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Determining the Importance of Coaching Methods in Workplace Health and Safety

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Abstract

The main objective of the study is to determine the effect and importance of coaching on developing an environment of occupational safety and risks in a workplace. Workplace safety and health constitutes reducing the haphazard arising from one's occupation by implementing safety rules and policies for employees of an organization. Here a qualitative research was conducted to understand various aspect of occupational safety and health (OSH) and the role of coaching. Interview results implicated that coaching of senior employees in the case organization had helped in passing on knowledge, safety management, improved health conditions, reduced accidents and improving the financial expenditures. Thereby it was implicated that coaching on OSH has helped positively in reducing occupational hazards and risks.

Keywords: Coaching; Health and safety; Workplace safety

Introduction

Occupational risks of employees in power plants

Occupational risks in generic are risks that are involved in the workplace, triggered by various internal and external factors, leading to health issues and sometimes even death. Every workplace has its own work or occupational risks due to either prolonged similar job or unawareness of the occupational healthcare. According to World Health Organization [1], occupation health is very important in any workplace to protect and prevent and sort of miss happening, safety in work place and work related diseases. Over 2.9 billion workers on an average every year globally are exposed to occupational risks and hazards [2]. WHO also says that health related hazards from occupations may even aggravate an existing disease from the type and work done without precautions. However, Khanzode, Maiti and Ray [3], found that workplace or occupational hazard is not only in the industries where human labor is predominant, but also in offices where employees may suffer from stress, depression, work-pressure, bone related problems and other bodily problems. Thus, any health related issues faced by any category of employee in their work place is occupational hazard.

Health risks in power plant industry is associated with direct contact with electricity; hazards from boilers and fires; explosions; hazardous chemicals; pollutants such as particulate matters, fly-ash and other air borne chemicals; smoke and similar other risks [4,5]. The risks of various diseases in thermal power plants include allergic reactions that interfered with shortness of breath, Lung cancer, emphysema, asthma, pneumonia, tuberculosis, chronic bronchitis, wheezing, irregular heartbeat, Chest pain, stroke, cough, swelling in legs and feet, eye irritation, skin allergies, anxiety, fatigue and High blood pressure [6-9]. Furthermore, physical hazards also include falling and getting electrical shocks at the power plants form improper safety measures [4]. Radiations and continuous thermal exposure also leads to health risks from power plants which in most cases either lead to cancer or death [10,11]. Asbestos, leas, fly-ash, silica, Carbon monoxide, Sulphur dioxide, welding fumes and coal dust are the main causal agents of respiratory problems in people working in power plants [1,10,11]. However, in many clinical analyses it was found that these particulate agents also lead to genetic mutations which might be passed on to generations and increase fatality of disease [12-14]. Thus, in other words, occupational is not localized to the person of exposure, but may also spread it in the family. According to a report by Greenpeace India [15], over 200,000 people die from thermal power plant hazards in China, and the average global mortality rate from power plants is 170,000/trillion kWhr [16]. Thus, it is very important to maintain and be aware of safety issues and protection strategies to avoid health issues and haphazard.

Importance of safety leadership and coaching

Mentoring and coaching the employees of a company is very important and is the foremost step in spreading awareness of occupational hazards and risks from the type of job performed [17]. The main objective of this mentoring system is to aware the possible types of risks and hazards they may face from the job and the strategies by which the employees can overcome them [18,19]. However, this mentoring and coaching is not limited to one group of employees but to overall employees in any industry. In this mentoring sessions, the employees are trained for potential risks and the safety measures that should be taken while working. Safety measures may sometime also include live demonstrations and virtual demonstrations. The safety issues not only helps to motivate the employees in the workplace but also help gain knowledge so that they can also pass on the information to other employees in the organization [20]. Coaching the employees also lowers the risks of accidents in an organization and improves the health condition of labor [18]. These coaching and trainings are also called as occupational safety and health training.

Objectives of the study

The main objective of the study is to find the effect and importance of coaching on occupational safety and risks in a workplace.

