

Determinants of Occupational Injuries among Bricklayers and Carpenters in Building Construction: Insights from a Mixed Methods Study in Osun State, Nigeria

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Abstract

Background: Occupational injuries (OI) remains a global health issue, claiming approximately 1000 lives daily. This study assessed the factors influencing OIs among carpenters and bricklayers, who are informal artisans in Nigeria.

Methods: This mixed-methods survey was conducted in Osun State, Nigeria. The quantitative component involved a comparative cross-sectional study of 421 bricklayers and 425 carpenters, selected through simple random sampling. Data on socio-demographics and occupational injury (OI) prevalence were collected using a semi-structured questionnaire. The qualitative aspect comprised 12 focus group discussions (FGD) among artisans. Thematic analysis of the qualitative data was conducted to identify pertinent themes. Binary logistic regression analysis was conducted to assess the determinants of OIs, p-value <0.05 was taken as statistically significant.

Results: All respondents were male. The mean age was 51.3.7±14.7 years for bricklayers and 50.0±11.5 years for carpenters. The 3-month prevalence of OI was 39.9% for bricklayers and 51.8% for carpenters. Factors associated with OI among bricklayers included being aged 20-39 years (AOR:5.2, 95%CI:2.3-12.0) and 40-59 years (AOR:2.8, 95%CI:1.2-4.7), earning less than N50,000 (\$67) monthly (OR:2.6, 95%CI:1.3-5.5), earning N50,000-N99,000 (\$67-\$133) monthly (AOR:2.4, 95% CI: 1.2-4.9), and handling ≥200kg per day at work (AOR:2.8, 95% CI:1.6-4.9). For carpenters, factors associated with OI were being aged 20-39 years (AOR:3.7, 95% CI:1.6-8.6), age 40-59 years (AOR:1.9, 95%CI:1.02-3.5), and handling 100-199kg per day at work (AOR:2.1, 95%CI:1.1-3.9). FGD findings revealed that using substandard building materials, poor use of personal protective equipment and working at heights may predispose to OIs.

Discussion: The burden of OI is high among informal construction artisans in Nigeria. Safety interventions should target persons < 60 years, those handling heavy weights at work (>100kg) and bricklayers earning < N100,000 (<\$134) monthly. Emphasis should also be placed on the use of safety equipment and ensuring standards of building materials.