandates and funding, and do not deal with specific hazards or risks. Consequently, OHS inspectors are compelled to adopt regulations and standards from other countries in their enforcement duties. However, these adopted regulations and standards cannot be strictly enforced in Ghana because they

do not have their roots from any OHS Act in the country. This is an issue because of the effects of cultural context on OHS are proven (Loosemore and Malouf 2019).

Inadequate skilled personnel; Inadequate skilled manpower in the OHS enforcement departments is a major factor that affects enforcement of OHS standards at workplaces in Ghana. This position is exemplified by Eyiah et al. (2019) in a study of OHS regulatory regime within the construction industry in Ghana. Their study revealed that the OHS enforcement departments are unable to retain highly qualified and experienced inspectors partly due to unattractive conditions of service of personnel employed in these departments. The inspectors in the Departments of Factories Inspectorates and Labour operate as civil servants and therefore are governed by civil and local government workers conditions of service, which is characterised by relatively low remuneration and retirement benefit. Consequently, personnel who have had on-the-job training and have experience in workplace inspection and other enforcement measures/procedures leave these institutions for lucrative offers elsewhere.

Lack of OHS campaigns and education; Campaigns and education relative to improving H&S at workplaces are virtually non-existent in Ghana. The OHS enforcement institutions do not have consultations with employers, trade unions, and H&S stakeholders at national level (Kheni 2008). The lack of OHS campaigns and education have been partly blamed for the general lack of awareness and knowledge of OHS laws, and for poor H&S performance in Ghana (Laryea and Mensah 2010; Dwumfour-Asare and Asiedu 2013). OHS campaigns and education essentially follow the model of 'advise and persuade' which is generally aimed at cooperation, conciliation and negotiation to attain the objectives of the regulatory system rather than to punish offenders for OHS breaches (Johnstone 2003). With strategies such as campaign and education, the threat of deterrent or punitive measures remains in the background, only to be applied where all other strategies fail.

Lack of innovative OHS enforcement strategies; Innovative enforcement programmes such as incentives and partnerships with stakeholders are lacking in Ghana. This position is strongly supported in a study by Laitinen and Paivarinta (2010), which appraised the effectiveness of innovative programme to promote construction safety in Finland. According to the authors, safety awards were given annually to best performing contractors during an annual industry seminar. The programme which was organised through the cooperation between safety inspectorates, construction industry association and trade unions, has witnessed the participation of over 70% of construction sites in the target area. Winners were chosen through objective criteria and reports from unannounced inspections by safety inspectors. The authors' evaluation of the programme provided evidence that the programme was effective including, 63% reduction in failures to provide good fall protection, and prevented an estimated 4000 accidents and 3 deaths a year (Laitinen and Paivarinta 2010). The close collaboration between the enforcement institution, industry and trade unions ensured the success of the safety contest. The absence of these partnerships and incentives programmes in Ghana does not stimulate innovative ways of OHS enforcement.

H4: Challenges in implementing occupational health and safety practises increases casualties at the workplace.

Theoretical framework - Heinrich Domino theory of accident causation

The study is guided by the Heinrich's Domino Theory (1980), one of the first scientific, understandable and widely acceptable theories used to explain accidents (Sabet et al. 2013). Heinrich defined accident as 'an unplanned and uncontrolled event in which the action or reaction of an object, substance, person, or radiation results in personal injury or the probability thereof' (Abdelhamid and Everett 2000). Heinrich established the 'Domino theory' which is based on five sequential factors and standing dominos as following (Othman et al. 2018).

Heinrich uses the analogy of dominoes falling on top of one another and setting off a series of events to describe accidents. However, the process comes to an end if one of the dominoes is knocked over. Heinrich et al. (1980) identified five stages of accident causation. These stages are: the social environment and ancestry, faults of a person, unsafe act or condition, the accident itself and lastly, Injury. An accident can be prevented only by removing one of the dominos preceding the accident. This interrupts the sequence and ensures that the accident does not happen. First, the ancestry and social environment is the process of acquiring knowledge of customs and skills in the workplace. Lack of knowledge and skills required to perform tasks correctly and inappropriate social and environmental conditions will lead to the next domino: fault of person. Secondly, fault of person (carelessness) indicates negative features of a person's personality, although these unwanted characteristics might be acquired. Carelessness will lead to the next domino: unsafe act/conditions. Thirdly, unsafe act or mechanical or physical condition includes the errors and technical failures which cause the next domino: the accident. Fourthly, accidents are caused by unsafe acts or conditions and subsequently lead to injuries and finally that injury is the consequences of the accident (Taylor et al. 2004). Thus, if organisations implement proper OHS policies it will help remove at least one of the dominos, which will cause the whole process to derail

and lead to a healthy subculture through the implementation and enforcement of the policies.

