Occupational Health and Safety Practices: An Assessment of the Electricity Company of Ghana, Ho Division

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ABSTRACT

Providing a safe place of work has been a common law duty of organisations, especially, the potentially dangerous work environments. This mandates organisations to implement Occupational Health and Safety (OHS) practices which could prevent or control hazards at the workplace. The study of OHS practices in an electricity distributing organisation is crucial because electricity poses danger such as fatal electrocution of workers. This study is aimed at identifying the OHS practices in the Electricity Company of Ghana (ECG), assessing how OHS practices are implemented, and their perceived effects on the company. Using a descriptive survey strategy, 120 respondents from the Ho Regional Division of ECG were conveniently sampled. The findings indicated that OHS practices implemented were either centralised to the regional safety officer or decentralised to the supervisors. There was however, no well-designed institutional framework for the implementation of OHS practices. This led to an average rating of the perceived effects of OHS practices on the company. The originality of the study is focused on the empirical investigation of the practices in a typical engineering company other than mining in a developing country context. The implication of this study is that engineering companies should focus on OHS issues.

Keywords:

Electricity, Hazards, Occupational Health, Safety.

INTRODUCTION

It is quite obvious that the work domain has undergone enormous transformation over the last decade. For instance, the era of very heavy, dirty and dangerous industries, as well as the burden of diseases that accompanied working in such environments has virtually faded away. Nonetheless, the new working environments and conditions of work that have replaced them are not devoid of health and safety concerns (Rantanen, 1994). The public is increasingly becoming aware of the effects of exposure to physical, chemical, biological and psychosocial risk factors at the workplace. In this regard, expectations of society pertaining to health and safety at the workplace have also changed with increasing demands for better standards of protection and improvement of the quality of working life of employees (Health and Safety Executive, 1998).

It is in view of this new demand for safety in the workplace that the World Health Organisation (WHO) and the International Labour Organisation (ILO) have begun focusing on labour environments in developing nations, with projects such as Healthy Cities as evidence of their commitment to health and safety practices (Swuste & Eijkemans, 2002). Several other steps have been taken at the industry and national levels to safeguard the health and safety of employees.

These notwithstanding, most countries and industries still do not acknowledge occupational health and safety practices as a critical determinant of national development (Puplampu & Quartey, 2012). This is evident in the paucity of research available in the area of health and safety in Ghana and even Africa as a whole. According to Barling, Loughlin and Kelloway (2002), less than one out of a hundred studies at the organisational and national levels focused on occupational health and safety issues. As industries and governments have made very little effort to address occupational health and safety issues, majority of African countries are struggling with occupational health and safety practices (Regional Committee for Africa Report, 2004). One of the contributing factors to the poor occupational health and safety practices in Ghana may be the negative attitude towards occupational health and safety practices on the part of employers. According to the Ministry of Health Report (2007), most employers are not actually concerned about safeguarding employees' health and safety. Moreover, some do not even know that they have a legal obligation towards their employees' health and safety. In addition, there is lack of a comprehensive policy on OHS, poor infrastructure development and funding, insufficient number of qualified occupational health and safety practitioners, as well as the lack of adequate OHS information (Muchiri, 2003).

Globally, it is estimated that workers suffer 270 million occupational accidents and 160 million occupational diseases annually (ILO, 2005). Poor occupational health and safety does not only result in reduced working capacity, premature death, occupational accidents and injuries (Disease Control Priorities Project [DCPP], 2007; Tharaldsen, Mearns & Knudsen, 2010) but it may in turn, lead to economic loss (up to 10-20% of the Gross National Product) of a country (WHO, 1994).

Work-related diseases and accidents are estimated to account for economic losses as high as 4% of worldwide Gross Domestic Product [GDP] (ILO, 2003). As rightly said by Kofi Annan, a former UN Secretary-General,

occupational health and safety is not only a sound economic policy, it is a basic human right (Amponsah-Tawiah & Dartey- Baah, 2012). It is, therefore, pertinent for developing countries such as Ghana to begin to take giant steps in occupational health and safety research as well as implementing policies that ensure health and safety at the workplace.

The Labour Act (2003), Act 651 of the Republic of Ghana also recognises the relevance of health and safety at the workplace. Accordingly, section 118(I) of the Labour Law mandates employers to ensure that every worker they employ works under satisfactory, safe and healthy environments at the workplace. Employers are therefore, required to ensure that their employees are not exposed to conditions that would result in unnecessary work-related injuries or illnesses. Employees are also required to ensure that they work according to the employer's standard operating procedures which must incorporate safety and health requirements (National Labour, (2003), Act 651). The question of whether both employers and employees are aware of these provisions and/or have taken steps within their organisations to enforce this law is a vital one which needs to be addressed.

