



CONTRACTING FIRMS' COMPLIANCE TO COVID-19 OCCUPATIONAL SAFETY AND HEALTH STANDARDS IN ABUJA

Williams S. Oluwaseun¹, Ibrahim Saidu¹, Isah Yahaya² Madina A. Shittu³

^{1,2} Department of Quantity Surveying, Federal University of Technology, Minna

² Department of Building Technology, Niger State College of Education, Minna

³ Department of Quantity Surveying, Niger State Polytechnic Zungeru.

Corresponding author: samueloluwaseun1989@gmail.com

ABSTRACT

The measures put in place by most construction firms in Nigeria to control Covid-19 pandemic are proven to be ineffectual and contributed to the total shutdown of construction activities during Covid-19 pandemic. Thus, the need for compliance with the Occupational Safety and Health Acts (OSHA) standards on Covid-19 to ensure a holistic management of Covid-19 virus in construction firms. This study assessed the compliance level of the construction firms to the COVID-19 OSHA standards in Abuja with a view to suggesting strategies for ensuring effective compliance to the standards by construction firms. The study adopted survey design. A total of 173 structured questionnaires were administered to management staff /health officers of construction firms within the Abuja, who are responsible for health issues in small, medium and large construction firms in the FCT. The collected data was analysed using mean item score. The study found that instructing all infected /tested positive/displayed symptom workers to stay home, implementation of physical distancing in all communal work areas for unvaccinated workers, practicing good personal hygiene and hand wash, performing routine cleaning and disinfections and regular testing on Covid-19 especially in area of high community transmission are the key OSHA standards complied with by construction firms in Abuja. However, measures relating to workers education and training, constant record taking and reporting and encouraging workers to get vaccinated were given less attention by the construction firms. The study concludes that the average compliance rate to OSHA standards by the contracting firms in Nigeria was high; and full compliance standards would lead drastic reduction in Covid-19 virus in construction firms. It was recommended that construction firms should always sensitize and educate it workers on the importance of Covid-19 vaccination, as full doze vaccination would ensure absolute management of the virus.

Keywords: Abuja, compliance, construction firms, covid-19, and OSHA standard

INTRODUCTION

The construction industry contributes to the economic growth of any nation through strategic planning, design, and construction by transforming various production processes into constructed facilities (Isa *et al.*, 2013). The industry is unique among other sectors because it provides the necessary infrastructures that stimulate national development (Gamil *et al.* 2020). In Nigeria, about 25% of the workforce are attributed to the construction industry (Gamil *et al.*

2020). However, the industry is recognised as one of the most dangerous and high-risk industries, as the fatality rate in construction has recorded a 6 percent increase in 2019 which is the highest, since 2007 (U.S. Bureau of Labour Statistics (BLS), 2020). The coronavirus disease also known as COVID-19 is a global pandemic that has affected all sectors of developments. It is caused by the virus named Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) (World Health Organisation, 2021) (WHO, 2021). The virus is confirmed as being transmitted from human to human and results in symptoms including fever, dry cough, fatigue, and shortness of breath (CDC, 2021).

The outbreak of Covid-19 pandemic has tested the resilience of the construction industry, putting the safety of workers and overall businesses at risks (Alsharef *et al.*, 2021). The Nigerian construction firms have been adversely affected by the COVID-19 pandemic The Center for Construction Research and Training (PWR, 2020). For instance, in the early stage of the pandemic in 2020, a significant number of construction workers reportedly tested positive, which led to a total shutdown of construction firms in Nigeria (Alsharef *et al.*, 2021), and the risk of the infections among construction firm workers were about five time more likely to be hospitalized than workers in other industries (OSHA, 2020).

