


# Workplace Hazards and Risk among Automobile Mechanics (A Case of Kugbo Mechanic Village in FCT)

Clement Ogbeh Anthony<sup>1\*</sup>, Chinenye Justina Edeh<sup>1</sup>, Chukwuemeka Martins Alozie<sup>1</sup>, Oluchi Mkpae Blessing<sup>2</sup>

<sup>1</sup>Department of Public Health, National Open University of Nigeria, Abuja, Nigeria

<sup>2</sup>Department of Medical Sciences, Niger Delta University, Bayelsa, Nigeria

Email: \*clementanthony06@gmail.com

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## Abstract

**Background:** Automobile mechanics face different occupational hazards, which can have a wide range of physical and biological impacts depending on the frequency, intensity, and length of exposure. This study looked at the dangers and hazards that automobile mechanics in Kugbo Mechanic village in the Federal Capital Territory of Nigeria faced in their jobs. **Research Objectives:** The specific objectives were to determine the typical occupational risks faced by Kugbo automobile mechanics, evaluate the degree and risk of related health problems and injuries among Kugbo mechanics workers, examine the application of PPE and additional safety precautions among Kugbo mechanics, and assess Kugbo automobile workers' understanding of the consequences of operating without PPE. **Methods:** A cross-sectional descriptive survey was conducted using purposeful sampling. A validated structured questionnaire was administered to 200 automobile workers at risk of exposure to hazards. The questionnaire covered socio-demographics, types of risk exposure, perceptions of their vulnerability, and the use of personal protective equipment. The data was analysed using descriptive and inferential statistics in Statistical Packages for Social version 26. Cross tabulation was used to identify patterns and associations between variables, and the Relative importance Index method was used to determine the relative importance of adherence to PPE and other safety issues. **Results:** Findings show that 5.1% of the respondents had completed secondary school, 25.3% had attended a technical school, 36.9% had completed primary school, and 32.8% had no formal education. Long exposure makes automobile workers more vulnerable to illnesses attributed to their job, as 91.9% work long hours sitting and 78.3% work long hours standing. The overall mean score of 3.72 shows that most respondents did not agree that

automobile workers wear PPEs and follow other safety precautions. The medical issues listed include burns on the body, depression, heart illness, severe headaches and abdominal pain, and poor vision. **Conclusion:** The findings reveal that automobile workers are exposed to several risks and hazards that have resulted in various health-related problems. Therefore, using PPEs and adhering to occupational safety practices will mitigate their exposure to workplace hazards.

### Keywords

Automobile, Hazards, Kugbo Mechanic Village, Risks, Federal Capital Territory

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## 1. Introduction

A sizable portion of the workforce in the automobile service industry needs to be more organised. They engage in activities that expose them to potentially harmful environmental, Physical, biological, and chemical substances [1] [2]. These automobile workers are also more likely to sustain injuries and mishaps, many of which are avoidable. According to estimates from the International Labour Organisation (ILO), over 270 million work-related accidents occur globally annually [3] [4]. Workers in small and medium-sized businesses have been demonstrated to be more vulnerable to risks and hazards associated with their jobs [5]. However, it's said that this group of employees lacks knowledge about these risks and has received little to no training on workplace safety [6]. Reducing occupational hazards enhances worker morale and overall health while lowering the rate of accidents and illnesses linked to the job [7]. Consequently, there is a rise in employee productivity and a fall in truancy. Generally speaking, the financial advantages of removing risks greatly exceed their costs. Auto mobile workers in Nigeria are employed in the economy's informal sector, and their health requirements and occupational issues are not extensively documented [8] [9]. As a result, their access to occupational health care is inadequate, and they face hazardous working circumstances [10]. Therefore, this research aims to determine workplace hazards and risks among Kugbo mechanic village auto-mobile mechanics in the Federal Capital Territory, Abuja.

## 2. Material and Methods

### 2.1. Type of Study

The research is a cross-sectional descriptive survey conducted using purposeful sampling to divide the population into homogenous units and group similar individuals into one group to facilitate comparisons [11] [12]. A convenient sampling procedure was used to select the automobile workers because they occupy the same area and carry out their activities at the same place. The research was

conducted from March 2021 to June 2021.

## 2.2. The Study Population

The study population was represented by a sample size of 200 auto mechanics, auto welders, auto sprayers, and auto electricians. Yamane's formula  $n = N / 1 + N(e)^2$  was used to determine the sample size the sample size [13] [14]. A validated structured questionnaire was administered to 200 automobile workers at risk of exposure to hazards. This way, 70 auto mechanics, 35 auto welders, 40 auto sprayers, and 55 auto electricians were selected. Inclusion criteria include automobile workers aged 18 to 51 and above who are mechanics, welders, sprayers, and electricians in Kugbo Mechanic Village and those who have been absent from work for some days and are available within the survey period. Exclusion criteria include automobile workers under 18 who are mechanics, welders, sprayers, and electricians working in Kugbo Mechanic Village, those who are absent due to illness, and those who cannot speak simple English or Pidgin.