Methodology

This study adopted a quantitative approach to achieve the research objectives. Bryman (2016) asserts that the substance of quantitative research is to gather numerical data to explain a certain phenomenon. This approach, enabled the ease of data collection and subsequently analyse the different statistical tests to draw the necessary statistical inferences and relationships from the different variables, based on the objectives of the research (Abraham et al. 2018). The use of this approach helped to identify the relationship between the variables in the study (Creswell 2013)

The multi-stage sampling method was employed to select the institutions and respondents for the study. A total of 15 organisations made up of eight (8) private companies and seven (7) public institutions were identified but 12 agreed to participate in the study (five public and seven (7) institutions). The institutions were clustered based on private and public institutions, followed by their peculiar occupations such as health organisation, banks and printing houses. Respondents were selected randomly from their organisations Data was collected from a total of 180 employees drawn from 12 organisations both public and private sector organisations in the Greater Accra Region through a survey instrument distributed through on-line (i.e., using google forms) and face-to-face questionnaire administration. This approach worked well for researchers and respondents who were not comfortable with face-to-face interviews due to the COVID-19 pandemic restrictions with the resultant social distancing and shift-work system instituted by government of Ghana for workplaces (Saarijärvi and Bratt 2021).

The use of the Human Resource officials of the organizations supported the data collection which helped to allay the fears of the employees and ensured confidentiality of the information gathered and in reaching the sample for the data collection. This approach saved time on the part of the researchers and also helped in complying with COVID 19 protocols that were in place in the selected institutions.

The respondents were from all levels of the organization that is both senior management and operational levels as OHS concerns employees at all levels in the organisation and this ensured an in-depth view of all employees were represented. Employees were assured of anonymity and were allowed to respond to the questionnaires at their own free will. In all 180 completed questionnaires were retrieved as follows: (160) was collected online and (20) were printed and used for the analysis. This number is considered suitable and adequate for analysis (Babbie 2020). The Statistical Package for Social Science (SPSS) software version 26 was utilised for the analysis of the data collected from respondents and Ordinary least-squares (OLS) regression and correlation analysis was utilised to analyse the effect and the relationship between the independent and the dependent variables.

Results

Presentation and analysis of results

Table 1 above presents the demographic information on the data collected from respondents. Out of the intended sample size of 180, it can be observed that 52% were male and 48% were female. The respondents were further grouped into their age, education, Type of organisation, staff category and duration of service. From the table, majority of the respondents 45% were between the ages of 20 - 30years, and 3%. were between the ages 51 years and above. Respondents with degree certificate were 65%, while 16% hold a master's certificate, 11% hold a diploma while 8% hold a Senior High School (SHS) certificate. Fifty percent of the respondents were from private and government organisations

Table 1 Demographic Data of Respondents

	Frequency (N=180)	Percent (%)
Gender		
Male	93	51.7
Female	87	48.3
Age		
20-30 years	82	45.6
31-40 years	70	38.9
41-50 years	23	12.8
51 years and above	5	2.8
Education		
SHS	14	7.8
Diploma	20	11.1
Degree	117	65.0
Masters/ PhD	29	16.1
Type of Organisation		
Private	90	50.0
Government	90	50.0
Staff Category		
Senior	74	41.1
Junior	67	37.2
Contract	39	21.7
Duration of Service		
1-5 years	118	65.6
6-10 years	31	17.2
11-20 years	22	12.2
20 years and more	9	5.0

respectively. For the staff categories of employees, 41% claimed to be senior staff whiles Junior and contract staff were 37% and 22% respectively. 66% have worked with their organisation between a period of 1-5years, whiles 17%, 12% and 5% have worked with their organisation between a period of 6-10years, 11-20years and 20 years and more respectively.

