MICOENVIRONMENT CARBON MONOXIDE EXPOSURE, CARBOXYHAEOMOGLOBIN LEVELS AND RISKS OF CARDIAC IMPAIRMENT IN SOME COMMERCIAL TRANSPORT DRIVERS

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Abstract: Commuting in Ibadan, Nigeria is mainly by road transport due to absence of rail services. The economic downturn results in massive importation of second hand cars some of which have worn out engines. The study therefore investigated if commercial transport drivers were at increased risks of cardiac impairment due to carbon monoxide exposure and carboxyhaemoglobin formation. Questionnaires were administered to 150 professional drivers and 100 controls, vehicles driven by drivers and work places of controls were monitored for CO emissions. Carboxyhaemoglobin, and cardiac markers concentrations were determined by standard methods. Carbon monoxide levels in minibuses, taxicabs, diesel powered vehicles and work environment of controls were 22.0±3.3, 25.0±6.0, 17.0±3.0 and 2.0 ± 0.68ppm respectively (P < 0.001), carboxyhaemoglobin in drivers of minibuses, taxicabs, diesel powered vehicles and controls were 4.78 ± 1.50%, 4.33 ± 1.6% and 4.09 ± 1.16%, 2.7 ± 0.92% respectively (p<0.001). Cardiac markers showed no significant variation among drivers and controls (P>0.05). Commercial transport drivers were exposed to increased CO and increased COHb formation which may predispose them to myocardial ischaemia and cardiac dysfunctions.

Keywords: exposure, carbon monoxide, toxicity, transport drivers, cardiac function.