

Original Article

Screening of Cardiovascular Risk Factors among Workers of a Construction Company in a Developing Country, Senegal

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ABSTRACT

Objectives: This study aimed to evaluate the prevalence of cardiovascular risk factors in workplace and the global risk among workers of a Construction Company in a developing country.

Methods: It was a retrospective and descriptive survey over two years in a construction company in Dakar, Senegal.

Results: We collected 64 workers with a male predominance. The average age of workers was 44.9 years. Evaluation and analysis of cardiovascular risk reflected four levels: low in 78.12%, moderate in 15.62%, high in 4.69% and very high in 1.57%. Sedentary was strongly associated with moderate or high cardiovascular risk. Metabolic syndrome was strongly associated with moderate or elevated cardiovascular risk.

Conclusion: Our study reveals a high prevalence of cardiovascular risk factors in Senegalese workers. It would be important to include a screening program and correct assessment of overall cardiovascular risk in this population.

INTRODUCTION

Cardiovascular disease (CVD) is a public health problem with a burden of mortality and morbidity that is increasing worldwide.¹ In Senegal, epidemiological data on cardiovascular risk (CVR) are rare in the workplace^{2,3} and there is a virtual absence of psychosocial and overall cardiovascular risks prevention policy. These observations motivated this work in a company specialized in construction and public works. The aims of our study were to evaluate the prevalence of cardiovascular risk factors in workplace and the global risk among workers.

METHODS

We conducted a prospective and descriptive survey over a two-year period from 2014 to 2016. Data were collected from the clinical and biological data collection and consultation forms established during the annual medical visits. A correct evaluation of overall cardiovascular risk was done using the Framingham model.

RESULTS

We collected 64 workers with a male predominance (53 men and 11 women), a sex ratio of 4.81. The average age of workers was 44.9 years with the extremes of 20 and 70 years. Seniority varies

Keys-words: *Cardiovascular risk factor; Cardiovascular disease; Prevention; Workplace; Construction company*

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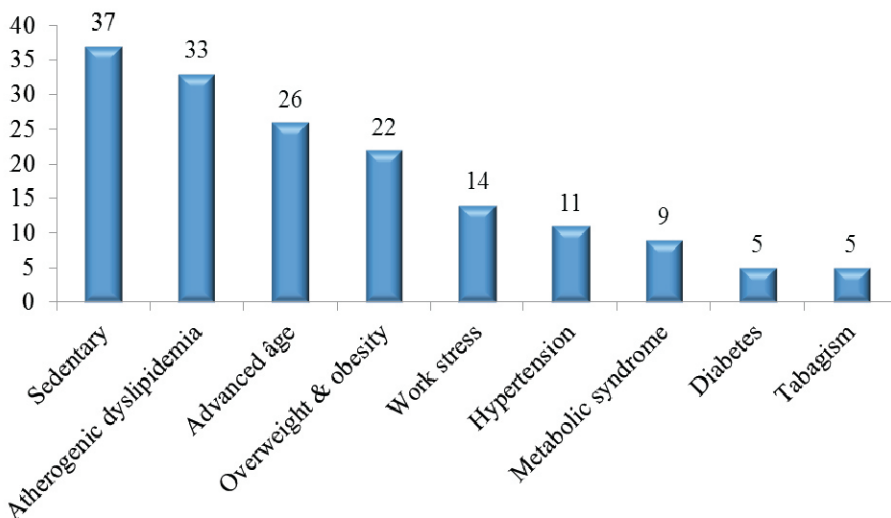
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between 1 and 35 years with an average of 13.51 years (6.2 years for women and 15 years for men). Evaluation and analysis of cardiovascular risk reflected four levels: low in 78.12% (n=50), moderate in 15.62% (n=10), high in 4.69% (n=3) and very high in 1.57% (n=1). The average prevalence of independent cardiovascular risk factor (advanced age, dyslipidemia, hypertension, smoking, diabetes and metabolic syndrome) was 1.28 per worker ranging from 0 to 4. For non-independent cardiovascular risk factor (sedentary, overweight or obesity and work stress) was 2.07 per worker ranging from 0 to 7. Atherogenic dyslipidemia (hypercholesterolemia or hypoHDL) was found in more than half of our population (51.56%). Physical inactivity was strongly associated with moderate or high cardiovascular risk or 61.53% of cases (n=8). Eleven cases of hypertension had been found, or 17.18% of cases. Metabolic syndrome was strongly associated with moderate or elevated cardiovascular risk with a prevalence of 46.06% (n=6). Abdominal obesity was found in 38.46% of cases (n=5). Two cases of diabetes (15.38%) were found in association with a high cardiovascular risk. Work stress was noted in three workers (20.07%) and was related to work overload. Figure 1 summarizes the distribution of cardiovascular risk factor in our series.

Figure 1



DISCUSSION

Although this study is aimed at a relatively young working population, it provides information on CVR factor in workplace. We have not analyzed the relationship between the workstation and the level of CVR. Nevertheless, our work has led to significant results and comparable to those of other authors.^{2,4-6} A male predominance is noted in our series. We explain this finding by the fact that the construction sector employs more men than women. Mbaye² and Gombet⁴ had a similar result in workplace. Unlike the data in the general population³, there is a low prevalence of CVR factor in workplace, the results somewhat similar to those of several series.^{2,4-6} Some factors, stress, smoking and sedentary, contribute to increased CVR among workers.^{2,7} Our series clearly shows that CVR is still a reality in workplace, the more threatening due to 4.68% of the cases present a high CVR, strongly correlated with the occurrence of cardiovascular complications. Our results can be compared to those found in Senegalese companies.^{2,4,6}

CONCLUSION

Screening and management of CVR factors are important in the workplace where workplace constraints have a known role in the development and progression of CVD. CVR are real threats among professionals, it would be important to include in the annual medical check company a screening program and correct assessment of overall cardiovascular risk.

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