## 2.3. Ethical Considerations

The researchers obtained ethical authorisation from the public health review board of the National Open University to guarantee that the study was carried out appropriately. Before distributing any questionnaires, the participants were told the purpose of the research. The researchers also secured ethical approval from the Federal Capital Territory Health Research Ethics Committee and informed consent from each participant regarding general data protection regulations. As a result, participants were also informed that the study was optional and that only those who gave their permission participated in the survey. The acquired data was safeguarded against unauthorised access to preserve participant privacy and confidentiality.

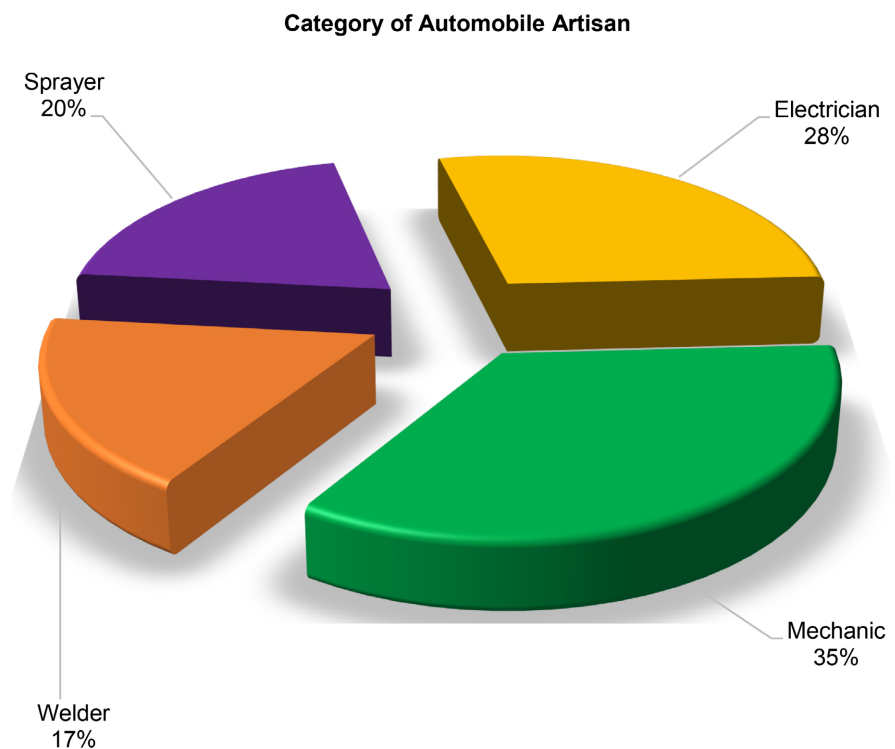
## 2.4. Methods and Instruments

A well-validated survey questionnaire divided into four sections covers the socio-demographics of automobile workers, types of risk exposure, perceptions of their vulnerability, and the use of personal protective equipment. The data was analysed using descriptive and inferential statistics in Statistical Packages for Social version 26. Cross tabulation was used to identify patterns and associations between variables, and the Relative importance Index method was used to determine the relative importance of adherence to PPE and other safety issues.

## 3. Results

This section analysed the respondents' demographic characteristics, including sex, age, educational level, category of Automobile Artisan, and years of work experience as an automobile (see **Table 1** and **Figure 1**). Mechanics dominate the Kugbo site with (35%) representation, while electricians trail behind with (28%) representation. Similarly, about (20%) of the Artisans were sprayers, while welders

accounted for (17%) during the survey period. It was further established that 100% of the Artisans were males. Also, (22.1%) of the 68 mechanics were below age 18, (8.8%) were within the age group 21 - 30 years, (13. 2%) were within 31 - 40 years, (26.5%) were within age 41 - 50, and (9.4%) were 51 years and above. Also, none of the 35 welders was below age 18, were within the age group 21 - 30 years, 17.1% were within 31 - 40 years, (82.9%) were within age 41 - 50 years, and none were within 51 years and above. Also, none of the 39 sprayers was below age 18; 2.6% were within the age group 21 - 30 years, (97.4%) were within 31 - 40 years, and none were within age 41 - 50 years and 51 years and above, respectively. Also, none of the 55 electricians were below age 18, (96.4%) were within the age group 21 - 30, (3.6%) were within 31 - 40, and none were within 41 - 50 and 51 years and above, respectively. It was further established that (14.5%) of the mechanics had no formal training, while 1.4% had achieved Secondary education. Similarly, (4.3%) had attained technical education, while (79.7%) had primary education. It was further established that (48.6%) of the Welders had no formal training, while none had achieved Secondary education. Similarly, none % had attained technical education, while (51.4%) had primary education. It was further established that (97.4%) of the Sprayer had no formal training, while none had achieved Secondary education. Similarly, (2.6%) had attained technical education, while none had primary education. It was further established that none of the electricians had formal training, while (16.4%) had achieved Secondary education. Similarly, (83.6%) had attained technical education, while none had primary education.