Measures and analysis

In constructing the study's questionnaire, we relied on tested and verified constructs from previous studies. Consequently, workers awareness was measured using six items, adopted from Uzuntarla et al. (2020), cost implication measured using five items adopted from Bayram et al. (2017), whiles employee task performance was measured using four item questions adopted from Goodman and Svyantek (1999) The constructs and their respective scaling were measured on a 5-point Likert scale (ranges from 1 = strongly disagree to 5 = strongly agree). Out of the 200 administered questionnaires, a total of 190 questionnaires were returned representing a 95% response rate. After screening, 10 of the questionnaires appeared unusable. Therefore, a total of 180 responses were valid after the data screening and these were subjected to further analysis.

After data collection, data entry, introductory coding, data cleaning, and subsequent data analysis were done using the Statistical Package for Social Science (SPSS) software version 26, the study employed a Confirmatory Factor Analysis (CFA) to ensure constructs retrieved from the literature possessed internal consistencies to suit the study context. The CFA was operationalized with a principal component factor analysis with varimax rotations. To avoid common method biases, the researchers ensured anonymity of the respondents (Burke et al. 1993; Podsakoff et al. 2003) by avoiding questions that expose them as well as their organizational affiliations to allow honest opinions without fear or favour and also to eliminate any form of biases emanating from the field survey.

From the results in Table 2, the loadings lie within 0.503 and 0.893 confirming suitability for further use in the current context (Hair et al. 2016). The recorded Cronbach's alpha values were above 0.7 and thus showed the fitness and reliability of the confirmed constructs (Hair et al. 2016). To ensure construct validity, Average Variance Extracted (AVE) and Composite Reliability (CR) metrics were used. The AVE and CR values were above 0.5 and 0.7, respectively,

Table 2 Descriptive Statistics

Variables	Mean	Standard deviation	Min	Max	Skewness	Kurtosis
Workers Awareness						
I am aware of the Occupational Safety and Health (OSH) policies in my workplace.	4.925	.895	1	5	-.6	2.691
I understand the responsibilities of my employer regarding Occupational Health and Safety laws in Ghana.	3.93	.769	1	5	-.563	2.238
The lack of awareness of OSH policies and practices contributes to workplace accidents.	4.334	1.043	1	5	-.645	2.793
I comply with the safety rules all the time.	3.648	1.085	1	5	-.237	2.586
I feel valued as an employee when health and safety policies are promoted in the organization.	4.452	.983	1	5	-.124	2.7
When I am at work, I think safety is the top important thing	3.924	1.004	1	5	.063	2.874
Cost Implication (Bayram et al. 2017)						
I am aware of the financial burden on society due to occupational accidents and diseases.	4.146	.766	1	5	-.315	1.959
I understand the direct costs associated with occupational accidents, such as first aid expenses, disability allowances, and compensations.	3.761	.876	1	5	-.486	2.409
I am aware of the indirect costs of occupational accidents, including workday loss, delays in work-flow, and damage to working machines.	3.634	.975	1	5	-.41	2.932
I recognize the impact of occupational accidents on insurance costs and workers' compensation in the company.	3.888	.843	1	5	-.399	2.802
I believe that preventive (proactive) approaches to occupational health and safety management can help reduce the financial burden of occupational accidents.	3.72	.932	1	5	-.497	3.029
Employee task performance (Goodman and Svyantek 1999)						
I help other employees with their work when they have been absent.	3.825	1.151	1	5	.049	2.208
I make innovative suggestions to improve the overall quality of the department.	3.985	1.185	1	5	-.043	2.281
I meet the criteria for performance.	4.776	1.175	1	5	.115	2.233
I perform well in the overall job by carrying out tasks as expected.	4.403	1.021	1	5	-.005	2.171

indicating enough divergence among constructs as well as suitable convergence within constructs hence valid for further composition and analysis (Rezaei and Ghodsi 2014). The data employed also depict acceptable normality as skewness and kurtosis thresholds lie between −1, 1 and −3, 3, respectively (Table 2). Table 2 shows the descriptive statistics of the overall constructs used for the study. Following the factor analysis, reliability, and validity tests, correlation analysis and an ordinary least squared (OLS) regression method with robust coefficients was employed. According to Hu and Bentler (1999), robust coefficients lessen the outlier effects of the sample, hence preferred in this study over standard coefficients (Table 3).

