ASSESSMENT OF OCCUPATIONAL SAFETY AND HEALTH COMPLIANCE AMONG AUTO-MECHANICS AND RELATED ARTISANS IN IBADAN NORTH LOCAL GOVERNMENT, OYO STATE

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ABSTRACT

This study assesses occupational safety and health (OSH) compliance among auto-mechanics and related artisans in Ibadan North Local Government, Oyo State, Nigeria. Addressing the critical need to protect workers from workplace hazards. A descriptive cross-sectional survey design was utilized, target population are 365 auto-mechanics and artisans and a sample size of 190 was determined using Taro Yamane's formula (1967). Multi-stage sampling technique was used to select 190 from the total population. Data was collected using a self-structured questionnaire with a reliability score of 0.8. Data was analyzed using SPSS version 25 presented by descriptive and inferential statistics at a 0.05 significance level. The socio-demographic characteristics observe that majority of the respondents are within the ages of 21 – 40years (38.9%), male (97.4%), Auto Mechanics (39.5%) and have Secondary education (46.3%). Also, majority of the respondents are married (60.5%) with 2 – 5years experience (23.7%). Further result of this study observed that awareness level of Occupation Safety and Health and Compliance among Auto Mechanics and Related Artisans is poor (49.5%) and the compliance level is also poor (49.2%). Lastly, this study indicates that the factors affecting compliance level are lack of knowledge/training (70.3%) and poor attitude towards safety (79.9%). Three hypotheses were tested and result shows that there was a significant relationship between the awareness of occupational safety and health (OSH) compliance and the level of compliance among auto mechanics and related artisans (P=<0.001), secondly, there is a significant association between personal protective equipment (PPE) and compliance with occupational safety and health compliance among auto mechanics and related artisans.(P= (P=<0.001) and lastly, there is a significant relationship between the level of compliance with occupational safety and health compliance and factors influencing compliance. (P=0.013).These findings underscore the need for targeted interventions to bridge the gap between awareness and practice, ensuring safer work environments for automotive artisans.

Keywords: Assessment; Occupational Safety; Health Compliance; Auto-Mechanics; Related Artisans

INTRODUCTION

The protection of workers against workplace-associated hazards and morbidities has been a critical concern over the years. Documented evidence highlights that certain professions are particularly susceptible to work-related injuries, often arising from practices believed to enhance productivity. Developing countries, including Nigeria, are witnessing an alarming trajectory in occupational accidents and diseases, exacerbated by unregulated work environments and insufficient safety measures (Lund et al., 2022). This trend underscores the urgent need to prioritize safeguarding workers against workplace hazards and health risks (Smith et al., 2020). The automobile repair industry, dominated by unorganized labor, typifies these challenges. Employees in small and medium enterprises are particularly vulnerable to occupational hazards, including chemical exposures, ergonomic risks, and mechanical injuries, emphasizing the need for safe and healthy work environments (International Labor Organization, 2020). Automobile repair artisans, including mechanics, panel beaters, spray painters, auto electricians, welders, and others, engage in diverse repair and maintenance activities that expose them to a spectrum of hazards. These hazards include physical (e.g., fire, extreme heat), chemical (e.g., industrial solvents), biological (e.g., exposure to pathogens), and ergonomic risks (Smith & Patel, 2021). Poor work environments characterized by heat, noise, strenuous postures, and psychological stress further compound their exposure to occupational risks (Elenwo, 2022). Occupational hazards among these artisans have been categorized into chemical, biological, mechanical, physical, and ergonomic risks (ANA, 2020). Chemical exposures, such as those from brake fluids, degreasers, and paints, can result in chronic poisoning, skin diseases, and respiratory problems. Physical hazards, including ultraviolet and infrared radiation or vibrations from hand tools, can lead to long-term health issues like White Finger Syndrome. The adverse health effects of these exposures include occupational lung diseases, cancers, dermatoses, musculoskeletal injuries, and psychological disorders (Gracia & Martinez, 2021). Although personal protective equipment (PPE) like face shields, goggles, gloves, and helmets offer significant protection, gaps in their usage and awareness persist among artisans (Thangaraj & Shireen, 2023).

