

# Effects of Management Commitment and Workers' Participation on Occupational Safety and Health Performance in Public Health Facilities

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**Abstract:** The Kenya Occupational Safety and Health Act (OSHA) mandates employers to maintain the highest standards of occupational safety and health in their workplaces. It further provides the rights and roles of workers in occupational safety and health. However, occupational incidents persist in public health facilities. The researcher aimed to determine whether management commitment and employee participation hindered the implementation of OSHA in public dispensaries and health centres, using Machakos County. The study was a cross-sectional descriptive survey involving 107 health workers in public dispensaries and health centres in Machakos County. The assessment involved data collection from respondents using *Likert*-scaled questionnaires, physical observations such as documents review in the selected facilities. The *Likert*-scaled questions were in form of positive statements. Pearson's correlation coefficients (*r*) were 0.7222 for management commitment and 0.7053 for workers' participation, both showing high correlations. Linear regression analysis indicated reasonably strong negative relationships between each of the independent variables and hindrance in the implementation of OSHA. The prediction factors for management commitment and workers' participation were -0.6600,  $p < 0.05$  and -0.6300,  $p < 0.05$  respectively. The null hypotheses failed in the *t*-test thus favouring the alternative hypotheses. The researchers concluded that implementation of OSHA in the selected facilities was hindered by lack management commitment and workers' participation. The health management, workers and the Directorate of Safety and Health Services should act as mandated to improve in implementation of OSHA in the health facilities.

**Keywords:** Management Commitment, Workers' Participation, Safety and Health Performance, Public Health Facilities, Kenya

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## 1. Introduction

Occupational safety and health (OSH) is a study domain which focuses on the avoidance of injuries and ill-health at work through the provision of suitable conditions of employment to attain and maintain the highest level of health of all workers [1]. It is an extensive field that embraces several branches of science and is adopted by a range of professionals who uphold the health of workers [2]. Protecting workers is a deliberate mandate of the ILO to safeguard safety and health of the workers against disregard,

and to ensure that occupational illness or injury does not cause loss of employment [3].

The global population of health workers was approximately 43 million in the year 2013 and is projected to be about 67.3 million by the year [4]. These employees need protection from a variety of hazards [5] which they quite often face at work [6]. Healthcare workers are at risk of exposure to harmful physical, chemical and biological agents as well as violence, lethargy, and musculoskeletal strains [7].

Hazardous working conditions contribute considerably to morbidity and mortality among health workers arising from

occupational illness and injury [8]. Ill-health and fatality result in loss of skilled health personnel [9] and cause immense human suffering and financial burden [7] to families, communities, organizations, and governments [3].

Healthcare settings post more lost-work-day cases each year, and the probability of employees in healthcare suffering injury is higher than in other sectors [9]. The incidence of work-related illnesses and injuries in hospitals of the United States (US) was 68 cases per 1000 regular employees in the year 2011 [9]. In the US, Healthcare-Associated Infections (HAIs) exceeding 1.7 million, and 99,000 related deaths occur annually [10]. HAIs are estimated to account for approximately 10% of hospital admissions and up to 31% in countries with constrained resources [11].

Work environments for health workers globally are among the most hazardous [12]. While implementation of OSH policy in a workplace is primary for the reduction of occupational safety and health problems [13], this phenomenon is less common in healthcare settings than in other sectors [14]. Relevant legislations and guidelines are set up, but a majority of institutions do not apply them adequately [8]. It is estimated that 30% of new cases of Hepatitis B Virus and 2.5 % of annual HIV infections among healthcare workers in Sub-Saharan Africa are as a result of sharps injuries [15].

Management commitment to occupational safety and health is not optional for the employer [16]. The management is responsible for implementing actions that promote health, and act as a model which as a result influences corporate culture and actions of employees [7]. Attitudes and conduct of people in the organization are vital to the success of a safety and health system [17]. There must be an observable continuous commitment to implementing safety and health measures by establishing goals and objectives and providing adequate resources and support [18]. Involvement of workers in OSH management within an organization is indispensable [19]. The employees have a basic right and legal duty to take an active part in occupational safety and health actions [6].

