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EFFECT OF OCCUPATIONAL CEMENT DUST EXPOSURE ON RENAL FUNCTION AMONG BUILDING CONSTRUCTION WORKERS IN TIKO, SOUTH WEST REGION CAMEROON

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ABSTRACT

Background: Occupational exposure to cement dust is a major public health concern among building construction workers. Despite increasing evidence from other settings, there is limited information on the effect of cement dust exposure on renal function among construction workers in the Cameroon setting.

Objective: The aim of this study was to assess the effect of cement dust exposure on renal function among building construction workers in Tiko.

Methods: An analytical comparative cross-sectional study was conducted among 90 participants, comprising 45 cement dust-exposed building construction workers and 45 non-exposed controls. Construction workers were recruited consecutively and convenience sampling was employed to select the control group. A structured questionnaire was used to collect demographic and occupational information. Serum urea and creatinine levels were measured using the standard enzymatic colorimetric and Jaffe kinetic methods respectively. Data was analyzed using SPSS version 20 and results presented on tables and charts. Descriptive statistics, independent-samples t-test, and Spearman's correlation analysis were performed, with statistical significance set at $p < 0.05$.

Results: The mean serum creatinine level was higher among exposed workers than controls (1.09 ± 0.27 mg/dL vs. 0.93 ± 0.18 mg/dL) and the difference was not statistically significant ($p = 0.065$). Mean serum urea level was significantly higher among the exposed workers (28.67 ± 11.87 mg/dL) compared to controls (19.42 ± 3.92 mg/dL) ($p < 0.001$). A weak positive marginally statistically significant correlation was observed between duration of cement dust exposure and serum creatinine levels ($r = 0.299$, $p = 0.046$). A positive non-statistically significant correlation was observed between duration of cement dust exposure and serum urea levels ($r = 0.227$, $p = 0.134$).

Conclusion: Occupational exposure to cement dust is associated with increased serum urea levels and a trend toward elevated serum creatinine levels in construction workers. Longer exposure duration correlates positively with increasing serum creatinine levels. Regular renal function monitoring, improved dust control measures and consistent use of personal protective equipment are recommended to minimize occupational health risks.

Keywords: Cement dust, renal function, Serum creatinine, Serum urea, Building construction workers, Occupational exposure.

INTRODUCTION

Cement is an indispensable construction material widely used for infrastructural development worldwide. Cement dust, generated during the manufacture, transportation, handling, mixing, and application of cement, is a major source of occupational pollution in cement industries and construction sites [1]. Portland cement contains calcium oxide, silicon dioxide, aluminum oxide, iron oxide, magnesium oxide, and traces heavy metals such as chromium, cadmium, lead, and nickel [2]. Prolonged occupational exposure to these constituents has been associated with adverse effects on several organ systems, including the respiratory, cardiovascular, hepatic, dermatological, and renal systems [2,3].

The kidneys are highly vascular organs responsible for maintaining fluid and electrolyte balance and excreting metabolic waste products. Their high filtration capacity makes them particularly vulnerable to environmental and occupational toxicants. Inhaled cement dust particles and their soluble constituents may enter the systemic circulation, accumulate in renal tissues, and induce oxidative stress, inflammation, and tubular injury, resulting in impaired renal function [3]. Serum creatinine and urea are established biochemical markers used to assess renal function, and elevated levels may indicate early kidney damage [4]. Chronic kidney disease (CKD) is a growing global public health problem, with an estimated prevalence of 13.4% worldwide and 11–14.2% among adults in Cameroon [5–7].

Building construction workers are continuously exposed to cement dust, primarily through inhalation, during routine construction activities. Inadequate dust control measures and inconsistent use of personal protective equipment may increase the risk of systemic toxicity, including renal impairment [3]. Although the respiratory and dermatological effects of cement dust have been widely investigated, comparatively few studies have examined its impact on renal function, particularly among construction workers in Cameroon [2,3]. Therefore, this study was undertaken to investigate the effect of cement dust exposure on renal function among building construction workers in Tiko, Southwest Region, Cameroon, by comparing serum creatinine and serum urea levels between exposed workers and non-exposed individuals and assessing the relationship between duration of occupational exposure and renal function parameters.

