

Danuta Naruszewicz-Lesiuk

JAN KAROL KOSTRZEWSKI (1915-2005) IN THE 100 ANNIVERSARY OF THE BIRTH

INTRODUCTION

Jan Karol Kostrzewski was born on 2 December 1915 in Krakow in an intelligentsia family. In 1934 he began his medical studies at the Jagiellonian University. During his studies he participated, among other activities, in the activity of the International Association of Students "League" and the Polish Association of Democratic Youth. In 1937. He was co-organizer of blockade of students dormitories in Cracow, which was the actions to oppose the influence of right-wing organizations.

He finished his courses in 1940, but the final examinations he completed in 1944 at the underground University of Warsaw. Diploma of physician he obtained after the war in 1945.

He worked as a volunteer in the Department of Surgery and Department of Infectious Diseases of the Hospital of St. Lazarus in Krakow from October 1939 to April 1941.

In December of 1939. in Krakow, he joined the resistance organization and until April 1941 served as the commanding officer. Sought by the German police, in May 1941 he left Cracow and moved to Warsaw. Here he continued to serve in medical units of the underground Home Army (AK). Under this activity Kostrzewski participated in preparation of the sanitary service for the Warsaw-Downtown. At the Warsaw Uprising (1944) he was appointed wartime ensign and awarded the Cross of Valour. After capitulation of uprising was imprisoned in Stalag Lamsdorf, and then in the camp Keisensteinbruck close to Vienna where he led the infirmary for Polish POW. After the war in May and June, in the camp for displaced persons (DP) in Budapest he introduced measures to counter the epidemic of typhus and dysentery. In July 1945 he returned to Poland.

ACTIVITIES OF J K KOSTRZEWSKI AS AN EPIDEMIOLOGIST IN POLAND

He started his work in the National Institute of Hygiene in Warsaw in July 1941 in the section preparing vaccine against typhus first as a lice feeder.

In February of 1943. he was, at his request, sent to work in Antiepidemic Columns to control typhus epidemic. He was the de facto manager of the Antiepidemic Column operating in the county of Sokołów-Węgrów, then by mid 1944. in the district of Lublin.

In 1945 joined the Department of Serums and Vaccines Production of the National Institute of Hygiene in Krakow. Based on his experience from working in Antiepidemic Columns in 1946 he published an article entitled. "Case fatality from typhus in three Polish cities in 1940-1944" (*Przeegl Lek* 1946, nr 7-8, 153) and in 1947. "Case fatality from typhus in Poland in 1940-1943" (*View the drug* in 1947 No. 8-9). In 1948. He received the degree of Doctor of Medicine at the Jagiellonian University with a thesis entitled: "The significance of the reticuloendothelial system in malaria".

In 1951. J K Kostrzewski was assigned to organizing of the Department of Epidemiology in the National Institute of Hygiene, which he directed from 1953 until his retirement in 1978. He promoted the concept of epidemiology as "science and practical activity devoted to the conditions affecting the formation and spread of infectious diseases and assessing the effectiveness of measures and methods used in preventing and controlling them."

In 1953 he published series of articles on epidemiology of recurrent typhus (Brill-Zinsser Disease) which raised wide international interest, especially its part concerning the forecasting the intensity of typhus in the interepidemic period. He studied also the problems of the occurrence of epidemic typhus during the war years 1939-1944 in Poland (J. K. Kostrzewski, Hać A. – *Przeegl Epid* 1953; 7, 2: 101).

In collaboration with his colleagues from the Department of Epidemiology, National Institute of Hygiene he studied the development of the epidemiology of polio and brought the current problem of the safety of the oral polio vaccine type 1-CHAT and type 3-WFOX. Of particular importance were the results of epidemiological studies of safety for mass vaccination vaccine containing the type 3 virus, including the risk of cases infected in contact with vaccinated people.

In the years 1955-1960 – during the diphtheria epidemic that has achieved enormous dimensions - on

the initiative and under the direction of J K Kostrzewski it was developed and implemented plan to control it. The plan included the intensification of the vaccination campaign against diphtheria under the supervision of the WSSE and evaluation its effectiveness. J K Kostrzewski pointed out that the regulations of the State Administration in Poland are insufficient for the proper supervision. His suggestions for improvement were implemented and epidemiological situation of diphtheria was relatively quickly brought under control.

During this period JK Kostrzewski summed up his observations on the occurrence of recurrent typhus in Poland in the years 1952-1954 and the role of relapses in the epidemiology of typhus.