The Centers of Disease Control and Prevention (CDC) noted in 2019 that, recent studies indicate that the virus can be spread by people who are not showing symptoms. Older adults and people of any age who have serious underlying medical conditions may be at higher risk of severe illness from COVID-19” (CDC, 2021). While construction workers are the heartbeat of every construction project, there has been limited discussion on the perception of workers in the pandemic and the compliance to the newly established safety measures. One tool that has been available to workers in both developed and developing countries of the world Nigeria inclusive to report on their safety concerns is the OSHA Complaint tracker. OSHA is a large regulatory agency of the United States Department of Labour with a main mission to inspect and examine the health and safety in workplaces in various industries, including the construction industry (OSHA, 2020). Construction workers had access to the OSHA Complaint tracker during the pandemic, and complaints made by construction workers nationwide were compiled into a database that is published on the OSHA website. The investigation of this database can provide great insights into the perception of the construction workers of how well the construction projects were managed during the pandemic. Due to the above stated findings, the Occupational Safety and Health Administration (OSHA), came up with guide lines to help employers keep workers safe in the construction industry. Hence, this study is focused on assessing the compliance to occupational safety and health administration (OSHA) standards on covid-19 pandemic in construction firms in Abuja, FCT.

In order the curb or minimise the menace of the total lockdown of construction activities by constructions firms in Nigeria, strong measures have to be put in place to minimise the spread of the covid-19 virus amongst workers (Ogunnusi *et al.*, 2020). The measures put in place by construction firms in Nigeria to tackle the virus are proven to be common, generic, ineffectual, and not construction related, which led to the total shutdown of construction activities (Ogunnusi *et al.*, 2020). Since the construction industry requires all stakeholders to be on site, Ogunnusi *et al.* (2021) advocated for alliance to the global measure, like the OSHA guidelines to ensure a holistic management to enable the continuation of construction works, with minimum or no risk of contracting the Covid -19 virus in the construction firms in FCT. Thus, this study assesses the compliance level of the construction firms to the OSHA standards in FCT with a view to suggesting strategies for ensuring effective compliance to the standards by construction firms.

LITERATURE REVIEW

OSHA Standards/Guidelines on Covid -19 Pandemic

OSHA provides the guidance for employers as recommendations to use in protecting unvaccinated workers and otherwise at-risk workers, and to help those workers protect themselves. This guidance also incorporates CDC's recommendations for fully vaccinated workers in areas of substantial or high transmission. Employers and workers are mandated to use the guide to determine any appropriate control measures to implement (OSHA, 2020).

The common OSHA recommendations to mitigate the spread of COVID-19, include the following:

1. Facilitate employees getting vaccinated

Employers should grant paid time off for employees to get vaccinated and recover from any side effects. The Department of Labour and OSHA, as well as other Federal agencies are expected to be working diligently to ensure access to COVID-19 vaccinations (OSHA, 2021).

2. Implement physical distancing in all communal work areas for unvaccinated and otherwise at-risk workers

A key way to protect workers is to physically distance them from other such people (workers or customers). Generally at least 6 feet of distance is recommended, although this is not a guarantee of safety, especially in enclosed or poorly ventilated spaces. In a workplace, workers often are required to work in close proximity to each other and/or customers or clients for extended periods of time. Maintaining physical distancing at the workplace for such workers is an important control to limit the spread of COVID-19 (Oksanen *et al.*, 2020).

3. Provide workers with face covering masks, as appropriate, unless their work task requires a respirator or other PPE

In addition to unvaccinated and otherwise at-risk workers, CDC recommends that even fully vaccinated people wear masks in public indoor settings in areas of substantial or high transmission and notes that fully vaccinated people may appropriately choose to wear masks in public indoor settings regardless of community level of transmission, particularly if they are at risk or have someone in their household who is at risk or not fully vaccinated (CDC, 2020).

4. Educate and train workers on COVID-19 policies and procedures using accessible formats and in languages they understand

Train managers on how to implement COVID-19 policies. Communicate supportive workplace policies clearly, frequently, and via multiple methods to promote a safe and healthy workplace. Communications should be in plain language that unvaccinated and otherwise at-risk workers understand (including non-English languages, and American Sign Language or other accessible communication methods, if applicable) and in a manner accessible to individuals with disabilities. Training should be directed at employees, contractors, and any other individuals on site, as appropriate (OSHA, 2020).