Globally, studies have showed the widespread occupational hazards faced by auto mechanics. Research from developed countries highlights significant chemical exposures in repair shops, linked to skin diseases, respiratory issues, and neurological disorders (ILO, 2016). In Africa, ergonomic strains and chemical exposures remain prevalent, with studies in South Africa, Kenya, and Ghana reporting similar health outcomes (Osha et al., 2017; Osei et al., 2018). In Nigeria, the prevalence of chemical exposures, ergonomic risks, and inadequate safety protocols in auto repair workshops has been well-documented in cities such as Lagos, Abuja, and Port Harcourt (Adewole et al., 2019; Okon et al., 2020). Poor infrastructure, outdated equipment, and limited regulatory enforcement exacerbate these risks (Fagbemi et al., 2018). The automotive repair industry in Oyo State, a key economic sector, faces similar challenges. Despite its critical role in vehicle maintenance, factors such as inadequate health services and safety regulation enforcement heighten artisans' vulnerability to workplace hazards (Oyo State Ministry of Health, 2021). The occupational practices of automobile repair artisans frequently raise concerns about their exposure to occupational health hazards. Observations from Mechanic Villages in Ibadan reveal troubling trends: spray painters, bumper repairers, and welders often work without adequate personal protective equipment (PPE) such as goggles, face shields, or respirators. These workplaces are characterized by high levels of pollution and contamination from substances like used oil, grease, fillers, paints, and gasoline. Many of these materials, including lead and benzene, pose severe health risks. Compounding these issues, improper waste disposal practices lead to hazardous material accumulation in workshop premises. Empirical evidence underscores the severity of these risks. For instance, studies conducted globally report adverse health effects due to exposure to hazardous chemicals in the automobile repair sector. Research from the United States links solvents and paints to elevated rates of respiratory illnesses and skin conditions (Smith et al., 2018). Similarly, studies in Ghana document respiratory symptoms and skin disorders among auto repair workers due to chemical exposures (Osei et al., 2018).

In addition to chemical hazards, ergonomic strains from poor working postures and repetitive tasks result in chronic musculoskeletal disorders. Artisans frequently rely on analgesics and herbal remedies to manage pain caused by heavy lifting and awkward positions (Adewole et al., 2019). Testimonies from artisans illustrate these risks: reports include chest pain, black phlegm from welding without respiratory protection, musculoskeletal pain, and skin rashes from inadequate hygiene practices. These hazards are not unique to Ibadan North Local Government but reflect broader global trends in the automotive repair industry. However, understanding the local context and specific challenges faced by artisans in Ibadan is crucial for developing targeted interventions. Therefore, this research assess the occupational safety and health (OSH) compliance among auto mechanics and related artisans in Ibadan North Local Government, Oyo State.

Aim and Objectives of the Study

This study aims to assess occupational safety and health compliance among auto mechanics and related artisans in Ibadan North Local Government, Oyo State.

Specific Objectives

1. To assess the awareness of occupational safety and health compliance among auto mechanics and related artisans.
2. To evaluate the level of compliance with occupational safety and health standards among auto mechanics and related artisans.
3. To identify factors influencing the level of compliance with occupational safety and health standards among auto mechanics and related artisans.

Research Questions

1. What is the level of awareness of occupational safety and health compliance among auto mechanics and related artisans in Ibadan North Local Government, Oyo State?
2. To what extent do auto mechanics and related artisans comply with occupational safety and health standards in Ibadan North Local Government, Oyo State?
3. What factors influence compliance with occupational safety and health standards among auto mechanics and related artisans in Ibadan North Local Government, Oyo State?

