

term health impacts of chemical exposure from the oil spill. Firefighters expressed interest in additional safety training, worksite specific knowledge, and environmental monitoring for necessary protection of their health.

Discussion Exposure to environmental disasters may contribute to long-term health and safety consequences. Improved systemic strategies in pre-disaster recovery planning and response preparedness are needed. The potential improvement of occupational health and safety outcomes with necessary environmental monitoring procedures deserve further study.

187 THE EVOLUTION OF OCCUPATIONAL MEDICINE: A LITERATURE REVIEW

Leonel Calvano. *Universidade Brasil – São Paulo, Brasília, Brazil*

10.1136/oemed-2018-ICOHabstracts.536

The industrial revolution that occurred in the first half of the nineteenth century brought the need of occupational medicine, which originated as a medical specialty in England, to ensure high production. At that time, the workforce reached inhuman levels of production, which required intervention to be guaranteed the minimum conditions for workers. The last 20 years the concern for public health, more rigorous supervision and laws focused on the employee, along with the activities of trade unions and academics began to differentiate the health of occupational health worker, presenting broader approach and greater performance this science. Thus, occupational health and worker health are in the growth and maturation process. From this perspective the objective of this research is to analyse, through bibliographic references, the history and evolution of occupational medicine, stressing the positive aspects from its inception and still faced problems. The research was based on scientific articles, books and especially laws and regulations. The database used in this study was the websites: Google Scholar and Scielo. The keywords used only in Portuguese: History of occupational medicine; Evolution of occupational medicine and laws of occupational medicine. As a result it turns out that the development of occupational health has brought great benefits to both the employee on the company. The occupational physician acts analysing the causes and effects that the way to work or because impossibilities benefits to the employee, whether transient or permanent by analysing the activities carried out by it.

451 NEW CHALLENGES UNDER NEW PREMISES IN THE PRACTICE OF THE OCCUPATIONAL MEDICINE

Liliana Rapas. *Directorate of Public Health Bucharest/Ministry of Health, Bucharest, Romania*

10.1136/oemed-2018-ICOHabstracts.537

Introduction Occupational medicine, science and medical discipline with a practice for more than three centuries, recognises unequal development, linked with the interface human-work/occupation. This link has an accelerated growth for some companies or health systems that coexist with traditional ambience of other systems, even inside a country.

Material and methods By analogy with the three known axes O_x , O_y , O_z while time is the fourth dimension, the analysis is made by considering the four pillars, medicine, science, business, public/social policy for the ten items (the human

resources, the specialised vocabulary and communication, the service type, the medical applications for preventive, curative, emergency, recovery, the medical technology-innovation, the types of financing, Q indicators, networking by sharing the data, the working and development environments, the strategy-law) which customise and differentiate the spherical content of a medical practices with a high turnover of the scientific work dedicated to the health of both the individual and the organisation, the community, the whole society.

Outcomes and comments Even though the initial premises were focused on curative medicine for the workers with occupational diseases (B. Ramazzini, XVIII century), the practice is enlarged, generating polemics, sometimes conflicts, pointing to all the dedicated professionals and/or beneficiaries.

Our study shows that the capacity and the context of the tendering is different on the four pillars and reflects the choice or decision of the professional/doctor to ensure the management of occupational medicine in its entirety or to transfer segments of intervention to other partners. This is reflected concretely for example in standardisation (new approach for time allocation per action), in the health benefits (the surveillance of osteoporosis at workers over 55 s, new hypotheses for the bond between the exposure profile and the occupational disease roadmaps, new design for the medical-toxicology screening programmes), economic development of the clients (inside digital innovation of the medicine under new workplaces' technologies, mathematical studies for management-administration-finances)-the new themes under new premises for the medical practice in our health system.

167 THE DYNAMICS OF THE APPEARANCE OF SIGNIFICANT MONOGRAPHS AND MANUALS ON OCCUPATIONAL HEALTH IN RUSSIA

E Shigan, V Lysukhin. *FSBSI Izmerov Research Institute of Occupational Health, Moscow, Russian Federation*

10.1136/oemed-2018-ICOHabstracts.538

The history of the appearance of monographs, teaching aids and manuals on OH in Russia has a little less than two and a half centuries. The first work was the book by A.Bakherakht 'The way to preserve the health of marine workers' (1780). The author dwells in detail on the prevention and treatment seamen's diseases. A more significant event was the appearance of the book 'Diseases of workers, indicating protective measures' by A.Nikitin (1847), in which he talks in detail about the detrimental effects on health of production factors in more than 120 professions.

Undoubtedly weighty contribution was made by the teaching manuals of F.Erisman 'Professional Hygiene or Hygiene of Mental and Physical Labour' (1877) and V.Svyatlovskiy 'Factory Hygiene' (1891). In them, academic pedagogues dwell on the issues of research and analysis not only of OD, but also the hygienic aspects of the different professions working conditions. An important role was also played by the appearance of the monograph E.Dementyev 'The Factory, What It Gives to the Population and What It Borrowed' (1893), as well as the numerous scientific works of A.Pogozhev and E.Osipov.

Further it is necessary to note the textbook by D.Nikolsky 'The course of professional hygiene' (1907), S.Kaplun's monograph 'Labour and health' (1922), G.Khlopin 'Labour regime and occupational hazards' (1926), N.Vigdorchik's textbook

'Professional pathology. Course of Occupational Diseases' (1930), as well as two manuals published in 1936 – 'Labour Hygiene' edited by V.Levitsky and 'Occupational Diseases' edited by G.Arnautov, I.Gelman and B.Kogan.