5. Maintain ventilation systems

The virus that causes COVID-19 spreads between people more readily indoors than outdoors. Improving ventilation is a key engineering control that can be used as part of a layered strategy to reduce the concentration of viral particles in indoor air and the risk of virus transmission to unvaccinated and otherwise at-risk workers in particular. A well-maintained ventilation system is particularly important in any indoor workplace setting and when working properly, ventilation is an important control measure to limit the spread of COVID-19 (CDC, 2021).

6. Perform routine cleaning and disinfection

If someone who has been in the facility within 24 hours is suspected of having or confirmed to have COVID-19, follow the CDC cleaning and disinfection recommendations. Follow requirements in mandatory OSHA standards 29 CFR 1910.1200 and 1910.132, 133, and 138 for hazard communication and PPE appropriate for exposure to cleaning chemicals (CDC, 2021).

7. Record and report COVID-19 infections and deaths

Under mandatory OSHA rules, employers are required to record work-related cases of Covid-19 illness on OSHA's Form 300 logs if the following requirements are met: (1) the case is a confirmed case of COVID-19; (2) the case is work-related; and (3) the case involves one or more relevant recording criteria. Employers must follow the requirements in 29 CFR part 1904 when reporting COVID-19 fatalities and hospitalizations to OSHA. More information is available on OSHA's website. Employers should also report outbreaks to local health departments as required and support their contact tracing efforts (OSHA, 2020).

8. Note on recording adverse reactions to vaccines

OSHA, like many other federal agencies, is working diligently to encourage COVID-19 vaccinations. OSHA does not want to give any suggestion of discouraging workers from receiving COVID-19 vaccination or to dis-incentivize employers' vaccination efforts. As a result, OSHA will not enforce 29 CFR part 1904's recording requirements to require any employers to record worker side effects from COVID-19 vaccination at least through May 2022. OSHA will reevaluate the agency's position at that time to determine the best course of action moving forward. Individuals may choose to submit adverse reactions to the federal Vaccine Adverse Event Reporting System (OSHA, 2021).

9. Implement protections from retaliation and set up an anonymous process for workers to voice concerns about COVID-19-related hazards

Section 11(c) of the OSH Act prohibits discharging or in any other way discriminating against an employee for engaging in various occupational safety and health activities. Examples of violations of Section 11(c) could include discriminating against employees for raising a reasonable concern about infection control related to COVID-19 to the employer, the employer's agent, other employees, a government agency, or to the public, such as through print, online, social, or any other media; or against an employee for voluntarily providing and safely wearing their own PPE, such as a respirator, face shield, gloves, or surgical mask (OSHA, 2021).

10. Follow other applicable mandatory OSHA standards

All of OSHA's standards that apply to protecting workers from infection remain in place. These mandatory OSHA standards include: requirements for PPE, respiratory protection, sanitation, protection from blood borne pathogens: OSHA's requirements for employee access to medical and exposure records. Many healthcare workplaces will be covered by the mandatory OSHA Covid-19 Emergency Temporary Standard. More information on that standard is available on OSHA's website. Employers are also required by the General Duty Clause, Section 5(a)(1) of the OSH Act, to provide a safe and healthful workplace free from recognized hazards that are causing or likely to cause death or serious physical harm (OSHA, 2021).

RESEARCH METHODOLOGY

The research adopted survey design approach through quantitative means to assess the compliance to occupational safety and health administration standards on Covid-19 Pandemic in construction Firms in Abuja. The targeted population for the study constituted the management staff members/health and safety officers of construction firms within the FCT, who are responsible for health related issues in the construction firms. The sample frame consisted of all staff including, chief executive officers and construction site health and safety officer of the small, medium and large construction firms in the study area.

The samples size for this research was developed from a population of 210 Chief Executive Officers and Health and Safety Officers of the Small, Medium and Large Construction Firms in Abuja Nigeria. The value was subjected to Krejcie and Morgan Table for determining sample size at 5% limit of error and at 95% confidence level. The value of 210 was reduced to 173 which is the minimum sample of questionnaire administered. Therefore 173 represent the sample size as shown in Table 1.

