



Natalia Zylberlast-Zand (1883–1942)

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Abstract

The paper presents the life and career of a prominent Polish-Jewish neurologist Natalia Zylberlast-Zand (1883–1942) who perished in the Holocaust. In the inter-war period, she was a prolific author in the area of neurological research and one of the founders of the Association of Polish Female Physicians.

Keywords History of neurology · Natalia Zylberlast-Zand · Pioneers in neurology

Natalia Zylberlast-Zand (née Zylberlast) (Fig. 1), one of the first female academic neurologists in Europe, was born on March 28, 1883, in Warsaw in Congress Poland (an official part of the Russian Empire from 1867 to 1918). She was the daughter of David Zylberlast and Emilia née Batavia. In adulthood, her younger brother Alfred changed his family name to Niemirski and became a successful film producer. She also had two younger sisters, Regina and Julia. Only the latter survived the Holocaust.

Zylberlast-Zand graduated from the Second Women's Gymnasium in Warsaw in 1899. Shortly thereafter, she moved to Switzerland to study medicine at the University of Geneva. In 1907, she graduated with a thesis entitled *Un cas de leucémie myéloïde chez un enfant de neuf mois* prepared under the direction of Edouard Martin, a pediatrician and a surgeon [1].

In the same year, she returned to the Kingdom of Poland and passed the Russian state exam at the University of Kharkiv (now Ukraine) to recognize her Swiss diploma. She commenced work at the Kochanówka Hospital near Łódź, and early on in her medical career, she became interested in neurology. As a young physician of outstanding ability, just a few months later, she joined Prof. Edward Flatau's neurological ward at the Jewish Hospital in Czyste (Warsaw) where she worked from 1908 as

the first assistant. She was also appointed as an assistant at the Institute of Experimental Biology of Marcel Nencki. Together with Flatau, she published on the surgical treatment of spinal tumors and on a case of word deafness [2, 3]. She also collaborated with other eminent Polish-Jewish neurologists like Władysław Sterling and Teofil Simchowicz [4].

In Warsaw, Zylberlast-Zand became a prolific investigator of the histology and pathology of the brain and spinal cord, publishing over 80 papers in French, German, Polish, and English. In 1912, she wrote on the mental disturbances in a case of serous meningitis with chronic hallucinations and migraine. In 1913, she published on syphilis of the cerebrospinal system, and in 1915, she reported two cases of chronic tetanus caused from infected teeth. Regardless of her intensive research, she also engaged in numerous social activities. For example, she gave advice on raising children at the University for All, an educational organization, operating mainly among the workers of the Kingdom of Poland.

In inter-war Poland, Zylberlast-Zand as a dedicated socialist collaborated with, among others, Janusz Korczak, a Polish-Jewish educator, children's author, and pedagogue. She also worked unpaid in the Jewish foundling's house in Warsaw and organized camps for poor Jewish children. Moreover, as an advocate of women's rights, she became one of the founders of the Association of Polish Female Physicians in 1925 and was elected its secretary. In July 1937, she was the only Polish delegate to the Fourth International Conference of the Medical Women's International Association at Edinburgh. She also became an active member of the Polish Psychiatric Association and was a passionate opponent of eugenics.

During World War II, Zylberlast-Zand was deprived of civil rights, like many other Polish Jews, and forced to move to the Warsaw Ghetto, where she continued her work as a doctor,

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Fig. 1 Natalia Zylberlast-Zand (née Zylberlast)

supporting the weakest by offering them medical help. She also collaborated with Korczak in the shelter for Jewish orphans. In July 1942, the liquidation of the Warsaw Ghetto began, and she was smuggled by her Polish friends out to the Aryan side. Yet, during the night of September 23/24, 1942, 2 weeks after escaping from the Ghetto, she was arrested together with her cordial friend, the gynecologist Dr. Zofia Garlicka, in the latter's flat. Together with her colleague who had been hiding her, Zylberlast-Zand was taken to the Pawiak prison, where she broke down and admitted to being Jewish. The following day she was shot; the body was buried in an unknown location [5].

The life and career of Zylberlast-Zand were interrupted prematurely and under the gravest of circumstances. Had it not been for the war of extermination, she could have continued her neurological research and organizational work for the multiethnic medical community in Poland. First and foremost, Zylberlast-Zand published on brain diseases, including paralysis and meningitis, lethargic encephalitis and herpes encephalitis, olivary nucleus, and histiocytes in the leptomeninges. She also worked on epilepsy, the reaction of globulin in hemorrhagic leptomeningitis, perivascular spaces, and epithelial origin of papilloma of the choroid plexus.

Interestingly, Zylberlast-Zand also insisted on surgeries to cure tuberculous meningitis and on biological and bacteriological examinations of the cerebrospinal fluid in such cases [6]. In the mid-1920s, she focused on Korsakoff's syndrome and on the oculopalpebral reflex in postencephalitic parkinsonism. The latter finding brought her wide interest among medical scholars in Poland and further afield [7, 8].

In 1930, a French translation of her book on the choroid plexus and its reactions in various diseases (infections, arteriosclerosis,

tumors, alcoholism) was published in Paris. It was prefaced by an enthusiastic introduction by the Swiss-French neuropathologist Gustave Roussy [9]. In the following years, she also continued her research on scleredema adultorum (Buschke disease). Her last paper before the outbreak of World War II was published in *Revue Neurologique* and focused on the hypothalamus and its role in physiopsychological homeostasis [10].

Like many other Jewish–Polish pioneers in neurology, Zylberlast-Zand perished in the Holocaust, yet her scientific and organizational work remained. In her obituary published a few years after her tragic death, one of her colleagues and collaborators in the Nencki Institute, Prof. Eufemiusz Herman, stated: “Extremely hardworking, thorough and conscientious in her research, [...] uncompromising when it came to displaying the truth of a phenomenon [...] attentive and caring for the sick, she took an active part in the social and scientific life [...]” [11]. And indeed, the death of this accomplished female physician was an irreparable loss not only for neurology but also for empowering women in medicine.

Compliance with ethical standards

Conflict of interest The authors declare that they have no conflicts of interest. This article does not contain any studies with human participants performed by any of the authors.

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