Big data analysis and construction of a new training system aimed at training gatekeepers of drug overdose: Prevention of drug overdose based on local pharmacies as a base for “awareness” and “attentive hearing”

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Summary:
This research aims to gather and train the evidence necessary for gatekeepers to notice signs of overdose and prevent its occurrence. 1. Identification of patient background, motivation, and characteristics of test values through big data (patient information) analysis to detect drug overdose. 2. Basic research about drugs used for drug overdose. 3. Provide training and evaluation to pharmacists and registered sellers at local pharmacies as gatekeepers. This research focused on suicide prevention measures for drug overdoses, viewing pharmacies and drugstores across the country, whether in urban or rural areas, as bases for local “awareness" and “attentive hearing ". The main targets were pharmacists and registered sellers who are likely to directly hand over the drug that might cause an overdose to a patient immediately before an overdose.

In 2023, we held 5 invited lectures, 2 conference presentations, 2 academic papers, and conducted 2 media interviews. We are proceeding with the analysis of data made public by the Ministry of Health, Labor and Welfare and plan to publish the results in 2024. We began outsourcing data extraction to analyze patient information at multiple life-saving facilities, and proceeded with approval reviews by the ethics committees of cooperating facilities. In experiments using animals, it was considered necessary for subjects suspected of overdosing on perospirone to have pharmacists adjust their regularly used medications in advance. In addition, we developed the OD score to determine drug overdose from patients transported to critical care facilities and published a paper on it. By modifying the OD score, we are creating a standard for determining the risk of drug overdose at pharmacies and drugstores. The modified OD score can be used as a gatekeeper criterion for patient intervention. Furthermore, we identified and published a paper on the factors that pharmacists and registered sellers enable to act as gatekeepers for drug overdoses. To provide the evidence, we actively gave lectures and presented reports at academic conferences to

pharmacists and others and trained them as gatekeepers. We will continue to actively engage in these activities.