Table 1: Sample size

S/N	Executive officers	Health officers	Population	Sample size using Morgan's Table
Small firm	35	37	72	59
Medium firm	43	43	86	70
Large firm	25	27	52	44
Total	103	107	210	173

The sampling technique adopted for this study is simple random sampling method (of small, medium and large construction firms) to enable every respondent have equal chances selection within the population. The data for this research work was collected using well-structured questionnaire on the compliance by the construction firms on the available OSHA standards on Covid-19 Pandemic. The procedure involved in the administration of the questionnaire was done by personal visitation to the field and the questionnaire administered was collected immediately after they have been filled.

To give meanings to the collected data, it was analysed and interpreted statistically. The study employed descriptive statistics method only. The descriptive methods included Mean Item Score (MIS) was used to rank on average the level of compliance of the construction firms to the OSHA standard.

The decision rule used for the MIS was that adopted from Morenikeji (2006), that factors with MIS value of 0.00 to 1.49 was considered as very low compliance; 1.50 to 2.49 as low compliance; 2.50 to 3.49 as average compliance; 3.50 to 4.49 as high compliance; and 4.49 to 5.00 as very high compliance.

RESULTS AND DISCUSSION

The results of compliance level with the OSHA standard by construction firms in FCT are presented in this section.

Demographic Information of the Respondents

Table 2 shows that 49.15% and 50.85% of the respondents from small sized firms are Executive officers and Health and safety officers respectively.

The respondents of the Medium sized firms were 47.14% and 52.86% Executive officers and Health and safety officers respectively.

However, only 43.18% of the respondents were Executive officers and 52.86% were Health and safety officers from the large sized firms.

Table 2: Demographic information of the respondents

SN	FIRM TYPES	EXECUTIVE OFFICERS		HEALTH AND SAFETY OFFICERS		TOTAL NUMBER OF RESPONDENTS
1	SMALL	29	49.15%	30	50.85%	59
2	MEDIUM	33	47.14%	37	52.86%	70
3	LARGE	19	43.18%	25	56.82%	44

Compliance to OSHA Standards on Covid-19 Pandemic by Construction Firms

Table 3 shows that the top OSHA standards mostly complied with by the construction firms in Abuja are: Instructing all infected /tested positive/displayed symptom workers to stay home; this was followed by implementation of physical distancing in all communal work areas for unvaccinated workers; then, practicing good personal hygiene and wash hands often; performing routine cleaning and disinfections; and regular testing on Covid-19 especially in area of high community transmission. These standards were deemed very highly complied because they fall between MIS of 4.50 to 5.00. These results corroborate the submissions of OSHA (2020), CDC (2020) and that of Oksanen *et al.* (2020) on standards for mitigating the Covid-19 in workplaces.

However, the least OSHA standard complied with by the construction firms are: recording and reporting Covid-19 infection and deaths to NCDC; and facilitating employees to get vaccinated. They were deemed least complied factors because they fall between MIS of 1.50 to 2.50.

The average compliance rate of the small, medium and large sized firms to OSHA Standards on Covid-19 Pandemic was deemed high with MIS value of 3.69.

The result is an indication that most construction firms in the study area concentrated on the common Covid-19 prevention measures, which include stay at home, maintaining physical distancing and personal hygiene of using hand sanitizers and regular testing. But measures relating to workers education and training, constant record taking and reporting and encouraging workers to get vaccinated were given less attention.

Table 3: Compliance to OSHA Standards on Covid-19 Pandemic by Construction Firms

SN	OSHA Standards on Covid-19 Pandemic	MIS	Rank
1	Instruct all infected /tested positive/displayed symptom workers to stay home	4.57	1 st
2	Implementation of physical distancing in all communal work areas for unvaccinated workers	4.55	2 nd
3	Practice good personal hygiene and wash hands often.	4.53	3 rd
4	Perform routine cleaning and disinfections	4.52	4 th
5	Regular testing on Covid-19 especially in area of high community transmission.	4.50	5 th
6	Maintaining a good ventilation system	4.14	6 th
7	Implement protection from retaliation and set up anonymous process for workers to voice concern about covid-19 related hazard	4.11	7 th
8	Participation in training on Covid-19 related issues	4.00	8 th
9	Educating workers on Covid-19 policies and procedures using accessible formats and in language they understand.	2.49	9 th
10	Provision of safe and healthy workplace free from the hazard of Covid-19.	2.48	10 th
11	Record and report Covid-19 infection and deaths to NCDC	2.20	11 th
12	Facilitating employees to get vaccinated	2.19	12 th
Average compliance level		44.28/12	3.69