Hypotheses of the Study

Test of Hypotheses

- **H_{01}:** There will be no significant relationship between the level of awareness and compliance with occupational safety and health (OSH) standards among auto mechanics and related artisans in Ibadan North Local Government, Oyo State.
- **H_{02}:** There will be no significant influence of personal protective equipment (PPE) use on the level of compliance with occupational safety and health (OSH) standards among auto mechanics and related artisans in Ibadan North Local Government, Oyo State.
- **H_{03}:** There will be no significant relationship between compliance with occupational safety and health (OSH) standards and the factors influencing compliance among auto mechanics and related artisans in Ibadan North Local Government, Oyo State.

METHODOLOGY

Research Design: This study utilized a cross-sectional descriptive survey design.

Study Setting: The research was conducted in Ibadan North Local Government Area, a key administrative unit in Oyo State, Nigeria, known for its socio-economic diversity and significant presence of auto-mechanics and artisans. Covering 27 km², the area includes residential, commercial, and industrial zones, making it ideal for studying OSH practices. Specific locations selected included Yemetu, Total Garden, University College Hospital, Customs, Ikolaba, Bodija, University of Ibadan, Agbowo, Barika, Ojoo, Ajibode, and Samonda, representing the region's geographical and occupational diversity. As of the 2006 census, Ibadan North had a population of 306,795, with diverse ethnic groups including Yoruba, Igbo, Hausa, and others.

Target Population: The target population comprised 365 auto-mechanics and related artisans, including auto-mechanics, panel beaters, spray painters, auto-electricians, welders, radiator repair technicians, brake master cylinder repairers, bumper repairers, and vulcanizers, working in 12 auto-mechanic workshops or villages across the 12 wards of Ibadan North Local Government Area. This diverse group ensured a representative sample for assessing OSH compliance across various occupational roles and demographics.

Sample Size Determination: Taro Yamane's formula (1967) was used to determine the sample size of this study. Tara Yamane's formula is a simplified method for determining sample size, especially when the population size is known.

$$n = \frac{N}{1+N(e)2}$$

Where:

n = sample size

N = population size

e = desired margin of error (expressed as a decimal)

Given:

Population size (N) = 365

Desired margin of error (e) = 0.05 (5% expressed as a decimal)

$$n = \frac{365}{1+365(0.05)2}$$

$$n = \frac{365}{1+365(0.0025)}$$

$$n = \frac{365}{1+0.9125}$$

N=190.8496

n=191

To calculate the Non response rate

Formula:

$$Non\ Response\ Rate\ = Sample\ Size \times \frac{Non\ Response\ Percentage}{100} = Non\ ResponseRate$$

$$= 190 \times \frac{10}{100}$$

$$Non\ Response\ \text{Rate} = 190 \times 0.1$$

None Response Rate = 19 = 19 respondents.

Based on this formula, a sample size of 190 respondents and 19 respondents' non response rate will increase the sample size to 208 respondents.

Sampling Technique

A multi-stage sampling technique was employed to select respondents, ensuring representation and logistical feasibility:

1. **Stage 1: Selection of Workshops**

   Using stratified sampling, one auto-mechanic village or workshop was selected from each of the 12 wards in Ibadan North Local Government Area to ensure proportional geographical representation.

2. **Stage 2: Selection of Respondents**

   From each selected workshop, 12–16 respondents were chosen using simple random sampling until the target sample size of 208 was achieved.

3. **Stage 3: Final Selection**

   Stratified sampling was applied to select participants within each workshop, balancing accessibility and diversity while accommodating the study's resource and time constraints.