In Kenya, the Occupational Safety and Health Act [20] requires organizations to ensure and maintain the highest safety and health standards in their work environments. Health managers should involve workers as stakeholders in decision-making processes as regards their safety and health at work [15]. According to the Act [20], every worker has the duty of ensuring safety and health of own self as well as that of other people who are or may be affected by his or her conduct at work. The employee is legally obligated to follow the laid down organizational safety and health procedures. They should also report any hazardous condition or situation in their workplace and avoid the dangerous work area until the condition is abated [20]. However, occupational incidents persist in the health sector and the risk of occupational exposures among the healthcare workers is high [21-22]. This study aimed to determine whether management commitment and employee participation hindered the implementation of OSHA in the public health facilities.

## 2. Materials and Methods

### 2.1. Research Design

This study was a cross-sectional descriptive survey involving the public dispensaries and health centers, and health workers in the facilities. Questionnaires with *Likert*-scaled questions in the form of positive statements were used to obtain scored responses from the health workers. The participants were asked to indicate their level of agreement with each of the listed statements using the scale of (5-Strongly agree; 4-Agree; 3-Neutral; 2-Disagree; 1-Strongly disagree). For each of the statements, the participants were requested to indicate the extent to which in their opinion each of the practices affected implementation of occupational safety and health Act in their facility, using the scale of (1-Very small extent, 2-Small extent, 3-Moderate extent, 4-Large Extent, 5-Very large extent). Observations were made in the health facilities and recorded. To assess the validity of the questionnaires, *Cronbach's alpha* was computed from the results of a pilot study conducted. Observations and document reviews were done in the facilities and recorded in checklists. All the data collected were summarized, presented in tables and analyzed.

### 2.2. Study Area and Population

The study was conducted in Machakos County which is situated to the South of Eastern region of the Republic of Kenya and East of Nairobi. The County had 1649 targeted healthcare workers (nurses, clinical officers, and laboratory staff only) at the time of this research. Approximately 800 of these health workers were working in the dispensaries and health centers [23].

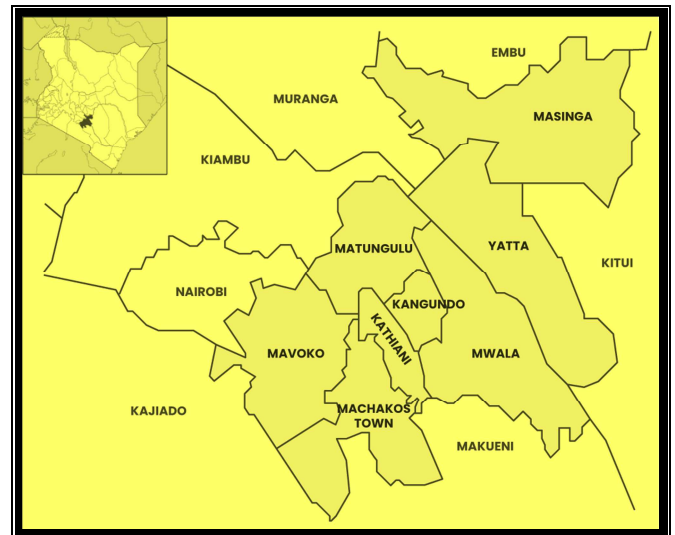


Figure 1. Map of Machakos County [24].

### 2.3. Sampling Methods

Stratified sampling was used to distribute the health workers proportionately according to their category and number in the county. Using the health facility staff distribution in the study [23] stratified and simple random

sampling were employed to determine the health facilities to include. Stratifying the health facilities was necessary to ensure that the allocated proportion of the sample per category of health workers was achieved. Consecutive sampling was adopted to select the health workers to interview in the sampled health facility.

Machakos County had the following distribution of health workers per category (Figure 2).