CONCLUSION

The measures put in place by most construction firms in Nigeria to control Covid-19 pandemic are proven to be common, generic, ineffectual, and not construction related, which led to the total shutdown of construction activities. Thus, the need for alliance to the OSHA guidelines to ensure a holistic management to enable the continuation of construction works, with minimum or no risk of contracting the Covid-19 virus in construction firms in FCT. This study assesses the compliance level of the construction firms to the OSHA standards in FCT with a view to suggesting strategies for ensuring effective compliance to the standards by construction firms. The study concludes that instructing all infected /tested positive/displayed symptom workers to stay home; implementation of physical distancing in all communal work areas for unvaccinated workers; practicing good personal hygiene and hand wash; performing routine cleaning and disinfections; and regular testing on Covid-19 especially in area of high community transmission are the key OSHA standards complied with by construction firms in FCT. However, measures relating to workers education and training, constant record taking and reporting and encouraging workers to get vaccinated were given less attention by the construction firms.

The average compliance rate of the small, medium and large sized firms to OSHA Standards on Covid-19 Pandemic was deemed high.

The study recommends construction firms should always sensitize and educate it workers on the importance of Covid-19 vaccination, as full doze vaccination would ensure absolute management of the virus.

REFERENCES

- Alsharif, A., Banerjee, S., Uddin, S. M., Albert, A., and Jaselskis, E. (2021). Early impacts of the COVID-19 pandemic on the United States construction industry. *International Journal of Environmental Research and Public Health*, 18(4), 1559-1568.
- CDC (2020). Resuming Business Toolkit. Available at: <https://www.cdc.gov/coronavirus/2019-ncov/community/resuming-business-toolkit.html>.
- CDC (2021). Construction COVID-19 Safety Checklist for Employees. Available at: <https://www.cdc.gov/coronavirus/2019ncov/downloads/community/organizations/Construction-COVID-19-Checklist-for-Employees.pdf>.
- Gamil, Y., Rahman, I. A., Nagapan, S. and Alemad, N. (2020). Qualitative approach on investigating failure factors of Yemeni Mega Construction Projects. *In MATEC web of conferences* (Vol. 103, p. 03002). EDP Sciences.
- Ogunnusi, M., Hamma-Adama, M., Salman, H. and Kouider, T. (2020). COVID-19 pandemic: the effects and prospects in the construction industry *International Journal of Real Estate Studies*, 14 (2),120-128.
- Oksanen, L. M. A., Sanmark, E., Oksanen, S., Anttila, V. J., Paterno, J. J., Lappalainen, M., & Geneid, A. (2020). Healthcare workers high COVID-19 infection rate: the source of infections and potential for respirators and surgical masks to reduce occupational infections. <https://www.medrxiv.org/content/10.1101/2020.08.17.20176842v1>
- OSHA (2020). Fatal Occupational Injuries for Selected Industries. Available at: <https://www.bls.gov/news.release/cfoi.t04.htm>
- OSHA (2021). COVID-19 Control and Prevention: Construction Work. Available at: <https://www.osha.gov/coronavirus/control-prevention/construction>
- PWC (Price Waterhouse and Coopers). (2020). "COVID-19: What it means for engineering and construction." www.pwc.com/us/en/library/covid-19/coronavirus-impacts-engineering-construction.html.
- World Health Organization (2020). Coronavirus Disease (COVID-19). Available at: <https://www.who.int/news-room/q-a-detail/coronavirus-disease-covid-19>