

ANALYSIS OF LOCAL PHARMACEUTICAL NEEDS FOR RAPID SUPPLY OF MEDICINES DURING LARGE-SCALE DISASTER

Y.MORIWAKI¹, M.FUJIIU² and Y.MORISAKI³

¹Graduate students, Division of Geosciences and Civil Engineering, Kanazawa University, Kanazawa, Japan,

²Associate Professor, Institute of Transdisciplinary Sciences, Kanazawa University, Kanazawa, Japan,

³Assistant Professor, Institute of Transdisciplinary Sciences, Kanazawa University, Kanazawa, Japan,

Correspond to Assoc. Prof. M.FUJIIU (fujiiu@se.kanazawa-u.ac.jp)

Keywords: Disaster Medical Care, Pharmaceutical Demand, Medical Big Data, Disaster, Pharmaceutical Support

1. INTRODUCTION

In the event of a large-scale disaster, not only will medical functions deteriorate due to damage to medical institutions, but the medical needs of the community will also increase [1]. Chronic medicine users require continuous use of medicines to manage their diseases, and discontinuation of the use of medicines can lead to worsening of their conditions and endanger their lives [2].

Therefore, the purpose of this study is to identify local pharmaceutical needs in advance for the prompt supply of medicines to chronic medicine users in the event of disaster. Based on the status of pharmaceutical prescriptions for chronic medicine users in Hakui City, Ishikawa Prefecture, the types of medicines prescribed and the number of users in the community were determined.

2. SELECTION OF TARGETED MEDICINES

In this study, the National Health Insurance data (KDB data) was used to determine the pharmaceutical prescribing status of chronic medicine users. KDB data is managed by each local government in Japan, and allows for monthly medical information for each individual.

In this study, based on interviews with faculty members of Kanazawa University Graduate School of Medical Sciences, medicines that are chronically used were selected. Table 1 shows the target medicines. The maximum prescription period for basic medicines, were used to calculate the type of medicines and the number of users using KDB data for 3 month.

Table 1. Target medicines

Middle class	Subclass
Agents affecting central nervous system	Hypnotics Sedatives / Antianxietics, Antiepileptics, Antiparkinsonism agents, Psychotropic agents
Cardiovascular agents	Cardiotonics, Antiarrhythmic agents, Diuretics, Antihypertensives, Vasoconstrictors, Vasodilators, Agents for hyperlipidemias, Other cardiovascular agents
Agents affecting respiratory organs	Antitussives, Expectorants, Bronchodilators, Antitussives and expectorants, Gargles, Other agents affecting respiratory organs
Agents affecting digestive organs	Agents for peptic ulcer
Hormone preparations	Pituitary hormone preparations, Estrogen and gestagen preparations, Thyroid and parathyroid hormone preparations, Anabolic steroids and preparations, Adrenal hormone preparations, Mixed hormone preparations, Other hormone preparations
Agents relating to blood and body fluids	Anticoagulants, Other agents relating to blood and body fluids
Other agents affecting metabolism	Agents for treatment of gout, Antidiabetic agents, Agents affecting metabolism
Antiallergic agents	Other antiallergic agents

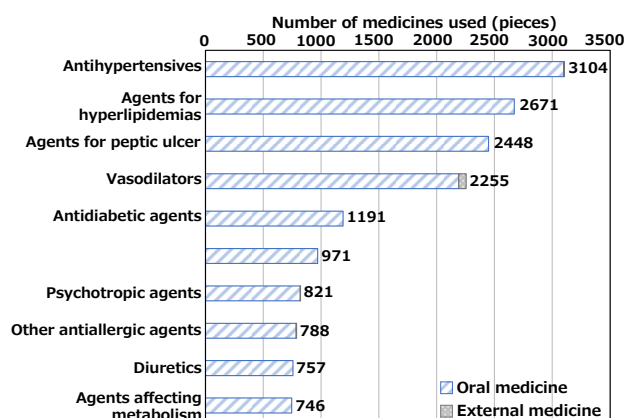


Figure 1. Number of medicines used (top 10 items)

3. CALCULATION RESULTS FOR THE NUMBER OF MEDICINE USERS IN HAKUI

The number of users of the targeted medicines in Hakui City was calculated. As a result, the number of people using the targeted medicines in Hakui City was obtained to be 6,472, with a total of 20,780 cases of use. Figure-1 shows the top 10 most frequently used medicines among the medicines covered in this paper. Figure-1 shows that the number of cases of use of antihypertensive agents, hyperlipidemic agents, peptic ulcer agents, and vasodilators was particularly high in Hakui City.

4. SUMMARY AND FUTURE ISSUES

In this study, the types of medicines chronically used in the community and the number of users were determined for Hakui City, Ishikawa Prefecture. As a future issue, it is necessary to determine the frequency and amount of medicines prescribed to each medicine user, and to calculate the amount of medicines required for each individual.

REFERENCES

- [1] S.Akitomi, A.Koyama, T.Kokogawa, Y.Maeda, R.Kimura, K.Tamura, H.Hayashi and K.Meguro, A Study on Disaster Medical Response during the Great East Japan Earthquake Disaster based on Emergency Support Function - Nine Days at Iwate Prefecture from Hyperacute to Subacute Phase -, Journal of social safety science, No.32, 2018, p.21-28.
- [2] Ministry of Health, Labour and Welfare, Protecting Health in the Affected Areas, Revised July 25, 2011, <https://www.mhlw.go.jp/bunya/kenkou/hoken-sidou/dl/disaster-110722.pdf>, (accessed 2022, 9, 26).