

Original Research Article

Evaluation of the level of general and occupational health of employees working in the headquarters of Ardabil University of medical sciences

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ABSTRACT

Background: Workplace and employee health is an important public health issue that affects both employers and employees at all levels of government. Therefore, it seems absolutely necessary to check the health of employees, determine their medical problems and screen them with clinical examination. The aim of the study was to assess the health of the staff working in Ardabil University of medical science office central.

Methods: In this descriptive study, 244 of Ardabil University of medical sciences staff were screened for diseases of hearing, vision, lung, kidney, gastrointestinal, skin, psychiatric, muscular-skeletal, cardiovascular and other cases. Participants were examined by an occupational medicine specialist. If imaging is needed to diagnose some diseases, they were referred to the imaging ward of Alavi hospital and evaluated by a radiologist. Data collected through checklist and then analyzed by statistical methods in SPSS statistical software version 26.

Results: Most of the participants had a university education (83.6%). 86.4% of the participants had more than 10 years of work experience. 64.8% of the participants were male. The average age of employees was 43.11 ± 7.68 years. 11.1% of employees were smokers. cardiovascular disease was present in 5.7%, lung disease in 1.2%, kidney disease in 5.7%, skin disease in 3.3%, musculoskeletal disease in 15.2%, psychiatric disease in 3.7%, gastrointestinal disease in 6.1%, hearing loss at 1.2%, diabetes at 5.7%, high blood pressure at 14.3%, hyperlipidemia at 14.8%, thyroid disease at 4.9% and other diseases at 11.9% of employees.

Conclusions: Due to the high prevalence of non-communicable diseases among employees, including musculoskeletal diseases, hypertension, hyperlipidemia and cardiovascular diseases, it is necessary to screen non-communicable diseases regularly and with maximum participation of employees.

Keywords: Staff, Safety, Health, Ardabil

INTRODUCTION

Workplace and employee health is an important public health issue that effects both employers and employees at all levels of government. Multidisciplinary strategies to improve employee health have been shown to be effective in improving the health of employees and the entire organizational complex.¹ The workplace is a great place to promote health and creative health tools.² Studies have

shown that systematic monitoring of staff health is cost effective, especially when it meets the health needs of the study community.^{3,4} In addition, studies have shown that monitoring employees' health not only reduces staff costs and health insurance, but also reduces absenteeism, leading to better performance and creativity at work.⁴ According to the definition of the International labor organization, occupational health is the promotion and maintenance of the highest degree of physical, mental and

social health of employees in all occupations, the care of employees whose health is exposed to the dangers of working conditions and also, caring for employees whose harmful factors threaten their health in the workplace.⁵ Therefore, it seems absolutely necessary to check the health of employees, determine their medical problems and their clinical examination. The aim of the study was to assess the level of health of employees working in Ardabil University of medical sciences.

METHODS

The present study was a descriptive cross-sectional study that was conducted in 2020 on 244 employees of the central department of Ardabil university of medical sciences. Staff were screened and examined by an occupational medicine specialist for screening and hearing, vision, pulmonary, renal, gastrointestinal, dermatological, psychiatric, musculoskeletal, cardiovascular and other examinations. If imaging is needed to diagnose some diseases, they were referred to the imaging ward of Ardabil city hospital and evaluated by a radiologist. Data were collected according to a checklist and analyzed in SPSS 26 statistical using statistical methods such as number, percentage and statistical indicators.

RESULTS

Total 64.8% of the samples were male and 41.8% in the age group of 40-50 years. 11.1% of the samples were smokers and 27.5% had 10 to 15 years of work experience (Table 1). The average age of employees was 43.11 years with a standard deviation of 7.68 years (age range 23-61 years). 5.7% of the samples had a history of cardiovascular disease, 1.2% lung, 5.7% kidney and 15.2% musculoskeletal disease (Table 2).

Cardiovascular disease was present in 14 (5.7%) participants, with coronary heart disease being the most common in 6 cases (2.5%). Lung disease was present in (1.2%) in which one employee (0.4%) had chronic obstructive pulmonary disease and two employees (0.8%) had asthma. Kidney stones with 12 cases (4.9%) had the highest frequency among nephrological/urological diseases. Vitiligo and chronic itching of the skin with 2 cases (0.8%) were the most common among employees' skin diseases.

Among musculoskeletal diseases, the most common were related to limb paralysis or a history of polio (1.2%) and osteoporosis (0.4%). Psychiatric illnesses among employees included anxiety (2.5%), depression (0.8%) and bipolar disorder (0.4%). Gastrointestinal diseases are the most common, respectively: reflux disease (0.8%), irritable bowel syndrome (0.8%), gastric ulcer (0.8%), non-specific stomach pain (0.8%), inguinal hernia (0.8%), perianal abscesses (0.4%), hepatitis B (0.4%), gallstones (0.4%), inflammatory bowel disease (0.4%) and fatty liver (0.4%).