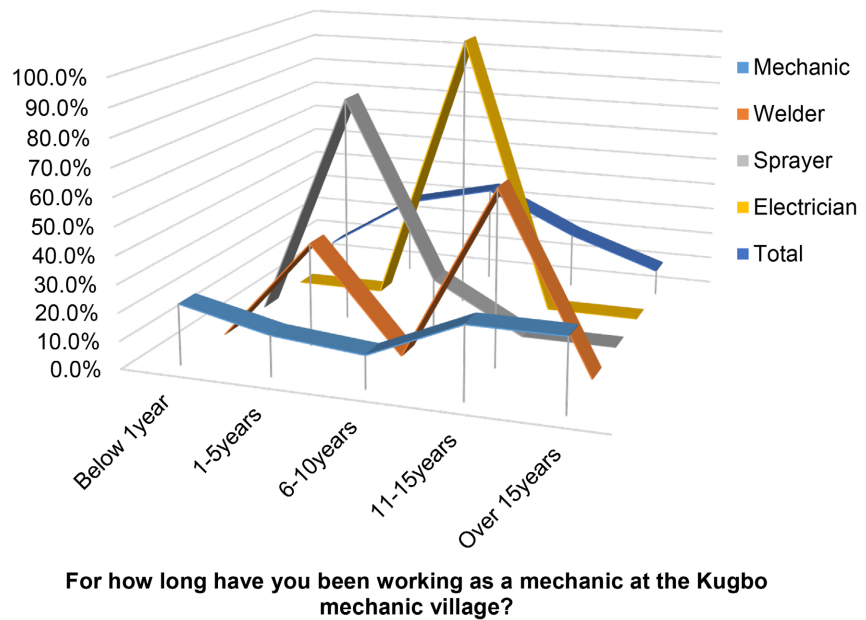


**Figure 1.** Category of automobile artisan.

**Table 1.** Proportional distribution of automobile mechanics by sex, age, and educational qualification.

		Mechanic (%)	Welder (%)	Sprayer (%)	Electrician (%)	Total	
Sex	Male	69	35	39	55	198	
		100	100	100	100	100	
<b>Total</b>		<b>69</b>	<b>35</b>	<b>39</b>	<b>55</b>	<b>198</b>	
		100	100	100	100	100	
Age	Below 18 years	15	0	0	0	15	
		22.1	0	0	0	7.6	
	21 - 30 years	6	0	1	53	60	
		8.8	0	2.6	96.4	30.5	
	31 - 40 years	9	6	38	2	55	
		13.2	17.1	97.4	3.6	27.9	
		18	29	0	0	47	
		26.5	82.9	0	0	23.9	
	41 - 50 years	20	0	0	0	20	
		29.4	0	0	0	10.2	
	<b>Total</b>		<b>68</b>	<b>35</b>	<b>39</b>	<b>55</b>	<b>197</b>
			100	100	100	100	100
Educational Qualification	No formal training	10	17	38	0	65	
		14.5	48.6	97.4	0	32.8	
	Secondary school	1	0	0	9	10	
		1.4	0	0	16.4	5.1	
	Technical school	3	0	1	46	50	
		4.3	0	2.6	83.6	25.3	
	Primary education	55	18	0	0	73	
		79.7	51.4	0	0	36.9	
<b>Total</b>		<b>69</b>	<b>35</b>	<b>39</b>	<b>55</b>	<b>198</b>	
		100	100	100	100	100	

A similar analysis (see **Figure 2**) showed that (21.7%) of the mechanics have been working as mechanics at the Kugbo mechanic village for less than a year. In comparison, (14.5%) had 1 - 5 years of on-site experience at the location. However, 11.6% had worked there for 6 - 10 years, while (26.1%) had 11 - 15 years and over 15 years of on-site experience at the said location, respectively. Furthermore, the analysis showed that none of the Welders had worked as a mechanic at the Kugbo mechanic village for less than a year, while (37.1%) had 1 - 5 years of on-site experience at the said location. However, they had worked there for 6 - 10 years, while (62.9%) and none had 11 - 15 years and over 15 years of on-site experience at the said location during the survey period. A similar analysis showed that none of the Sprayers has been working as a mechanic at the Kugbo mechanic village for less than a year, while (82.1%) had 1 - 5 years of on-site experience at the said location. Nevertheless, (17.9%) had worked there for 6 - 10 years, while none had 11 - 15 years and over 15 years of on-site experience at the said location during the survey period.



**Figure 2.** Proportional distribution of automobile mechanics by the length of service at the Kugbo mechanic village.

From the findings (see **Figure 3** and **Figure 4**), (1.4%) of the mechanics were exposed to oxyacetylene fumes, while all were exposed to Battery acid. Similarly, none were exposed to spray painting fumes, while they were all exposed to smoke from furnaces, ovens, and exhaust fumes. Nevertheless, none were exposed to welding fumes, while all were exposed to metal burns during an assessment. Similarly, none were exposed to acetone, while all were reportedly exposed to hydraulic oil. About 1.4% were reportedly exposed to a metal explosion, while none were exposed to detergents and paint. About (1.4%) of them were reportedly exposed to Coolants, while none were Thinners.