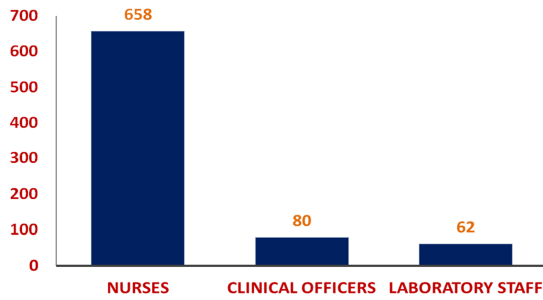


Figure 2. Target Health Workers in Dispensaries & Health Centers.

2.4. Sample Size Determination

To calculate the sample size for the health workers, the formula below was applied [25]:

$$n = Nc^2/c^2 + (N-1) e^2$$

Where:

- n = Sample size
- N = Population
- c = Coefficient of Variation (CV)
- e = Standard error

According to Naissuma, a coefficient of variation of between 21% < e < 30 % is acceptable in most surveys. The researchers used the highest coefficient of variation to ensure that sample size was as big and representative as possible. The lowest limit of standard error was used to minimize the degree of error. A coefficient variation of 30% (0.3) and a standard error of 3% (0.03), therefore, applied in this study as below:

$$n = Nc^2/c^2 + (N-1) e^2$$

$$n = 800 \times 0.3^2 / [0.3^2 + (800-1)0.03^2]$$

$$n = 72 / 0.8091$$

$$n = 89.$$

The researchers increased the sample size by 20% to 107 so as to ensure that those eligible respondents in the sampled facilities who could be off-duty and those unwilling to participate would not affect the representativeness of the sample. This was more than 13% of the study population. 10% of the study population is sufficient sample size in a

survey [26]. The sample was allocated proportionately to respondents' categories based on their population in dispensaries and health centres within the study area:

$$\text{Number of respondents desired per category } (n_1) = Xn / N$$

Where: n = Desired sample size in the study area

X = Number of the healthcare workers in each category.

N = Total target population in the study area.

Therefore, n<sub>1</sub> for each category of the health workers were as shown in Figure 3:

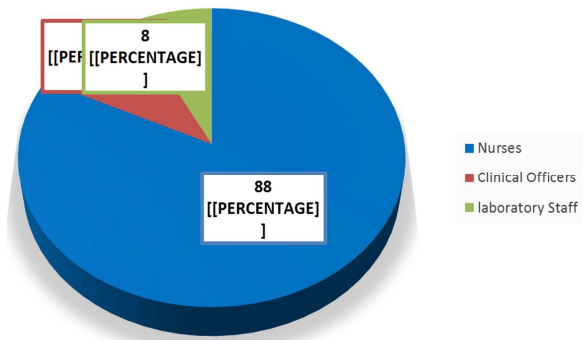


Figure 3. Sample Size Distribution per Category.

3. Results and Discussion

3.1. Response Rate

Ninety-three (93) out of the sampled one hundred and seven (107) health workers returned completed questionnaires. Two of the questionnaires were rejected due to response errors while one was rejected due to partial non-response. The number of plausible responses was, therefore, 90 translating to a response rate of more than 84% (Table 1).

Table 1. Response Rate.

Category	No. targeted	Response Rate
Nurses	88	84.1%
Clinical Officers	11	81.8%
Laboratory Staff	8	87.5%
Total	107	84.1%

A response rate of 70% and above is excellent in a survey [26]. The response rate was, therefore, acceptable.

3.2. Management Commitment

Table 2 shows the results computed from participants' responses on Management commitment to implement occupational safety and health Act.

Table 2. Management Commitment.

Statements	5	4	3	2	1	Mean	SD
1. The health management provides funds for Occupational Safety and health in the facility	6	10	21	30	23	2.40	0.756
2. Occupational safety and health performance targets form part of Annual Work Plans	5	10	20	31	24	2.34	0.749
3. OSH is regularly an agenda in health management meetings	5	11	22	29	23	2.40	0.744
4. The health management conducts regular inspections of work environments in the facility	7	9	20	32	22	2.41	0.744
5. The management demonstrates visible concern and commitment to safe and healthy work environment	6	10	22	28	24	2.42	0.760
Aggregate						2.39	0.751

From Table 2. the aggregate mean of Management commitment was 2.39 representing 47.8% performance. Deviations for each item mean from the aggregate mean were between -0.06 and +0.09 indicating that all the items in the data set clustered closely around the mean. The aggregate standard deviation was 0.751 indicating a good level of agreement among the respondents about the performance of the Management commitment indicators.