Distribution of Population

The total population was distributed across artisan categories as follows:

Profession	Frequency	Percentage
Auto-Mechanics	65	31.25%
Panel Beaters	30	14.42%
Spray Painters	25	12.02%
Auto-Electricians	20	9.62%
Welders	13	6.25%
Radiator Repair Technicians	20	9.62%
Brake Master Cylinder Repairers	15	7.21%
Bumper Repairers	10	4.81%
Vulcanizers	10	4.81%
Total	**208**	**100%**

Research Instrument: A self-structured questionnaire was used for data collection, divided into four sections:

- **Section A: Demographic Information** (6 questions) to gather respondent characteristics.
- **Section B: Awareness of OSH Compliance** (3 questions, yes/no format) to assess knowledge of OSH regulations.
- **Section C: Compliance with OSH** (3 questions, Likert scale: always, sometimes, rarely, never) to evaluate adherence to safety practices.
- **Section D: Factors Influencing OSH Compliance** (5 questions, Likert scale: strongly agree to strongly disagree, plus open-ended questions) to identify compliance barriers, with a 50% cutoff score for compliance.

Pilot Study: A pilot study was conducted with 19 respondents (10% of the sample size) in Akinyele Local Government Area, selected for its similarity to Ibadan North. The questionnaire was pretested to assess its reliability and validity.

Reliability Testing: Reliability was evaluated using:

- **Test-Retest Reliability**: The questionnaire was administered twice to the same group with a 1–4 week interval. A high correlation between responses indicated stability.
- **Internal Consistency**: The instrument's consistency was assessed by administering it in a counterbalanced order, yielding a correlation coefficient ($r > 0.8$) indicating good reliability. Cronbach's Alpha scores ranged from 0.54 to 0.65 for Likert scale sections, reflecting moderate consistency.

Validity of the Instrument

- **Face Validity**: Questions were reviewed by the supervisor for clarity and alignment with study objectives.
- **Content Validity**: The instrument was evaluated by experts in community/public health nursing and a research statistician to ensure comprehensive coverage of OSH concepts and alignment with theoretical frameworks.

Method of Data Collection: Data collection began with obtaining a letter of introduction from the Faculty of Nursing Sciences and permission from local government gatekeepers. Respondents were informed of the study's purpose, and voluntary consent was secured. A total of 190 questionnaires were distributed and retrieved immediately upon completion, facilitated by the researcher and six research assistants over four weeks. Questionnaires were self-administered, with assistance provided as needed.

Method of Data Analysis: Data were checked for completeness, organized, and securely stored to ensure confidentiality. Analysis was conducted using SPSS version 25, employing descriptive statistics (frequencies, percentages) and inferential statistics (chi-square tests) at a 0.05 significance level to address research objectives and hypotheses.

Ethical Considerations: Ethical principles were strictly followed:

- **Informed Consent**: Participants received detailed information about the study's purpose, procedures, risks, and benefits, with voluntary consent obtained.
- **Confidentiality**: Responses were anonymized and securely stored to protect privacy.
- **Voluntary Participation**: Participants could withdraw without penalty, respecting their autonomy.
- **Minimization of Harm**: Questions were designed to avoid distress.
- **Ethical Approval**: Approval was obtained from the institutional review board to ensure compliance with ethical guidelines.

RESULTS

Table.1: Socio-demographic characteristics of the respondents

The mean age of the respondents was 36 years. About 38.9% of respondents were within the age range of 21-40 years, almost thirty-three percent were within the age range of 41 and above while 13.2% were within the age of 20 years and below. The majority (97.4%) were male while 2.6% were female. About 39.5% were Auto mechanics while 18.9% were Panel Beater. Regarding educational status, 46.3% of the respondents had up to a secondary level of education while 25.3% had primary education. The table shows further that 60.5% of the respondents were married. About 16.3% of the respondents had years of experience between 11 to 15 years while 32.2% had years of experience between 16 years and more. The socio-demographic characteristics observe that majority of the respondents are within the ages of 21 – 40years (38.9%), male (97.4%), Auto Mechanics (39.5%) and have Secondary education (46.3%). Also, majority of the respondents are married (60.5%) with 2 – 5years experience (23.7%).

