

How to improve diagnosis and reporting of work-related Musculoskeletal Disorders in Türkiye?

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EXECUTIVE SUMMARY

This policy brief addresses the pressing issue of improving the diagnosis and reporting of work-related musculoskeletal disorders (MSDs) in Türkiye. The country's significant workforce, coupled with global trends of increasing MSDs prevalence, necessitates the urgent need for safer and healthier working conditions. Despite the known impact of MSDs on worker well-being, productivity, and the economy, underreporting of occupational diseases remains a challenge in Türkiye. To address these challenges, three key policy recommendations are proposed. Firstly, there should be a comprehensive plan to enhance medical education curriculum by increasing coverage of preventive medicine, occupational diseases, and work-related MSDs. This would involve collaboration with relevant institutions and establishing monitoring and evaluation mechanisms. Secondly, a three-year campaign is suggested to raise awareness among employers, employees, and the public about work-related MSDs. The campaign should also include a national study to estimate the burden of occupational diseases, particularly focused on MSDs, and provide training programs for physicians diagnosing occupational diseases. Lastly, efforts should be made to improve the reporting and notification systems for work-related MSDs. This can be achieved through the development of an integrated pre-diagnosis reporting system, collecting and analysing data, and establishing a committee to enhance the quality and scope of reporting.

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KEYWORDS

Occupational safety and health, occupational diseases, flexible working conditions, Türkiye

Introduction

Türkiye possesses the second-largest labour force in Europe, with approximately 34.3 million people actively participating in the workforce. [1] As of 2023, nearly 40% of the population in Türkiye is engaged in work. [2] However, along with global trends, Türkiye is experiencing a demographic shift characterized by a slowdown in population growth, increasing life expectancy, and an aging population. This transformation, which also impacts the labour force, underscores the crucial need for safer, healthier and more productive working conditions.

Work-related musculoskeletal disorders (MSDs) emerge as a significant concern within this context. The first World Health Organization(WHO) / International Labour Organization(ILO) global estimates on disease and injury in the workplace showed that occupational ergonomic factors were the third risk factor responsible for the largest number of disability-adjusted life years (DALYs) lost globally in 2016 (12.27 million; 13.7%). [3]

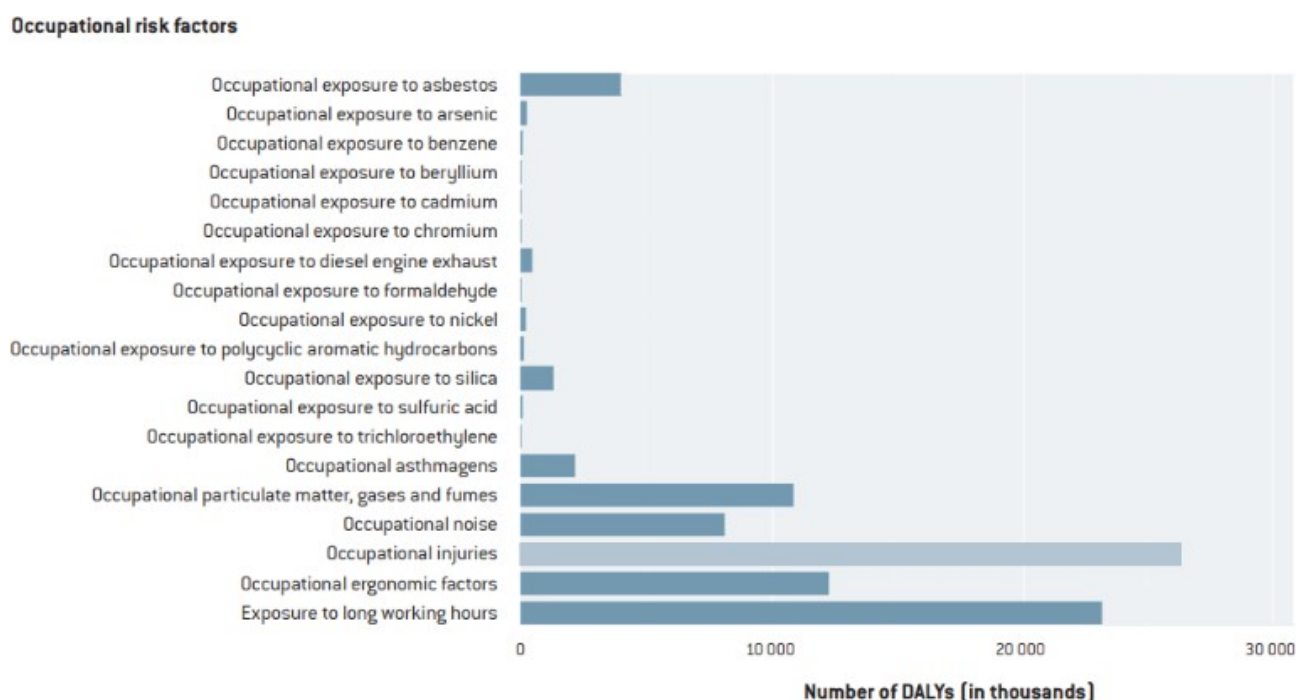
European Risk Observatory Report (2019) reveals that MSDs remain the most common work-related health problem and roughly three out of every five workers report MSD complaints in the EU. [4]