**3.2.1. Provision of Funds and Other Resources for OSH Activities**

As shown in Table 2 6.7% of the respondents strongly agreed that there was provision of funds for OSH within the health facilities while 25.6% of them strongly disagreed. Based on the results, 11.1% of the health workers agreed while 33.3% disagreed that the management provided funds for occupational safety and health, and 23.3% of them were neutral. Based on the results, provision of funds for OSH scored a mean of 2.40 (48.0%) and a standard deviation of 0.756 showing good agreement among the respondents. On-the-shop-floor observations did not find any documentary proof that funds were allocated specifically for OSH activities in any of the health facilities. These results showed that the management was not providing funds for OSH activities. The management is required to support OSH and provide adequate resources for its implementation [20]. The health management at all levels must ensure the provision of funds for OSH activities [15].

**3.2.2. Integration of Occupational Safety and Health in Management Plans**

According to the results in Table 2, 5.6% health workers strongly agreed that OSH performance targets were part of the Annual Work plans while 26.7% of them strongly disagreed. Among the respondents, 11.1% of them agreed while 34.4% disagreed and 22.2% chose neutral position. The respondents indicated that inclusion of OSH performance targets in Annual Work-plans scored a mean of 2.34 translating to 46.8% implementation. This OSH element scored a standard deviation of 0.749 which demonstrated that there was good agreement among the respondents. Occupational Safety and Health activities were not found in the County health sector annual work plans during documents review conducted in the facilities and management level. These findings indicated that OSH was not part the health management performance objective. Health managers at their levels are obligated to ensure occupational safety and health is integrated in their management plans [15].

**3.2.3. Inclusion of Occupational Safety and Health in Management Meetings**

As illustrated in Table 2, 5.6% of respondents strongly agreed that OSH was regularly discussed in Management meetings while 25.6% of them strongly disagreed. The results indicated that 12.2% of the respondents agreed while 32.2% of them disagreed. Among the respondents, those who

chose neutral were 24.4%. According to the respondents, inclusion of OSH agenda in the executive meetings had a mean score of 2.40 representing 48% performance. Documents review did not find any record of a meeting with OSH as an agenda, either at the management or facility level. These results indicated that OSH issues were not incorporated in executive meetings. According to these reports [15, 20], OSH should be discussed in management meetings regularly.

**3.2.4. Workplace Inspections**

As presented in Table 2, 7.8% of the health workers strongly agreed that the management conducted regular inspections of work environments in their facilities, while 25.6% of them strongly disagreed. Based on the results, 10.0% of the respondents agreed while 35.6% disagreed and 22.2% of them were neutral. According to the respondents, Workplace inspection scored a mean of 2.41 representing 48.2% performance. Review of documents did not find any OSH inspection or support supervision report for any facility either at the health management level or at the health facility. The findings indicated that the health management was not monitoring safety and health in the health facilities. These reports [15, 20] require OSH inspections to be conducted regularly in the workplaces.

**3.2.5. Management's Concern and Commitment to Occupational Safety and Health**

From Table 2 6.7% of the health workers interviewed strongly agreed that the Management demonstrated visible concern and commitment to safe and healthy work environment in their facilities, while 25.6% of them strongly disagreed. The results further showed that 10.0% of the respondents agreed, while 31.1% disagreed and 24.4% of them maintained a neutral standpoint. According to the respondents, visible concern and commitment of the Management to OSH scored a mean of 2.42 reflecting a performance of 48.4%. The researcher observed that all the eight diagnostic laboratories were operating without biosafety cabinets. These findings indicated lack of management concern and commitment to occupational safety and health. The management is required to be proactive in demonstrating concern and commitment to safety, health and the work environment and encouraging others to follow [15, 20].

**3.2.6. Perceived Major Challenges in the Implementation of OSH Act**

The results in Table 3 show the perceived major challenges faced by the Health Management in the implementation of occupational safety and health Act in the health facilities.