Occupational risks and hazards are caused by various internal and external agents, hence to address the main objective, it is very important to find and assess various risks and challenges from various factors. Again, hazard and risks are not only confined to manufacturing and construction units, but also to offices. So another objective to address the main objective is to find the attitudes of job and job pressures. One last objective will be to find various safety policies prevalent in power plants to reduce health risks and hazards.

Literature Review

Workplace safety and health

Workplace hazard measures are the safety measures against the possible risks such as falling, slipping, tripping, getting electric shocks and similar other risks occurring in a workplace [5]. Workplace safety and health maintenance is also the utmost importance in occupational risk trainings. Maintaining a good health in the workplace regardless of risks and hazards, is very important both for the employee and the organization, as the performance of the employee drives the performance of the organization [21,22]. Hence, taking safety measures in tackling the workplace hazards is equally important. However, Starren, Hornikx & Luijters [23] and Tetrick and Peiró [18] argued that workplace safety includes maintaining a protocol of moving and strolling in the workplace, the placement of sitting areas and waiting areas, having enough room for the employees to move in unilateral direction, different rooms for different works (photocopy, inventory, file storage, eating place etc.) and lastly emergency training. On the contrary, workplace safety according to Arifin et al., [24] and Pinto [25] is having the rightful knowledge and the training to maintain a safe environment in the organization and lower the possibilities of health hazards. Furthermore, workplace safety also includes methods of maintaining health issues and taking appropriate medical care [19]. However, Bakker et al. [26] Magnavita et al. [27] and Okechukwu et al. [28] said that workplace health is the maintenance of health from the occupational risks by taking safety measures like wearing safety suits and taking care of illness. Thus, workplace safety and health are both correlated in tacking occupational hazards and risks.

Determinants of Workplace Safety

Environmental conditions

According to Buranatrevedh [29], the Occupational Safety and Health Act (OSHA) which is the governing body of organizational safety laws, says that employers need to manage and maintain a danger free workplace with respect to health and safety conditions that may cause illness, injury, hazards or death. However, some other researchers state that environmental conditions include; light, noise, and atmosphere (heat and cold) [30,31]. In case of noise, it has been indicated that with long term exposure to loud noise, an employee has the risk of losing hearing capability permanently, while, sudden loud noise cause trauma and other nervous illness. Again, a poor lighting condition has the ability to risk an employee with losing eyesight, and very bright is too responsible for the same [32]. Moreover improper lighting in workplace may lead to falls and tripping over leading to health injuries. In case of atmosphere, there are two aspects, one is hot atmosphere and the other is cold. In case of hot atmosphere it is very important that the respective employee undergoes routine checkup for hyperthermia and other related health issues [33]. Again, appropriate suits and cooling technology must be available for the employees working at very hot conditions. However, on the other hand, similarly employees working at very cold conditions must have checkups for hypothermia and skin damage along with appropriate suits in protecting themselves [32]. However, European Agency for Safety and Health at Work [34] suggests that many contextual and environmental factors are responsible for its influence over occupational health and safety management practice with respect to psychosocial risk, role of worker representation and consultations. These factors include; labor relations, regulatory character and style, economic and social characteristics, social protection systems and other national regulatory. Again, Gyekye [33], shed light on another aspect which was organizational climate as a factor that may cause occupational hazard. The type of organizational climate in a workplace environment has a significant influence on safety climate, which are also responsible for effecting the worker's safety behavior, and thereby lead to accident involvement. On an empirical note and reliability to the importance of environment in occupational safety and health, Parent-Thirion et al., [35], reviewed the findings of European Working Conditions Survey where, majority workers perceive that good workplace has a good health and safety environment. Furthermore, it was also found from the survey that over 20% of the respondents perceived their job with extensive risks on their health or safety. Henceforth, workplace environment management for occupational safety and health is very important to minimize potential occupational hazards.