Currently in Türkiye, there have been 946 identified cases of occupational diseases in the year 2023. Among them, 104 cases were musculoskeletal disorders, which ranks as the second most common occupational disease. [5] However, it is important to note that the actual number of occupational diseases is likely to be significantly higher.

Alarming data from the Global Burden of Disease Study in 2021 [6] reveals that low back pain is the leading cause of years lived with disability (YLD) in Türkiye, and other musculoskeletal disorders and neck pain are among the top 10 causes. Furthermore, other musculoskeletal disorders, neck pain, and low back pain have witnessed alarming increases of 79.37%, 50.38%, and 43.14% respectively, compared to the data from 2002. According to the Türkiye Health Survey [7] conducted among individuals aged fifteen and over, the most common disease was low back disorders with 24.6%, followed by neck disorders with 17.2%, ranking these as the two most prevalent health problems in 2022.

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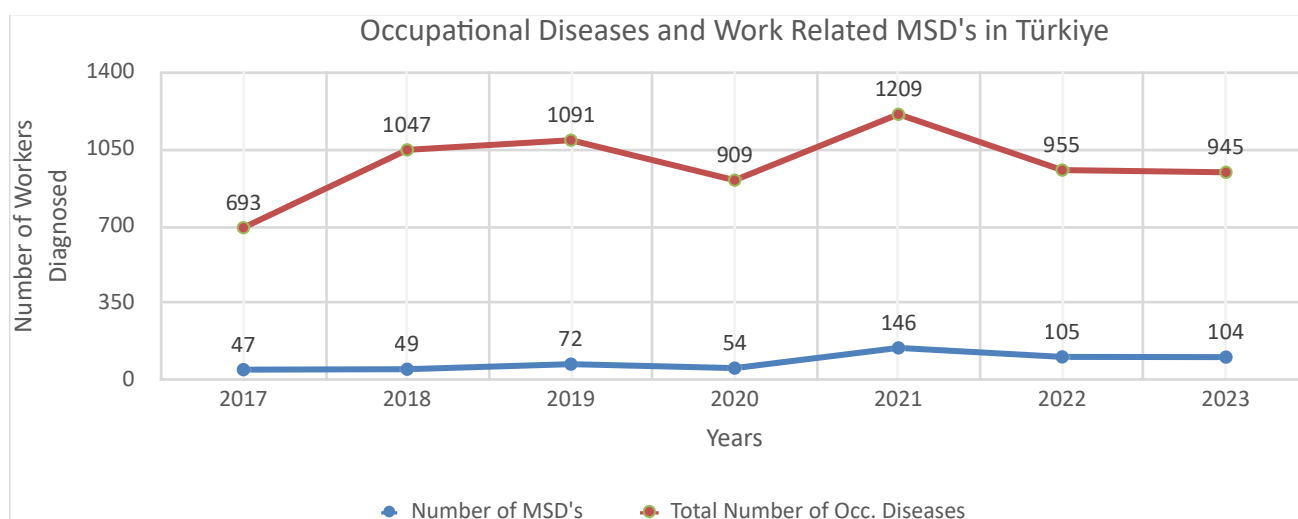
Figure 1: Total Number of Attributable DALYs, By Occupational Risk Factor, 183 Countries, For the Year 2016 [3]



Source: "Global Monitoring Report: WHO/ILO Joint Estimates of the Work-related Burden of Disease and Injury, 2000–2016

Given these statistics, it becomes evident that addressing work-related MSDs are of paramount importance. Not only do these disorders affect the well-being and quality of life of workers, but they also pose significant productivity challenges for the workforce as a whole. On the other hand, work-related MSDs result in significant financial burdens for both businesses and society as a whole. Thus, it is imperative to focus on improving reporting mechanisms and developing effective strategies to tackle these issues head-on.

