Delivering AI-based mental healthcare to build resilience in Ukrainian servicemen and veterans: a call for cooperation

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Russian aggression disrupted delivery of mental healthcare services for veterans in Ukraine. These causes required to create some new solutions about artificial intelligence based (AI-based) psychological services for Ukrainian defenders. Specialists from the Centre for veterans' mental health "Forest Glade" of Ministry of Health of Ukraine have created a Telegram-based bot (Lisova Poliana Bot) to reach the specific needs of veterans and servicemen. Such form of AI-based service achieved positive feedback from soldiers, officers and volunteers and helped to partially unload the psychological service in wartime without excluding the Ukrainian defender from it. Therefore, AI solutions have a potential to be integrated in healthcare system. Given the great potential of artificial intelligence in the provision of services during the war, further comprehensive research and cooperation at the international level can be promising. We invite international researchers to cooperate in creating and delivering AI-based consulting tools for Ukrainian defenders.

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Russian aggression disrupted delivery of mental healthcare services for veterans in Ukraine. Having the ability to receive psychological and psychiatric services prior to war, from the 24th of February veterans were struggling to reach their psychologist or psychiatrist due to certain causes: 1) Ruined or damaged hospitals; 2) Mobilization of veterans to Armed forces of Ukraine and their inability to reach their psychologist/psychiatrist; 3) Injured counsellors or their inability to leave occupied territory; 4) Bad mental state of veteran's counsellor and, therefore, their inability to consult their clients. These issues also reflect the general problem of delivering mental healthcare services to Ukrainian people. From the beginning of the war, various solutions were made, including chatbots [1, 2]. However, they found to be not totally suitable for servicemen and veterans due to not considering the specifics of military subculture and operational realities. These causes required to create some new solutions about artificial intelligence based (AI-based) psychological services for Ukrainian defenders.