Table 1: Frequency of demographic variables in study participants.

| Variables | N | % | |
|-------------------------|------------------------------------|-----|------|
| Gender | Man | 158 | 64.8 |
| | woman | 86 | 35.2 |
| Age (years) | >30 | 16 | 6.6 |
| | 30-40 | 78 | 32.0 |
| | 40-50 | 102 | 41.8 |
| | 50-60 | 47 | 19.3 |
| | 60> | 1 | 0.4 |
| Smoking | Yes | 27 | 11.1 |
| | No | 217 | 88.9 |
| Level of education | High school | 14 | 5.7 |
| | Diploma | 23 | 9.4 |
| | Post-diploma and bachelor's degree | 94 | 38.5 |
| | Masters degree and higher | 110 | 45.1 |
| Work experience (years) | >5 | 17 | 7.0 |
| | 5-10 | 16 | 6.6 |
| | 10-15 | 67 | 27.5 |
| | 15-20 | 40 | 16.4 |
| | 20-25 | 66 | 27.0 |
| | <25 | 38 | 15.6 |
| Work category | Employee | 218 | 89.3 |
| | Manager and deputy | 6 | 2.5 |
| | Services | 20 | 8.2 |

Hearing loss (1.2%) of employees, diabetes and hypertension (5.7 and 14.3%) and hyperlipidemia (14.8%) were reported. Among the thyroid diseases were hypothyroidism (4.1%) and thyroid nodules (0.4%). Also, overweight and obesity (4.5%), rhinosinusitis (2%), benign prostatic hyperplasia (1.6%), anemia of unknown cause (0.8%), congenital operated cataract (0.4%) MS 0.4%, facial acne (0.4%), thalassemia minor (0.4%), ocular aberrations (0.4%), hepatic hemangiomas (0.4%) and Gilbert's disease (0.4%) was reported among employees.

DISCUSSION

According to the results of the study, musculoskeletal diseases, followed by hyperlipidemia and hypertension had the highest incidence among the study participants and after them, gastrointestinal diseases, cardiovascular diseases, thyroid disorders, kidney disorders, psychiatric disorders, skin diseases, hearing loss, etc were in the next categories. Occupational conditions are known as one of the most important underlying factors in the development of musculoskeletal disorders the most common of which today are abnormalities and pain in the spine. These problems reduce the quality of work, reduce the useful time of activity, increase the number of days off work as well as increase the financial and medical burden.⁶ Among the studies conducted in this field, we can mention the research of Rahimi et al after examining the musculoskeletal status of the officer's university students, they reported that they were in a better position than other

members of the community, citing their activity and regular participation in sports programs.

Table 2: History of the disease among the studied employees.

| Variables | | N | % |
|-------------------------|-----|-----|------|
| Cardiovascular disease | Yes | 14 | 5.7 |
| | No | 230 | 94.3 |
| Lung disease | Yes | 3 | 1.2 |
| | No | 241 | 98.8 |
| Kidney disease | Yes | 14 | 5.7 |
| | No | 230 | 94.3 |
| Skin disease | Yes | 8 | 3.3 |
| | No | 236 | 96.7 |
| Musculoskeletal disease | Yes | 37 | 5.2 |
| | No | 207 | 84.8 |
| Psychiatric illness | Yes | 9 | 3.7 |
| | No | 235 | 96.3 |
| Digestive disease | Yes | 15 | 6.1 |
| | No | 229 | 93.9 |
| Hearing loss | Yes | 3 | 1.2 |
| | No | 241 | 98.8 |
| Diabetes | Yes | 14 | 5.7 |
| | No | 230 | 94.3 |
| High blood pressure | Yes | 35 | 14.3 |
| | No | 209 | 85.7 |
| Hyperlipidemia | Yes | 36 | 14.8 |
| | No | 208 | 85.2 |
| Thyroid disease | Yes | 12 | 4.9 |
| | No | 232 | 95.1 |
| Other diseases | Yes | 29 | 11.9 |
| | No | 215 | 88.1 |

The researchers stated that about (41%) of the subjects had at least one of the spinal abnormalities, among which lordosis abnormality with a prevalence (26%) was reported as the most observed abnormality.⁷ In another study, Azma et al examined the prevalence of musculoskeletal disorders in soldiers and the effect of military training courses on these individuals. The results of this study generally showed that before the start of the training course, kyphosis anomaly obtained the worst score among the soldiers but doing two months of training exercises had positive effects on improving condition of this anomaly and of course other anomalies seen in sold.