MATERIALS AND METHODS

Study Design

An analytical comparative cross-sectional study was conducted between November 2025 and May 2026 to investigate the effect of occupational cement dust exposure on renal function among building construction workers in Tiko, Southwest Region, Cameroon. The study compared renal function parameters between cement dust-exposed construction workers and non-exposed individuals residing in the same municipality.

Study Area

The study was carried out in Tiko, Fako Division, and Southwest Region of Cameroon. Tiko is an important commercial and agricultural town with extensive building construction activities that expose workers to cement dust. The increasing number of construction projects and the large workforce engaged in this sector made Tiko an appropriate setting for assessing the effect of occupational cement dust exposure on renal function.

Sample Size Determination

The minimum sample size was calculated using Cochran's formula for cross-sectional studies based on a prevalence of occupational cement dust exposure of 3%, a 95% confidence level (Z = 1.96), and a 5% margin of error. The calculated minimum sample size was 45 participants. To allow comparison, 45 cement dust-exposed construction workers and 45 non-exposed individuals were recruited, giving a total sample size of 90 participants. Participants were selected by random sampling from construction sites and selected communities within Tiko.

Eligibility Criteria

The exposed group consisted of building construction workers who had worked at construction sites for at least three years. The control group comprised apparently healthy non-exposed individuals who had resided in Tiko for at least six months and voluntarily consented to participate. The researchers excluded individuals with <06 months of residency in Tiko in order to ensure comparable baseline exposure and minimize the healthy migrant effect. Individuals with a history of chronic kidney disease, hypertension, diabetes mellitus, and other major systemic illnesses, or those receiving antiretroviral or anti-tuberculosis therapy were excluded. Construction site supervisors were also excluded because they were not continuously exposed to cement dust.

Data Collection

Data was collected using a structured questionnaire and through laboratory measurements. The questionnaire was used to capture data on demographic characteristics, occupational exposure history, medical history, and renal function variables.

Laboratory Analysis

Approximately 5mL of fasting (08 hours fast) venous blood sample was collected aseptically from each participant into plain tubes. Blood samples were allowed to clot, centrifuged, and serum separated for biochemical analysis. Serum urea was determined using the enzymatic urease colorimetric method, while serum creatinine was measured using the Jaffe kinetic method according to the manufacturer's instructions (Fortress Diagnostics). Quality control sera were analyzed together with study samples to ensure analytical accuracy and reliability.

Data Analysis

Data were entered into Microsoft Excel 2016, cleaned, and exported to IBM SPSS Statistics version 20 for analysis. Descriptive statistics were used to summarize participant characteristics. Continuous variables were expressed as mean ± standard deviation. Independent-samples *t*-tests were used to compare serum creatinine and serum urea levels between exposed and non-exposed groups, while Spearman's correlation analysis assessed the relationship between duration of cement dust exposure and renal function parameters. Statistical significance was set at $p < 0.05$.

Ethical Considerations

Ethical approval was obtained from the Ethics Review Board of the Regional Delegation of Public Health, for the South West Region (*Approval no: 267/CRERSH/SW/C/02/2026)*. Written informed consent was obtained from all participants before enrolment. Participant confidentiality was maintained at all levels of the study through the assigning of unique identification codes on questionnaires and samples collected instead of participant's identifiers.

RESULTS

Socio-demographic Characteristics of the Study Participants

A total of 90 participants were enrolled in the study, comprising 45 cement dust-exposed building construction workers and 45 non-exposed controls. The socio-demographic characteristics of the participants are presented in Table 1. Among the exposed workers, the majority were aged 30–35 years (44.4%), followed by those aged 26–30 years (24.4%), while participants aged ≥35 years accounted for 13.3%. In the non-exposed group, the majority were aged 19–20 years (42.2%), followed by those aged 26–30 years (33.3%). Overall, participants aged 30–35 years constituted the largest proportion of the study population (33.3%).