Globally, the energy sector is considered a highly risky industry due to the difficult nature of the working conditions involved. This sector is noted for high levels of workplace fatalities (Kane, 2010; Mearns & Yule, 2009). The National Institute of Occupational Safety and Health (2012) noted that electricity poses a danger to many workers. Although a department has been devoted to OHS practices in Electricity Company of Ghana (ECG), there is virtually no documented evidence indicating that it has been discharging its obligations to employees. The present study, therefore, sought to identify the OHS practices available in the ECG, how these practices are implemented in the company and the perceived effects on the company. The motivation for the study lies in recent occupational accidents that occurred in some industries in Ghana (Ghana News Agency, 2009; 2013). The study is consistent with extant safety research which posits that organisations which focus attention on a positive safety climate may create improved safety performance and participation (Braunger *et al.*, 2015). This article does not only add to the body of knowledge on OHS practices, but it also provides empirical assessment of OHS practices in a non-mining engineering company in a developing country context.

LITERATURE REVIEW

Nature of Occupational Health and Safety (OHS)

Occupational Health and Safety is a multidisciplinary field which involves a host of specialists from different disciplines including engineers, management scientists, psychologists, biological scientists, lawyers, economists and statisticians (Annan, Addai, & Tulashie, 2015). Though, OHS measures may vary with the type of organisation and the stages of its development, issues of OHS affect all workers irrespective of their professions (Chen & Zorigt, 2013). In this regard, research and practice of OHS remain relevant now and in the future in so far as human beings engage in work-related activities which may be prone to accidents. Coupled with this is the fact that safe organisational climate and performance is perceived as a subsystem of organisational performance in general (Wu, Chen & Li, 2007 which may impact an employee's work behaviour and attitude. This assertion reflects the social systems theory which asserts that

social behaviour is the result of the interaction of the role of institutions and expectation as well as individual personality and needs (Getzels & Guba, 1957; Ornstein & Hunkins, 1993)

OHS management practices may be perceived as a system of standards, procedures and monitoring protocols aimed at promoting the health and safety of people in organisations as well as protecting the general public against occupationally related accidents to avoid the pain loss which results from workplace fatalities and injuries to individual and societies (Wilkinson & Dale, 1998; Chen & Zorigt, 2015).

The OHS measures, procedures and practices could be caged into preventive, curative and compensatory frameworks that are adopted by an organisation to shield its employees and the public against work-related accidents. Whilst some organisations and managers lack the requisite knowledge, skills and motivation to manage OHS issues, others perceive OHS as daunting (Haslam et al., 2016). In view of these, organisations adopt national and international standards, systems, and legislation to develop their organisation and occupation-specific safety standards (Chen & Zorigt, 2015). An implementation of effective OHS practices and procedures, therefore, provides an intervention aimed at breaking the chain of causation of accidents and workplace injuries. Consistent with the performance management framework, organisational safety climate is considered an important measure of organisational performance (Zacharatos, Barling & Iverson, 2005).

Trends and Overview of Occupational Health and Safety (OHS) Issues

In the late 19th and early 20th centuries, employers ran their organisations the way they deemed fit in order to make maximum profit, hence employee safety and health were not of paramount importance to them. However, since 1950, the ILO and the WHO have held joint sessions to deliberate on the role of employers and other stakeholders in the Health and Safety practices provided to employees in organisations. As a result of these deliberations, the ILO in 1959 provided that occupational health services should be established in or near a place of employment for the employees' welfare (ILO, 1959). Currently, most strategies towards health and safety policy and regulation are mainly entrenched in the 1960's during which time trade unions in many countries began to focus on issues regarding quality of working life, including job security, job satisfaction and occupational health and safety (Hermanus, 1999).

A joint definition of occupational health by ILO and WHO (1995) includes: promoting and maintaining the highest degree of physical, mental and social well-being of workers in all occupations; preventing deviations from health among employees as a result of their working conditions; protecting employees from risks resulting from factors adverse to their health; and placing employees in an occupational environment adjusted to suit their physiological and psychological capabilities. OHS, therefore, cuts across disciplines such as law, psychology, medicine, technology and economics (Leka, 2003). Despite the broad nature of OHS, it has not received the needed attention in these fields as far as research is concerned especially in Africa.

