

Reflections on the Effectiveness of Cardiovascular Disease Prevention Programs in Corporate Settings

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Editorial referring to the article: Comparison Between Two Prevention and Control Programs for Risk Factors for Cardiovascular Diseases in an Oil Company

The International Journal of Cardiovascular Sciences (IJCS) publishes in this issue the original article entitled “Comparison Between Two Prevention and Control Programs for Risk Factors for Cardiovascular Diseases in an Oil Company.”¹ This study, framed within the field of Epidemiology, addresses a question of growing relevance for public and occupational health: the effectiveness of different intervention strategies to mitigate cardiovascular risk in a specific work environment.¹

Cardiovascular Diseases (CVDs) remain the leading cause of morbidity and mortality globally,²⁻⁴ and the workplace represents a crucial area for prevention and control strategies. Workers spend a significant portion of their lives at work, and occupational factors such as stress, sedentary behavior associated with certain roles, and exposure to shifts can directly influence cardiovascular risk.^{5,6} As CVDs continue to pose a significant global health concern, analyzing interventions aimed at mitigating them in corporate environments is more relevant than ever.

The primary strength of this study¹ lies in its pragmatic approach, assessing interventions applicable within the corporate context. The choice to compare programs allows for lessons to be drawn on which components may be more effective—valuable information for occupational and corporate health managers. Furthermore, focusing on a specific population potentially allows for identifying particular needs within that group.

The authors retrospectively analyzed data from 670 workers over three years (2016-2018), divided into two groups corresponding to the prevention program models (A and B). Intra- and inter-group comparisons of Cardiovascular Risk (CVR) and the prevalence of risk factors over time are pertinent methodological approaches for evaluating intervention impact. The results indicate a complex scenario. In Group A, which comprised the majority of participants (n = 514), improvements were observed in some lifestyle aspects, including physical activity, fruit and vegetable consumption, and alcohol consumption. This behavioral improvement is a positive finding, indicating that actions

from Program Model A had some impact on adopting healthier habits. However, the most concerning result is the significant increase in the prevalence of individuals with “high” CVR in this same group, from 0.4% in 2016 to 1.4% in 2018 (p < 0.01). This rise in CVR, despite positive lifestyle changes, raises crucial questions about the overall effectiveness of Program Model A in the studied population. On the other hand, Group B (n = 156) did not show significant changes in the health profile of workers. However, there was a statistically significant increase in the percentage of individuals with “intermediate” CVR from 14.1% to 16.7% (p = 0.01). Although this change is of lesser magnitude compared to the increase in high CVR in Group A, it still signals an unfavorable progression of cardiovascular risk in this segment of the population (Table 1).¹

As with all scientific investigations, this study¹ presents limitations that deserve consideration. One may lie in generalizing the findings. The specific characteristics of the studied oil company (organizational culture, employee profile, available resources) may not be directly transposable to other industrial sectors or companies of different sizes and locations. The oil industry⁷ has demographic, socioeconomic, and risk characteristics (e.g., offshore work, irregular shifts, and higher prevalence of smoking in some subsectors) that may not be representative of other work environments. The effectiveness of a program may intrinsically depend on these specificities.

Table 1 – Comparing the Cardiovascular Risk Profile between Two Prevention Program Models (2016/2018):

Outcome	Group A (n = 514)	Group B (n = 156)
Cardiovascular Risk (2016)	88.5% Low, 11.1% Intermediate, 0.4% High	85.3% Low, 14.1% Intermediate, 0.6% High
Cardiovascular Risk (2018)	76.5% Low, 22.1% Intermediate, 1.4% High	82.7% Low, 16.7% Intermediate, 0.6% High
Key Findings	Improved physical activity, fruit/vegetable intake, and alcohol consumption. Signification increase in “high” cardiovascular risk (p < 0.01)	No significant changes in workers’ health profile. Increase in “intermediate” cardiovascular risk (p = 0.01)

Keywords

Cardiovascular Diseases; Health Promotion; Occupational Health Services; Lifestyle

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Would a program considered superior be equally effective in an office environment, among healthcare workers, or in the manufacturing industry?

Another point to ponder is the duration of follow-up for participants. Cardiovascular prevention programs often require time to show significant and sustainable impacts on health outcomes. Although three years provides valuable information, many health behaviors require longer periods for their results to be fully perceived. The authors acknowledge that the intensity and length of interventions may not have been sufficient to achieve a measurable reduction in CV risk—a common limitation in studies of this type.

The study¹ reinforces that workplace health programs have potential but also face challenges in generating significant impacts, especially over shorter time frames. It emphasizes that environmental and integrated interventions may present advantages; however, it is essential to extend follow-up time

and broaden the reach of actions to promote sustainable changes over time.

Despite these limitations, the published work¹ is an important step forward. It not only provides evidence regarding the effectiveness of cardiovascular prevention programs at work but also stimulates discussion about corporate responsibility in promoting employee health.

This article¹ contributes to the literature by demonstrating that occupational health interventions — even those promoting favorable lifestyle changes — may not automatically translate into reduced cardiovascular risk. The increase in CVR even after health promotion actions raises questions about the breadth and depth of interventions conducted. It is imperative that future initiatives not only focus on improving lifestyle habits but also consider broader contextual factors such as organizational culture, working conditions, and social support that can directly influence workers' cardiovascular health.

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