*Table 3. Perceived Major Challenges in Implementing OSH Act.*

Challenge	Frequency	Percentage
Lack of sufficient awareness among health management	18	32.1%
Limited financial resources for various competing needs	29	51.8%

Challenge	Frequency	Percentage
Lack of cooperation from workers	2	3.6%
Lack of adequate staff	4	7.1%
Cultural believes and traditions	3	5.4%
Totals	56	100%

From Table 3, it was noted that 51.8% of the responses from the Health Management indicated that lack of sufficient funds for the various competing needs was their major challenge in the implementation of OSH Act. This position

**Table 4.** Effects of Management Commitment on the Implementation of OSH Act.

Practices	1	2	3	4	5	Mean	SD
1. Provision of funds for occupational Safety and health	0	11	13	28	38	4.03	0.798
2. Integration of OSH performance targets in the Annual Work Plans	2	10	15	28	35	3.93	0.551
3. OSH agenda in health management meetings	2	9	14	29	36	3.98	0.537
4. Inspections of work environments in the health facilities	3	8	15	29	36	4.00	0.553
5. Management's concern and commitment to safe and healthy work environment	1	9	13	32	37	4.12	0.490
Aggregate mean						4.01	0.586

From Table 4, it was noted that integration of OSH performance targets in the Annual Work Plans scored the lowest mean, 3.93 (78.6%) while Management's demonstration of concern and commitment to safe and healthy work environment scored a mean of 4.12 (82.4%). The aggregate mean of perceived effect of management commitment on implementation of OSH Act was 4.01 with a standard deviation of 0.528, which showed good agreement among the respondents. These findings suggested that implementation of the Act would increase or decrease to 80.2% depending on the performance of management commitment. According to these results optimum performance in each of the given OSH elements would elevate the implementation of OSH Act from 47.8% (Table 2) to 80.2%. It was deduced that implementation of OSH Act was affected by management commitment.

**Table 5.** Workers' Participation in Implementation of OSH Act.

Statements	5	4	3	2	1	Mean	SD
1. The management always consults with health workers on occupational safety and health matters	7	9	20	32	22	2.41	0.744
2. There is a functional safety and health committee /appointed OSH focal person in the facility	6	11	22	29	22	2.44	0.751
3. There are clear OSH responsibilities in the health facility	6	10	21	30	23	2.40	0.756
4. You always document hazardous occurrences and situations in the facility and report to management	4	12	24	29	21	2.43	0.738
5. You always refuse to work in an unsafe or unhealthy environment until it is rectified	6	10	22	28	24	2.42	0.760
Aggregate						2.42	0.750

As shown in Table 5, the aggregate mean was 2.42 representing 48.4% implementation of participation. The deviations of each item mean from the aggregate mean ranged between -0.02 and +0.02 showing that all the individual item means were clustered very closely around the mean. The range of deviations from the aggregate standard deviation was between -0.01 and +0.01, representing good agreement among the respondents.

### 3.3.1. Management Consultation with Workers on OSH Matters

As illustrated in Table 5, 7.8% of the health workers strongly agreed that management always consulted with them on occupational safety and health matters while 24.4% of them strongly disagreed. According to the results, 10.0% of the respondents agreed, 35.6% disagreed, and 22.2% of them

suggested that OSH was not felt as a priority objective within the Health Management and therefore, not funded.

### 3.2.7. Perceived Effects of Management Commitment on Implementation of OSH Act

Table 4 illustrates the respondents' perceived effects of management commitment on the implementation of OSH Act.

These findings concurred with previous studies such as Surity [27] who held that management commitment affected implementation of occupational safety and health in Small Enterprises. Their findings also agreed with [28] who concluded that the challenges in OSH performance within the manufacturing sector were associated with lack of management commitment. A study [29] also emphasized the importance of management commitment in OSH implementation.