Regarding educational level, most exposed workers had attained secondary education (75.6%), followed by tertiary education

(15.6%) and primary education (8.9%). Similarly, among the non-exposed participants, secondary education was the predominant educational level (57.8%), followed by tertiary education (33.3%) and primary education (8.9%). Among the exposed workers, 71.1% had worked in the construction industry for 3–6 years, 26.7% for 7–10 years, and 2.2% for more than 10 years (Table 1)

Table 1. Socio-demographic and Exposure Characteristics of Study Participants by Exposure Status (N = 90)

Variable	Category	Exposed n (%)	Non-Exposed n (%)	Total n (%)
Age Group (Years)	19–20	8 (17.8)	19 (42.2)	27 (30.0)
	26–30	11 (24.4)	15 (33.3)	26 (28.9)
	30–35	20 (44.4)	10 (22.2)	30 (33.3)
	≥35	6 (13.3)	1 (2.2)	7 (7.8)
	Total	45(100)	45(100)	90(100)
Educational Level	Primary	4 (8.9)	4 (8.9)	8 (8.9)
	Secondary	34 (75.6)	26 (57.8)	60 (66.7)
	Tertiary	7 (15.6)	15 (33.3)	22 (24.4)
	Total	45(100)	45(100)	90(100)
Exposure Status	Exposed	45 (100.0)	–	45 (50.0)
	Non-Exposed	–	45 (100.0)	45 (50.0)
	Total	45(100)	45(100)	45(50.0)
Duration of Exposure (Years)	3–6	32 (71.1)	–	32 (71.1)
	7–10	12 (26.7)	–	12 (26.7)
	>10	1 (2.2)	–	1 (2.2)
	Total	**45(100)**		**45(100)**

Comparison of Renal Function Parameters between Cement Dust-Exposed and Non-exposed Participants in Tiko

Table 2 presents the comparison of renal function parameters between cement dust-exposed construction workers and non-exposed controls. The mean serum creatinine concentration was higher among exposed workers (1.09 ± 0.27 mg/dL) than non-exposed participants (0.93 ± 0.18 mg/dL); however, the difference was not statistically significant ($p = 0.065$).

Conversely, the mean serum urea concentration was significantly higher among exposed workers (28.67 ± 11.87 mg/dL) compared with non-exposed participants (19.42 ± 3.92 mg/dL) ($p < 0.001$), indicating a statistically significant difference between the two groups (Table 2).

Table 2. Comparison of Renal Function Parameters between Cement Dust-Exposed Construction Workers and Non-exposed Participants (N = 90)

Parameter	Category	Exposed n (%) (n=45)	Non-exposed n (%) (n=45)	Mean ± SD (Exposed)	Mean ± SD (Non-exposed)	*P*-value
Serum Creatinine (mg/dL)	Low	0 (0.0)	0 (0.0)	**1.09 ± 0.27**	**0.93 ± 0.18**	0.065
	Normal	40 (88.9)	45 (100.0)			
	High	5 (11.1)	0 (0.0)			
Serum Urea (mg/dL)	Low	2 (4.4)	3 (6.7)	**28.67 ± 11.87**	**19.42 ± 3.92**	<0.001*
	Normal	38 (84.4)	42 (93.3)			
	High	5 (11.1)	0 (0.0)			

Independent-samples t-test. Statistically significant at* ***p < 0.05**. Creatinine: 0.7-1.3 mg/dL, Urea: 7-20 mg/dL.*

Correlation between Duration of Cement Dust Exposure and Renal Function Parameters among cement exposed workers in Tiko

The relationship between duration of occupational cement dust exposure and renal function parameters among exposed construction workers is presented in Table 3. Spearman's correlation analysis demonstrated a weak positive statistically significant correlation between duration of exposure and serum creatinine concentration (r = 0.299, p = 0.046). A weak positive correlation was also observed between duration of exposure and serum urea concentration (r = 0.227), although this association was not statistically significant (p = 0.134).

Furthermore, serum creatinine concentration showed a significant positive correlation with serum urea concentration (r = 0.307, p = 0.003), indicating that increases in serum creatinine were associated with corresponding increases in serum urea among cement dust-exposed construction workers (Table 3).

DISCUSSION

The present study revealed that cement dust-exposed construction workers had a mean serum creatinine level of 1.09 ± 0.27 mg/dL and a mean serum urea level of 28.67 ± 11.87 mg/dL. Furthermore, 11.1% of exposed workers had elevated serum creatinine levels, while 11.1% had elevated serum urea levels. These findings suggest that occupational exposure to cement dust may contribute to early alterations in renal function among exposed workers.