Safety policies and programs

Occupational safety policies and programs are the strategies and regulations amended by institutes and the governing bodies so as to set parameters in the workplace to reduce risks and hazards. Occupational Safety and Health Administration [36] has laid down various basic guidelines for the safety and health practices in any occupation. The guidelines are divided into seven categories starting with leadership, participation, hazard identification, prevention, education, evaluation and communication. However, Employment Social Affairs and Inclusion, [37] a division of the European Union has laid down various guidelines for its member countries with respect to occupational safety and health. The guidelines and policies made are with respect to four main categories, safety and health protection from biological agents, musculoskeletal disorders, psychological disorders, and chemical agents. However, the institute also says that every country must also have their own safety and health related policies, and had mandated its member countries to form national occupational safety and health risk guidelines. Jain et al. [38] in their book presented various safety and health related policies occurring from the occupational hazards. According to the authors, many developing nations in the African continents have started to form various policies related to occupational safety and health. The policies are made with the help and guidelines of both European Union and the Occupational Safety and Health Administration. Hence the main strategies include assessment of hazards, leadership and trainings, safety issues, medical treatment and prevention techniques. The authorities also mandate foreign companies doing business in Africa to follow the strict code of occupational safety and health policies. Occupational Safety and Health Administration, [39] however, assessed the safety and health policies in Malta region of Africa. It was found that there is vast

difference in occupation hazard statistics before and after the adoption and implementation of policies. The policies include mandatory training and tests for the employees, education, and safety measurements in the industries, along with random assessment of the industries on safety issues by the authorities and treatment and prevention techniques of occupational hazards. Furthermore, another study by Moyo et al. [40], reviewed the occupational safety and health policies of South Africa, Zimbabwe, Zambia, and Botswana, whereby it was found that lack in human resource capital and expertise in occupational health and safety are causing the authorities to improperly maintain guidelines and policies. However, the authorities has laid down various methods policies and guidelines for the industries to lower the impact of occupational risks and hazards. Thus, it is implicative that the main objective of these programs and policies is to reduce the risks and hazards from workplace and increase the efficiency of workforce.

Job risks and pressure

The type of job one performs or is involved in may consist of various risks and hazards and pressure which may include; falling, slipping, injuries, and also severe health related issues [26,28]. Assessing job risks is one way of determining the potential risks that may appear or have occurred in the past. For example if a case industry is construction sites, the risks may be falling down, electrocution, severe injuries from cutting and breaking of bones and sometime may even lead to severe health injuries and death [41]. Hence assessing such risks and hazards, taking preventive measures by both the authorities and the employees is very important. Again, the more the job risks the more is the safety and health issues that may occur if the policies and programs are not appropriately maintained [42,43]. On the other hand, job pressure arises from workplace with excessive work, poor work timing and low working culture [44]. Job pressure may also occur from bullying, and bad organizational culture [28]. In many cases it was found that employees were not satisfied with the job culture due to too much pressure from work and poor job satisfaction. Thus leading to various mental and psychological breakdowns which are also risks and determine the level of occupational safety [28,44].

Job and safety attitudes

Safety attitude are the perspectives of an employee or an employer towards adoption of safety measures in preventing risks and hazards and maintaining good health of the company as well as the employees [45,46]. Attitudes to taking safety measures in dependent on the behavior of the employer or the authority, where they assess the risks and then decide for safety policies and programs. However, a positive safety attitude is considered to be good for both the organization and the employees. Safety attitude is also affected by the employee's acceptance and habit of taking preventive measures towards occupational risks [47]. Negative safety attitudes lead to low job satisfaction, conflicts and stress. Thus, occupational safety attitude is attributed by employee's respond positively or negatively towards a safety idea, plan, goal, prevention, procedure or situation [46,47].

Employee personality characteristics

Employee personality attributes to employee behavior, which in this case is the personality or behavior shown towards safety measures and policies in a workplace [48]. Employee personality may be both positive and negative towards adoption of safety measures in work place. Employees may show negative personality with reckless behavior, carelessness, rebellious and other characteristics which may even effect on other employees of the company [49]. Thus, an employee personality characteristic is very important in workplace safety, as it may lead to risks and health related issues. Negative personality also leads to chaos and conflicts amongst the employees which may also impact the workplace safety [28]. Henceforth personality characteristics also attributes to workplace safety.