### 3.3. Workers' Participation in Implementation of OSH Act

Table 5 summarizes responses from health workers on their participation in the implementation of occupational safety and health Act.

remained neutral. The results showed Management consultation with workers on occupational safety and health matters scored a mean 2.41 (48.2%) and a standard deviation of 0.744. According to the findings, there was good concurrence among the respondents. On conducting documents review in all the facilities no record of OSH-related communication between the management and workers was found. These findings indicated that health workers were not formally consulted by the management on OSH matters. The management should incorporate workers in OSH planning and decision making processes [15, 20].

### 3.3.2. Safety and Health Committee / Appointed OSH Focal Person

From Table 5, 6.7% of the health workers strongly agreed that there was a functional safety and health committee, or an

appointed OSH focal person in their facilities while 24.4% of them strongly disagreed. Among the respondents, 12.2% agreed while 32.2% disagreed and 24.4% of them were neutral. According to the respondents, implementation of this OSH element scored a mean of 2.44 (48.8%) and a standard deviation of 0.751 representing a good agreement among the respondents. On-the-shop-floor checks revealed that only two facilities were legally obligated to have a safety and health committee, based on their worker populations. They, however, did not have the committees in place. Documents review failed to find any minutes of Safety and Health committee meetings, or an appointed OSH focal person in any of the facilities. The findings indicated that there was neither a functional safety and health committee nor an appointed OSH focal person in any of the facilities. The OSH Act and the health sector OSH policy require safety and health committee to be appointed in workplaces with at least twenty (20) workers, and safety focal person in workplaces with fewer workers.

**3.3.3. Occupational Safety and Health Responsibilities in the Facilities**

As shown in Table 5, 6.7% of the health workers strongly agreed that there were clear OSH responsibilities in their health facilities while 24.4% of them strongly disagreed. Among the respondents, 11.1% agreed while 33.3% disagreed and 24.4% of them were neutral. According to the respondents, occupational safety and health responsibilities scored a mean of 2.40 (48%) with a standard deviation of 0.756. These findings depicted good agreement among the respondents. However, no documented OSH responsibilities were found in any of the health facilities during on-the-shop-floor observations and documents review. These findings indicated that there were no defined OSH responsibilities within the health facilities. The health managements are duty-bound to define and communicate OSH responsibilities to all persons in the workplaces.

**3.3.4. Documentation and Reporting of Hazardous Occurrences and Situations**

The results in Table 5 showed that 4.4% of the health workers strongly agreed that they always documented and reported hazardous occurrences and situations in their facility to the Management while 23.3% of them strongly disagreed. Among the respondents, 13.3% agreed, 32.2% disagreed, and 26.7% of them were neutral. According to the respondents, documentation and reporting of hazardous conditions and situations among the respondents scored a mean of 2.43 (48.6%) with a standard deviation of 0.738 indicating a good agreement among the respondents. However, documents review in the facilities did not find any of the records or reports. These findings suggested that workers were neither documenting nor reporting OSH concerns in their workplaces. According to these reports [15, 20], workers are mandated to document and report to the management any hazardous condition, situation, and occurrence in their workplaces.

**3.3.5. Workers' Refusal to Work in Unsafe Conditions**

From Table 5, 6.7% of the health workers strongly agreed that they always refused to work in unsafe or unhealthy environment until the situation was rectified while 26.7% of them strongly disagreed. Among the respondents, 11.1% agreed, 31.1% disagreed, and 24.4% of them were neutral. Refusal by health workers to work in unsafe conditions scored a mean of 2.42 translating to 48.4% performance. The standard deviation was 0.760 showing that the data from respondents agreed well. Documents review did not find any records of such refusal maintained in the health facilities. These findings pointed that this OSH measure was not implemented. According to the OSH Act a worker has immunity against working in eminent danger after reporting until it is corrected.

**3.3.6. Perceived Effects of Workers' Participation on Implementation of OSH Act**

Table 6 shows the respondents' perceived effects of workers' participation in the implementation of occupational safety and health Act in the facilities.

