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Occupational Health and Safety Challenges Faced National Disaster Management Personnel

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ABSTRACT

This study aims to look into how health and safety concerns affect the job performance of National Disaster Management Organization (NADMO) personnel in the Bono Region. Hazards, poor training, and psychological well-being are significant factors determining the efficiency of disaster response activities in the study. The study adopts a descriptive (case study) research design, emphasizing the importance of a comprehensive plan to solve these difficulties. The target population consists of 127 people from the municipal offices of Sunyani East, Wenchi, and Berekum. Purposive and simple random sampling selects 75 respondents from various departments and units. Self-administered questionnaires containing open-ended and closed-ended items are used to collect data. The data suggest that health concerns may have an impact on coworkers' job performance among those who have had accidents. However, statistical significance is weak. Positive management relationships following fatal accidents have a minor correlation with better NADMO results, underlining the need for additional factors in the model. The relevance value supports the suggestion of organizing periodic health and safety lectures as an intervention to alleviate difficulties. Among the recommendations prioritizing comprehensive training, guaranteeing access to Personal PSafety equipment, addressing psychological well-being, and increasing organizational support.

INTRODUCTION

Organizations place a premium on how individuals may perform most effectively to achieve high productivity through tactics such as strong employee health and, more crucially, their safety at work and in the organizational setting in which they carry out that work (Okuga, Mayega, and Bazeyo, 2012). Employees' primary goal, according to Sorensen *et al.*, (2021), is to create a greater level of productivity, with a favorable working environment assisting the goal by providing access to a healthy mind. On the other hand, hazards to employees health and safety at work may make them less productive in their tasks. The work processes of informal small-scale workers pose a risk of physical injuries such as cuts and burns, as well as hearing impairment caused by loud noises, eye injuries due to excessive UV-radiation, and respiratory dysfunctions caused by inhaling noxious metal fumes (Sabitu, Iiiyasu, and Dauda, 2009). In addition to ergonomic dangers such as sprains, muscular discomfort, dislocations, and fractures, there is a risk of psychological hazards such as work-related stress and weariness (Mbulingwe, 2014). The working environment and conditions are the key drivers of the dangers and injuries to which informal small-scale workers are exposed in the instances above.

The ability of National Disaster Management Organization (NADMO) professionals to function effectively on the job is critical in guaranteeing the safety and well-being of communities during catastrophes. However, there is a lack of thorough understanding of the health and safety factors that may affect the job performance of NADMO personnel in the Bono Region's designated

districts. It is uncertain how much NADMO personnel in the Bono Region's designated districts have received the necessary health and safety training to properly respond to disasters (Mensah-Bonsu, 2021). Personnel may lack the essential knowledge and abilities to handle hazardous circumstances without sufficient training, raising the risk to their well-being and restricting their capacity to execute their work efficiently. The availability and accessibility of PPE, including as helmets, gloves, and masks, for NADMO staff in the Bono Region's designated areas, has not been properly investigated (Shan, 2021). Inadequate access to PPE can expose individuals to a variety of hazards, resulting in accidents or health consequences that can impair job performance and hinder their capacity to respond to disasters effectively. The psychological well-being of NADMO personnel in the Bono Region's selected districts, including their levels of stress, burnout, and job satisfaction, has not been well studied (Chen, 2021). According to the social exchange hypothesis, poor psychological well-being can have a detrimental impact on job performance by decreasing motivation, decision-making, and overall effectiveness in disaster response scenarios. The extent to which NADMO as an organization offers support, resources, and policies to enhance health and safety among its employees in the Bono Region's designated districts is unknown (Robert & John, 2014). Organizational support is an important aspect in the social exchange theory, and a lack of support can contribute to poor job performance, low morale, and high turnover rates among NADMO employees. This study seeks to evaluate the health and safety aspects

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that impact the effective job performance of NADMO personnel in the selected districts of the Bono Region by addressing these issues and taking into account the social exchange theory.

METHODOLOGY

A research design, according to Heppner *et al.* (2015), is a plan for an investigation of conditions and measures for performing and controlling a research project. As a result, in order to reach a consensus on the research issue, the study adopts a descriptive (case study) research design. It is quite beneficial in this study because it tries to identify features, describe, explain, and validate findings. The glue that keeps the research endeavor together is research design (Newman, 2014). A research design is thus a systematic plan devised by the researcher to answer questions in a legitimate, objective, accurate, and cost-effective manner. The case study research design was employed for this investigation. According to Yin (2014), a case study is an empirical investigation that explores. As demonstrated in table 1 below, the study’s target demographic includes the full 127-person personnel of NADMO’s Sunyani East Municipal Office, Wenchi Municipal Office, and Berekum Municipal Office in the Bono Region. Administration, Operations, Zonal Coordinators, and Stores are some of the demographic categories. The hospital has surgical, maternity, and medical wards.