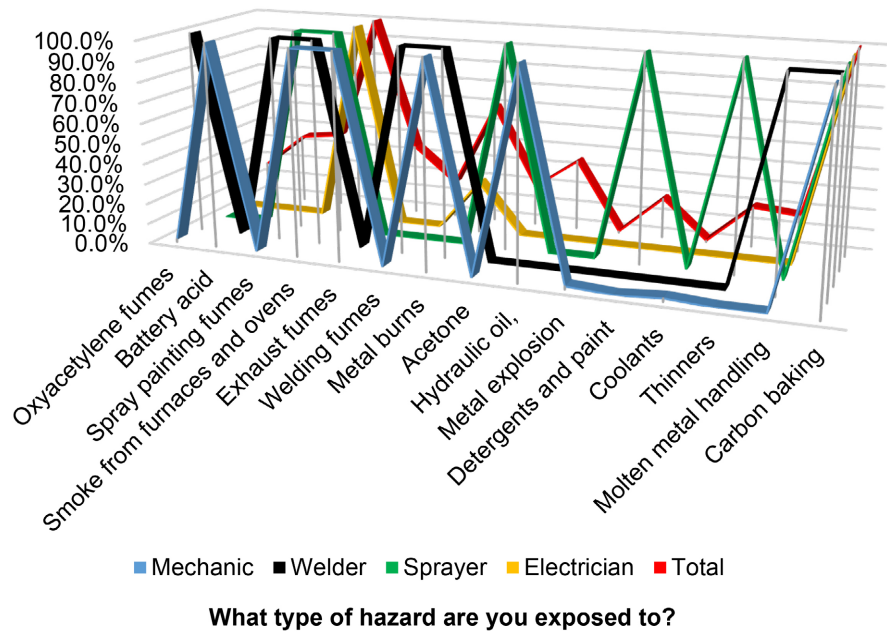


Figure 3. Exposure to hazards.

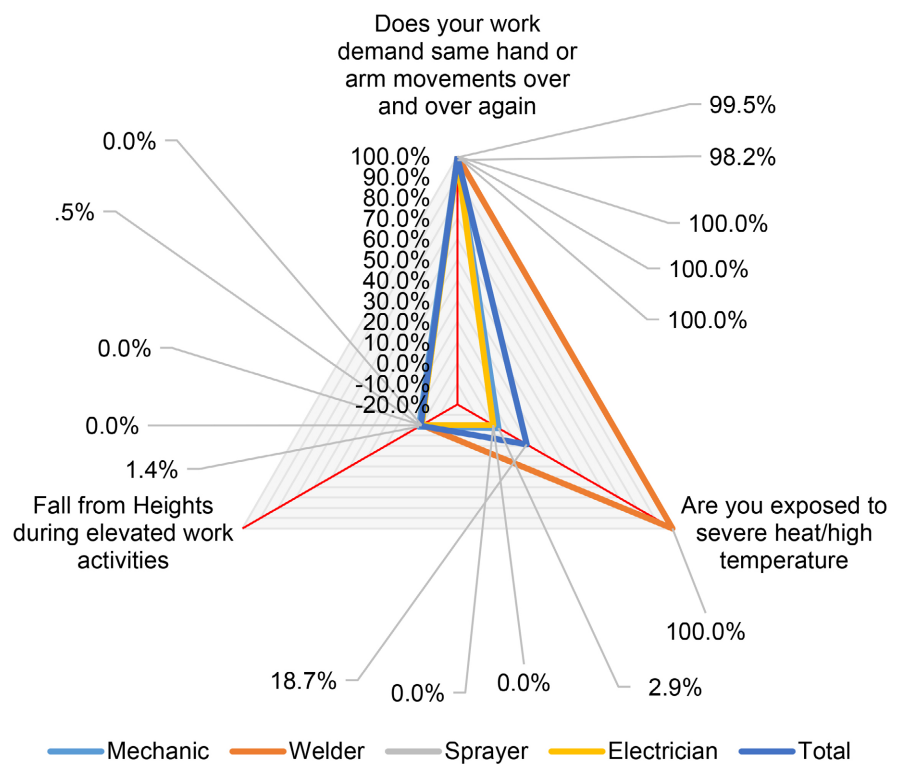


Figure 4. Exposure to hazards.

Similarly, none were exposed to molten metal handling, while all were reportedly exposed to carbon baking. From the findings, all the welders were exposed to oxyacetylene fumes and battery acid. Similarly, none were exposed to spray painting fumes, none were exposed to smoke from furnaces and ovens, and none were,

and none were exposed to exhaust fumes. Nevertheless, all of them were reportedly exposed to welding fumes and metal burns in the course of an assessment. Similarly, none was exposed to acetone, hydraulic oil, metal explosion, detergents and paint, Coolants, and Thinners. Similarly, none were exposed to molten metal handling, while none were exposed to carbon baking. From the findings, none of the sprayers were exposed to oxyacetylene fumes or battery acid. Similarly, all of them were reportedly exposed to spray painting fumes and smoke from furnaces and ovens, while none were exposed to exhaust fumes, welding fumes, and metal burns during an assessment. Similarly, all of them were exposed to acetone, while none were reportedly exposed to hydraulic oil and metal explosion. Also, all of them were exposed to detergents and paint, while none were reportedly exposed to Coolants. They were all exposed to Thinners, while none were exposed to molten metal handling and carbon baking. Similar findings showed that none of the electricians was exposed to oxyacetylene fumes, Battery acid, spray painting fumes, smoke from furnaces and ovens, exhaust fumes, or welding fumes. However, 25.5% were reportedly exposed to metal burns during the assessment. In contrast, none was exposed to acetone, hydraulic oil, metal explosions, detergents and paint, Coolants, Thinners, molten metal handling, or carbon baking.