*Table 6. Effects of Workers' Participation on Implementation of OSH Act.*

Practices	1	2	3	4	5	Mean	SD
1.Management consultation with health workers on occupational safety and health matters	0	6	16	37	31	4.14	0.445
2.Availability of safety and health committee / appointed OSH focal person in the workplace	2	10	15	28	35	3.93	0.551
3.OSH responsibilities for everybody in the Workplace	1	7	13	34	35	4.06	0.496
4.Documentation and reporting of hazardous occurrences and situations in the workplace	0	11	13	28	38	4.03	0.511
5.Refusal to work in unsafe or unhealthy environment awaiting the situation to be rectified	2	9	14	29	36	3.98	0.539
Aggregate						4.03	0.508

The results in Table 6 showed that consultation between the health workers and Management scored the highest mean (4.14) and had the highest agreement among the respondents (SD = 0.445). Safety and health committee or appointed OSH focal person in the workplace had the lowest mean (3.93) and the lowest agreement among the respondents (SD = 0.551). The aggregate mean of perceived effect of workers' participation on the implementation of OSH Act was 4.03 representing 80.6%. The standard deviation was 0.508 with deviations from it ranging between -0.06 and +0.03

indicating that the responses from participants agreed well. According to these results optimal performance in each of the specified OSH elements would uplift the implementation of OSH Act from 48.4% (Table 5) to 80.6%.

These findings were in concurrence with various previous studies. According to [30], involvement of workers in OSH decision making and their commitment to adhere to safety and health guidelines are essential components of occupational safety and health implementation. A study [31] concluded that employees' participation influenced the



implementation of OSH while [28] attributed the challenges in OSH performance to lack of workers' cooperation. It was demonstrated that teamwork was fundamental in OSH activities [29]. According to Gbadago [32] lack of an appointed OSH specialist was a reason for poor implementation of OSH policy.

### 3.4. Mediating Variable: Health Workers Awareness of OSH Policy

Table 7 summarizes the health workers' awareness of the health sector OSH policy.

Table 7. Health Workers' Awareness of the Health Sector OSH Policy.

Statements	5	4	3	2	1	Mean	SD
1. The facility has a copy of OSH policy	5	10	20	31	24	2.34	0.749
2. You understand the OSH Policy well	5	11	20	30	24	2.37	0.753
3. Regular training sessions are held to communicate the OSH Policy to all persons in the facility	4	10	21	30	25	2.31	0.742
4. The Policy is displayed throughout the facility	3	8	21	33	25	2.30	0.661
5. Every health worker is provided with a copy of the Policy	2	9	25	32	22	2.32	0.667
Aggregate						2.33	0.714

From Table 7, the aggregate mean was 2.33 which represented 46.6% level of awareness. The aggregate standard deviation was 0.714 and deviations from it were between -0.05 to +0.04. This showed that the respondents concurred on their level of awareness of the health sector OSH policy. The results indicated that training on OSH policy had a mean of 2.31 (46.2%), but documents review did not find a record of any such trainings. OSH Policy displays within the facilities had a mean of 2.30 according to the results but these displays were not found during shop-floor checks conducted in the health workplaces. Having a copy of the policy scored a mean of 2.32 but none of the respondents could identify the policy positively among other documents displayed by the researcher with the book titles covered.

The OSH Act mandates every organization to prepare its OSH policy and ensure it is communicated to all persons in the workplace. The health sector OSH policy provides that it should be disseminated through training and displays throughout the health facilities. These findings indicated that the health workers did not understand the health sector OSH policy.

### 3.5. Pearson's Product Correlation Analysis

Pearson's correlation was used to test linear relationship between the predictor and response variables. Table 8 shows the computed Pearson's correlation coefficients for each of the research variables.

Table 8. Pearson's Correlation Coefficients.

Variable	1	2	3	4
1 Implementation of OSH Act	1.000			
2 Awareness of OSH policy	0.7411	1.000		
3 Management commitment	0.7222	0.7091	1.000	
4 Worker Participation in OSH	0.7053	0.7003	0.7252	1.000

$p < 0.05$  for one-tailed tests

Based on the results in Table 8, each of the three independent variables and the modifying factor was positively correlated with implementation of OSH Act. The respective correlation coefficients ( $r$ ) were 0.7222 for management commitment, 0.7053 for workers' participation

in implementation of OSH Act, and 0.7411 for workers' awareness of Health sector OSH policy (the modifying factor). The correlation coefficients for the independent variables and the intervener with the implementation of OSH Act were high. These indicated that the existing statistical relationships were significant.