Figure 2: Occupational Diseases and Work-related MSD's in Türkiye



Source: The Social Security Institution Statistics, 2017-2023

Methodology

The objective of this policy brief is to analyse the prevalence and impact of work-related MSDs in Türkiye, assess the effectiveness of current policies and suggest improvements. The data was sourced from the Turkish Social Security Institution, the Turkish Statistical Institution, the Turkish Ministry of Health, the European Agency for Safety and Health at Work (EU-OSHA), International Labour Organization (ILO) and the World Health Organization.

Table 1: Definitions and Legal Framework of Occupational Disease

ILO	According to the ILO, "occupational disease" encompasses diseases contracted due to exposure to risk factors arising from work activity.[8]
Turkish Law on Social Insurance and General Health Insurance	The Turkish Law on Social Insurance and General Health Insurance (No. 5510) [9] defines occupational disease as temporary or permanent illnesses, physical or mental disabilities resulting from work-related conditions or the nature of the insured person's work.
Turkish OSH Law	The Turkish Occupational Health and Safety Law (No. 6331) further specifies that it involves diseases arising from exposure to occupational risks. [10]
EU-OSHA	In line with the European Agency for Safety and Health at Work (EU-OSHA), a "work-related disease" refers to any illness caused or aggravated by workplace factors. This category includes diseases with complex causes, involving a combination of occupational and non-work-related factors. On the other hand, an "occupational disease" primarily results from exposure at work to physical, organizational, chemical, or biological risk factors, either individually or in combination. [11]

Recognition and Reporting of Occupational Diseases in Türkiye

In Türkiye, the recognition of an occupational disease is tied to compensation, requiring a causal relationship between the occupational exposure and the disease. Statistics from the Social Security Institution indicate a nearly 170% increase in the number of workers diagnosed with occupational diseases in 2023 compared to 2013. However, according to the Turkish Social Security Institution's statistics, the number of officially acknowledged and diagnosed occupational diseases for 2023 is only 946, suggesting significant underreporting.[5] This figure is equal to less than 1% of the minimum expected value according to the Harrington approach. The Annual Statistical Report (2021) of DGOSH Türkiye revealed that out of 35 countries (G20, EU and OECD Countries) having recent statistics on ILOSTAT, only 3 of them could approach to the expected value in line with Harrington approach. This shows that Türkiye's performance in aligning with the expected value is similar to the majority of these countries.

National legislation in Türkiye provides a list of occupational diseases resulting from exposure to work-related risk factors. Work-related MSDs that occur due to repetitive movements or exertion are extensively included in this list. Based on the 2023 Social Security Institution Statistics, when analysing the distribution of occupational diseases according to diagnostic groups, it is found that 59 % of these diseases are not on the list or diagnosed after the insurance coverage has ended. As a result, there are only 385 occupational diseases included in the list for which a work relationship has been identified and explained.

Based on the Harrington approach, it is expected that there will be 4-12 new cases of occupational diseases per thousand workers annually. [12]

In order to address the issue of underreporting, it is essential to consider not only work-related musculoskeletal disorders but also other occupational diseases. It is imperative to identify the underlying causes of this issue in order to facilitate improvement.

The dataset covers the period between 2017 and 2023 and includes statistical information on occupational diseases, with a particular focus on work-related MSDs. The major data was gathered from national health surveys and Turkish institutions. Secondary data was gathered from global reports such as the WHO/ILO Joint Estimates of the Work-related Burden of Disease and Injury. The data was analysed using statistical methods to identify trends in the prevalence of work-related MSDs and other occupational diseases. In order to emphasise the importance of underreporting, the Harrington approach was implemented, and a comparative analysis was conducted to evaluate Türkiye's performance in relation to other G20, EU, and OECD countries.

Results and Findings

In 2010, Türkiye established a protocol of cooperation between the Ministry of Labour and Social Security and the Ministry of Health to improve the detection and diagnosis of occupational diseases. This led to the "Project for Increasing Awareness of Detection, Diagnosis and OSH Professionals in Occupational Diseases", which aimed to raise awareness, develop diagnostic guidelines and improve coordination between institutions. Seminars were held in 22 high-risk provinces and [a guidebook on occupational diseases](#) was published in 2011. The project, which ended in 2013, resulted in a nearly 170% increase in reported cases of occupational diseases by 2023. However, based on the Harrington approach, data from the Social Security Institution shows that there is still significant underreporting.

DGOSH Türkiye, as the [focal point](#) for EU-OSHA, has been active in the Healthy Workplaces Campaign since 2005. The 2020-22 campaign "[Healthy Workplaces Lighten the Load](#)" focused on the prevention of MSDs. DGOSH Türkiye organised [an awareness-raising event](#), [a national competition](#) and [a technical seminar](#) to promote best practice and discuss MSDs management. Despite these efforts, Türkiye can still benefit from additional EU-OSHA outputs, such as surveys and research, for improvement in this area.

