



## Editorial

# Tweets about War, Medicine and Humanity: Do You Hear the People Tweet in Ukraine?

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The Russian invasion of Ukraine began on February 24, 2022 (Levy and Leaning 2022). It caused a large number of deaths, destruction and displacement as well as social, political, and financial instability worldwide. Mental health illness is one of the major problems in wartime Ukraine, particularly for perinatal women (Sacchi 2022) and adolescents (Osokina et al. 2022). The PubMed search by the words of “Ukraine”, “war” and “mental health” reveals 60 papers with these keywords as of December 12, 2022. However, the publication of papers on this serious theme is very limited in Japan (Goto et al. 2023), probably because Japanese psychiatrists, psychologists or researchers in this field have been unable to visit Ukraine under uncontrollable war.

In this Issue of the Tohoku Journal of Experimental Medicine (TJEM), Fujii et al. (2023) analyzed 98,526,400 tweets in the Ukrainian language in order to capture the medical needs and mental health conditions in Ukraine. The analysis targeted tweets from Twitter service in Ukrainian during November 1, 2021 to August 10, 2022. The Japanese people cannot understand the Ukrainian language. However, the keyword groups, such as “medical service”, “symptom”, “treatment”, “medical situation”, “special situation” and “mental health” were prepared in Japanese, and were converted from Japanese to Ukrainian keywords by native Ukrainians who could interpret Japanese.

The analysis showed that the number of tweets on “mental health” increased in all acute, subacute, and chronic phases compared to pre-invasion. In addition, the results suggested urgent needs to help people with diseases who need to take their daily medication, such as diabetes mellitus, and to support anyone who send the signal for

help on social media, for example, through Twitter.

The conditions of Ukraine are frequently reported by television, internet and other media in Japan. By contrast, it has been very difficult for Japanese people to hear the present status directly from the Ukrainian people. However, the study by Fujii et al. (2023) has shown that tweets from the Ukrainian people have been, and will be surely conveyed to everyone and everywhere in the world, including Japan.

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