High coefficients of correlation suggested a problem of multi co-linearity among the independent variables [33]. Variance inflation factors (VIFs) were analyzed to test multi co-linearity among the variables using the formula:  $VIF = 1 / (1 - r^2)$ . The computed variance inflation factors for the independent variables were 2.09 for management commitment and 1.99 for workers' participation. According to [33], the threshold for VIFs is 10. There was, therefore, no problem with multi co-linearity.

### 3.6. Linear Regression Analysis

Simple linear regression analysis confirmed that there existed a direct and positive relationship between each of the independent variables and implementation of OSH Act. The prediction factor were 0.6600,  $p < 0.05$  for management commitment and 0.6300,  $p < 0.05$  for workers' participation. These factors indicated reasonably strong positive relationships and, therefore, the two independent variables were good predictors of OSHA implementation. These results indicated that one unit increase in management commitment predicted an increase of 0.66 units; an increase of one unit in OSH awareness resulted in an increase of 0.64 units; and a unit increase in workers' participation foretold an increase of 0.63 units in the implementation of OSH Act.

Conversely, the results showed that there existed a direct and negative relationship between each of the independent variables and hindrance in the implementation of OSH Act. The prediction factors were, therefore -0.6600,  $p < 0.05$  for management commitment and -0.6300,  $p < 0.05$  for workers' participation. This implied that one unit increase in management commitment predicted a decrease of 0.66 units; an increase of one unit in OSH awareness would result in a decrease of 0.64 units; and a unit increase in workers' participation foretold a decrease of 0.63 units of hindrance in the implementation of OSH Act respectively.

## 4. Conclusions

Lack of management commitment hindered the implementation of Occupational safety and health Act in the health facilities. The aggregate mean was 2.39. 51.8% of the responses from the health management indicated lack of sufficient funds for the various competing needs was the major challenge in implementing the Act. This position showed that the importance of OSH was not felt within the health management. OSH activities were neither funded nor included in the annual performance targets for the County health sector. No records were found to demonstrate that occupational safety and health was discussed in management meetings, or to show that OSH inspections and/or support supervisions were conducted in the health facilities. Simple regression analysis indicated that one unit increase in management commitment resulted in a decrease of 0.66 units of the hindrance in the implementation of OSH Act. The null hypothesis that "OSHA implementation is not affected by Management commitment" failed in favour of the alternative hypothesis.

Implementation of OSH Act was hindered by lack of workers' participation. The mean performance was 48.4%. Workers were not involved in decision making on matters concerning their safety and health and there was no safety and health committee or focal person in any facilities. OSH responsibilities were not defined in the health workplaces and there was no evidence of workers' reports of unsafe conditions in their workplaces and/or refusal to work in unsafe situations until rectified. Results of regression analysis showed that an increase of one unit in workers' participation predicted a decrease of 0.63 units of hindrance in the implementation of OSH Act. The *t*-test results for the null hypothesis, "Implementation of OSH Act is not affected by workers' participation", favoured the alternative hypothesis.

## 5. Recommendations

The Health Management Teams should consider occupational safety and health like other management objectives and provide the necessary resources and support for its implementation. OSH should be integrated in the overall management performance plans and be made a regular agenda in executive meetings. All members of the management should demonstrate commitment to OSH and ensure regular inspections and support supervisions are conducted in their workplaces. Competent occupational safety and health inspections and audits should be conducted in the health facilities regularly.

OSH coordinators should be appointed to the county and sub-county health management teams and safety and health committees be commissioned in facilities with twenty or more workers. An OSH focal person should be deployed in each facility with less than twenty workers. Health workers should realize their important legal roles, expectation, and immunity; and participate fully in the implementation of the OSH Act within their workplaces. In particular, they should document and report all unsafe conditions in their

workplaces; and refuse to work in such situations until they are rectified.

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## Conflict of Interest

There was no competing interest in the study.

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