Table 1: Socio-demographic characteristics of the respondents

Variables	Frequency N=190	Percent
Age (in years)		
≤20	25	13.2
21-40	74	38.9
≥41	62	32.6
No response	29	15.3
Gender		
Male	185	97.4
Female	5	2.6
Designation		
Auto Mechanic	75	39.5
Panel Beater	36	18.9
Spray Painter	18	9.5
Auto Electrician	14	7.4
Welder	15	7.9
Radiator Repair Technician	13	6.8
Brake Master Cylinder Repairer	8	4.2
Bumper Repairer	7	3.7
Vulcanizer	4	2.1
Educational Status		
No formal education	16	8.4
Primary education	48	25.3
Secondary education	88	46.3
Vocational/Technical training	23	12.1
Tertiary education	15	7.9
Marital Status		
Single	59	31.1
Married	115	60.5
Divorced	12	6.3
Widowed	1	0.5
No response	3	1.6
Years of experience		
≤1	9	4.7
2-5	45	23.7
6-10	44	23.2
11-15	31	16.3
≥16	61	32.2

Table 2 shows that 35.3% of the respondents strongly that people are susceptible to work-related injuries, arising from practices believed to enhance productivity, while 33.2% agreed, 23.9% disagreed and 7.6% strongly disagreed. 43.1% of the respondents strongly that people are witnessing an alarming progression in occupational accidents and diseases, while 14.4% agreed, 19.3% disagreed and 23.2% strongly disagreed. 18.7% of the respondents strongly agreed that hazards occur by unregulated work environments and insufficient safety measures, while 18.2% agreed, 25.8% disagreed and 36.9% strongly disagreed. 10.7% of the respondents strongly agreed that there is urgent need to prioritize safeguarding workers against workplace hazards and health risks, while 27.2% agreed, 23.7% disagreed and 38% strongly disagreed. Further findings indicate tthat 34.12% of the respondents strongly agreed that employees in small and medium enterprises are vulnerable to occupational hazards, while 13.7% agreed, 18.9% disagreed and 30.8% strongly disagreed. 33.5% of the respondents strongly agreed that automobile repair artisans, are vulnerable to occupational hazards, including chemical exposures, ergonomic risks, and mechanical injuries, 24.4% agreed while 20% disagreed and 22.2% strongly disagreed. 14.2% of the respondents strongly agreed that there is need emphasizing the need for safe and healthy work environment, 17.4% agreed while 27.7% disagreed and 40.8% strongly disagreed. Lastly, 43.1% of the respondents strongly agreed that poor work environments characterized by heat, noise, strenuous postures and psychological stress 14.4% agreed while 19.3% disagreed and 23.2% strongly disagreed. This study observed that awareness level of Occupation Safety and Health and Compliance among Auto Mechanics and Related Artisans is poor (49.5%)

Table 2: The Awareness of Occupation Safety and Health and Compliance Among Auto Mechanics and Related Artisans.

VARI ABLES	SA	A	D	SD
People are susceptible to work -related injuries, arising from practices believed to enhance productivity.	65(35.3%)	61(33.2%)	44(23.9%)	14 (7.6%)
People are witnessing an alarming progression in occupational accidents and diseases,	78 (43.1%)	26(14.4%)	35(19.3%)	42(23.2%)
Hazards occur by unregulated work environments and insufficient safety measures	35 (18.7%)	34(18.2%)	49 (25.8%)	69(36.9%)
There is urgent need to prioritize safeguarding workers against workplace hazards and health risks	20 (10.7%)	51(27.2%)	45(23.7%)	71(38.0 %)
Employees in small and medium enterprises are vulnerable to occupational hazards.	66(34.12%)	26(13.7%)	36(18.9%)	57 (30.8%)
Automobile repair artisans, are vulnerable to occupational hazards, including chemic al exposures, ergonomic risks, and mechanical injuries.	62 (33.5%)	45(24.4%)	37(20.0%)	41 (22.2%)
There is need emphasizing the need for safe and healthy work environment.	26 (14.2%)	32(17.4%)	51(27.7%)	75 (40.8 %)
Poor work environments characterized by heat, noise, strenuous postures and psychological stress	78 (43.1%)	26(14.4%)	35(19.3%)	42(23.2%)
	29.1%	**20.4%**	**22.3%**	**27.8%**
	49.5%		**50.1%**	

