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DISTANCE LEARNING ON EPIDEMIC AND PANDEMIC OUTBREAKS IN BELARUS AS A RESULT OF COOPERATION WITH CEI

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Summary

Several scientific institutions have performed CEI project in Belarus: Republican Scientific and Practical Centre of Hygiene, which is an advanced scientific and testing institution in the field of hygiene, toxicology, health protection and preventive medicine and Republican Research and Practical Center for Epidemiology and Microbiology, with a wide range of fundamental studies in the area of epidemiology, medical virology, microbiology, immunology and parasitology. The situational analysis showed that existing structure of sanitary epidemiological system in Belarus let to enhance and strengthen the national surveillance system and public health safety. The e-learning course have been developed within the project framework consists of two training modules. The epidemiological e-learning course "Laboratory diagnosis of a new COVID-19 infection COVID-19" addressed to the health care workers, state sanitary inspections specialists and other medical specialists. The public health e-learning course "Occupational risk management of medical workers in context of Covid-19" addressed to the occupational health services specialists, clinical epidemiologists, hospital managers and administrators, representatives of the health workers' union. These topics were based on the training need analysis conducted by Istituto Superiore di Sanità. Using the educational platform let the participated institutions to efficiently disseminate the project results on ongoing basis.

Introduction

Since the outbreak of COVID-19, the world's medical systems have faced not only a relative and temporary lack of scientific data, but also the need to adapt existing medical structures and standards of practice to the new public health situation.

Materials and methods

Scientific Practical Center of Hygiene of the Ministry of Health of the Republic of Belarus (SPCH) as well as Republican Research & Practical Center for Epidemiology & Microbiology (RRPCEM) have participated in the project «Distance Learning on epidemic and pandemic outbreaks in Belarus, Moldova and Ukraine» financed by Central European Initiative (CEI). Project Provider – Istituto Superiore di Sanità (ISS).

This project, based on the successful collaboration between ISS and some of the key health stakeholders present with representatives from Belarus, Moldova, and Ukraine, was a project to offer technical assistance to sustain the capacity of health professionals dealing with the COVID-19 pandemic to effectively and timely cope with public health emergencies of international concern. It has been designed in response to the COVID-19 pandemic and conceived in line with EU directives and International Health Regulations, to reinforce trans-national cooperation in this country for improved public health safety and security.

The project aims at strengthening the abilities of all parties to effectively and timely cope with outbreaks pre-

paredness and response; promoting national and cross-border cooperation; and identifying the capacity of each national public health surveillance system as well as regional communication channels to be activated in times of epidemics and pandemics.

Results and discussion

The First Phase of the project allowed to map the national public health surveillance system of each beneficiary as well as communication channels to be in the field of public health emergency preparedness and response. Situational analysis of existing infrastructure in the country let to adopt the Laboratory Medicine Service in the Republic of Belarus and to identify gaps in various sectors of the public health.

The Second Phase allowed to carry out a small training need analysis and to deliver some technical experience to support the immediate response capacity by key personnel acting in the context of public health emergencies in the selected Institutions, through face-to-face meetings and specific webinars.

During this period of project next in-action preparedness, COVID activities were established in the field of epidemiology (performed by the RSPCEM).

Series of webinars addressed to public health organizations and coordinated by the WHO country office and Belarusian Society of Laboratory Medicine «Topical issues of biosafety and laboratory diagnostics of infection COVID-19» dated 14/12/2020-15/01/2021 have presented following topics: pandemic COVID-19: the challenge of biosafety; overview

of laboratory COVID-19 safety requirements; disinfection when working with COVID-19: selection of products; humoral immune response in person who had been exposed to the COVID-19: accumulated study experience; genetic diversity of COVID-19 circulating in different regions of the world; COVID-19: molecular diagnostic methods.