Table 3. Correlation between Duration of Cement Dust Exposure and Renal Function Parameters among Exposed Construction Workers (n = 45)

Variables	Spearman's Correlation Coefficient (r)	p-value	Interpretation
Exposure duration (years) and serum creatinine (mg/dL)	+0.299	0.046	Weak positive, statistically significant correlation
Exposure duration (years) and serum urea (mg/dL)	+0.227	0.134	Weak positive, non-statistically significant correlation
Serum creatinine (mg/dL) and serum urea (mg/dL)	+0.307	0.003	Weak positive, statistically significant correlation

Spearman's rank correlation analysis was used to determine the relationship between duration of cement dust exposure and renal function parameters. Statistical significance was set at* ***p < 0.05**.*

These findings are comparable with those of an earlier study among cement factory workers in Chattogram, Bangladesh. The study demonstrated that serum creatinine levels were higher among exposed workers than controls, although the values remained within normal physiological limits and also observed mild elevations in blood urea concentrations among exposed workers, suggesting subtle renal impairment associated with chronic cement dust exposure [8]. The present findings are also consistent with those reported by Al-Hayali *et al.* in Iraq [9]. Furthermore, Ansari and Arora reported significantly elevated serum urea and creatinine levels among cement handlers exposed to cement dust for prolonged periods. The authors concluded that chronic cement dust exposure may adversely affect renal function and increase the risk of nephrotoxicity [10].

Similarly, an earlier study from Nigeria reported significantly higher serum urea and creatinine concentrations among cement factory workers and residents living near a cement factory compared with controls [11]. Likewise, Egbe *et al.* reported biochemical disturbances among cement factory workers and concluded that occupational cement dust exposure may adversely affect multiple organ systems, including the kidneys [12].

The present findings are further supported by the previous report of Owonikoko *et al*.,

who experimentally demonstrated that cement dust inhalation could induce hepato-renal dysfunction through heavy metal bioaccumulation, oxidative stress, and histopathological alterations in renal tissues [13]. The authors argued that toxic constituents of cement dust, including chromium, cadmium, silica, and lead, may progressively impair renal function following prolonged exposure. Therefore, the elevated renal biomarkers observed among exposed workers in the present study may be attributed to chronic inhalation of cement dust particles, which can trigger inflammatory responses, oxidative stress, and gradual renal tissue injury. Similarly, Ahmad et al. reported that occupational cement dust exposure was associated with systemic inflammatory changes capable of affecting various organs, including the kidneys [14].

However, contradictory findings have also been reported. Egbe *et al*. observed that although exposed workers exhibited biochemical alterations related to cement dust exposure, several renal parameters remained within normal physiological limits. These variations may be attributed to differences in exposure duration, intensity of dust exposure, use of personal protective equipment, environmental conditions, and individual susceptibility among study populations. Despite the elevated renal biomarker levels observed among exposed workers in the present study, most participants still maintained renal parameters within the normal reference ranges, suggesting that the observed renal effects were relatively mild or represented an early stage of renal impairment [12].

The comparison of renal function parameters between cement dust-exposed construction workers and non-exposed participants showed that the mean serum creatinine concentration was higher among exposed workers (1.09 ± 0.27 mg/dL) than among the control group (0.93 ± 0.18 mg/dL), although the difference was not statistically significant (p = 0.065). This finding suggests that occupational exposure to cement dust may result in subtle alterations in renal function, even when serum creatinine levels remain within the normal reference range.

The findings of the present study are in agreement with those of Md. Mujahidul Islam *et al*, who reported higher serum creatinine levels among cement factory workers than non-exposed controls, although the difference was not statistically significant [8]. Similar observations were reported by Al-Hayali *et al*, who found slight increases in serum creatinine among cement-exposed workers. These findings suggest that renal impairment associated with cement dust exposure may initially be

subclinical and may only become clinically evident after prolonged exposure [9].