Whereas many countries around the world are increasing the quality, health and safety requirements in the work place due to the realisation of their relevance (Chen & Zorigt, 2013), Ghana is yet to have a comprehensive OHS policy (Ghana Health Service, 2007). The ILO convention 155 is yet to be sanctioned in Ghana (Annan, Addai &Tulashie, 2015). Similarly, ILO (2003) noted that some African countries are yet to provide OHS services for their public sector employees. Providing a safer and more efficient working practice helps to save cost as well as save lives (Health and Safety Executive, 2008). When health and safety policies are unavailable or ineffective, it contributes to the causes of accidents (Chen & Zorigt, 2013). Research has also suggested that employees who perceived their jobs as safe were more likely to be involved in fewer accidents than workers who perceived their jobs as dangerous (Hayes, Perander, Smecko, & Trask, 1998). This was confirmed by Wu, Chen and Li (2007) in their study to investigate the correlation among safety leadership, safety climate and safety performance, in which they found safety climate to be significantly related to safety performance and also mediated the relationship between safety leadership and safety performance. This implies that OHS practices may have important implications for job performance and productivity. The implementation of effective OHS practices is hence a necessity, especially in high-risk occupations like the energy sector.

OHS practices may differ from one organisation to another depending on the type of organisation and the level of risk workers are likely to be exposed to. Investigating the OHS practices implemented by various organisations and their effectiveness in safeguarding health and safety of workers is therefore, not out of place. Most OHS practices in Ghana are guided by the Factories, Offices, and Shops Act 1970 (Act 328) and the Mining Regulations 1970 LI 665 (Clarke, 2005). It is clear that Ghana's legislative provisions regarding OHS practices is limited and exempts most organisations, industries as well as the informal sector (Clarke, 2005). A major policy reform was the passage of the Labour Law 2003 (Act 651) which enjoins employers to adhere to health and safety procedures. However, most organisations do not have a clear guideline for managing OHS practices and it becomes difficult to ensure implementation of health and safety guidelines. Consequently, an implementation gap appears to exist between the law and OHS practices in Ghana. The few researches done in the area of OHS in Ghana focused on mining and manufacturing sectors with little knowledge on other sectors (Chen & Zorigt, 2013; Puplampu & Quartey, 2012; Li, 2012). The present study, therefore, examines OHS practices in the energy sector, focusing on the Electricity Company of Ghana (the major distributor of energy in the country).

Conceptual Framework

One of the common law duties of employers is to provide a safe place of work for employees and people who come in contact with the workplace. This common law duty has become one of the core human resource practices in organisations. The provision of a safe work environment is viewed by employees as the commitment of the organisation to them; which is in line with the social exchange framework (Whitener, 2001). This may be more applicable in an electricity company which is classified as one of the potentially dangerous work environments (National Institute of Occupational Safety and Health, 2012). Employees may, therefore, reciprocate by committing themselves to the

attainment of the organisation's goals. This is in line with the claim by Tompa et al., (2009), which states that competent management of occupational health and safety does not only reduce accidents and injuries but may be cost effective which increases competitiveness thus profitability.

This is where the high-performance work systems (HPWS) could be drawn on to improve workplace safety (Zacharatos, Barling & Iverson, 2005) because workplace safety has been tabled as a performance variable. HPWS assumes that employees are the most important source of competitive advantage and that workers have the capacity to continuously improve for higher level performance (Pfeffer, 1998a). This study, therefore, shares the view that employees make the greatest difference between success and failure of organisations. Hence, the need to place issues of employee health and safety on top of the agenda of organisations.

Research Questions

The study is driven by three main research questions which are as follows:

1. What types of OHS practices exist in ECG?
2. How are the OHS practices implemented?
3. What are the perceived effects of the OHS practices on the company?

Methods

Population and Sample

The population for the current study comprises employees of the ECG. Currently, the company has approximately 5,000 employees (Ghanaweb, 2013). The Ho Regional Division of the ECG was selected and used as a case study in the present research. The choice of the Ho Division was based on its proximity to the researcher and also the willingness of the management to participate in the research. From the population of 150 employees, 120 of them were selected using Convenience Sampling Technique in order to collect primary data from this set of respondents. Among the participants, 82.7% of them were males while 17.3% were females. The majority of participants also hold at least a bachelor's degree (55.8%), 27.9% were diploma holders and 16.3 % had technician certificates (I, II and III). 42.3% of the participants have worked with the company for 10 years and above, 27.9% have been working between 7 to 9 years while only 14.4% have been working with the company for less than 4 years.