Table 3 below showed that 13.3% of respondents never wear appropriate PPE, 12.8% seldom wear, 21.8% are neutral while 24.5% often wear and 27.7% wear. 5.3% of respondents never follow safety protocals, 11.7% seldom follow, 20.7% are neutral while 29.3% often follow and 33% follow. 28.2% of respondents never dispose of hazardous waste properly, 17.4 % seldom dispose, 14.7% are neutral while 18.6 % often dispose and 20.7% comply. 4.8% of respondents never never maintain their equipment regularly, 12.2% seldom maintain, 18.6% are neutral while 27.7% often and 36.7% comply. 28.7% of respondents never report accidents/incidents, 14.9% seldom do, 15.4 are neutral while 13.3% often report and 27.7% comply with reporting. 12.8% of respondents never attend workshop, 21.8% seldom attend 24.5% are neutral while 27.7% often attend and 13.3% comply. 14.7% of respondents never trained on OSH practices, 21.8% seldom trained, 24.5% are neutral, while 28.2% often trained and 17.4% comply. This study reveals that the compliance level of occupation safety and health among auto mechanics and related artisans is poor (49.2%).

Table 3: The Compliance Level of Occupation S afety and Health Among Auto Mechanics and Related Artisans.

Items	**Never**	**Seldom**	**Neutral**	**Often**	Comply
Wearing appropriate PPE	25(13.3%)	24(12.8%)	41(21.8%)	46(24.5%)	52(27.7%)
Following safety protocols	10(5.3%)	22(11.7%)	39(20.7%)	55(29.3%)	62(33%)
Disposal of hazardous waste properly	53(28.2%)	33(17.4%)	28(14.7%)	35(18.6%)	39(20.7%)
maintenance of equipment regularly	9(4.8%)	23(12.2%)	35(18.6%)	52(27.7%)	69. (36.7%)
Reporting accidents/incidence	54(28.7%)	28(14.9%)	29(15.4%)	25(13.3%)	52(27.7%)
Attending workshop	24(12.8%)	41(21.8%)	46(24.5%)	52(27.7%)	25(13.3%)
Trained on OSH practices	28(14.7%)	35(18.6%)	39(20.7%)	53(28.2%)	33(17.4%)
	15.4%	**15.6%**	**19.5%**	**24.1%**	**25.1%**
	31%		**19.5%**	**49.2%**	

Table 4 shows that 47.9% of respondents agreed that availability of PPE affects the compliance with OSH, while 52.1% disagreed. 27.8% of respondents agreed that cost of compliance affect cost of compliance with OSH, while 72.2% disagreed. 70.3% of respondents agreed that lack of knowledge/training affect compliance with OSH, while 29% disagreed. 3.6% of respondents agreed that peer influence affects compliance, while 96.4% disagreed. 7.7% of respondents agreed that enforcement of law by authorities affect compliance, while 92.3% disagreed. 79.9% of respondents agreed that attitude towards safety affects compliance, while 20.1 disagreed. 8.9% of respondents agreed that OSH practices affect compliance, while 91.1% disagreed. 4.1% of respondents agreed that management support affects compliance, while 95.9% disagreed. This study indicates that the factors affecting compliance level of occupation safety and health among auto mechanics and related artisans are lack of knowledge/training (70.3%) and poor attitude towards safety (79.9%) while Availability of PPE (47.9%), cost of compliance (27.8%), Peer influence (3.6%), enforcement of law by authorities affect compliance (7.7%), OSH practices affect (8.9%) and management support (4.1%) are not significant.

Table 4: The Factors Affecting Compliance Level of Occupation Safety and Health Among Auto Mechanics and Related Artisans.

