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Cooperation works of Tashkent Medical Academy with Korea University College of Medicine for the development of preventive medicine

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ABSTRACT

A memorandum of understanding for the development of health education in TMA (in particular in the field of preventive medicine) signed between Tashkent Medical Academy and Korea University, planned for 2016-2020. The article presents data on the results of the joint work of TMA and KU in training personnel involved in the study of the influence of environmental factors on the human body and on the results of scientific and research work carried out by environmental professionals.

In the Decrees of the President of the Republic of Uzbekistan, aimed at further development of the Higher Education System, as the most important tasks for further improvement and comprehensive development were determined: establishment of cooperation relations with world's leading scientific-research institutions, introducing into teaching process modern pedagogical technologies, widely implementation both new curriculum and methodical aid materials, invite actively to re-training courses to teach master class highly qualified scientists and professors from foreign partner educational institutions and organize in their base systematically to have an internship, of young professors and scientific researchers, master students; organization of re-training and training courses, continuous development of skills quality and level, re-training of pedagogues and scientific staff abroad, to teach graduates both PhD and master programs, invite experienced foreign scientists to higher educational institutions and re-training courses educational process; construction of HEI, reconstruction, capital repair, fit up with modern teaching and laboratory equipment and material-technical base strengthening. [1] To fulfill these tasks completely, it is required to carry out research activities and educational process based on the best international practices.

All of the above-mentioned medical tasks aimed at preserving and strengthening the health of the population, preventing diseases and creating long-term active living conditions for the population.

Intensive economic activities of humanity, increasing amount of vehicles, aviation improvement, widespread use of agricultural pesticides, increase in various types of

accidents, catastrophic and catastrophic negative effects on the Earth, including climate change, ozone depletion of the atmosphere, the entire biosphere pollution, desertification of land surface in some geographical areas and severe soil salinization, reaching forests and the loss of many species of flora and fauna.

The most disproportionate consequence of this situation is that every change in the external environment has a negative impact on the human body and its offspring [2].

24% of deaths in the world and 23% of deaths are caused by the harmful effects of environmental factors [3], and preventive and curative measures aimed at identifying and reducing these negative environmental factors and the development of preventive and curative measures aimed at reducing their negative impact on the human body is one of topical issue of the day. Tashkent Medical Academy (TMA) has had cooperation with several foreign universities. One of the activities of TMA in this area is the international scientific project named "Improving of health education in Tashkent Medical Academy" for 2016-2020 and we can mention this project as one of the works fulfilling in this direction.

The Korea Science Foundation is sponsoring this project. According to the terms of signed Memorandum has been conducting training of highly qualified specialists to study the impact of ecology and environmental factors on human health, as well as the study of environmental factors affecting the human body, reduction of their harmful effects and prevention of diseases (training by PhD programs) with newly founded Department of Environmental Hygiene and between other Hygienic Departments and Korea University Department of Preventive Medicine.

During the visit of Korea University (KU) professors to the TMA in 2017 for graduate students of the Faculty of Preventive Medicine were delivered lectures on the themes "Out-line", "Toxic Factor", "Working Environment measurement", "Out-of-School students", "Analysis", "Health Care", "Measurement", "Ventilation" and "Based space work" and so on.

Discussions were held with teachers and students on urgent issues regarding environmental pollution, the harmful effects of workplaces and industrial enterprises on the prevention and elimination of harmful factors. In addition, staff and students familiarized themselves with the requirements for undergraduate, postgraduate and doctoral studies at KU and participated in the competition and currently there are 4 researchers studying in the 1st and 2nd year of doctoral PhD.

To evaluate the progress of the project, following representatives: Mr. Ye Yeung Chul -Ministry of Education of the Republic of Korea; Mr. Kwak Hwan - Korea Science Foundation; Mr. Kwak Hwan, Lee Seung Pyo, Park Hwan Bo - Consulting Experts' Choi Jae Wook Kim Kyung Hee, Lee Hye Min, Ms. Lim Hee Jin - Korea University visited TMA in 2017 and assessed positively works done here.

Here we will focus the visit of a group of faculty professors headed by Rector of TMA to KU. In April, 2017 10 faculty members visited KU. During the visit, professors exchanged experience with Korean partners on the organization of the educational process. In particular, TTA professors delivered a lecture on the themes "Main aspects of

educational process”, “Ensuring of radiation safety” and “Environmental changes of the Aral sea and the Aral sea area” at a seminar for students of KU Department of Preventive Medicine.

Lectures delivered by KU Department of Preventive Medicine professor Choi Jae Wook, Kim Kyung Hee, Lee Hye Min, Ms. Lim Hee Jin on such topics as "Introduction of KU", "National Health Insurance System of Korea", "Industrial safety development development of environmental health in Korea" and others helped to get acquainted with the educational process of the university closely. In addition, our professors participated in a conference organized by KU ("The Korea Public Health Association - Public Health Association") to learn about public health and management.