Table 4 below shows the relationship between employee task performance, workers awareness of the health and safety policy in an organisation and the cost implication to occupational accident in an organisation. For workers awareness of the health and safety policy in an organisation, Table 4 shows that 38.1% relationship between workers awareness of the health and safety policy and employee task performance which is significant at 0.01 significant level (*p-value = 0.20*). Also, for the cost implication to occupational accident in an organisation, showed that10.8% relationship between the cost implication to occupational accident and employee task performance which is insignificant at 0.01 significant level (*p-value = 0.20*).

The model summary in Table 5 summarizes the regression model. It displays R, R – Square, Adjusted R – Square, and Standard Error of Estimation values. The correlation coefficient is denoted by R. It quantifies the strength of the linear relationship between predictor variables (workers awareness, and cost implication) and response variable (Employee task performance). As shown in Table 5, the value of R is 0.407, indicating a weak relationship between the predictors and the response variable. The Adjusted R – Square value represents the fraction of variance in the response variable that can be explained by the predictor variables. According to the table, the adjusted R-square

Table 3 Confirmatory Factor Analysis, Reliability, and Validity Analysis

Variables	Factor loadings (>0.5)	Composite Reliability (CR) (≥ 0.7)	Average Variance Extracted (AVE) (≥ 0.5)	Cronbach's Alpha (α) (≥ 0.7)
Workers Awareness (Uzuntarla et al. 2020)		.867	.631	.871
I am aware of the Occupational Safety and Health (OSH) policies in my workplace.	.625			
I understand the responsibilities of my employer regarding Occupational Health and Safety laws in Ghana.	.893			
The lack of awareness of OSH policies and practices contributes to workplace accidents.	.534			
I comply with the safety rules all the time.	.648			
I feel valued as an employee when health and safety policies are promoted in the organization.	.852			
When I am at work, I think safety is the top important thing	.524			
Cost Implication (Bayram et al. 2017)		.865	.572	.869
I am aware of the financial burden on society due to occupational accidents and diseases.	.746			
I understand the direct costs associated with occupational accidents, such as first aid expenses, disability allowances, and compensations.	.761			
I am aware of the indirect costs of occupational accidents, including workday loss, delays in work-flow, and damage to working machines.	.634			
I recognize the impact of occupational accidents on insurance costs and workers' compensation in the company.	.588			
I believe that preventive (proactive) approaches to occupational health and safety management can help reduce the financial burden of occupational accidents.	.672			
Employee task performance (Goodman and Svyantek 1999)		.820	.538	.823
I help other employees with their work when they have been absent.	.825			
I make innovative suggestions to improve the overall quality of the department.	.885			
I meet the criteria for performance.	.576			
I perform well in the overall job by carrying out tasks as expected.	.503			

Table 4 Correlation

		Employee task performance	Workers Awareness	Cost Implication
Employee task performance	Pearson Correlation	1	.381**	.108
	Sig. (2-tailed)		.000	.203
Workers Awareness	Pearson Correlation	.381**	1	.286**
	Sig. (2-tailed)	.000		.001
Cost Implication	Pearson Correlation	.108	.286**	1
	Sig. (2-tailed)	.203	.001	

**. Correlation is significant at the 0.01 level (2-tailed)

Table 5 Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.407[a]	.166	.152	.51809

a. Predictors: (Constant), Workers Awareness, Cost Implication

value is 0.152, indicating that the predictors account for 15.2 percent of the variance in the response variable.

From Table 6 (ANOVA) it is indicated that, the significant value is 0.000 which is less than 0.05 which implies that the model used for the study is actually fit and statistically significant to determine the effect of workers awareness on the health and safety policy and also effect of cost implication on occupational accidents in the organisation.

From Table 7, the ordinary least-squares (OLS) regression analysis shows that workers awareness of the health and safety policy in an organisation influence the cost implication to occupational accident in an organisation have on employee task performance.

The analysis shows that workers awareness of the health and safety policy in their organisation is statistically significant (Beta = 0.209; p – value = 0.08) however, the cost implication to occupational accident in an organisation is not statistically significant (Beta = 0.005; p – value = 0.95).

Cross tabulation analysis

From Table 8, the cross-tabulation analysis on employee awareness of their organisational occupational health and safety policy, shows that employees in the private sector are more aware of their organisational occupational health and safety policy than that of their counterparts in the government sector.

