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CARDIOVASCULAR RISK IN TIRE FACTORY WORKERS

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Abstract

Workers in tire factories work in a difficult environment. They breathe chemical fumes, work near hot machines, and often work in shifts. Because of this, their health can be at risk. Regular medical check-ups help doctors find diseases early, before they become serious. Heart and blood-vessel problems are one of the biggest health risks for factory workers around the world. This is why it is important to study the results of medical check-ups of tire factory workers, and to see how common heart-related diseases are among them.

Aim

The aim of this work is to study the results of a medical examination of tire factory workers, and to show how many workers were found healthy, how many had health problems, and which diseases were most common, with special attention to the heart and blood vessels.

Materials and Methods

A medical examination was carried out at a tire factory. A total of 200 workers took part in the check-up. Among them, 33 workers were women. Doctors from different specialties examined each worker and recorded the results. After the examination, each worker was placed into one of two groups: "healthy" or "has a disease." Workers with a disease were then grouped by the type of disease found.

Results

Out of 200 workers who were examined, 122 workers were found healthy. This is 61.2% of all examined workers. The remaining 78 workers were found to have one or more health problems. This is 38.8% of all examined workers.

The diseases found in these 78 workers are shown in the table below, from the most common to the least common:

Disease / condition	Number of workers	Share (%)
Eye diseases	20	10.2
Hypertension (high blood pressure)	19	9.4
Musculoskeletal system diseases	9	4.3
Vegeto-vascular dystonia	10	4.6
Gastroenterological diseases	6	3.4
Ischemic heart disease	5	2.25
Neurological diseases	4	1.9
ENT (ear, nose, throat) diseases	2	0.9
Obesity	2	0.9
Bronchitis	2	0.6
Endocrine diseases	1	0.5

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Fourteen workers, or 1.75% of all examined workers, needed a deeper, more detailed medical examination because their first results were unclear or needed more checking.

Eye diseases were the most common single health problem, found in 20 workers (10.2%). The second most common problem was hypertension, found in 19 workers (9.4%). When we look only at heart and blood-vessel problems together — hypertension (19 workers), ischemic heart disease (8 workers), and vegeto-vascular dystonia (6 workers) — the total is 33 workers, or 16.3% of all examined workers. This means that heart and blood-vessel problems, taken together, were the largest group of health problems found in this medical examination, even bigger than eye diseases alone.

Discussion

These results show that heart and blood-vessel diseases are a real and serious problem for tire factory workers. Hypertension alone was found in almost one out of every ten workers. When hypertension, ischemic heart disease, and vegeto-vascular dystonia are added together, they affect more than one out of every six workers. This matches what other studies around the world have found: workers in rubber and tire factories often face heat, chemical fumes, noise, and shift work, and all of these factors can affect the heart over time.

Eye diseases were also very common, which may be linked to chemical fumes, dust, and bright light near machines. Musculoskeletal problems, found in 9 workers (4.3%), may be linked to heavy physical work and long working hours in the same position.

The fact that 8 workers needed a deeper medical examination shows that a simple check-up is not always enough. Some health problems, especially early heart problems, are hard to see without more detailed tests, such as an ECG (heart tracing) or blood pressure monitoring over a longer time. Regular and detailed medical examination is important to find such problems early, before they become dangerous.

These results also support the idea that tire factory workers should have regular heart check-ups as a normal part of their yearly medical examination, not only a general check-up. Special attention should be given to workers in hot areas of the factory, such as the curing (rubber-baking) section, because heat and chemical exposure there is highest.

Conclusion

This medical examination of 200 tire factory workers found that 61.2% of workers were healthy and 38.8% had a health problem. The most common problems were eye diseases (10.2%) and hypertension (9.4%). When all heart and blood-vessel diseases are counted together — hypertension, ischemic heart disease, and vegeto-vascular dystonia — they make up 16.3% of all examined workers, the largest health problem group overall. These results show that heart health should be a top priority in regular medical check-ups for tire factory workers, and that workers with early signs of heart problems should receive a deeper, more detailed examination.

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