In the second half of the 20th century, the scientific and educational works of N.Lazarev, N.Pravdin, I.Razenzov, E. Andreeva-Galanina, L.Khotsyanov, Z.Smelyanskiy, A.Letavet, A. Guskova, I.Sanotsky, B.Velichkovsky, V.Artamonova, and of course N.Izmerov.

It was under the editorship of N.Izmerov, for the first time in Russia, the 'Russian Encyclopaedia of Occupational Medicine' (2005) and 'Professional Pathology. National leadership' (2011).

139

OCCUPATIONAL HEALTH IN RUSSIA: SCIENCE AND THE DEVELOPMENT OF SOCIETY

E Shigan. *FSBSI Izmerov Research Institute of Occupational Health, Moscow, Russian Federation*

10.1136/oemed-2018-ICOHabstracts.539

Russian scientists in XIX century Fedor Erismann, Alexander Pogozhev, Alexander Nikitin, Vladimir Svyatlovskiy, already at the early stages of Russian industry development began to think about improving working conditions. With the emergence of new high-tech industries during the XIX-XXI centuries the scientific priorities of OH research have also changed. By the end of the XIX century, with the transition of the main labour of workers from crafts to industry, new directions of these studies also arise. The division of industry into extractive, processing and smaller subspecies led to the emergence of such a concept as sectoral occupational health.

This was most vividly represented in the USSR: already 20 years after the victory of the Great October Revolution, 18 research institutes were active in the country. Due to the presence of various industries and agriculture in the regions, they specialised in studying local issues of OH.

The Leningrad and Gorky institutes were pioneers in the study of toxicology and vibration disease: in the northeast of Russia and Volga-region there are many heavy engineering and chemical industries. The Kiev and Saratov institutes have always been more focused on agricultural workers's health. Donetsk, Krivoy Rog and Novokuznetsk institutes dealt with the problems of diseases of miners and workers in the mining industry. The Yerevan and Tbilisi institutes studied the issues of preserving the health of tea-growers, workers in the tobacco and food industries.

At the turn of the 20th and 21st centuries, special attention is paid to studying the impact of computer and new information technologies on worker's health. The appearance in this regard of many new diseases adds them to the classification list of occupational diseases.

The development of new technologies and generates new risk factors and entails the development of new directions in the formation of the modern state of OH.

145

THE 95TH ANNIVERSARY OF THE WORLD'S OLDEST SCIENTIFIC INSTITUTION FOR OCCUPATIONAL DISEASES

E Shigan, I Bukhtiyarov, L Prokopenko, N Rubtsova, L Kuzmina, N Izmerova. *FSBSI Izmerov Research Institute of Occupational Health, Moscow, Russian Federation*

10.1136/oemed-2018-ICOHabstracts.540

June 20, 1923, in Moscow was founded the world's oldest scientific institute of OD. It was organised as a scientific and clinical institution for the study of OD in close connexion with the hygienic methods of analysing and evaluating working conditions.

From the first days the institute continues to actively develop the preventive direction of domestic medicine, being the scientific and methodological centre of the country for a comprehensive study of the impact of occupational workers' health factors and the development of scientifically based measures to prevent their adverse effects.

The development of theoretical foundations for establishing general patterns and mechanisms of the influence of factors of the production, non-productive environment and the labour process on the workers' health was actively pursued with the aim of justifying effective methods for the prevention, diagnosis, treatment and rehabilitation of OD; studying medical and social problems of the health status and dynamics of workers in connexion with demographic shifts, changing production conditions, the environment and migration processes; Improvement and development of new preventive technologies that ensure the preservation of workers' health; Including the safety of nanomaterials and nanotechnologies; development of principles and methods for using the data of socio-hygienic and epidemiological studies of production contingents in the system of insurance medicine, depending on the state of working conditions and their consequences (morbidity, mortality, disability, etc.); development of scientifically based approaches to the assessment and management of occupational risk, taking into account modern concepts.

It is enough to name Ivan Razenzov, Nikolai Pravdin, Zinoviy Smelyanskiy, Lev Khotsyanov, August Letavet, Igor Sanotsky, German Suvorov, Elena Vorontsova, Angelina Guskova, Nikolai Izmerov to understand the level of the scientific potential of the institution. In 1975 the Institute became the WHO Collaborating Centre of OH, and in 1992 held the first meeting of the WHO CC of OH.

58

WORKPLACE INTERVENTIONS WITH RESPECT TO RISK MANAGEMENT MEASURES AND THEIR IMPACT ON EXPOSURE LEVELS TO HAZARDOUS SUBSTANCES – LITERATURE REVIEW

Susann Wothe. *Federal Institute for Occupational Safety and Health (BAA), Unit 4.1 Exposure Scenarios, Dortmund, Germany*

10.1136/oemed-2018-ICOHabstracts.541

Introduction Intervention studies play an important role in supporting and complementing scientific validation of results of non-intervention assessments of the efficacy of risk management measures (RMMs) under controlled conditions. We are reviewing a collection of published workplace intervention studies with particular focus on studies assessing the impact of the implementation of RMMs on changes in occupational exposure to hazardous substances with a very broad scope spanning a variety of approaches at a variety of workplaces in different industries.

Methods Workplace interventions were defined as events aimed at reducing occupational exposure to hazardous substances at the workplace due to a change in RMMs or where reductions occurred as a side effect, e.g. due to changes in the production process. Intervention studies published in