Instruments and Data Collection

Primary data was collected through the use of questionnaire as the main instrument. The questionnaire was designed to provide first-hand information on OHS practices in the ECG. It was made up of both close-ended questions which presented the respondents with a fixed set of options and open-ended questions which encouraged them to share as much information as possible. The questionnaire had four sections (Sections A to D). Section A contained questions regarding the demographic characteristics of participants. Section B contained items on health and safety practices in ECG, Section C comprised questions regarding OHS implementation in ECG and Section D had questions on the effects of OHS practices.

Informed consent was sought from the company and participants. Those who were willing to take part in the study were given questionnaires to respond to. The questionnaires were later collected for analysis. Data for the study was collected in 2013. Participants were required to

provide information about the OHS practices within the company, how they are being implemented as well as their perceived effects on the company. Data was carefully examined to ensure that all items in the questionnaires were appropriately answered. All the close-ended questions were quantitatively coded using the Statistical Package for Social Sciences (SPSS). The data was tabulated using frequency tables and charts to display the results. Descriptive data analysis method was used to analyse the data and summaries of the results are presented in Tables 1and 2 and Figures 1 and 2.

RESULTS

Occupational Health and Safety (OHS) Practices

The findings showed that a department exists within the Ho ECG in charge of OHS practices (in the company). The study sought to find out which practices were being provided by the department. The results also revealed that the most prevalent OHS practices provided by the department (identified by the employees) were the provision of general health education, surveillance and treatment (45.2 %), followed by job placement, supervision of high-risk groups, safety training and control of recognized hazard (30.8%); and then safety training, treatment and identification of unrecognized hazards (24%). See Table 1 for the summary.

Table 1. Summary of most prevalent OHS practices in the Ho division of the ECG

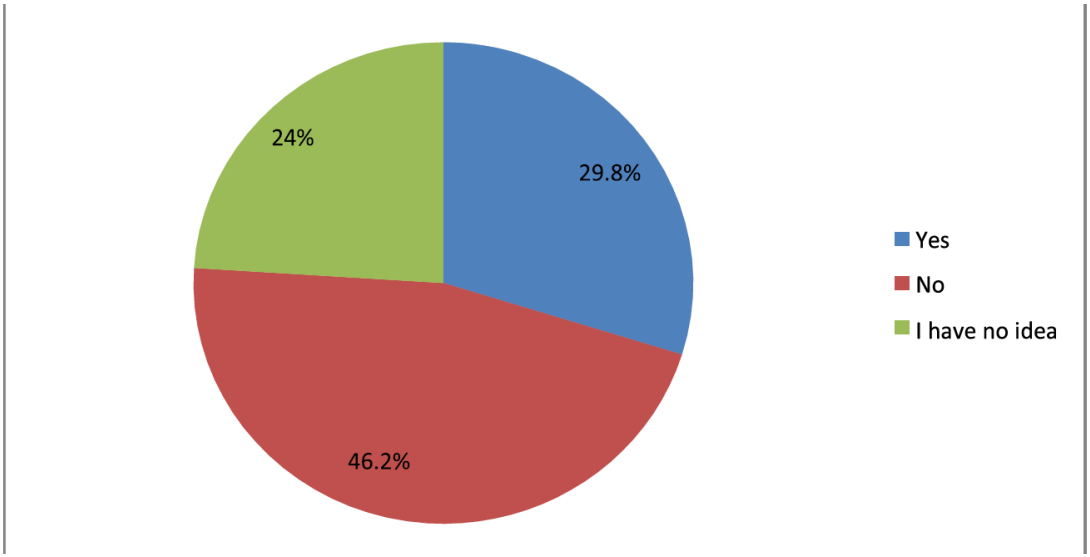
Response	Frequency f	Percentage %	Cumulative Percentage
Safety training, treatment and identification of unrecognised hazards	25	24.0	24.0
General health education and surveillance, and treatment	47	45.2	69.2
Job placement, safety training, supervision of high-risk groups and control of recognised hazard	32	30.8	100.0
Total	104	100.0	

Source: Survey Data, 2015

Implementation of OHS Practices

Regarding the implementation of OHS practices, respondents were asked whether ECG has a well designed institutional framework and feedback mechanisms for Health and Safety practices that have been properly implemented by the concerned stakeholders. In reply, the majority of the respondents forming 46.2% said 'no', 29.8% said 'yes', while 24.0% of them had no idea whether the framework exists or not. The variation in the responses as indicated in Figure 1 is of concern because institutional framework such as policies and procedures on OHS are expected to serve as guides to management and employees which suggest the preparedness of the company to respond to OHS issues.