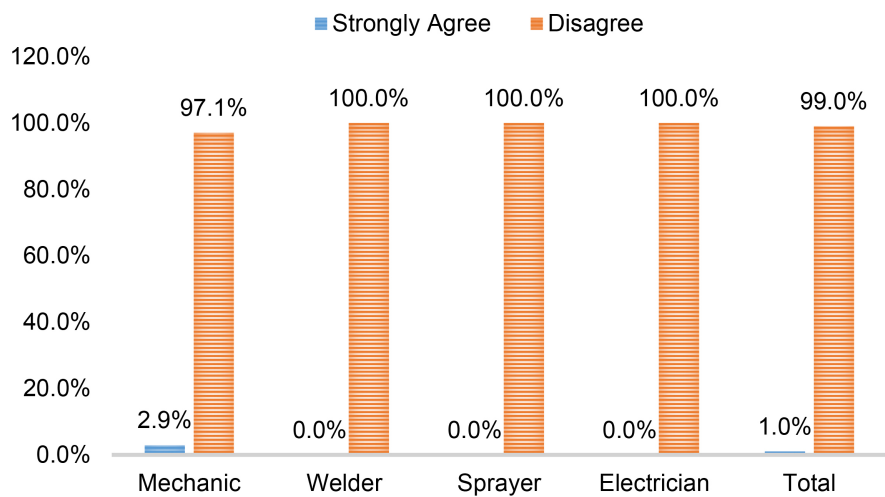
**Table 2** below lists the different rankings of the hazards along with their corresponding risks. With a relative crucial score of 0.960, the results clearly show that working long hours while seated accounted for the main occupational dangers that afflict automotive technicians at Kugbo Mechanic Village. With an average score of 1.92, most respondents said that working long hours while seated presents a risk to employees at Kugbo Mechanical Village, placing it as the top occupational hazard. Furthermore, the findings verified that bending forward for extended periods is a major occupational hazard linked with working in an automobile environment; this was supported by the relative importance index (RII) of 0.893. With an average score of 1.79, this result also shows that most respondents considered working long hours with a hunched-over body risky for Automobile workers at Kugbo Mechanic Village. Automobile mechanics were placed second among the risks and hazards associated with their jobs. The findings also showed that one of the main risks and occupational hazards for automobile workers is working lengthy shifts while standing still and pushing or dragging objects with some degree of power. The result reveals a relatively important index (RII) of 0.891, respectively, showing that most respondents admitted that working for extended periods while standing still and pushing or pulling objects with some effort represents a risk to them. The mean score of 1.783 for the average responses indicates a high level of corroboration. Regarding occupational hazards and risks for vehicle technicians, they were ranked third overall. The study found that, with a RII of 0.859, working with machines (such as angle grinders, drills, electric saws, forklifts, milling machines, lathes, and sanders) and carrying or lifting heavy items at work provide dangers and hazards to employees at Kugbo mechanic village. This suggests that most respondents thought using machines (such as drills, electric

saws, forklifts, angle grinders, milling machines, lathes, and sanders) and carrying or moving large goods at work presented risks to artisans. With an average mean score of 1.72 for each response, the average level of agreement was strong. Regarding occupational dangers and risks, they were ranked fourth overall as a group of vehicle mechanics. The study's Relative Important Index (RII) of 0.748 supports the conclusion that working as an automobile mechanic entails dangers, including working with hands raised above the head for extended periods. This suggests that most respondents agreed there is a risk when working for extended periods with hands lifted above the head. The mean score of 1.50 also demonstrated this on average, placing it fifth among the dangers and hazards related to the work of automobile mechanics. Finally, the data demonstrated that most respondents agreed that potential radiation sources in their workplace posed risks and hazards to them. A relatively important index (RII) of 0.601 supported this. It was ranked sixth with a mean score of 1.202 among the risks and hazards of working as an automobile mechanic.

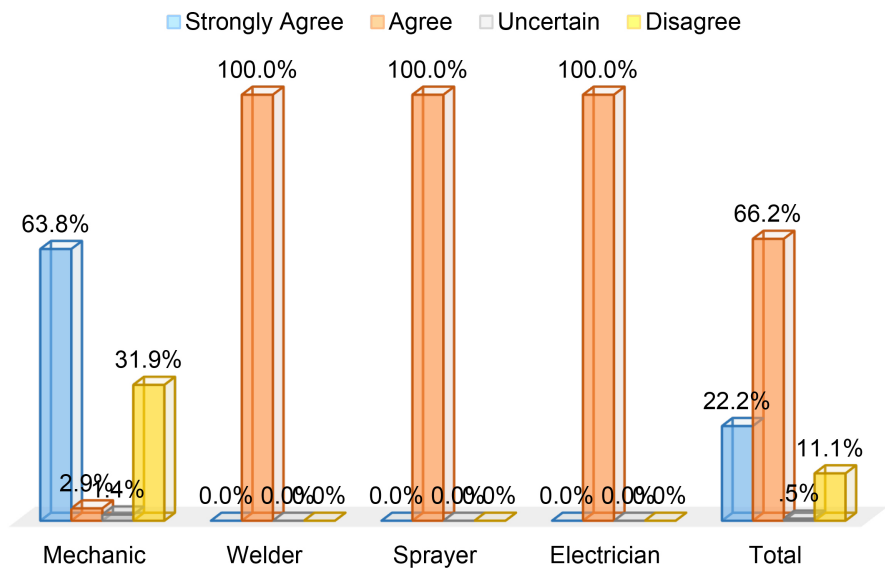
**Table 2.** Relative importance index of occupational hazards and risks automobile mechanics are exposed to in Kugbo mechanic Village.