In 1957. J K Kostrzewski took the initiative to create a scientific society in the field of epidemiology and infectious diseases - in November this year with the participation of specialists in infectious diseases J Bogdanowicz and B Kassur he called the meeting for the founding of the Polish Society of Epidemiologists and Infectious Diseases Specialists (PTEiLChZ). The statute of the Society, was approved on January 18, 1958.

JK Kostrzewski and his collaborators took an active part in the control of the last outbreaks of the smallpox which occurred in Poland - in 1962. among the crew of the ship in the roadstead of Gdańsk harbor and in 1963. in the outbreak which started in Wrocław from one imported case.

In 1966 on the basis of his experience gained during the smallpox outbreaks J K Kostrzewski forwarded the to the Ministry of Health and Social Welfare the initiative to set up the directive for controlling situations of importation to the country especially dangerous infections. This emergency plan that was published as "Guidelines of the Ministry of Health and Social Welfare at June 2, 1966 r. In this same year he also published a summary of studies on reservoir of typhus in Poland during interepidemic periods.

On his initiative and according to his plan, field study on the effectiveness of the four types of vaccines against typhoid fever in the years 1961-1964 was carried out in Poland.. The trial covered the 1 million 400 thousand. people from districts with high incidence of typhoid fever. As a result of this study the most effective against typhoid, formolowo-phenol vaccine was implemented for use in Poland in 1964. Epidemiological situation of typhoid fever, had been so much improved that from September 1975. mass vaccination against typhoid fever in the country was ceased- leaving the decision on vaccinations to District Sanitary Inspectors. The concept and methodology of this study was exemplary for epidemiological research in the other countries.

In 1967. J K Kostrzewski initiated research on safety and efficacy of different measles vaccines to chose most

suitable preparation. Vaccination against measles were introduced to the Polish vaccination program in 1975.

In addition to this superficial overview of his activities in NIH it should be mentioned that under his guidance were organized numerous training courses of hygiene and epidemiology. Every employee of the Department of Epidemiology was required to obtain a specialization and / or preparing a doctoral dissertation.

Within the Department he supervised 9 doctoral theses, and many others outside the NIH.

The initiative of J K Kostrzewski to publish extensive reviews on descriptive epidemiology of Infectious Diseases in Poland: "Infectious diseases in Poland and their control for the years 1919-1962", "Infectious diseases in Poland and their control for the years 1961-1973", "Infectious diseases in Poland and their control for the years 1970-1979".

Special place as a base for training of epidemiologists takes edited by J. Kostrzewskiego and CR Lowe Fri.: „Epidemiology. A guide to teaching methods”. WHO 1971.

EPIDEMIOLOGY OF NON INFECTIOUS DISEASES – THE ROLE OF JK KOSTRZEWSKI IN WIDENING OF THE SCOPE OF EPIDEMIOLOGY IN POLAND

On 6 October 1964. at the joint meeting of the Polish Society of Epidemiologists and Infectious Diseases Specialists and the Scientific Committee for Hygiene and Organization of Health Services of Polish Academy of Sciences, J. K. Kostrzewski and K Lachowicz presented a program lecture: "Tasks and prospects of epidemiology in Poland." It pointed out that the experience gained within epidemiology of Infectious Diseases can be used in studies of noncommunicable diseases. The authors postulated to undertake efforts for the development of methodology for planning and evaluation of the state of health of the population, risk factors and their effects.

It was the starting point for studying the effect of air pollution on the occurrence of non-specific respiratory diseases. Almost simultaneously were undertaken duties on epidemiology of cardiovascular disease, psychoneurological, cancer and so on.

Those studies initiated wider scope for assessing the public Health in Poland.

J K KOSTRZEWSKI AS AN ORGANIZER AND PROMOTER OF HEALTH CONCERNS

In 1961. J K. Kostrzewski was appointed as the Chief Sanitary Inspector and also Undersecretary of State in the Ministry of Health and Social Welfare.

In 1963. resolution of the Economic Committee of the Council of Ministers has been entrusted to him the duties of the Government Plenipotentiary for the development of food and nutrition program in Poland. This program was to be implemented according to the agreement of the Polish Government and the United Nations Development Programme and the World Food and Agriculture Organization (FAO).

J K Kostrzewski contributed to the organization of Food and Nutrition Institute in Warsaw. He was involved in the creation of this Institute, both its organization and founding. He also served with a great deal of dedication at the completion of such important investments at the Medical University of Lublin like buildings of Medical College, College Pathologicum and dormitories.