Figure 1: Summary of responses on well-designed institutional framework and feedback mechanisms for Health and Safety Practices



Source: Survey Data, 2015

When quizzed on their thoughts with respect to the presence of a well-designed institutional framework and feedback mechanism, 23.1% of the respondents believed that the presence of a well-designed framework for the implementation of safety practices would provide the needed platform to facilitate regular report on safety education to stakeholders; 45.2 % of the respondents also believed that it would ensure the provision of proper documentation of events; while 31.7 % thought it would provide an effective link between the human resource department and safety department.

Regarding the mode of implementation of OHS practices in the Ho Regional Division of ECG (whether centralised or decentralised), 76 (73.1%) respondents indicated that job placement is centralised to the regional safety officer while 28 (26.9%) of them were of the view that this practice is decentralised to departmental supervisors. 73 (70.2%) of the respondents pointed out that safety training being one of the OHS practices is decentralised to departmental supervisors in ECG and the remaining 31 (29.8%) said the practice is centralised to the regional safety officer. Concerning supervision of high-risk groups, 75 (72.1%) and 29 (27.9%) of the respondents stated that this practice is decentralised to departmental supervisors and centralised to the regional safety officer respectively. 79 (76.0%) of the respondents constituting the majority opined that the practice of control of recognised hazards on the field is decentralised to departmental supervisors. Meanwhile, the rest 25 (24.0%) of the respondents said the practice is centralised to the regional safety officer. The identification of unrecognised hazards before and on the field is solely centralised to the regional safety officer as indicated by 72(69.2%) respondents while 32(30.8%) of

them upheld the view that the practice is decentralised to departmental supervisors. The treatment of injured employees is decentralised to departmental supervisors as pointed out by 65(62.5%) of the respondents who constituted the majority. The rest 39(37.5%) of them said the practice is centralised to the regional safety officer of ECG.

With respect to the provision of general health education and surveillance to the employees, the majority of the respondents, numbering 61(58.7%) pointed out that this practice in ECG is decentralised to departmental supervisors while 43(41.3%) of them said the practice is centralised to the regional safety officer (See Table 2 for summary).

Table 2: Summary of mode of implementation of OHS practices

Health and Safety practices	Centralised to regional safety officer		Decentralised to department supervisors		Total	
	F	%	f	%	f	%
Job placement	76	73.1	28	26.9	104	100.0
Safety training	31	29.8	73	70.2	104	100.0
Supervision of high-risk groups	29	27.9	75	72.1	104	100.0
Control of recognised hazards	25	24.0	79	76.0	104	100.0
Identification of unrecognised hazards	72	69.2	32	30.8	104	100.0
Treatment	39	37.5	65	62.5	104	100.0
General health education and surveillance	43	41.3	61	58.7	104	100.0

Source: Survey Data, 2015

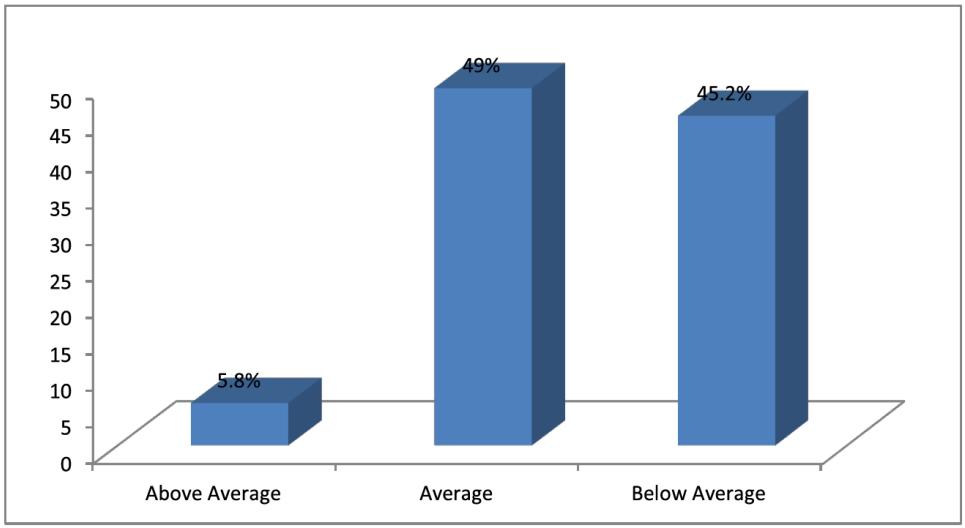
Effects of OHS Practices

The respondents were asked to rate the effects of Health and Safety practices on ECGs success: 5.8% and 49.0% of the respondents rated the effects 'above average' and 'average' respectively. 45.2% rated the effects of Health and Safety practices on ECG's success 'below average' as depicted in Figure 2.