Role of coaching in development of safe workplace climate

Safety climate is the apparent esteem put on well-being in an association at a specific point in time which are influenced by the opinions, attitudes, behaviors and other actions of the employees in an organization [50,51]. However, a safety climate of an organization is dependent on the characteristics and the safety practices of both the organization and the employees. Hence, coaching which includes training and mentoring employees in implementation of safety issues is very important [36]. Coaching includes passing knowledge and spreading awareness on the risk that may arise from the operation in the organization. Furthermore, coaching also includes passing of knowledge from the higher level of administration to different level of employees on the potential risks and hazards from the operation in the organization [37]. Coaching of specific employees at specific jobs occur when there are multiple functions in a simple organization and the risks arising are different from every department [52]. For instance, in a power plant, employees working in the main grid are vulnerable to electrocutions while those in heating chambers are vulnerable to hyperthermia and other bodily issues [53,54]. Thus, coaching may also include specialized trainings and mentoring. Coaching also provides knowledge with safety measures and emergency techniques, and techniques to help other colleagues in the process [15]. Apart from these coaching also helps senior level employees to become good leaders in managing occupational safety and health and put pressure amongst the employees to follow the protocols accordingly [36,55]. Coaching has helped many organizations to reduce the risks and hazards arising from the occupations and also improved the organizational performance. Coaching has also lowered the additional expenditures to the accidents occurring from occupational risks, and has also helped the financial profits of the companies [31,37].

Research methodology

In the current study, a qualitative research was adopted where interpretivist research paradigm was chosen. In the process, inductive and qualitative approach was chosen for the adopted paradigm and a descriptive research design was approached where the target sample was administered with interviews to address the objectives of the study. A total of 20 middle managers were selected from 4 power stations in the Malta region in conducting the study. The data collected from the interview transcripts were thematically presented.

Results and discussions

Demographic profile

From the first section of the interview questionnaire, the demographic profile of the respondents are presented. All the respondents was coded in accordance to the ethical values. Majority of the respondents are male with a count of 17 and female senior officials 3. Again, the average age of the respondents was 34 years with an

average experience of 9 years where only one respondent with 22 years of experience Table 1.

Respondent Code	Gender	Age	Years of experience	Educational Qualification
R1	M	42	12	Post graduate
R2	M	43	11	Post graduate
R3	F	32	10	Post graduate
R4	M	38	10	Graduate
R5	M	37	10	Graduate
R6	M	36	10	Graduate
R7	M	42	11	Graduate
R8	F	35	5	Post graduate
R9	M	41	10	Doctorate
R10	M	31	5	Post graduate
R11	M	34	6	Post graduate
R12	M	52	22	Graduate
R13	M	44	12	Post graduate
R14	M	37	7	Graduate
R15	M	28	4	Post graduate
R16	F	34	4	Post graduate
R17	M	29	6	Post graduate
R18	M	38	7	Post graduate
R19	M	40	12	Doctorate
R20	M	32	5	Graduate

Table 1: Frequency description of the respondents.

Knowledge on occupational safety and health

In the initial part the respondents were asked for their experience in health and safety department, where it was found that none of the respondents had experience on establishing a culture of occupational safety and health within the power plant.

Subsequently, they were asked for their knowledge on occupational safety and health, where only few respondents did not give appropriate response. However, amongst them, respondent 3 gave the best response, "Occupational safety and health is a field in any organization which is engaged with safety, wellness and healthy conditions and environment and taking the necessary actions to avoid risks". Moreover, respondents, 12 and 19 also gave very similar answers to the 3rd respondent, saying that occupational safety and health are the most important part of an organization where the employee's risk from various factors are prevented and precautions taken. Thus, it can be implicated that majority of the respondents had at least basic knowledge on occupational safety and health. This is implicative from the recent studies by [40,56], where they studied on the situation of OSH in African countries. Both the researchers mentioned various challenges faced, but however, it was also concluded that the OSH was prevalent in the case areas of Africa after appropriate coaching and training.