Hold visit to Korea Occupational Safety & Health Agency (KOSHA) and Occupational Safety and Health Research Institute (OSHRI) to gain experience on how to prevent, prevent and eliminate contamination of the work environment and industrial hazards, which area topical issues now. The visit to “SK Energy”, an oil refinery, has shown that Korea has made significant progress in protecting the environment and the work environment, as well as the health of workers.

In accordance with the Decree of the President of the Republic of Uzbekistan of May 5, 2017 by № 2955 "On admission to higher education institutions of the Republic of Uzbekistan for 2017/2018 academic year" in TMA in cooperation with the KU has opened a Master's degree 5A510302. Currently, 13 students are enrolled in 2nd year of this course. In the current 2018-2019 academic year, 12 places were given to Master's degree 5A510302 "Environment and Health".

This MSc program prepares specialists to study the impact of environmental and environmental factors on human health, as well as to carry out a wide range of activities to protect and strengthen human health. The master's program was developed by professors from KU based on their experience in training specialists in ecology and environmental professionals.

During 2017-2018 academic year, KU faculty members were involved in the teaching process, delivered lectures and conducted workshops for master students of "Environmental and Human Health" direction. In particular, Professor Song Dong Bin delivered lecture on “Hygiene of the Environment” for hygienic block and Professor Choi Je UK on the blocks of “Public Health” and “Methodology for Scientific Research”. Professor Kim Suk Won of KU demonstrated during the master class the procedure for the identification and evaluation of physical and chemical properties of environmental factors (atmospheric air and water) in modern equipment.

Professor Choi Je Uk's lecture on “Modern Problems of Ecology and Environmental Protection” would help graduate students in their future to choose their Master's Degree direction.

In 2016, the first international symposium organized by TMA and KU (Graduate School of Public Health, Korea University). At the symposium, faculty and researchers from KU professors Choi Jae Wook, Lee Eun Il, In-Ho Kim, Dong Hyum Lee, Hyunoh Noh, Beom Jun Seo, Jiyeon Shin, Tinyami Eric Tandi, Ji Won Bag, Jun Hee Cha,

Mikyeong Ki Sinae Kim and TMA faculty members made presentations. The symposium discussed the results of research on the impact of environmental and environmental factors on human health, as well as the reduction of their harmful effects and disease prevention results.

At the second International Symposium in 2017, organized jointly by the TMA and KU, the number of lecturers attending from TMA increased compared to last year, with the majority of young researchers.

Decrees of the President of the Republic of Uzbekistan, aimed at further development of the higher education system, aim to arrange internships for teachers of higher education institutions on a systematic basis to further improvement the of higher education system.

In April 2018, in order to undertake internship purposes TMA professors visited KU. Workshops for TMA faculty members have been organized at KU College of Medicine.

The seminars are devoted to the issues of "Korean Public Health System", "National Insurance System of Korea", "Evaluation and Accreditation of Medical Education in Korea", "Activities of the Institute in Medical Education and Assessment of its Management" which gave the possibility to improve education quality and exchange of experience. Our professors were acquainted with educational process at KU.

There held discussion of curriculum management of KU College of Medicine. The gained experience has allowed us to revise legislative, normative and methodological documents on reforming of higher education, i.e. the organization of educational process, based on international experience.

During the internship at KU, teachers of TMA visited KU College of Medicine and Clinic, as well as the simulation center and got acquainted with their activities. At a meeting with the president of the University Medical Center, Kee Hyoung Lee and Dean of the College of Medicine, Hong Sik Lee, there was a conversation about perspective plans.

A seminar for undergraduate students studying in the field of preventive medicine was organized to familiarize with the progress and achievements in health and medical prevention in Uzbekistan. The lecturers of TMA professors participated in this workshop.

TMA in collaboration with KU organized seminar for our professors teaching the 2nd year students of the Master's Degree in Environmental and Human Health and KU professors delivered lectures about «Planning and Curriculum Management for Master's Degree», "Research Methodology and basic statistics", "Formation of dissertations and methods of cohort investigation", "PubMed search Method".

The fact that diseases and deaths that occur in the world are caused by the detrimental effects of preventable environmental factors, as well as preventative measures aimed at identifying these negative environmental factors and reducing their negative impact on the human body and the development of remedial measures is one of the urgent issues of our day.

This issue is also relevant in Korea, where TMA professors visited the National Institute for Environmental Studies and Samsung Electronics to familiarize themselves with the work and progress made in the field of environmental protection and occupational health in Korea.

During the visit, they were introduced to the Korean environmental research and environmental studies, the activities of Samsung Electronics, and a workshop on environmental protection, occupational health and safety, and measures to prevent occupational diseases.