At the time when he served his term in GIS, the Bill on Controlling Communicable Diseases (November 13, 1963 r., Dz. U. No. 50, item. 279) was enacted. It has to be emphasized that it was after 28 years of the previous law on prevention of infectious diseases dated. 21 February 1935 r. (Dz. U. RP No. 27, pos. 198). With the new Act six implementing regulations and guidelines were issued. The Act of 1963. was so comprehensive and modern that next was issued only after 38 years, in September 2001.

In addition, prof. J Kostrzewski when he served as Chief Sanitary Inspector promote the development of premises for the implementation of mass vaccinations structured in the form of both routine immunization programs and vaccination campaigns organized for emergency needs. During his work as Chief Sanitary Inspector some serious epidemics occurred which were combated under his supervision. During the tenure of Prof. JK Kostrzewski the problem of hospital infections, their prevention and control obtained high professional and institutional priority.

Professor J K Kostrzewski served as the Chief Sanitary Inspector until July 1968. when he was appointed Minister of Health and Social Welfare, a position which he held until the end of the term of the Sejm and the change of government in April 1972.

ACTIVITIES OF J K KOSTRZEWSKI AS A MEMBER OF THE POLISH ACADEMY OF SCIENCES

In 1967. there were two important dates in the scientific biography of J K. Kostrzewski In April of this year he was granted title of professor of medical science, and in May he was elected a corresponding member of the Polish Academy of Sciences.

In 1968, 1971, 1980 and 1983 the General Assembly of Polish Academy of Sciences elected him a

member of the Board of Governors of the Academy. In April 1972. Prime Minister appointed him to the post of Secretary of the Division of Medical Sciences in the Academy. The position which he held until December 1980.

In December 1980. J K Kostrzewski was elected Vice President of the Academy of Sciences. Four years later, in December 1984. he was elected President there. He held this post for two terms until January 1989.

In 1985. J K Kostrzewski was elected to the Polish Parliament for the term 1985 – 1989. In those years he was also vice-president of the National Council of the Patriotic Movement of National Revival, and member of the Board of Advisors to the President of the Council of State.

As part of social activities J K Kostrzewski presided over the National Committee of the National Health Fund, which had participated in the financing or completely financed the construction of many hospital and sanatorium facilities. In 1982. Professor chaired the Public Committee of Building the Monument - Children's Hospital and Health Center.

ACTIVITIES J K KOSTRZEWSKI ON INTERNATIONAL FORUM

When conducting intensive research and teaching as well as serving many responsible functions in the country, J K Kostrzewski carried the activities in international organizations dealing with the prevention and control of diseases, especially infectious ones. Within the preparation for this activity he attended graduate study at the Harvard School of Public Health in Boston, which he completed in 1958 obtaining diploma of Master of Public Health.

Since 1960 he was a member of the WHO Expert panel. In 1968, 1970 and 1973 he chaired the Polish delegation to the World Health Assembly. In July 1969, he was elected Vice President of the World Health Assembly for the year 1969/1970. From 1973 to 1976, he was a member of the Executive Board of WHO, and in 1975 was elected chairman of the Executive Board of WHO for the years 1975-1976. It should be noted that he is Co-author of WHO Work Programme for the years 1978-1983.

From September 1971 to August 1984 J K. Kostrzewski was a member of the Executive Board of the International Epidemiological Association (International Epidemiological Association - IEA) officially associated with the World Health Organization, affiliated to the Council for International Organizations of Medical Sciences. In September 1977 he was elected chairman of this council and president of the IEA for the years 1977-1981.

In the years 1977-1979 he was a chairman of the International Commission for the assessment of smallpox eradication in India, Bhutan, Nepal, Ethiopia and the Horn of Africa - Djibouti, Kenya and Somalia and also was Vice-President of the World Commission appointed to assess the eradication of smallpox in the world. This committee in December 1979. concluded that the program to eradicate smallpox in the world was completed with success.

Prof. J. Kostrzewski is one of the initiators on the global scale, of the expanded program of immunization against tuberculosis, diphtheria, tetanus, pertussis, polio and measles. In 1978-1985 he chaired the Global Advisory Group of this program.

In the years 1978-1982 he was a member of the Scientific and Technical Research Special Programme for Tropical Diseases UNDP, of the WHO, and in 1982 - 1986, he presided over the *Research Strengthening Group* of tropical diseases in the developing countries.

In 1978 - 1981 he was a member, and since 1982 until 1986 he chaired the Technical Advisory Group of the World Programme to combat diarrheal diseases.