In the next question, the respondents were asked about the policies and programs constructed for maintaining the OSH in the case organization. All the respondents confirmed that there was stringent and strict rules for safety and health of the employees from the potential risks. However, respondent 5 and 11 shed some insight on the same saying that, although there were stringent policies and periodic programs were organized the low level employees were more comfortable working without taking safety precaution. In other words the low level employees showed bad attitude or behavior towards accepting the safety laws. This is again implicative from the findings of Ndejjo et al. [57] and Okafoagu et al. [58], where the researchers implicated that more than 1000 deaths were reported in Africa every month from occupational accidents due to not taking safety precautions or not having the knowledge of the same. Again similar reports were also made by Occupational Safety and Health Administration [39], where approx. 10% of the deaths in Africa was contributed by unsafety measures and occupational accidents. Furthermore it was also found from the respondents that the case organization organizes quarterly tests and training forums for the middle and junior level employees for OSH and mock drills for the low level employees. The company's code of conduct also strictly defines the OSH policies and that it was mandate for the employees to adopt the same.

Knowledge on occupational hazards and risks

In the next part, the respondents were asked to define occupational hazards and risks. Respondent 19 gave the best response saying that, "Occupational hazards and risks are the adverse effects raising from workplace accidents, or malpractices in an organization which may lead to minor or severe health issues and may even lead to death sometimes". Again, some other respondents also mention medical problems, respiratory problems, electrocution, falling, tripping and death as other factors in the organizational risks and hazards.

In the next question, the respondents were asked on the implementation methods and type of risks that had been experienced in the past. For implementation methods it was found that the organization maintains e-book were the labors daily undergo scrutiny for complete safety tools and preventive equipment, sudden mock drills, bright lighting systems and backup generators for night shift workers, safety manuals and equipment at all stations, medical booths and centers for emergency and lastly training sessions for all employees by their supervisors. Again the respondents also mentioned that high level employees also underwent coaching for better leadership and safety management to reduce risks and hazards. This is implicative from the reports of Occupational Safety and Health Administration [39] where they depicted the situation of occupational hazards and safety in Malta region of Africa including OSH guidelines of Occupational Safety and Health Administration [36] which are followed by most of the companies in Africa.

However, with respect to occupational hazardous incidents, the respondents said that normal or minor injuries were prevalent even before implementation or coaching of OSH, but major accidents and risks like deaths have reduced to a great extent. Only respondents 1, 7 and 19, gave empirical relevance that the risks had decreased by almost 30-40%, whereby in past years many had been electrocuted and underwent severe health conditions. However, none of the respondents specifically mentioned any disease but did give insight on respiratory

and internal health issues in some of the employees. "No particular risk or hazard were reported in the high and middle level employees expect for a few minor slipping, tripping or bleeding" according to respondent 11.

Challenges and opportunities of OSH implementation

In case of challenges and opportunities, the following table was used to depict. From the table below it was evident that the most common perceived opportunity in OSH is support from OSHA and European institute and the national government, education system and pressure from international bodies. On the other hand the most popular challenge was financial drawbacks and lack or resources Table 2. This is implicative of the findings from [7,40,59,60].

Respondent Code	Opportunities	Challenges
R1	Help from foreign institutes, OSHA, European Union; advanced education system; awareness amongst the youth; Support from the government; national and international policies	Financial; safety attitudes and personality; difficulty in implementation; unacceptance
R2	OSHA and EU; support from government; spreading awareness; national policies	Financial; unacceptance and attitudes; lack of resources; lack of financial support
R3	Education system; awareness; mentoring; knowledge gap; international pressure and policies; support from local and international government; social media and virtual modes of teaching techniques; leadership	Lack of financial support and lack of implementation strategies
R4	Education; support of government; policies of the company; mode of training	Implementation strategies; finances; knowledge gap
R5	Education; support of government; mode of training; OSHA	Finances
R6	International pressure and policies; education; OSHA and EU	Implementation and finances
R7	Foreign institutes, OSHA, European Union	Resources, finances and implementation
R8	Awareness; leadership; mentoring and training	Finances and lack of knowledge
R9	Social media and virtual modes of teaching techniques; leadership; foreign institutes, OSHA, European Union	Lack of knowledge, trainings, finances and resources
R10	Support from the government; national and international policies	Finances
R11	International policies	Finances; appropriate implementation; unacceptance; misinterpretations; lack of stringency; lack of resources
R12	Mentoring and training; leadership; support from government	Finances and unacceptance
R13	Support from government and international bodies	Finances and resources
R14	Support from government and international bodies	Finances
R15	Education and youth	Finances and attitudes
R16	International and national support	Finances and unacceptance
R17	OSHA and EU	Finances; lack of resources; lack of knowledge and Implementation startegies
R18	Education; awareness; OSHA and EU	Finances, implementation strategies
R19	Support from government and international bodies	Finances
R20	Knowledge gap; leadership; international pressure and policies; support from local and international	Finances; safety attitudes; lack of implementation strategies

Table 2: Opportunities and challenges of OSH implementation at Eskom Matla.

