

REVIEW ARTICLE

Occupational Risks of Health Professionals in Turkey as an Emerging Economy

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Abstract

BACKGROUND Health services are one of the work areas that contain important risks in terms of the occupational health and safety of the laborer. Professionals in various areas of health services encounter biological, chemical, physical, ergonomic, and psychosocial risks, particularly in hospitals.

OBJECTIVES This study has been performed to evaluate the impacts of the occupational risks on health of health professionals in Turkey.

FINDINGS In Turkey, as an emerging economy, the history of studies on health professionals is not longstanding. There have been various regulations intended for the occupational health and safety of health professionals in line with the Regulation of the Provision on Patient and Staff Safety prepared in 2012. However, applications can differ from region to region, institution to institution, and person to person.

CONCLUSIONS We believe that this review will lead health professionals to be aware of occupational risks and contribute to planning health services for health professionals.

KEY WORDS health professional, occupational risk, occupational health and safety, Turkey

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Health services is a work area that can lead to important risks with regard to health and safety of employees.¹ The possibility of encountering occupational risks as health professionals can change according to the profession, the work itself, and the unit of the hospital.

This study has been conducted to assess the effects of occupational risks on the health of employees working in hospitals in Turkey. In our country, the working conditions of health professionals are quite strenuous in some regions. Precautions regarding employee safety are insufficient in hospitals and health institutions in Turkey. Professional development and education opportunities for health

professionals are limited, and the professional organization is also not sufficient.² It has been reported that as the working hours per week increase, the possibility of being injured also increases. It has also been specified that professionals who did not receive the occupational health and safety training before have a higher incidence of accidents.³ Nonfatal accidents at work and occupational disease cases of health professionals rank at the top compared with other industries.⁴ However, in Turkey, the inclusion of hospitals in the “Very Dangerous Jobs” class was barely approved in 2009 via “Hazard Classes List Notification Relating Work Health and Safety.”^{5,6}

No outside funding was received for this study. The authors declare that they have no conflicts of interest.

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OCCUPATIONAL RISKS OF HEALTH PROFESSIONALS

The risks that affect the health status of health professionals can be classified as biological, physical, ergonomic, chemical, and psychosocial. The American National Institute for Occupational Safety and Health has reported 29 kinds of physical, 25 kinds of chemical, 24 varieties of biological, 10 kinds of ergonomic, and 6 kinds of psychosocial hazards and risks.⁷⁻¹¹

Biological Risk Factors. Biological agents transmitted by blood and bloody body fluids. These biological agents can be transmitted through the skin because of its impaired integrity and through mucous membranes (mouth, eye, and urogenital mucosa) as a result of the exposure to blood or bloody body fluids and some sterile body fluids. Although there are almost 30 microorganisms that can be transmitted in this way, the most important are hepatitis B virus, hepatitis C virus, hepatitis D virus, and human immunodeficiency virus (HIV) because they can lead to systemic infections and because of their current prevalence. The diversity of the clinical outcomes of these agents varies from asymptomatic infections to severe and even fatal infections.^{2,3,12-21} The transmission of infections to health professionals via blood occurs mostly through penetration with needles used in patients, injury with contaminated sharp instruments, or mucosal splashes with infected blood or body fluids.^{19,22-27} Two thirds of health professionals have stated that they have been exposed to blood or body fluids at least once; HIV infection was related to the profession in 57% of HIV-positive health professionals, and the risk of developing hepatitis B infection in health professionals is 10 times greater than in the general population.^{17,18,28}

Agents transmitted by respiration and droplets. Some agents, such as droplets and droplet cores, can be transmitted via the respiratory secretions of patients. Tuberculosis, measles, rubella, chickenpox, *severe acute respiratory syndrome*, influenza, meningococcal, and pneumococcal infections transmit in this way.^{9,18} According to the various studies performed in Turkey, health professionals, particularly nurses, are at risk, especially those working in pulmonary diseases services.^{16,28-30} Demir et al performed a study to determine the tuberculosis infection risk among health professionals working in a pulmonary disease hospital and another hospital that does not have a pulmonary disease clinic. They reported that the tuberculosis

infection risk was 7.4 times higher in the pulmonary disease hospital than in the hospital without a pulmonary disease clinic because of the higher tuberculosis exposure.³¹

Infections transmitted via direct contact. These infectious agents transmit via directly contact with the patient. There is no need to be in contact with the skin or mucosa or for loss of skin integrity for transmission. Resistant bacteria and skin parasites such as scabies are examples of microorganisms that can lead to severe infections in inpatients.¹⁶

Chemical Risk Factors. Various chemicals are key agents that are used to diagnose and treat diseases, perform preventive applications, and take hygienic precautions, although they are hazardous for health status of health professionals. Health professionals are exposed to chemicals (disinfectants, anesthetic agents, cytotoxic agents, drugs, some heavy metals such as mercury and latex, etc.) repeatedly and sometimes in substantial amounts. These agents can have a wide variety of effects that vary according to concentrations, contact time and method, presence of other risky agents, personal features of the health professional, and so on.³² Exposures to acids and alkalis, salts, dyes, volatile organic solvents, and various drugs, including primarily anticancer drugs in pathology, biochemistry, hematology, and other laboratories, are important risk factors for a series of diseases from allergy to cancer.^{7,33}

Drugs that cause severe organ toxicity and other toxic effects; show mutagenic, carcinogenic, or teratogenic effects; or are implicated in reproductive system disorders are defined as “hazardous drugs.” Long-term exposure to antineoplastic/cytotoxic drugs used in chemotherapy leads to potential risks in health professionals. At the stages of preparation, administration, and waste disposal of these drugs, severe health outcomes can be observed as a result of inhalation of powder and droplets, absorption through the skin, and ingestion of contaminated food, as well as particularly teratogenic, carcinogenic, and genotoxic effects that threaten reproduction during pregnancy.^{9,17,18,32,34-39}

Physical Risk Factors. The main physical risk factors that affect health professionals are ionizing and nonionizing radiation, noise, lighting, electrical assembly, slippery floors, temperature extremes, ventilation, vibration, and indoor pollution.^{7,15,17,40,41} Ionizing radiation is one of the most important physical hazards in hospitals, and it influences various different health professionals in different units and with different specializations (mainly radiotherapy, nuclear medicine, and

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