	ITEMS	Agreed	Disagreed	Significance
1	Availability of PPE	81(47.9%)	109(52.1%)	Not Sig
2	Cost of compliance	47(27.8%)	143(72.2%)	Not Sig
3	Lack of knowledge/training	130(70.3%)	60(29%)	Sig
4	Peer influence	6(3.6%)	184(96.4%)	Not Sig
5	Enforcement of law by authorities	13(7.7%)	177(92.3%)	Not Sig
6	Poor Attitude towards safety	147(79.9%)	43(20.1%)	Sig
7	OSH practices	15(8.9%)	175(91.1%)	Not Sig
8	Management support	7(4.1%)	183(95.9%)	Not Sig

H_{01}: There will be no signicant relation between the awareness of occupational safety and health (OSH) compliances e the level of compliance with occupational safety and health compliances among auto mechanics and related artisans in Ibadan North Local Government, Oyo State

The table below shows that there was a significant relationship between the awareness of occupational safety and health (OSH) compliances and the level of compliance among auto mechanics and related artisans. Thus p-value is <0.001

Table 5: Association between the awareness of occupational safety and health (OSH) compliances and the level of compliance among auto mechanics and related artisans using Chi-Square test Analyses

Variable	Level of Compliance		Total	X^2	p-value
Awareness of occupational safety and health (OSH) compliances	Low	High			
Low	61(73.5)	15(14.3)	76	67.477	<0.001*
High	22(26.5)	90(85.7)	112		

Parenthesis-% *-significant at p-value < 0.05

H_{02}: The personal protective equipment (PPE) use does not significantly influence the level of compliance with occupational safety and health compliances among auto mechanics and related artisans in Ibadan North Local Government, Oyo State.

The table below shows that there is significant relationship between personal protective equipment (PPE) use for occupational safety and the level of compliance among auto mechanics including related artisans. (P=<0.001)

Table 6: Association between the use of personal protective equipment (PPE) for occupational safety and the level of compliance among auto mechanics including related artisans using Chi-Square test Analyses

Variable	Level of Compliance		Total	X^2	p-value
utilization of personal protective equipment (PPE)	Low	High			
Not knowledgeable	8(9.8)	7(6.7)	15	61.356	<0.001*
slightly know	17(20.7)	3(2.9)	20		
Neutral	26(31.7)	8(23.5)	34		
Knowledgeable	24(29.3)	25(23.8)	49		
very knowledgeable	7(8.5)	62(59.0)	69		

Parenthesis-% *-significant at p-value < 0.05

H_{03}: There is no significant relationship between the level of compliance with occupational safety and factors influencing compliance

Table 6: below shows the association between the level of compliance with occupational safety and health and factors influencing compliance among auto mechanics and related artisans using Chi-Square test Analyses. There was a significant relationship between the level of compliance with occupational safety and and factors influencing compliance. (P=0.013)

Table 6: Association between the level of compliance with occupational safety and health factors influencing compliance among auto mechanics and related artisans using Chi-Square test Analyses

Variable	Level of Compliance		Total	X^2	p-value
Factors influencing compliance	Low	High			
Availability of PPE	44(59.5)	37(45.7)	81	14.375	<0.013*
Cost of compliance	18(24.3)	29(30.5)	47		
Lack of knowledge/training	8(10.8)	7(7.4)	15		
Attitude towards safety	2(2.7)	5(5.3)	7		
Peer influence	0(0.0)	6(6.3)	6		
Enforcement by authorities	2(2.7)	11(11.6)	13		

Parenthesis-% *-significant at p-value < 0.05

DISCUSSION

This study evaluated occupational safety and health (OSH) compliance among auto-mechanics and related artisans in Ibadan North Local Government Area, Nigeria. The socio-demographic characteristics observe that majority of the respondents are within the ages of 21 – 40years, male, Auto Mechanic and have Secondary education. Also, majority of the respondents are married with 2 – 5years experience. This demographic mirrors Omokhodion and Omokhodion's (2019) study, which noted a male-dominated artisan sector in Ibadan, attributing it to cultural norms favoring male participation in physically demanding trades. The educational attainment suggests a baseline literacy level, facilitating OSH awareness but not necessarily translating to compliance, as seen in Afolabi et al. (2021), where education alone did not ensure safety adherence among Nigerian artisans.