Further, respondents were asked whether they recognised the effects of OHS practices in the

company. 48.1% responded in the affirmative while 40.4% said they did not recognise or appreciate the effects, while the remaining 11.5% said they had no idea about the effects of the OHS practices in the company. When asked to state their reasons for their responses, those who recognised the effects said they did so because they thought the practices prevented accidents and promoted the well-being of employees. The reason given by those who did not recognise the effects was that management only reacted when there was an accident. Thus, they believed that Health and Safety practices and policies are not properly implemented.

Figure 2: Employees' perception of effects of OHS practices



Source: Survey Data, 2015

DISCUSSION

The study is an attempt to assess occupational health and safety practices in the Electricity Company of Ghana, Ho Division. The Analysis revealed that a department exists in the company which is responsible for OHS services. Among the OHS practices, the most common practices discharged by the department include: the provision of general health education and surveillance, job placement, supervision of high-risk groups, safety training and control of recognised hazard, treatment and identification of unrecognised hazards. These practices are key to the general health and safety of employees. This is in line with the WHO's definition of what OHS should include. That is: the promotion and maintenance of physical, social and mental well-being, prevention of deviations from health as a result of working conditions, protection of employees from risks to their health and more importantly, placing and maintaining workers in a working environment suitable for their physical and psychological capabilities (WHO, 1995).

Also, the provision of general health education and surveillance in the ECG is targeted at promoting the health of workers

within the company. Supervision of high-risk groups, safety training and control of recognised hazards as well as identification of unrecognised hazards are all steps taken by the OHS department of ECG to protect employees from health and safety risks. An occupational health service has a responsibility to keep all employees informed about hazards in the workplace. High-risk groups such as pregnant women, the elderly and employees with known medical conditions are to be supervised and monitored to prevent health hazards. Job placement is also an important practice which helps to determine job unsuitability before training time and expense have been incurred. Job placement also needs to be regularly monitored in order to assure employee health and ability, the health service can also give valuable advice with regard to alternative employment when a worker is found to be unfit for a particular job (ILO/WHO, 1950). Several types of research have shown that maintaining a healthy and safe environment at work has many positive outcomes for the organisation such as reduction of health cost, boosting employer-employee relationships and reduction of employee turnover (Cooper, 1994; Fulmer, Gerhar & Scott, 2003; Kelloway & Day, 2005).

The findings of this study also indicate that though OHS practices are available in the ECG, there are no well-designed institutional framework and feedback mechanisms for Health and Safety practices that have been properly implemented by the concerned stakeholders. Implementation of OHS practices is either centralised to the regional safety officer or decentralised to departmental supervisors. As acknowledged by respondents, a well-designed institutional framework and feedback mechanisms for Health and Safety practices would provide the necessary avenue to report health and safety issues, proper documentation of OHS services as well as ensure a more effective collaboration between the human resource department and the OHS department. The general goal of providing a safe, secure and healthy workplace can only be achieved when there is cooperation between health and safety managers and Human Resource (HR) department. For instance, the HR department and safety manager can collaborate and implement health and safety programmes, investigate accidents, produce safety programme materials and conduct safety training for employees (Robert & John, 2004). The department supervisors and managers then ensure the maintenance of safe working conditions and a healthy workplace.

In addition, the findings revealed that majority of the employees of the ECG rate the positive effects of OHS practices in the company as either 'average' or 'below average'. Some of the respondents were of the view that managers only intervene with safety measures when something untoward happened, and that compromised the safety of employees while a few believe that OHS practices have helped to prevent accidents and promoted the well-being of employees. This implies that though OHS practices seem to have some positive impact on the success of the company, there is the need to improve how these practices are implemented to maximise their effects on the company. Investing in health and safety services has far-fetching returns for the success of the company, as creating an effective OHS practices is reported to increase employee morale and improve productivity (Australian Safety and Compensation Council, 2006).