Specialists from the Centre for veterans' mental health "Forest Glade" of Ministry of Health of Ukraine have created a Telegram-based bot (Lisova Poliana Bot) to reach the specific needs of veterans and servicemen and launched it from May, the 6th, 2022 [3], see **Pic 1**.
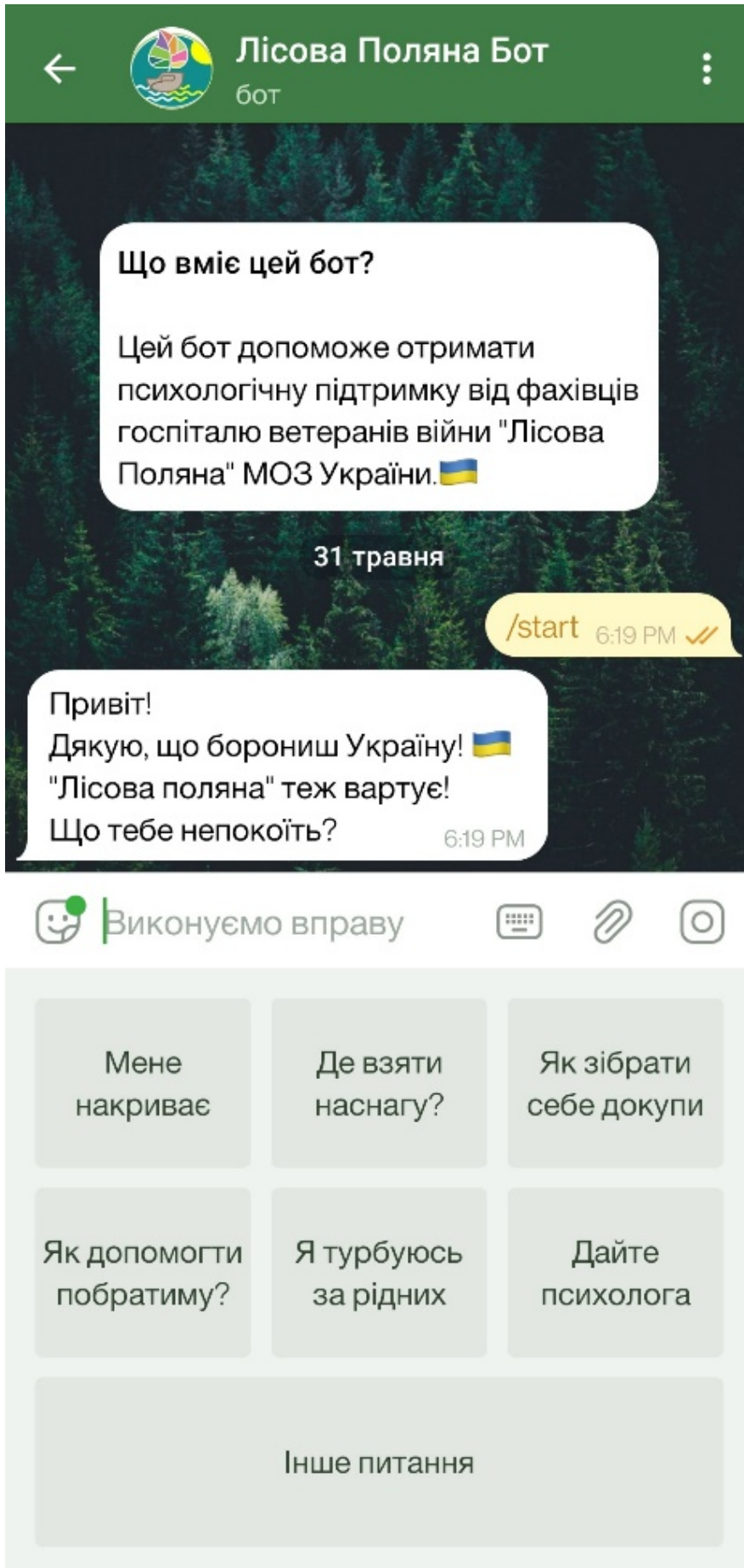
Pic 1. Screenshot of the Telegram-based bot start screen

It includes different topics and uses infographics and recommendations developed by Ministry of Health of Ukraine to target anxiety, panic attacks, depressive mood, worrying about family safety and gives Centre specialists' recommendations how to help brothers-in-arms that need sentient care and how to stay positive and resilient. Among the features is that the bot imitates the real conversation by a programmed message delay, similar to time required for a real person to write such message. It was done to cover the need in empathic communication and the presence of someone, who is not indifferent. If a servicemen or veteran finds the recommendations of the bot unsatisfactory to feel the need in psychological help, he/she can also use it to contact with a real psychologist (specialist of "Forest Glade"). Therefore, the bot also acts as a bridge between Ukrainian defender and mental healthcare provider in conditions when it is impossible to google for websites or contacts of such specialists. To reach more needs of Ukrainian servicemen and veterans we cooperated with the other providers like Ukrainian Veterans Foundation that also created a bot to deliver the information about mobilization, evacuation, and legal advice [4]. Both bots were connected by creating links to each other in their dialogues. Therefore, some simple bot network was done.

Such form of AI-based service achieved positive feedback from soldiers, officers and volunteers and helped to partially unload the psychological service in wartime without excluding the Ukrainian defender from it. Therefore, AI solutions have a potential to be integrated in healthcare system. However, even more needs to be developed, e.g., creating AI-solutions for delivering social services, or psychological services for family members, or training mental healthcare providers for work with Ukrainian defenders.

Given the great potential of artificial intelligence in the provision of services during the war, further comprehensive research and cooperation at the international level can be promising. We invite international researchers to cooperate in creating and delivering AI-based consulting tools for Ukrainian defenders. Any comments, proposals, and facilitation in further developing of such AI-based solutions to deliver mental healthcare services for Ukrainian defenders would be valuable for us.

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