Online seminar addressed to health care workers, state sanitary inspections specialists and other medical specialists «Laboratory diagnosis of a new COVID-19 infection» dated 26/01/2021 have distributed following topics: the main features of the humoral immune response to infection caused by COVID-19; characterization of modern serological research methods, their scope and algorithm for use in etiological laboratory diagnostics of COVID-19; interpretation and evaluation of serological testing results in COVID-19; an overview of existing market diagnostic kits and test systems for identifying major classes of antibodies to COVID-19, a comparative analysis of their analytical characteristics; data accumulated by world science and practice on the formation and duration of humoral immunity in relation to COVID-19; seroprevalence to COVID-19 in patients with different severity and asymptomatic flow, features of seroconversion of antiviral antibodies and their kinetics; overview of COVID-19 safety requirements; molecular genetic characterization of COVID-19 circulating in different regions of the world; molecular methods for diagnosing COVID-19.

The last but not least was on-the-job training/internship for laboratory assistants in the field of hygiene and epidemiology have developed with following issue – PCR diagnosis COVID-19. All educational activities performed to expand and strengthen the laboratory network of the republic.

In-action preparedness COVID activities established in the field of public health (performed by the SPCH) were as followed.

Series of educational webinar have been delivered aimed at COVID-19 risk management and reduction during the pandemic «PPE used in healthcare organizations: classification, safety and efficacy requirements, test methods». Webinars focused on safety and efficacy requirements, testing methods of protection equipment and address relevant stakeholders.

The online test to assess the risk of COVID-19 infection have been developed as a tool for self-assessment and improvement of hygiene skills for the prevention of infectious diseases. It aimed at evaluation the risk factors that influence on personality and as the features of your behavior as well. Thus, the results obtained via online questioning that included 7,590 respondents and employed a specifically designed questionnaire covering most common behavioral risk factors of contagion with COVID-19 obtained. The obtained results reveal that perception of health risks caused by COVID-19 is quite significant among people living in Belarus since only 9.9% of the questioned do not consider COVID-19 a dangerous disease [1].

The cross-sectional study have been accomplished by

SPCH via using an online poll with the goal to examine health risk perception and adherence to vaccination against COVID-19 among various social and demographic population groups in Belarus. Having analyzed answers given by respondents who were medical workers we revealed that a greater share of them were vaccinated, but reasons for refusing from vaccination were the same [2].

Official recommendations on preventive measure for COVID-19 have been established by the SPCH (approved by the Ministry of Health). Guidelines aimed at risk reduction of the spread of infection and preserving the health of employees of organizations, ensuring the safety of providing services to the population in the context of the COVID-19 pandemic. Official guidelines for the prevention of COVID-19 infection for educational organizations have been established as well.

Have performed the situational analysis of the existing medical structures and standards of practice to the new public health situation have revealed the opportunities for improved public health safety and security in Belarus according to the CEI project implementation.

The Third Phase was dedicated to the process of providing feedback on the project implementation and to share the results achieved by all partners, thus to contribute to the implementation and shaping of successful preparedness and response plan of action.

As results of implemented activities there are two training modules in the project framework of e-learning course have been developed. 1) The epidemiological course «Laboratory diagnosis of a new COVID-19 infection» contents the Curriculum of e-learning course (course duration: 8 academic hours) addressed to the health care workers, state sanitary inspections specialists and other medical specialists. This established course aimed to enhance the national laboratory surveillance system. 2) The public health course «Occupational risk management of medical workers in context of COVID-19» contents the Curriculum of e-learning course addressed to the occupational health services specialists, clinical epidemiologists, hospital managers and administrators, representatives of the health workers' union (course duration: 8 academic hours). The objectives of the course are to systematize and obtain new knowledge about the characteristics of the most common occupational risks to health which health workers are exposed while responding to the COVID-19 pandemic, the WHO approaches of the assessing the readiness of hospitals to work in a pandemic, preventive measures and overcoming the consequences professional exposure to factors associated with the pandemic.

Conclusion

Educational platforms in the participating organizations (licensed by the Ministry of Education) will help efficiently conduct the created E-learning course afterwards on ongoing basis that extremely important to have public health and security system improved.

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