Item	Yes	No	Total respondents (N)	Weighted total	RII	Index (%)	Item Mean	Rank
Do you work for long hours while sitting down?	182	16	198	380	0.960	95.96	1.919	1 <sup>st</sup>
Do you work for long hours with your body bent forward?	155	42	197	352	0.893	89.34	1.787	2 <sup>nd</sup>
Do you push or pull objects using some force during work?	155	43	198	353	0.891	89.14	1.783	3 <sup>rd</sup>
Do you work for long hours while standing at one place?	155	43	198	353	0.891	89.14	1.783	3 <sup>rd</sup>
Do you work with Machines (angle grinders, drills, electric saws, forklifts, milling machines, lathes, and sanders)?	142	56	198	340	0.859	85.86	1.717	4 <sup>th</sup>
Do you carry or lift heavy loads at work?	142	56	198	340	0.859	85.86	1.717	4 <sup>th</sup>
Do you work with hands raised above your head for long hours?	98	100	198	296	0.747	74.75	1.495	5 <sup>th</sup>
Sources of possible radiation in the working environment	40	158	198	238	0.601	60.10	1.202	6 <sup>th</sup>

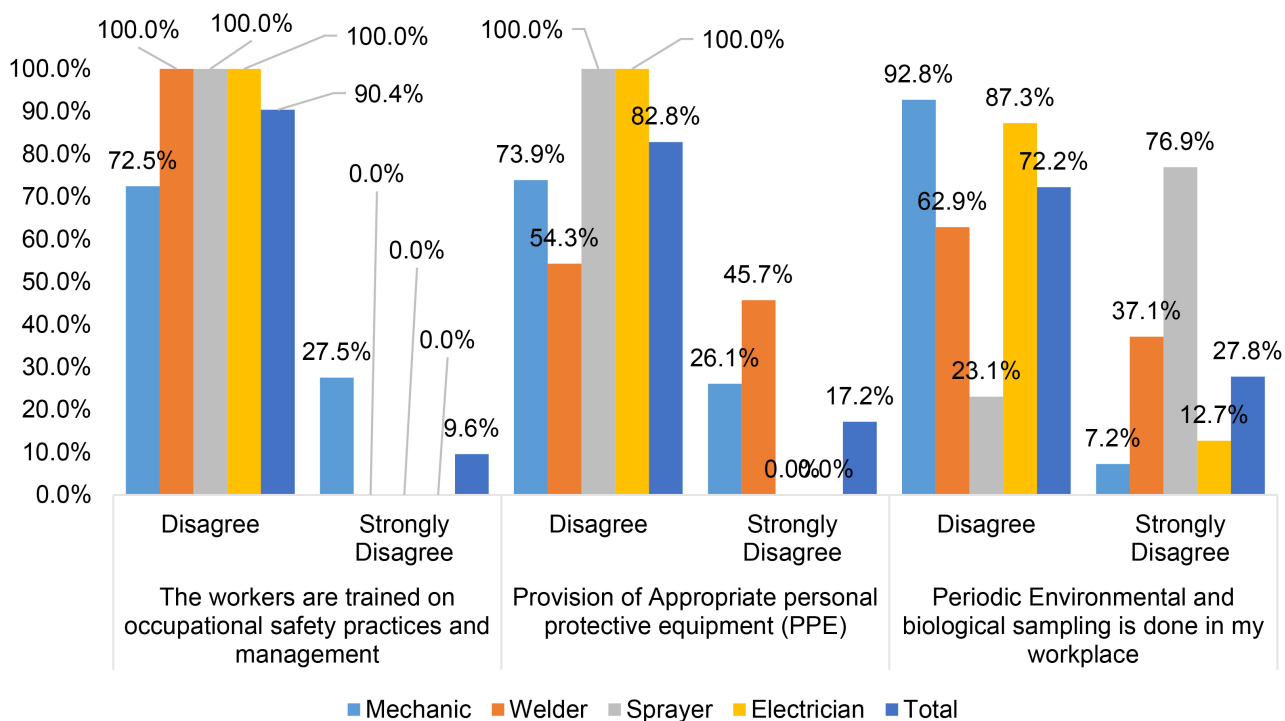
The study also sought to assess adherence to personal protective equipment and other safety issues (know about, availability, and use among automobile mechanics). The data were analyzed using proportional distribution and descriptive statistics such as mean and standard deviation. The results are, however, reported in **Figures 5-7** below. The safety assessment report established that (97.1%) of the mechanics, all the welders, sprayers, and electricians had no copy of the health and safety manual and orientation programs for health and safety provided at my workplace. It was further established that (66.7%) of the mechanics, all the welders, sprayers, and electricians need to be aware of any corrective measures taken after injuries have resulted, except first aid. In comparison, (80.9%) of the mechanics, (77.1%) of the welders, (97.4%) of the sprayers and all the electricians



**Figure 5.** Automobile mechanics by possession of health and safety manual and orientation programs for health and safety.