This study observed that awareness level of Occupation Safety and Health and Compliance among Auto Mechanics and Related Artisans is poor. This study is consistent with Ahmed et al (2018) who observed that the level of awareness is poor among their respondents. This study is similar to Afoabi (2021) who also revealed lack of awareness among his participants in Nigeria.

This study reveals that the compliance level of occupational safety and health among auto mechanics and related artisans is poor. This study is in agreement with Abiodun et al. (2018), who noted that despite the known risk and hazards associated with automotive repair work, their respondents had suboptimal utilization of PPE, a finding similarly echoed by Dufresne and Ford (2020) and Egbuta, Nnadi, and Udeh (2021).

Also, the results indicates that the factors affecting compliance level of occupational safety and health among auto mechanics and related artisans are lack of knowledge/training and poor attitude towards safety. This study is not similar to Rydstedt and Lundberg (2006) and Saari and Rydstedt (2020), who observed that personality traits and safety attitudes significantly affect compliance. This study aligns with Schneider and Wiemann (2020) who emphasized that poor training limits adherence to safety measures.

The hypothesis tested shows that there was a significant relationship between the awareness of occupational safety and health (OSH) compliances and the level of compliance among auto mechanics and related artisans. This study aligns with Singh and Mohan (2022) as well as Varela and Pinto (2023), who noted that management support, safety culture, and contextual workplace factors shape compliance behaviors. This study consistent with Oke (2023); Wanzala and Nanjala (2023), who highlighted that awareness is a critical determinant of compliance.

Second hypothesis reveals that there was a significant relationship between personal protective equipment (PPE) use for occupational safety and the level of compliance among auto mechanics including related artisans. This study corroborates Olufemi and Ogunleye's (2021) who stated that PPE availability enhances safety adherence in manufacturing.

Third hypothesis shows that there was a significant relationship between the level of compliance with occupational safety and factors influencing compliance.

CONCLUSION

This study has provided a comprehensive analysis of the awareness, compliance, and factors influencing occupational safety and health (OSH) practices among auto mechanics and related artisans in Ibadan North Local Government, Oyo State, Nigeria. The findings emphasize the critical role of awareness in promoting compliance, particularly with the use of Personal Protective Equipment (PPE) and other safety practices. The study revealed a significant relationship between the level of awareness of OSH regulations and the compliance with safety practices, suggesting that education and training are essential for fostering a safety-conscious workforce. Additionally, the availability of PPE emerged as a key factor influencing compliance, with financial constraints and lack of proper equipment identified as major barriers. While other factors like peer influence and attitudes towards safety also play a role, they appear secondary to the more tangible barriers related to resources and training. These results highlight the need for targeted interventions, including increased access to PPE, regular training, and policy reforms that address financial and infrastructural constraints. By addressing these challenges, stakeholders can significantly improve OSH compliance, enhance workplace safety, and reduce the risk of injuries and health issues in the automotive repair sector.

RECOMMENDATION

Based on the findings of this study, it is recommended that stakeholders in the automotive repair sector prioritize the following actions:

1. **Enhanced Training Programs:** Implement regular and comprehensive OSH training programs to increase awareness and knowledge among auto mechanics and artisans.
2. **Provision of PPE:** Ensure consistent and affordable access to Personal Protective Equipment (PPE) to improve safety compliance.
3. **Financial Support:** Provide financial assistance or subsidies to reduce the cost barriers associated with purchasing safety equipment.
4. **Stronger Enforcement:** Strengthen enforcement of OSH regulations to ensure greater adherence to safety protocols across the sector.
5. **Promote Safety Culture:** Foster a culture of safety through continuous education, peer influence, and leadership commitment.

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