The world of work has transformed due to technological advancements, bringing both positive and negative outcomes. While technology enhances productivity and connectivity, it has also led to sedentary lifestyles with prolonged screen time. This sedentary behaviour and poor ergonomics raise concerns about work-related musculoskeletal disorders (MSDs). To address this, it is crucial to prioritize ergonomics, promote physical activity, and prevent work-related MSDs as technology evolves in the workplace.

In Türkiye, the combination of the workforce getting older and undergoing demographic changes, people becoming more knowledgeable about health, a rising interest in living healthy and the introduction of policies promoting healthy and active aging shows that there is a shared dedication to overall well-being.

According to WHO, regular physical activity is proven to help prevent and manage noncommunicable diseases (NCDs) such as heart disease, stroke, diabetes and several cancers. [13] It also helps prevent hypertension, maintain healthy body weight and can improve mental health, quality of life and well-being.

Therefore, improving ergonomic conditions, avoiding sedentary life and promoting physical activity is not only an important way to mitigate work-related musculoskeletal disorders but also contributes to overall health and well-being in Türkiye.

Policy Recommendations

This policy brief will propose following recommendations:

1. Create a three year campaign to;

- A. **Raise awareness** among employers, employees and public²,
- B. Carry out a national study to **estimate the burden of occupational diseases, especially for work-related MSDs**,
- C. **Conduct week long annual renewal training programs and awareness activities for physicians** currently working in hospitals authorized to diagnose occupational diseases.

Work with tripartite bodies to implement the campaign. Ministry of Labour and Social Security, Ministry of Health and The Scientific and Technological Research Council of Türkiye (TÜBİTAK) could work together and cooperate with the European Agency for Safety and Health at Work (EU-OSHA) as owner of the best practice "Healthy Workplaces Campaign" mentioned above.

² By demonstrating that work-related MSDs are an issue for every worker — in all types of workplace across all sectors

2. **Develop and implement a comprehensive plan in two years** to enhance existing medical education curriculum by increasing coverage of preventive medicine, occupational diseases, and particularly work-related musculoskeletal disorders % 5 (in terms of the number of lecture hours dedicated to the topics). In cooperation with Council of Higher Education and Ministry of Health, Ministry of Labour and Social Security should prepare a current situation report, organize a workshop with the participation of representatives of tripartite bodies to develop the plan, prepare a guideline for implementation and set up a committee for monitoring and evaluation of the effectiveness of coverage via 2 survey among lecturers and students.
3. **Set up a committee to increase the scope and quality of records of reporting and notification of work-related MSDs in three years period by;**
 - A. **Developing and implementing occupational disease³ pre-diagnosis reporting system** integrated to current health database that physicians use,
 - B. **Collecting the data and carrying out a comparison analysis** through WHO-ILO Joint Estimate scheme [2], compensatory records and the results of the national study mentioned in the second recommendation,
 - C. **Consult with worker unions, employers, and relevant institutions** to ensure the system's effectiveness.

In cooperation with Social Security Institution and Turkish Statistics Institution, Ministry of Labour and Social Security and Ministry of Health should work together to take this action.

Conclusion

In conclusion, the issue of improving the diagnosis and reporting of work-related musculoskeletal disorders (MSDs) in Türkiye is of paramount importance and relevance. The evidence presented highlights the high prevalence of MSDs, particularly low back pain and other musculoskeletal disorders, and the significant underreporting of occupational diseases in the country. These findings underscore the urgent need for proactive measures to address this pressing issue.

The strength of the evidence lies in the comprehensive analysis of national and international data, legislation, and existing initiatives. It reveals the magnitude of the problem and its impact on worker well-being, productivity, and the economy. The evidence also highlights the potential benefits of implementing effective strategies, such as enhancing medical education, raising awareness, conducting national studies, and improving reporting systems.

The three key policy recommendations put forth in this brief provide a clear roadmap for addressing the challenges associated with work-related MSDs. These recommendations focus on strengthening medical education, raising awareness among stakeholders, and improving the reporting and notification systems. By implementing these recommendations, Türkiye can enhance its occupational health and safety landscape, protect workers from the burden of MSDs, and foster a healthier and more productive workforce.

It is essential for relevant ministries, institutions, and stakeholders to collaborate and take prompt action in implementing these recommendations. Monitoring and evaluation mechanisms should be put in place to track progress and ensure the effectiveness of the proposed strategies. By prioritising the well-being of workers and creating a safe and healthy work environment, Türkiye can mitigate the impact of work-related MSDs and contribute to the overall welfare and prosperity of the nation.

³ Starting with work-related MSDs

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