**Figure 6.** Automobile mechanics who are not aware of any corrective measures taken after injuries have resulted except first aid.



**Figure 7.** Automobile mechanics by adherence to personal protective equipment and other safety issues.

failed to put measures at the workplace to monitor the various hazards on a routine basis to enable corrective measures to be instituted to address them. Similarly, all the mechanics, all the welders (79.5%) of the sprayers, and all the electricians disagreed with the availability of health and safety procedures and regulations at work. This implies that these measures need to be implemented with specific reference to the study area. It was further established that all automobile technicians disagreed with using approved working standards when performing their work. At the same time, (6.8%) of the mechanics, all the welders, (59%) of the sprayers, and 83.60% of the electricians unanimously submitted that their superiors never advised them on their job schedule's health and safety aspects. However, (79.7%) of the mechanics, (74.3%) of the welders, 12.80% of the sprayers, and (40%) of the electricians submitted that they needed to notify their superiors about the health problems in performing their duties. In comparison, (72.5%) of the mechanics, all the welders, sprayers and electricians disagreed that the workers are trained on occupational safety practices and management. Also, (73.9%) of the mechanics, (54.3%) of the welders, all the sprayers, and electricians needed to attest to the provision of appropriate personal protective equipment (PPE). At the same time, all the automobile technicians collectively affirmed that periodic environmental and biological sampling is not done at their workplace. Similarly, 88.4% of the mechanics, all the welders (66.7%) of the sprayers, and all the electricians failed to attest to the incorporation of job safety practices such as logout/tagout when working with the electrical system as such practices were never observed at the site under investigation. It was further established that all the mechanics, welders

(74.4%) of the sprayers, and all the electricians submitted that no regular auditing of workers had been carried out during work to ensure appropriate conformance to job safety practices. In comparison (97.1%) of the mechanics, all the welders, sprayers and (36.4%) of the electricians failed to attest to supporting organizing safety and health meetings. Thus, it can be ascertained that only the electricians at Kugbo Mechanic Village subscribe to the tenant of organizing safety and health meetings. Finally, it was found that safety training programs have yet to be conducted for workers at Kugbo Mechanic Village, as collectively submitted by all the automobile technicians during the assessment period.

**Table 3** depicts the various responses regarding automobile Mechanics' adherence to personal protective equipment and other safety issues at the Kugbo mechanic village. The findings indicate that majority of the respondents with an overall mean value of 3.72 disagreed that the automobile mechanics adhere to personal protective equipment and other safety measures such as; availability of a copy of health and safety manual and orientation programs for health and safety provided at my workplace (mean = 3.97), awareness of any corrective measures taken after injuries have resulted except first aid (mean = 2.01), putting measures at the workplace to monitor the various hazards on a routine basis to enable corrective measures to be instituted to address them (mean = 3.96), availability of health and safety procedures and regulations at the workplace (mean = 4.04), only approved working standards are used when performing the work (mean = 4.23), superiors advising workers on the health and safety aspect of my job schedule (mean = 3.72), training of workers on occupational safety practices and management (mean = 4.10), provision of Appropriate personal protective equipment (mean = 4.17), periodic environmental and biological sampling is done in the workplace (mean = 4.28), incorporation of job safety practices such as logout/tagout when working with electrical system (mean = 1.96), regular auditing of workers during work to ensure appropriate conformance to job safety practices (mean = 4.37), organising safety and health meeting for workers (mean = 3.82), and organising safety training programs for workers (mean = 4.19). According to the results, the majority of the automobile mechanics disagreed with the statements relating to personal equipment and other safety issues at the Kugbo Mechanic Village.

**Table 3.** Descriptive statistics.

Adherence Issues	N	Mean	Std. Deviation	
	Statistic	Statistic	Std. Error	Statistic
I have a copy of the health and safety manual and orientation programs for health and safety provided at my workplace	198	3.97	0.02	0.30
I am not aware of any corrective measures taken after injuries have resulted except first aid	198	2.01	0.06	0.82

**Continued**

Putting measures at the workplace to monitor the various hazards on a routine basis to enable corrective measures to be instituted to address them	197	3.96	0.03	0.45
Availability of health and safety procedures and regulations at the work	198	4.04	0.04	0.53
Only approved working standards are used when performing my work	198	4.23	0.03	0.42
My superiors advise me on the health and safety aspect of my job schedule	198	3.72	0.07	0.93
I notify my superiors about the health problems in performing my duties	198	3.21	0.07	0.92
The workers are trained on occupational safety practices and management	198	4.10	0.02	0.30
Provision of appropriate personal protective equipment (PPE)	198	4.17	0.03	0.38
Periodic Environmental and biological sampling is done in my workplace	198	4.28	0.03	0.45
Incorporation of job safety practices such as logout/tagout when working with electrical system	198	1.96	0.06	0.80
Regular auditing of workers during work to ensure appropriate conformance to job safety practices	198	4.37	0.04	0.58
Organizing safety and health meeting	198	3.82	0.05	0.75
Safety training programs for workers	198	4.19	0.03	0.39
<b>Global Average</b>		<b>3.72</b>		