Table 1: Total Staffs at The Study Area

| Office | Total Number Of Staff |
|------------------------|-----------------------|
| Sunyani East Municipal | 45 |
| Wenchi Municipal | 43 |
| Berekum Municipal | 39 |
| Total | 127 |

Based on the Krejcie and Morgan method for establishing sample size, 75 staff/employees from Sunyani east, Sunyani west, and Berekum Municipal were chosen to participate in the study. Purposive and basic random sampling approaches were used. In terms of purposive sampling, the management of these offices was interviewed in order to obtain first hand information on safety issues. This division is required since the nature of the work performed and the levels of risk exposure in these departments and units differed. A simple random sampling procedure was utilized to choose 25 respondents from each of the Offices with a sample size of 75. This method selects a sample of the population so that each member of the population has an equal chance of being chosen. The main idea behind this sampling approach is that the elements or individuals in the population are deemed to be homogeneous. The questionnaire served as the sole data gathering tool in the study. The questionnaire was in the form of questions that respondents were asked to answer in order to collect data on the topic under research. The questions

were completed by the participants themselves. The questionnaire items were divided into two categories: open ended and closed ended. The close ended items featured a selection of possible answers from which respondents were asked to select the one that best expressed their point of view. The open-ended items, on the other hand, were not followed by a selection. The responses of the respondents were captured in their entirety as a result of this. The respondents responded to the questions in the manner in which they understood them. It should be noted that the questionnaire gave respondents enough time to think about the topics and submit correct replies.

RESULTS AND DISCUSSION

Socio- Demographic Characteristics of Respondents

As illustrated in table 2 below, a total of seventy-five (75) NADMO employees were chosen for the survey, however only seventy-two (72) were available for the study, and three (3) did not respond to the questionnaire. The response rate is 96%, which is considered satisfactory and represents a reasonable representation of the research population. The majority of those who responded were men, with 42% being women. More than half of those polled (56%) were between the ages of 30 and 39, while 22% were between the ages of 20 and 29. The majority

Table 2: Demographic Characteristics

| Item | Number | Percentage % |
|-----------------------------------|--------|--------------|
| Gender | | |
| Male | 30 | 42 |
| Female | 42 | 58 |
| Age | | |
| < 20years | 1 | 01 |
| 20-29years | 16 | 22 |
| 30-39years | 40 | 56 |
| 40-49years | 9 | 13 |
| >50years | 6 | 08 |
| Marital status | | |
| Married | 26 | 36 |
| Divorced | 5 | 07 |
| Widowed | 3 | 04 |
| Never married | 36 | 50 |
| Separated | 2 | 03 |
| Highest level of Education | | |
| SSSCE | 1 | 01 |
| Certificate | 10 | 14 |
| Diploma | 37 | 54 |
| Degree | 24 | 33 |
| Number of years worked | | |
| <1year | 15 | 21 |
| 1-10years | 53 | 74 |
| >11years | 4 | 06 |

Source: Field survey, 2023

of responders (50%) were not married, while 36% were. More than half of the respondents (51%) had a diploma as their highest educational level, with 33.3% having a university degree. The majority of responders (74%) have worked with the NADMO.

Is indicated in table 2, that 48% of responders were zonal officers, 19.1% were administrative workers, 18% were operational staff, and 15% were store employees. Again, 22% of respondents held the level of Disaster Control Officer, while 18% held the rank of Senior Disaster Control Officer, 12% held the rank of Assistant Disaster Control Officer IV, 9% held the rank of Assistant Senior Disaster Control Officer, and 7% held the rank of Principal Disaster Control Officer.

Employees Health Safety Interventions

The table 3 below, contains statistics data on numerous aspects such as accidents, employee involvement, health issues, safety, and productivity. The mean is

15.4, meaning that accidents occur at a rate of 15.4 on average. The standard deviation of 10.49 indicates that the frequency of incidents varies significantly. The mean is 14.8, implying that accidents occur at a rate of 14.8 per employee. The smaller standard deviation of 5.47 implies that employee involvement in accidents varies less than the overall kind of accidents. A coworker’s contribution at work is reduced due to a health issue: The mean is 14.4, showing that health difficulties have an average impact on coworker participation. The standard deviation of 7.99 indicates a pretty wide range in the extent to which health problems affect co-worker contributions. The mean is 14.4, indicating that people believe that safety and good health improve performance. The rather high standard deviation of 10.76 indicates that individual perspectives about the relationship between safety, good health, and performance vary significantly. The mean is 14.4, indicating that there is a belief that taking breaks at work is necessary on occasion.