Effect of coaching in OSH

In the last part of the interview, the effect of coaching made on OSH in the case organization was assessed. Hence the respondents were asked on their perspectives of the impact made on the case organization after the implementation of occupational safety and health policies and programs. The most common response found was the health conditions and living conditions improved, the management system improved, increase in financial status, lowered accidents and risks, higher job satisfaction, increased organizational performance and improved knowledge of the employees. Furthermore, respondents 3, 9, 11 and 17 also recommended leadership and management of employees also changed which had improved the workplace

performance. With respect to the relevance of the responses, Moyo et al. [40] and Puplampu et al. [7] reported with similar findings. Again, European Agency for Safety and Health at Work [34] and World Health Organization [1] too supported the current findings where, implementation of OSH lowered occupational hazards and risks.

Conclusion

Workplace safety and health is an important component for the employees of an organization which attributes to reducing occupational risk and hazards. Workplace safe and health is not only constrained to reducing risks but also implementing methods and techniques of safety from possible hazards arising from one's occupation. From the literatures it was evident that coaching and training for occupational safety and health is quite different. In training and organization organizes mock drills, educates it employees and implements safety measures. However, coaching is more of acknowledging and passing information to the employees on the importance of workplace safety measures. In this study the main objective was to find the effect and importance of coaching on occupational safety and risks in a workplace. In order to achieve this, a qualitative study was conducted amongst 20 senior employees of power plant in Malta. From data collection and analysis it was implicated that almost all the employees had good knowledge on the occupational health and safety. Then the employees also said that their organization followed strict policies for occupational safety activities. The coaching included leadership techniques, safety management, importance of safety, emergency protocols and mock drills. Thus it implicated that the organization has strictly followed the guidelines provided by OSHA on occupational safety and health. Furthermore, according to the respondents the rate if accidents and mishaps had also decreased since the implementation of the occupational safety and health policies. This finding is again evident from the study made by Moyo et al. [40], Ndejjo et al. [50] and Siziya et al. [60], where the researchers too indicated reduction in occupational hazards and accidents after the implementation of the OSH policies. Again, from the challenges and opportunities of OSH implementation, the most important challenge was financial and lack of resources. Apart from this, lack of safety attitudes and implementation techniques also provided to challenges. On the contrary, support from international institutes such as OSHA and EU, education and trainings were found to be the most prevalent opportunities in implementation of OSH. This indicates that the awareness of OSH is increasing amongst the youth and the employees from various coaching and training methods. Thus, even with financial and resource related challenges the organization has been trying to take up the opportunities in implementing OSH and has been successful to some extent. Debnath et al. [41], Jerie et al. [59] Noweir et al. [53] and Siziya et al. [60] concludes with similar findings that in industries where the implementation of OSH is juvenile they face financial and implementation technique related challenges and achieving positive attitudes takes time. However, on the perspectives of the employees, coaching on OSH had helped the organization in increasing the standards, lowered the accidents and risks, lowered the extensive financial loss and also improved employee performance. Thus, it can be concluded that coaching on occupational safety and health has improved the performance of the organization on one hand while on the other hand the safety climate of the employees had increased. This has not only helped in reducing risks and hazards but also helped improve the mental and physical health of the employees working in harsh conditions. Thus, coaching on OSH has a positive impact on the occupational risks and health conditions of the employees and also passes on knowledge from one set of employees to another.

However, there are certain a limitation in the current study, one of which is only qualitative study was conducted on senior employees. Another limitation was lack of updated literature and secondary information on the role coaching in OSH. Finally, the last limitation was that only one case organization was focused on in the current study.

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