Bardayan et al also reported in a military study that in general (16%) of young soldiers had at least one type of abnormal condition, while these values were higher for adult soldiers about (30%) were reported.⁹ In this study, cardiovascular disease was present in (5.7%) of the participants, most of which related to coronary artery disease in 6 cases (2.5%). A study was conducted by Bektashian et al with the aim of assessing the health of Isfahan insurance employees in this study, factors related to cardiovascular diseases such as blood pressure and

diabetes had the highest incidence among participants in the study.¹⁰

In another study, Ghasemi et al examined the effect of personal and occupational factors on the health of managers of the Islamic Azad University of Arak, according to which high blood pressure, high cholesterol and diabetes had the greatest impact on endangering the health of employees.¹¹ In another study, Sedghi et al examined the factors affecting individual and occupational health of Tehran forensic staff. The results showed that heart disease and hypertension as well as work responsibility had the highest impact on employee health.¹²

Labor force is an efficient and productive arm of any country and the management system uses their mental, physical and psychological capabilities to meet the needs of development and progress of society, therefore maintaining the health of employees is one of the most important indicators of development it is considered a finding. The results of the studies show the positive effect of investing in employees' health on increasing organizational productivity and economic growth and this issue doubles the priority of this issue. On the other hand, we are witnessing an increase in the prevalence of important non communicable diseases such as heart disease and risk factors associated with these diseases such as diabetes, high blood pressure, high blood fats, obesity and smoking in the country and the need to pay attention to these factors. Given that most government employees are at risk due to unhealthy and sedentary lifestyles, early prevention, diagnosis and treatment of diseases and their risk factors is essential.¹³

One of the interventions that can help a lot in reducing absenteeism, increasing productivity, reducing burnout due to work, reducing stress and preventing non-communicable diseases is the development of physical activity in the workplace. Physical activity in the workplace can reduce the incidence of chronic diseases and increase productivity. In the physical activity program, employees should pay attention to the necessary incentives and strategies to overcome the existing obstacles based on scientific evidence. Design and implement physical activity programs at work and encourage employees to use active traffic methods between work and home (such as minimal use of elevators between nearby floors, creating a suitable distance between the place of unloading from the service or parking lot and the workplace, creating sports facilities and encouraging people who have continuous and active physical activity, etc.) can play an important role in promoting the physical activity of employees.¹⁴ In order to achieve the set goals, at the end of each year, each department or organization should develop its own action plan for the next year. It should be borne in mind that the interventions envisaged in the action plan must be precisely in line with the specific objectives. The design of an action plan for each of the health priorities should

be based on the existing conditions such as manpower, budget, sufficient time and especially the feasibility of activities. Based on specific objectives, intervention programs for employee health are generally divided into four general sections: education and empowerment programs environmental health programs, care programs and needs assessment.

According to the resolution of the high council for health and food safety, the agencies must announce their intervention plan to the Ministry of health within 6 months after the notification of the basic health services package. Each device is required to notify the basic health package of employees to its lower levels and according to the regulated letter to follow its implementation at all levels from the highest level (ministry) to the lowest (city) and it is necessary to send regular reports on the implementation of the program at all levels to the Secretariat of the high council for health and food safety located in the ministry of health. What is certain is that the key to success in implementing a health intervention program is employee participation, therefore, applying administrative incentives and motivating them can be a key factor in this regard. Depending on the size of the organization, the structure and the necessary facilities, the methods of implementing the employee health program will be different.¹⁵

In the evaluation, the degree of achievement of the expected goals in the operational plan should be evaluated. Evaluation of health interventions should emphasize behavioral and non-behavioral goals (environmental change). The type of assessment is performed by special tools which can be a questionnaire, observation or interview. It is expected that all devices, with regular evaluation, will ensure that the goals of the programs are achieved and if not, will take action to modify the programs. Psychiatric illnesses among employees included anxiety (2.5%), depression (0.8%) and bipolar disorder (0.4%). Mental health is considered as one of the criteria for determining the general health of individuals, which means feeling good and ensuring self-efficacy, self-reliance and competitiveness. Mental health plays an important role in ensuring the dynamism and efficiency of any society. Currently, around 450 million people worldwide suffer from psychological, neurological and behavioral problems and mental disorders are responsible for more than one percent of deaths and (11%) the total burden of the world's diseases is borne by these factors. Studies conducted in the country have reported the prevalence of mental disorders between (9.11 to 2.30%).¹⁶⁻¹⁹

Among the studies conducted in this field, we can mention the study of Salvers et al, which was conducted with the aim of assessing the level of general health in the accounting staff of Shiraz University of Science and according to the results (53%) of all participants in the study had a disorder in at least one area of public health, among the various areas of general health, the most

common disorder was depression, so due to the relatively high prevalence of mental disorders (anxiety and depression), it is recommended to plan for individual skills and macro-ergonomics to increase their abilities and psychological capacity.²⁰ According to the study method, which was an interview and a checklist, there is a possibility of error in recording information.

CONCLUSION

Due to the high prevalence of non-communicable diseases among employees, including musculoskeletal diseases, hyperlipidemia, hypertension and cardiovascular diseases, it is necessary to screen non-communicable diseases regularly and with maximum participation of employees.

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