Table 3: Frequency Distribution Health and Safety Intervention

| Variables | Mean | Standard Deviation | Rank |
|--|------|--------------------|------|
| Type of Accident | 15.4 | 10.49 | 1 |
| Employees are involved in an accident | 14.8 | 5.47 | 2 |
| Health problem lowers contribution of co-worker at work | 14.4 | 7.99 | 3 |
| Do you think safety and good health improves your performance | 14.4 | 10.76 | 4 |
| Sometimes you should pull back at work | 14.4 | 6.43 | 5 |
| Safety policy is a strong factor capable of motivating employees | 14.4 | 6.06 | 6 |
| Do you see yourself and coworkers as productive | 14.4 | 4.7 | 7 |
| Do you see yourself and coworkers as productive | 14 | 8.05 | 8 |
| More can be done to improve performance | 14.2 | 9.19 | 9 |

Source: Field survey, 2023

Resources for Health and Safety Interventions

The table 4 below, contains data on a variety of variables relating to workplace welfare, management relationships, accident compensation, and health and safety precautions. “Adequate number of toilets, veronica buckets, cleaners, and towels, and are they well maintained,” according to the table, has the greatest mean value of 24, with a

standard deviation of 17.21. This shows that respondents were generally satisfied with the availability and upkeep of these facilities. The View on management relations in the event of an employee’s tragic accident has a mean of 24 and a rather high standard deviation of 16.87. This suggests that respondents’ perspectives on management’s response to fatal accidents differ significantly. Both

Table 4: Resources Available for Health Safety Intervention

| Variables | Mean | Standard Deviation | Rank |
|--|-------|--------------------|-------|
| Welfare facilities are reasonably available | 24 | 9.27 | 1 |
| View on management relation in situation of fatal accident of an employee | 24 | 16.87 | 2 |
| Outcomes achieved by NADMO | 24 | 8.05 | 3 |
| View on management relation in fatal accident compensation situation | 20.67 | 4.92 | 4 |
| Availability of fire extinguishers to workplace and field | 18 | 13,93 | 5 |
| Resources allocated health and safety interventions | 18 | 11.8 | 6 |
| Adequate number of toilets, veronica buckets, cleaners and towels and are they being well maintained | 18 | 17.21 | 7 |
| Organize periodic health and safety talk/ discussion session | | 18 | 14.76 |
| Number of health and safety interventions conducted by NAMO | 24 | 8.05 | 9 |
| GRAND MEAN | 11.54 | 9.49 | |

NADMO Organize seminar on Health and Safety Issues and How accident victims get reimbursed have a mean value of 24, but their standard deviations differ. The former has a standard deviation of 8.05, showing that respondents' opinions are largely consistent, whereas the later has a greater standard deviation of 8.05, indicating more diverse perspectives on accident compensation. The availability of fire extinguishers in the workplace and on the field, as well as the availability of first aid

facilities in the workplace and on the field, both have a mean value of 18. The standard deviations for these variables are 13.93 and 11.8, respectively, demonstrating some variation in the availability of fire extinguishers and first aid facilities across businesses. NADMO organizes periodic health and safety talks/discussion sessions" has a literal meaning.

According to table 5, employees confront substantial obstacles when it comes to health and safety services

Table 5: Frequency Distribution of Responses of Respondents on Challenges of Occupational Health and Safety

| Challenges | Mean | Standard Deviation | Rank |
|--|------|--------------------|------|
| Challenges relating to your health and safety services at work | 18 | 7.58 | 1 |
| There visible problems facing employee's health and safety | 14.4 | 3.06 | 2 |
| Government provides health and safety services | 14 | 3.22 | 3 |
| Are the health and safety rules difficult to comply with | 5 | 2.45 | 4 |

at work. They see evident flaws in this area and find it difficult to follow health and safety regulations. While employees' perceptions of obvious problems and the difficulty of following rules are consistent, there is a considerable difference in their perceptions of overall challenges and the government's supply of health and safety services. These findings emphasize the necessity of addressing and improving workplace health and safety services to promote employee well-being and satisfaction. Table 6 above shows, the correlation analysis indicates a

very weak positive correlation ($r = 0.082$) between the frequency of accidents and the perceived impact of health problems on co-worker contributions among NADMO personnel. This suggests a subtle tendency for individuals who have experienced accidents to perceive a slightly higher impact of health problems on their co-workers' work output. However, this correlation is not statistically significant ($p = 0.495$), suggesting caution in drawing definitive conclusions about the relationship between these variables. the observed relationship could be due