In contrast, the present findings differ from those reported by Salh *et al*. and Al-Helaly *et al*. who observed significantly elevated serum creatinine concentrations among cement-exposed workers. The discrepancies between these studies and the present study may be attributed to differences in duration and intensity of exposure, environmental conditions, workplace safety practices, sample size, and the consistent use of personal protective equipment. Furthermore, differences in laboratory methods and study populations may have contributed to the observed variations.

The present study also demonstrated that the mean serum urea concentration was significantly higher among cement dust-exposed workers than among the non-exposed controls ($p < 0.001$). This finding is consistent with the reports of Ansari and Arora and Umeche *et al*, who similarly observed significantly elevated serum urea concentrations among individuals chronically exposed to cement dust. Elevated serum urea may indicate reduced renal excretory capacity resulting from nephrotoxic effects of cement dust constituents, particularly crystalline silica and heavy metals, which have been shown to induce oxidative stress, inflammatory responses, and renal tubular damage [10,11]. However, this finding is inconsistent with those of Egbe *et al*. and Ahmad *et al*. who reported no statistically significant difference in serum urea concentrations between cement-exposed workers and controls. Such differences may reflect variations in exposure duration, environmental dust concentrations, occupational health practices, nutritional status, hydration, and the overall health characteristics of the study populations. Nevertheless, the significantly higher serum urea concentration observed among exposed workers in the present study supports the possibility that chronic occupational exposure to cement dust may adversely affect renal function [12, 14].

The present study further demonstrated a weak but statistically significant positive correlation between the duration of occupational cement dust exposure and serum creatinine concentration ($r = 0.299$, $p = 0.046$). This finding indicates that serum creatinine levels tended to increase with increasing years of occupational exposure to cement dust. Although the correlation was weak, it suggests that prolonged exposure may gradually impair renal function, even when serum creatinine values remain within the normal reference range. These findings support the

hypothesis that the nephrotoxic effects of cement dust are cumulative and may become more evident with prolonged occupational exposure.

In contrast, the relationship between duration of cement dust exposure and serum urea concentration was weak and not statistically significant (r = 0.227, p = 0.134). This suggests that factors other than duration of exposure, including dietary protein intake, hydration status, individual metabolic variation, and other environmental or occupational influences, may contribute to serum urea concentrations. Nevertheless, the positive trend observed in the present study indicates that prolonged cement dust exposure may still influence serum urea levels and warrants further investigation using larger prospective studies.

The present study also demonstrated a significant positive correlation between serum creatinine and serum urea concentrations among cement dust-exposed workers. This finding is biologically plausible because both biomarkers are commonly used to assess renal function and tend to increase when glomerular filtration is impaired. The concurrent elevation of these renal biomarkers among exposed workers further supports the possibility that chronic exposure to cement dust may adversely affect kidney function through cumulative nephrotoxic mechanisms, including oxidative stress, inflammatory responses, and heavy metal accumulation.

Overall, the findings of this study provide evidence that occupational exposure to cement dust may adversely affect renal function among building construction workers in Tiko, Cameroon. The observed increase in serum urea concentration and the positive association between duration of exposure and serum creatinine highlight the need for effective occupational health interventions. Regular medical surveillance, periodic assessment of renal function, implementation of engineering dust-control measures, and consistent use of appropriate personal protective equipment should be encouraged to reduce the risk of occupational kidney injury among construction workers. Furthermore, longitudinal studies involving larger sample sizes and additional biomarkers of renal function are recommended to better characterize the long-term renal effects of cement dust exposure.

Study Limitations

The study was limited by its cross-sectional design, which precluded the establishment of a causal relationship between cement dust exposure and renal dysfunction. The relatively small sample size and recruitment of participants from a single municipality may limit the generalizability of the

findings to other populations. In addition, renal function assessment was based solely on serum creatinine and serum urea measurements without evaluating other sensitive biomarkers such as estimated glomerular filtration rate (eGFR), urinary albumin, cystatin C, or kidney imaging. Information on the use of personal protective equipment and the intensity of cement dust exposure was obtained through self-reports and was not supported by quantitative environmental dust measurements. Despite these limitations, the study provides valuable baseline data on the potential effects of occupational cement dust exposure on renal function among building construction workers in Cameroon and highlights the need for larger prospective studies.