In the years 1979-1987 he was a member, and in 1983-1984 he was Chairman of the Supervisory Board of the International Research Center of diarrheal diseases in Dhaka, Bangladesh.

In the years 1980-1983 he was a member of the World Medical Research Advisory Committee of the WHO in Geneva. In 1983. was elected Vice President of this Committee.

Twice, in July and August of 1983 and in July and August of 1984, he worked as a consultant for the Mekong River Committee, in assessing the health effects of the planned water management at the basin of the lower Mekong River in Laos, Kampuchea, Thailand and Vietnam. He has developed a report entitled : "Preliminary Reconnaissance for Basinwide Reconnaissance Survey of Waterborne Disease"

In 1986-1987 he lectured „Health Clark Lecture-ship” at the London School of Hygiene and Tropical Medicine, University of London.

Of particular importance was his collaboration in the framework of a global program to eradicate polio. JK Kostrzewski was part of the 12-person group of experts representing the International Commission for confirmation of polio eradication in countries of American continents (International Certification Commission on Polio Eradication ICCPE), the aim which was reached in September 1991. In 1995-1996 JK Kostrzewski chaired the World Commission for Confirmation of Polio Eradication in the World, and until 2000 he participated in the activities of this Commission.

In addition to work in these committees J. Kostrzewski repeatedly participated in international conferences, expert groups and meetings devoted mainly to

the epidemiology, virology, statistics and organization of health care. As an expert WHO has participated in international programs and committees operating in tropical countries of Africa, the Eastern Mediterranean Region, Latin America, the countries of South-East Asia and Western Pacific. Frequently he presided over the proceedings of international committees and groups of professionals. He was a foreign member of the National Academy of Medicine of France, a foreign member of the National Academy of Sciences of India (honorary member) and a member of the Academy of Medical Sciences of Russia.

ACTIVITIES J K KOSTRZEWSKI AFTER REACHING RETIREMENT AGE

In 1989. Prof. JK Kostrzewski retired, withdrew from most of the public activities. In 1991. ceased to be a member of the Scientific Council of the National institute of Hygiene.

This did not mean a total suspension of his activities as an epidemiologist, author or editor. In 1991. He submitted for print text titled. "Vaccination programs of the World Health Organization", which was a chapter in the book "Vaccination", ed. B. Dębiec and W. Magdzik. In 1993. It was released a book "Infectious and parasitic diseases – prevention and control (ed. W. Magdzik ; Vesalius - Krakow). He is the author of 8 chapters and the preface in this book.

In 2001., The monograph. "Infectious diseases and their control on Polish soil in the twentieth century"; PZWL, which he co-edited with W. Magdzik and D. Naruszewicz-Lesiuk and co-authored several chapters.

On 6 December 2000. on the occasion of his 85th birthday it was organized ceremonial session of the Scientific Council of the National Institute of Hygiene, to which he was invited but was unable to attend. The professor sent a a letter of gratitude for the session and laudation lecture delivered there.

Yet he participated in the Conference organized NIH on 8 October 2002. on the occasion of signing the certificate of eradication of poliomyelitis in the European Region (Copenhagen 21.06.2002). It was his last visit to the National Institute of Hygiene.

He died on 27 May 2005. At the age of 89 and was buried on 06.02.2005 r. at the cemetery at the church. St. Catherine in Warsaw. On behalf of the employees of NIH posthumous farewell speech delivered professor Miroslaw Wysocki.

In 2014. his son Peter Kostrzewski handed me his own novel Fri. "Jan Karol Kostrzewski - not just epidemiology" - I would say - not just an epidemiologist!

It is a very valuable monograph, in which the author used materials from rich private archive prof. JK.

Kostrzewski. Especially interesting are informations on profesor Kostrzewski contacts with prominent members of the scientific community in Poland and abroad.

It was a difficult task for me to set together in a such short form the most important information about an eminent scientist and very meritorious man in many areas. This was all the more difficult because it was filled with me memories of my teacher, the promoter of doctorate and long-term head of the Department of Epidemiology, who in 1955. offered me a job, in the Teaching Department of the NIH – which I had to

organize at his command and later as the editor of Epidemiological Review as well as other activities, which according to his words I had to preform „the best I can”.

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Address for correspondence:

Prof. Danuta Naruszewicz-Lesiuk
Editorial Office of Przegląd Epidemiologiczny
-Epidemiological Review
National Institute of Public-Health-NIH
24 Chocimska Street, 00-791 Warsaw, Poland
Tel. +48 22 54 21 217