CONCLUSION

Occupational health and safety are very crucial not only for the welfare of workers but to the overall success of the organisation. The present study indicated that the Ho Division of the ECG has a department in charge of OHS practices and some OHS practices were identified to be available within the company. These practices are in line with the ILO and WHO requirements for safety in the workplace. However, the company lacks a well-designed institutional framework for implementing these OHS practices. It was also revealed that OHS practices have some positive effects on the success of the company, but the maximum effect is not being felt. Admittedly, the present study is mainly descriptive in nature, therefore, it does not allow for conclusive inferences to be made from the collected data. It also used only one regional division of the ECG, thus, conclusions from this study may not necessarily reflect the actual state of OHS practices in all the regional divisions of the ECG. Nonetheless, the findings from this study provide very important revelations about OHS in the ECG which is a key player in the energy sector in Ghana. It may also give a hint on the state of OHS practices in Ghana and it provides a reference for future studies in the area of occupational health and safety. Considering the enormous benefits of improving OHS practices in the organisation and the impact it has on the country as a whole (see WHO 1994), it is recommended that the Regional Safety Officer must be a fully trained and certified OHS professional who will adequately educate and monitor the staff on issues concerning Occupational Health and Safety practices. Also, there should be an increased collaboration between the Regional Safety Officer and the Human Resource Manager to address issues of job placement and job suitability for all staff. In addition, there is the need for proper monitoring and surveillance of OHS diseases and injuries with particular emphasis on near misses to prevent reoccurrence. Furthermore, an institutional framework and feedback mechanisms for OHS practices must be developed and implemented to serve as a guide to management and employees of the company. Finally, periodic safety and health education/first aid training to all staff and the general public must be organised with proper monitoring and surveillance to enforce strict adherence.

REFERENCES

Amponsah-Tawiah, K. & Dartey Baah, K., (2012). Occupational health and safety: Key issues and concerns in Ghana. *International Journal of Business and Social Sciences,* 2(14) 119.

Annan, J-S., Addai, E. K. Tulashie, S. K. (2015). A Call for Action to Improve Occupational Health and Safety in Ghana and a Critical Look at the Existing Legal Requirement and Legislation. *Safety and Health at Work, 6*, 146-150.

Australian Safety and Compensation Council [ASCC] (2006). Media Release www.ascc.gov.au.

Barling, J., Loughlin, C., & Kelloway, K. (2002). Development and test of a model linking safety-specific transformational leadership and occupational safety. *Journal of Applied Psychology*, 87, 488-496.

Braunger, P., Korunka, Kubicek, B., Frank H. Lueger, M. (2015). The perspective of safety engineers on safety climate. *Human factors and ergonomics in manufacturing and service industries* 25 (2) 198-210.

Chen, J. K. C & Zorigt, D. (2013). Managing occupational health and safety in the mining industry *Journal of Business Research 66*, 2321–2331.

Clarke E. (2005). *Do occupational health services really exist in Ghana*? *A special focus on the agricultural and informal sectors*. Accra (Ghana): Ghana Health Services.

Cooper, C. L. (1994). The costs of healthy work organisations. In Cooper, C. L., & Williams,S. (Eds.), *Creating healthy work organisations*. Chichester, England: Wiley.

Disease Control Priorities Project, (2007). *Developing countries can reduce hazards* http://www.dcp2.org/file/139/DCPP-OccupationalHealth.

Fulmer, I. S., Gerhar, B., & Scott, K. S. (2003). Are the 100 best better? An empirical investigation of the relationship between being a great place to work and firm performance.

Getzels, J., & Guba, E. (1957). Social behaviour and the administrative process. *School Review*, 65, 423-441.

Ghana News Agency (2009). Fire guts Kumasi Central Market, Accra Ghana. Accra (Ghana): News Agency.

Ghana News Agency (2013). Fire gutted State Agencies, Accra and Kumasi Markets. Accra: News Agency, July 19.

Ghanaweb (2013) "*Profile and History of Electricity Company of Ghana*"

Government of Ghana (2003). *Labour Department report.* Accra (Ghana): National Labour Commission.

Government of Ghana (2010). *Factories Offices and Shops Act, 1970*. Accra (Ghana):

Haslam, C., O"hara, J., Kazi, A., Twumasi, R., & Haslam, R. (2016). Proactive occupational safety and health management: Promoting health and good business. *Safety Science*, 81, 99- 108.

Hayes, B. E., Perander, J., Smecko, T., & Trask, J. (1998). Measuring perceptions of workplace safety: Development and validation of the work safety scale. *Journal of Safety Research, 29*(3), 145–161.