Conclusion

This study demonstrated that occupational exposure to cement dust may adversely affect renal function among building construction workers in Tiko, Cameroon. Cement dust-exposed workers had significantly higher serum urea concentrations than non-exposed individuals, while serum creatinine levels were higher but did not differ significantly between the two groups. Furthermore, the duration of cement dust exposure showed a weak but statistically significant positive correlation with serum creatinine concentration, suggesting that prolonged exposure may contribute to progressive renal impairment. These findings underscore the importance of routine renal function monitoring, effective dust control measures, and consistent use of appropriate personal protective equipment to reduce occupational health risks among construction workers.

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Conflict of Interest

The authors declare no conflict of interest.

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REFERENCES

1. Madhav K, Rengaraj RM. Effect of occupational diseases and work injury among employees in cement industry. *International Journal of Engineering Trends and Technology*. 2014;17(5):208-211.
2. Sameen AM. Study the effect of cement dust exposure on liver and kidney parameters in some cement field workers in Al Ramadi City. *J.of University of Pure Science*. 2013;7(2):1-6

3. Rahman, M.M., Hannan, M.A., Uddin, M.J., Rahman, M.A., 2021. Heavy metal exposure and nephrotoxicity. *Curr Opin Toxicol*. 2021;27: Pp.57– 65. doi: 10.1016/j.cotox.2021.09.003
4. Farombi, E.O., Adelowo, O.A., Ajimoko, Y.R., 2019. Biomarkers of oxidative stress and renal function in Nigerian cement factory workers. *Hum Exp Toxicol*. 2019;38(2): Pp. 197–205. doi:10.1177/0960327118807314.
5. Glassock RJ, Warnock DG, Delanaye P. The global burden of chronic kidney disease: estimates, variability and pitfalls. *Nat Rev Nephrol*. 2017;13(2):104–14. 2.
6. Hill NR, Fatoba ST, Oke JL, Hirst JA, O'Callaghan CA, Lasserson DS, Hobbs FDR. Global Prevalence of Chronic Kidney Disease - A Systematic Review and Meta-Analysis. *PloS One*. 2016;11(7): e0158765. 3.
7. Kaze FF, Halle M-P, Mopa HT, Ashuntantang G, Fouda H, Ngogang J, Kengne A-P. Prevalence and risk factors of chronic kidney disease in urban adult Cameroonians according to three common estimators of the glomerular filtration rate: a cross-sectional study. *BMC Nephrol*. 2015; 16:96
8. Mujahidul Islam1, Shahin Akhter, Shaheda. Khanam. Effect of Cement Pollution on Serum Creatinine and Blood Urea in Cement Factory Workers in Chattogram City Bangladesh. *Chattagram Maa-O-Shishu Hospital Medical College Journal* Volume 24, Issue 2, 2025.
9. Al-Hayali HL, Al-Harbawi MK, Ali SY. Effect of cement pollution on creatinine and blood urea in Hamam Al-Alil factory workers. *College of Basic Education Research Journal*. 2012;11(3):787-795.
10. Ansari S, Arora N. Study of uncontrolled cement dust exposure and its prolonged effects on glycemic status and renal function markers among male cement handlers at Dalmia Cement Factory. *J Chem Health Risks*. 2023;13(6):1-15.
11. Umeche IE, Olaniyan MF, Akinlade OM. Occupational and environmental impact of cement factory emissions on renal function in Okpella, Nigeria. *J CleanWAS.* 2025;9(2):117-120.
12. Egbe ER, Nsonwu-Anyanwu AC, Offor SJ, Usoro CAO, Etukudo MH, Egbe DI. Cement dust exposure and perturbations in some elements and lung and liver functions of cement factory workers. *J Toxicol*. 2016; 2016:6104719.
13. Owonikoko MW, Salami AT, Odukanmi AO, Emikpe BO, Olaleye SB. Cement dust inhalation induces hepato-renal

dysfunction via tissue heavy metal bioaccumulation, histopathological and biochemical mechanisms. *Comp Clin Pathol*. 2023;32(6):1019-1033.

14. Ahmad R, Haque M, Akhter QS, Impact of occupational cement dust exposure on health parameters among cement workers. *Cureus*. 2024;16: e72158.

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