#### 4. Discussion

Automobile mechanics perform various tasks that expose them to chemical and physical risks that could harm their health [15]. It is not unexpected that all of the study's automobile mechanics were men because the field requires a lot of physical labour, discouraging female participation. The report shows that most automobile workers were young adults, with (27.9%) between the ages of 31 and 40 and (30.5%) between the ages of 21 and 30. This reflects the population's active age group. The study indicates that car mechanics are people from poor socioeconomic backgrounds. That means that (5.1%) of auto mechanics were merely secondary school educated, (23.3%) went to technical school, 36.9% were primary school educated, and (32.8%) had never received formal education. The survey also showed that (78.3%) of workers spend lengthy hours standing, and (91.9%) work long hours while sitting down. Their extended exposure duration renders

them more susceptible to occupational diseases. Consistent with research conducted in Zaria, 71.5% of automobile mechanics worked six to eleven hours daily [16]. Chemical dangers are the most common hazards affecting automobile mechanics in this study, whereas physical hazards were the least common.

Paints, exhaust fumes, thinner, acetone, and battery acid are a few examples of chemical risks. According to the survey, most car mechanics (87%), electricians (70.9%), welders (68.6%), and sprayers (77%) have access to dungarees (coats) and other personal protection equipment (hard hats, goggles and gloves). The most common conditions were frequent general body discomfort (46%) and impaired vision (60.1%). This demonstrates that less mechanical assistance is used, which lowers energy dissipation. The study results of car mechanics in Ibadan City, Nigeria, are consistent with this claim [17]-[19]. Frequent exposure to some chemicals might lead to poor vision. (8.6%) people used Coats as their most common personal protection equipment, compared to (22.7%) who did not. The potential repercussions of failing to wear the appropriate PPE, particularly gloves, could include bodily contact with hot items and severe burns while handling chemicals. The study identifies a few occupational hazard control practices that still need to be implemented to protect the workers' health and safety at the hamlet of car mechanics. The distribution of the health and safety manual and worker orientation programs are among the many deficient measures. Other measures include the provision of corrective measures following injuries, routine monitoring of the various hazards to enable the implementation of corrective measures to address them, and the availability of procedures and regulations. Use approved working standards when doing tasks; train employees on occupational safety procedures and management; conduct routine biological and environmental samplings; incorporate job safety procedures like logout/tagout when working with electrical systems; audit employees while they are working to ensure proper adherence to job safety procedures; hold safety and health meetings; and provide workers with safety training programs. As a result, the automobile workers' disregard for occupational health and safety recommendations is a violation workplace safety [20]-[22].

The study concludes that automotive mechanics at the Kugbo mechanic village are subjected to several hazardous activities, thereby fulfilling the first purpose of identifying the sorts of occupational hazards and risks to which they are exposed. The main categories of occupational risks and hazards that have been discovered are exposure to chemicals on the skin, metal burns, oxyacetylene fumes, extreme heat, stress, noise pollution, and exposure to the hands and arms. The second goal was to evaluate the possibility of an occupational hazard for car mechanics. According to the study's findings, Kugbo Mechanics Village's car mechanics have health issues such as burns on their bodies, poor vision, respiratory infections, heart disease, depression, excruciating headaches and abdominal pain as a result of being exposed to dangerous chemicals at work. The third goal was to examine how personal protection equipment and other safety precautions are used.

According to the study, Kugbo's auto mechanics disregard safety precautions like management, safety and health meetings, worker safety training programs, and job safety procedures like logout/tagout when working with electrical systems. Periodic environmental and biological sampling is also neglected. The fourth goal was to assess automotive mechanics' awareness of the consequences of wearing PPE. According to the study, over 50% of Kugbo Mechanic Village's car technicians knew about workplace dangers. It may not be necessary to have any training to be aware of workplace risks because it is easy to spot machinery or other items that could endanger people through simple observation. Particularly when PPEs are not worn. Overall, the respondents' self-reported safety behaviours were not good. One-third of the respondents do not wear PPEs, while half wear them occasionally. When it is impossible to prevent chemical, physical, or biological threats at work, PPEs offer a physical barrier against them.

## 5. Conclusion

The study reveals that automobile workers at mechanics in Kugbo Mechanics Village are exposed to various occupational hazards, including exposure to chemicals, metal burns, and extreme heat. These hazards can lead to health issues such as burns, poor vision, respiratory infections, heart disease, depression, and abdominal pain. Additionally, the study found that over 50% of the mechanics are aware of workplace dangers, but only one-third wear PPE occasionally. The study also found that safety precautions, such as management meetings and worker training programs, are often neglected. This study emphasises the need for automobile workers to be trained in using protective equipment and occupational health safety rules. Formal training can be achieved through adult literacy programs, health education workshops, and public awareness campaigns. Non-governmental agencies and educational institutions should support these workers in promoting safety practices.

## 6. Suggestion for Further Research

The present study could only include a few automobile mechanics in the Federal Capital Territory. Therefore, the researchers recommend further research to expand its scope to include many automobile mechanics and key stakeholders in the sector. This will provide valuable insight to automobile workers so that they can prioritise occupational safety practices.

## Respondents Permission

The respondents were informed and gave their permission to present and publish this study.

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## Conflicts of Interest

The authors state that none of their known conflicting financial interests or personal connections may have appeared to impact the work presented in this study.

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