Health and Safety Executive (2008). *An introduction to health and safety*. http://www.hse.gov.uk.

Health and Safety Executive. (1998). *Successful health and safety management.* Norwich: H.M. Stationery Office.

Hermanus, A. M. (1999). *Trends in Occupational Health and Safety Policy and Regulation– Issues and Challenges for South Africa*. Takemi Program in International Health, Harvard School Public Health.

International Labour Organization (ILO) (1959). *Occupational Health Services Recommendation*, *1959* (112). Geneva: ILO

International Labour Organization (ILO). (2003). *Safety in Numbers: Pointers for a Global Safety Culture at Work.* Geneva, Switzerland

Joint ILO/WHO Committee on Occupational Health. (1950). Report of the First Meeting, 28 August-2 September 1950. Geneva: ILO.

Kane, S. (2010). "*Iraq's Oil Politics Where Agreement Might Be Found*" United States Institute of Peace 1200 17th Street NW, Suite 200 Washington, DC 20036-3011, first published 2010.

Kelloway, E. K., & Day, A. L. (2005). Building Healthy Workplaces: What we know so far. *Canadian Journal of Behavioural Sciences, 37*, 223-235.

Leka, S. (2003). Occupational health and safety practices in small and medium- sized enterprises: A comparative study between England and Greece. Unpublished work.

Li, Z. (2012). Occupational health and safety challenges reported by women in selected South African gold and platinum mines. *Occupational Health Southern Africa, 18*(5), 7-13.

Mearns, K. & Yule, S. (2009). The role of national culture in determining safety Performance: Challenges for the global oil and gas industry Safety Perspective from management feedback complexity. *Presidia Earth and Planetary Science, 1*, 1673–1677.

Ministry of Health and Ghana Health Services Report (2007). Creating wealth through health. The health sector programme of work. Accra (Ghana): Ghana Health Services.

Muchiri, F. K. (2003). Occupational health and development in Africa, Challenges and the way forward. *African Newsletter on Occupational Health and Safety, 13*, 44-46.

National Institute of Occupational Safety and Health (NOISH) (2013) "Electrical Safety" (www.cdc.gov/niosh/topics/electrical). Accessed 2013 June 16.

National Labour Act (2003), ACT 651, Section 74 – 118.

Ornstein, A., & Hunkins, F. (1993). *Curriculum foundation principles and theory*. Boston: Allyn and Bacon

Puplampu, B. B. & Quartey, S. H. (2012). Key Issues on Occupational Health and Safety Practices in Ghana: A Review. *International Journal of Business and Social Science, 3*(19), 151-156.

Rantanen, J. . (1994). New Epidemics in Occupational Health. International Symposium. Helsinki 16 -19 May , Finish Institute of Occupational Health.

Robert L. Mathis and John H. Jackson. (2004). *Human Resource Management*: Melisa Acuna.

Swuste, P., Eijkemans, G. (2002). Occupational Safety, Health and Hygiene in the urban informal sector of Sub-Saharan Africa: An application of the Prevention and Control Exchange.

Tharaldsen, J., Mearns, K., and Knudsen, K. (2010). Perspectives on safety: The impact of group membership, work factors and trust on safety performance in the UK and Norwegian drilling company employees. *Safety Science*, *48*, 1062-1072.

Tompa E., Dolinschi, R., de Oliveira, C., Irvin, E., (2009) A systematic review of occupational health and safety interventions with economic analyses. *Journal of Occupational and Environmental Medicine.* 51(9), 1004-1023.

Wilkinson, G., Dale, B. (1998). Systems integration: The views and activities of caution bodies. *The TQM Magazine*, 10(4), 288-292.

Whitener, E. (2001). Do high commitment human resource practices affect employee commitment? A cross-level analysis using hierarchical linear modelling. *Journal of Management*, 27, 515-535.

WHO, (1995). *Global Strategy on Occupational Health for All*. The Way to Health at Work: Recommendation of the Second Meeting of the WHO Collaborating Centres in Occupational Health, 11-14 October 1994 Beijing, China. Geneva: WHO.

WHO, (1994). *Global strategy on occupational health for all: The way to health at work.* Geneva.

Wu, T-C., Chen, C-H. & Li, C-C. (2007). A correlation among safety leadership, safety climate and safety performance. *Journal of Loss Prevention in the Process Industries 21*, 307–318.

Zacharatos, A., Barling, J., & Iverson, R. (2005). High performance works systems and occupational safety. *Journal of Applied Psychology*, 90(1), 77-93.