The exchange of experience of TMA teaching staff during the internship at KU facilitated the improvement of the educational process and the revision of methodological documents based on international experience.

The project, which is sponsored by the Korea Medical Research Foundation in cooperation with TMA and KU, aims to enrich the TMA material and technical base with state-of-the-art facilities and laboratories.

KU supplied TMA laboratory with a number of tools and laboratory equipment for measuring and evaluating the physical and chemical properties of environmental factors (luxometers, Sound level Meters, Thermo hydro CO₂meter, aerocon, atomic absorption spectrometer-AA-7000, spectrophotometer UV-1280, etc.).

On June 7, 2018 "Research Center in cooperation with the Tashkent Medical Academy and the Korean University" was opened. The center has three modern laboratories, one exhibition hall, two classrooms and a lecture hall.

The first laboratory is equipped with the AA-7000 series atomic absorption spectrometer and UV-1280 series spectrophotometer manufactured by the Japanese company SHIMADZU.

Nuclear absorption spectrometer is an instrumental method for analyzing natural and wastewater sources, mineral solutions, technological and other solutions based on the mechanism of atomic spectral absorption of chemical elements commonly used in analytical chemistry. Our researchers and students can use this method for clinical and various biological analyzes (blood, blood plasma, etc.) to detect lead, mercury, bismuth and other elements.

The spectrophotometer can also be used for quality analysis of environmental objects or food products and biotechnological studies.

The second and third labs are equipped with luxury meters, couplers, thermohydroCO₂meters, aerocon and other laboratory tools used for hygienic evaluation of environmental and working environment. These labs have the ability to determine the lighting and noise levels, air temperature, humidity, CO₂ and dust content.

In the exhibition hall you can get acquainted with modern personal protective equipment for workers of various fields and rules of their proper use.

The research center, jointly organized by TMA and KU, has the opportunity to carry out scientific research as well as the educational process.

The objectives of the **“TMA-KU Collaborating Research Center”** are:

- Laboratory testing of environmental objects (water reservoirs and drinking water, atmospheric and working air, soil and waste water) and samples taken from bioliquids (blood and urine); Assessment of chemical composition of samples (including heavy metals and volatile organic compounds) on the basis of hygiene standards and development of a set of measures aimed at the sanitary protection of environmental objects;

- Providing methodological assistance in the implementation of research projects for the academy PhD doctoral, support PhD students and postgraduate students;

- to teach undergraduate and graduate students skills in hygienic assessment of environmental objects;

The Scientific Research Center is equipped with modern laboratory equipment for environmental studies, and undergraduate and graduate students are currently doing their research works.

In January 2019, four TMA professor together with Environmental and Human Health (degree 5A510302) master students visited KU. The purpose of the visit was to discuss preliminary results of scientific - research work of graduate students. Presentation of the results of the masters' scientific – research work (The 4th International Academic Symposium, Collaborating Academic Research and Future Challenge in Public Health between TMA and KU) attracted interest of students and professors of Korea University. In future it is planned to carry out joint scientific – research works.

The TMA delegation visited POSCO and familiarized with the production technology of the enterprise, the conditions created for the workers and the environmental protection system.

On June 12-13, 2019, 5 international conferences were organized jointly with TMA and the KU (The 5th KUMS-TMA International Conference, Advances in Future Medicine and Public Health, Actual Problems of Environment and Human Health). The conference discussed the results of research on clinical impacts on reducing the harmful effects of environmental factors on human health and prevention of diseases. Graduates of the 5A510302 - Environmental and Human Health Master's Degree along with a TMA diploma were also awarded with KU certificates at the conference.

In the future master's degree graduates in "Environmental and human health" can work at the following organizations: the State Inspectorate for Sanitary and Epidemiological Supervision of the Republic of Uzbekistan, the Agency for Sanitary and Epidemiological Surveillance; state governing bodies and organizations on environmental and labor protection, Research Institutes, various Ministries and Environmental Laboratories under these Ministries, organizations responsible for attestation of working places, Korean and foreign companies operating in the Republic of Uzbekistan, as well as higher medical institutions in Uzbekistan. Seven graduates master students were sent to work in the departments of TMA, one graduate - to the Fergana branch of TMA, the Nukus branch of the Tashkent Pediatric Institute and the hygienic departments of the Tashkent State Dental Institute.

TMA teachers together with professors from KU prepared 2 textbooks: "Environmental Hygiene and Human Health" and "Industrial Hygiene and Human Health". Textbooks are one of the necessary publications for students and graduate students, as well as for specialists in this field.

In summary, the works done at Tashkent Medical Academy in cooperation with Korea University in the development of preventive medicine are base of the activities in this field further fulfilment of joint scientific research, development of educational literature, student exchange, implementation, employment of graduates of "Environment and human" Master's degree program.

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