Table 6: Frequency of Accidents and the Perceived Impact of Health Problems on Co-Worker Contributions

| | | Involve In Any Accident Before | Health Problem Lowered the Work Output of a Co Worker |
|---|---------------------|--------------------------------|---|
| Involve In Any Accident Before | Pearson Correlation | 1 | .082 |
| | Sig. (2-tailed) | .72 | .495 |
| | N | | 72 |
| Health Problem Lowered the Work Output of a Co Worker | Pearson Correlation | .082 | |
| | Sig. (2-tailed) | .495 | 1 |
| | N | 72 | 72 |

Table 7: Management Relations During Fatal Accidents Contribute to The Overall Outcomes Achieved

| Model | R | R square | Adjusted R Square | Std Error of the Estimates |
|-------|--------------------|----------|-------------------|----------------------------|
| 1 | 0.196 ^a | 0.38 | 0.025 | 0.88391 |

a. Predictors: (Constant) View on Management Relation on Fatal Accident

to random chance, and there is insufficient evidence to assert a genuine correlation.

Table 7 above shows that, as attitudes toward management relations following fatal accidents change, NADMO's outcomes improve slightly. The addition of this predictor did not significantly improve the model's overall fit, indicating potential limitations in explanatory power. The positive correlation demonstrates that positive attitudes about management interactions during fatal accidents are connected with better outcomes, but the model's low explanatory power suggests that more variables are needed to improve its prediction accuracy.

The table 8 summarizes the findings of a paired differences analysis, which looked especially at the influence of holding periodic health and safety meetings on the visible issues affecting employees' health and safety. This negative mean shows that the execution of these ideas may result in a potential improvement in addressing health and safety issues. The significant value means that the observed reduction in noticeable problems affecting employees' health and safety when frequent health and safety talks are unlikely to be attributed to random chance, bolstering the findings' validity. This means that resolving and reducing health and safety issues confronting employees, as well as

Table 8: Priority Areas for Improvement on Challenges Relating to Health and Safety of Employees

| | Paired Differences | | | | | t | df | Sig (2-tailed) |
|---|--------------------|---------------|----------------|---|---------|--------|----|-------------------|
| | Mean | Std deviation | Std Error Mean | 95% confidence interval of the difference | | | | |
| | | | | Lower | Upper | | | |
| Noticeable problems facing employees Health and Safety - Organize periodic health and safety talk | -0.45833 | 0.90285 | 0.10640 | -0.67049 | -2.4617 | -4.308 | 71 | .000 |

organizing periodic health and safety talk interventions, have a beneficial impact on addressing and mitigating health and safety challenges within the firm.

CONCLUSION

While there is a small trend for those in accidents to perceive a little greater influence of health problems on their coworkers’ work output, the lack of statistical significance ($p = 0.495$) cautions against drawing firm conclusions. In terms of management interactions after catastrophic accidents, the findings indicate that as positive attitudes toward these relationships grow, so does NADMO’s performance. However, the addition of this predictor did not significantly improve overall model fit, indicating potential explanatory power constraints. Positive attitudes about management interactions after fatal accidents are related with better outcomes, but the model’s poor explanatory power highlights the need for additional factors to increase predictive accuracy. The application of these conversations has the potential to enhance addressing health and safety issues. The significance value reinforces the findings’ validity, implying that initiatives such as scheduling periodic health and safety meetings have a favorable influence on reducing difficulties inside the business.

To improve the occupational health and safety of NADMO personnel in the Bono Region, it is proposed that comprehensive and regular training on disaster response protocols and the effective use of personal protective equipment be prioritized. It is critical to ensure the consistent availability and accessibility of high-quality protective equipment. Addressing personnel psychological well-being through stress management programs and counseling services is critical to maintaining job satisfaction and effectiveness. Furthermore, assessing and increasing organizational support, particularly regarding resources and policies promoting health and safety, should be a focus. Maintaining frequent health and safety meetings and rebuilding management relations in the aftermath of tragic incidents are critical components. For a more detailed view, future study should incorporate additional predicting variables such as leadership styles and organizational culture. Establishing a continual assessment system and changing techniques based on feedback and lessons gained will help NADMO personnel work in a safer and more effective environment.

On behalf of all authors, the corresponding author states that there is no conflict of interest.

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