From Table 9, the cross-tabulation analysis on cost implications incurred by organisations in the event of a work place accident, shows that employers in the government sector incurs more cost in the event of a work place accident as compared to their counterparts in the private sector.

Table 6 ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.388	3	3.129	11.659	.000[b]
	Residual	47.241	176	.268		
	Total	56.629	179			

a. Dependent Variable: Employee task performance

b. Predictors: (Constant), Workers Awareness, Cost Implication

Table 7 Coefficients of variables

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.916	.210		4.360	.000
	Workers Awareness	.270	.101	.209	2.682	.008
	Cost Implication	-.007	.103	-.005	-.064	.949

a. Dependent Variable: Employee task performance

Table 8 Employee Awareness of Organisational OHS policy

		Organisation Type		Total
		Private	Government	
Employee Awareness	Aware	80	78	158
	Not aware	10	12	22
Total		90	90	180

Table 9 Cost Implication

		Organisation Type		Total
		Private	Government	
Cost Implication	High	88	90	178
	Low	2	0	2
Total		90	90	180

Discussion

The empirical study indicates that a 1% increase in workers awareness will lead to an increase in employee task performance. This implies that workers awareness occupational health and safety policy is key to employee performance, thus without the risk of danger at the workplace, employees will be put in check to be safe and healthy. A healthy worker is always able to perform his or her tasks. Awareness of Occupational Safety and Health (OSH) management systems or policy by employees is one of the important things to be considered to ensure that work is done successfully without risk of accidents and injuries at the workplace. Employee's awareness of the responsibilities of their employers in relation to the laws on Occupational Health and Safety in Ghana is meant to ensuring protection of workers from work-related injuries and illnesses as well as preventing accidents in the industry (Addai et al. 2016) which is in line with the results of the study. In contrast, lack of awareness of employees on Occupational Safety and Health (OSH) management systems or policy contribute to workplace accidents. Many of the injuries at the workplace are a direct result of the attitude and actions of the individual employees themselves (Ali et al. 2009).

There is an economic burden such as social security system and treatment costs on the back of employers due to occupational accidents and diseases. Occupational accidents cause important financial loss in workplaces (Yilmaz 2015). Costs associated with accidents and ill health vary greatly on an international scale. However, the current study revealed that, cost implication was statistically insignificant. Despite the negative relationship cost implication of accidents and injuries have on employee task performance, employees task performance will not be affected thereby leading to occupational accidents.

Conclusions

Implementing and upholding occupational health safety regulations in the workplace in most developing nations like Ghana, is becoming more and more difficult. Organisations both public and private strive to put in place the policies and best practices to minimise rate of accidents and reduce costs. This study sort to understand if the awareness and adherence to occupational health and safety policy and best practices causes employees to perform at their highest levels and reduce costs of accidents. Using the Ordinary least-squares (OLS) regression and correlation analysis to analyse the effect and the relationship between the independent and the dependent variables the study found that workers awareness of health and safety policy was statistically significant and positively related to employee performance in the organisation. Thus, when employees are aware of Occupational Safety and Health (OSH) management systems or policy they ensure that work is done successfully without risk of accidents and injuries at the workplace. The cost implication of implementing occupational health and safety policy was statistically insignificant and negatively related to occupational accident in the organisation. Implying that in spite of the negative relationship cost implication of accidents and injuries have on employee task performance, it will not lead to occupational accidents. The study recommend that management of the organisations should use effective strategies that ensure strict adherence to safety best practices in the performance of assigned tasks for collective good.

Limitations and future research

The present study considered implementing occupational health and safety policies and cost implications on employee performance in developing countries using the quantitative methods and found that cost implications of accidents do not have negative effects on employee performance. Future studies could consider a comparative study of other countries and quantify the cost implications of Occupational accidents on employers to holistically address the objective and subjective issues involved.

Authors' contributions (Author 1 - 30%, Lead & corresponding Author, organised the structure of paper, introduction and methodology)
(Author 2 - 30%, Literature reviews and data collection)
(Author 3 - 15%, Data analysis and presentation)
(Author 4 - 15%, Data analysis and presentation)
(Author 5 - 10%, Review of paper and conclusion)

Data availability Data for this research is available on request

Declarations

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Consent to participate Respondents consent for data collection received

Consent for publication Authors consent to the publication of this research

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