



Analysis of patient safety incidents reported by community pharmacists from 2019 to 2021 in South Korea

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INTRODUCTION

Medication errors (MEs) are the most frequently reported patient safety incident and a major problem in patient safety.¹⁾

In South Korea, 500 million outpatient prescriptions were issued as of 2019,²⁾ and most of them were dispensed at community pharmacies and delivered to patients. Therefore, **community pharmacies can play an important role in improving medication safety.**

The Korean Pharmaceutical Association (KPA) has received patient safety incident reports from community pharmacies nationwide through the online application system (KPA Adverse Event and Patient Safety Incident Reporting System: KPA SafePharm System) since 2019. KPA reviews these reports and reports to the Korea Patient Safety Reporting & Learning System (KOPS)³⁾ of the Korea Institute for Healthcare Accreditation under the Ministry of Health and Welfare. KPA analyzes the received reports as well and shares the results with community pharmacists for supporting MEs prevention activities. **This study analyzed the details of MEs, and related actions reported by community pharmacists.**

AIM

We analyzed the reports from community pharmacies to figure out the types of errors, frequency, degree of harm, related medicines, and pharmacists' actions. We could have useful information on the patient safety activities in community pharmacies and set the targets that should be approached with priority to prevent similar incidents recurring from the results .

METHOD

Patient safety incident reports received from community pharmacies through the 'KPA SafePharm System' from January 2019 to December 2021 were analyzed. WHO and IOM's incident stage and type classification standards were modified and applied.

Incidents related pharmaceuticals were analyzed based on Anatomical Therapy Chemical (ATC) Classification system level 2. Three pharmacists had participated in coding and cross-checking the data. The cases which could not be identified in the reports were classified as "missing".

RESULTS

[Analysis of all errors]

No.	Type	Cases	Ratio (%)
1	Medication related incident	2,457	98.7
2	Non-medication incident	33	1.3
total		2,490	100

Table 1. Type of incidents

No.	Level	Cases	Ratio (%)
1	Near miss	74	3.1
2	No harm	2,220	93.1
3	Mild harm	87	3.6
4	Moderate harm	3	0.1
5	Severe harm	0	0
6	Death	0	0
total		2,384	100

Table 3. Errors by level of harm, 106 missing data were excluded

[Analysis of Prescribing and Dispensing errors]

No.	prescribing			dispensing		
	Type	Cases	Ratio(%)	Type	Cases	Ratio(%)
1	Wrong drug	1,015	49.9	Wrong count	36	31.6
2	Dosing error	533	26.2	Dosing error	29	25.4
3	Wrong duration	228	11.2	Wrong drug	26	22.8
4	Omission error	148	7.3	Wrong patient	8	7
5	Wrong formulation or form	55	2.7	Omission error	6	5.3
6	Wrong patient	54	2.7	Mislabeling	6	5.3
7				Wrong formulation or form	3	2.6
total		2,033	100	total	114	100

Table 5. Type of prescribing and dispensing errors

No.	Type	Cases
1	Inquiries to prescribers	1,264
2	Prescription change	922
3	Patient education	422
4	Discontinuation of medication	436
5	Asking prescribing hospital	200
6	Re-dispensing	147
7	Monitoring	2
total		3,393

Table 7. Type of actions for prescribing errors(duplicate counted)

[Analysis of Administering errors]

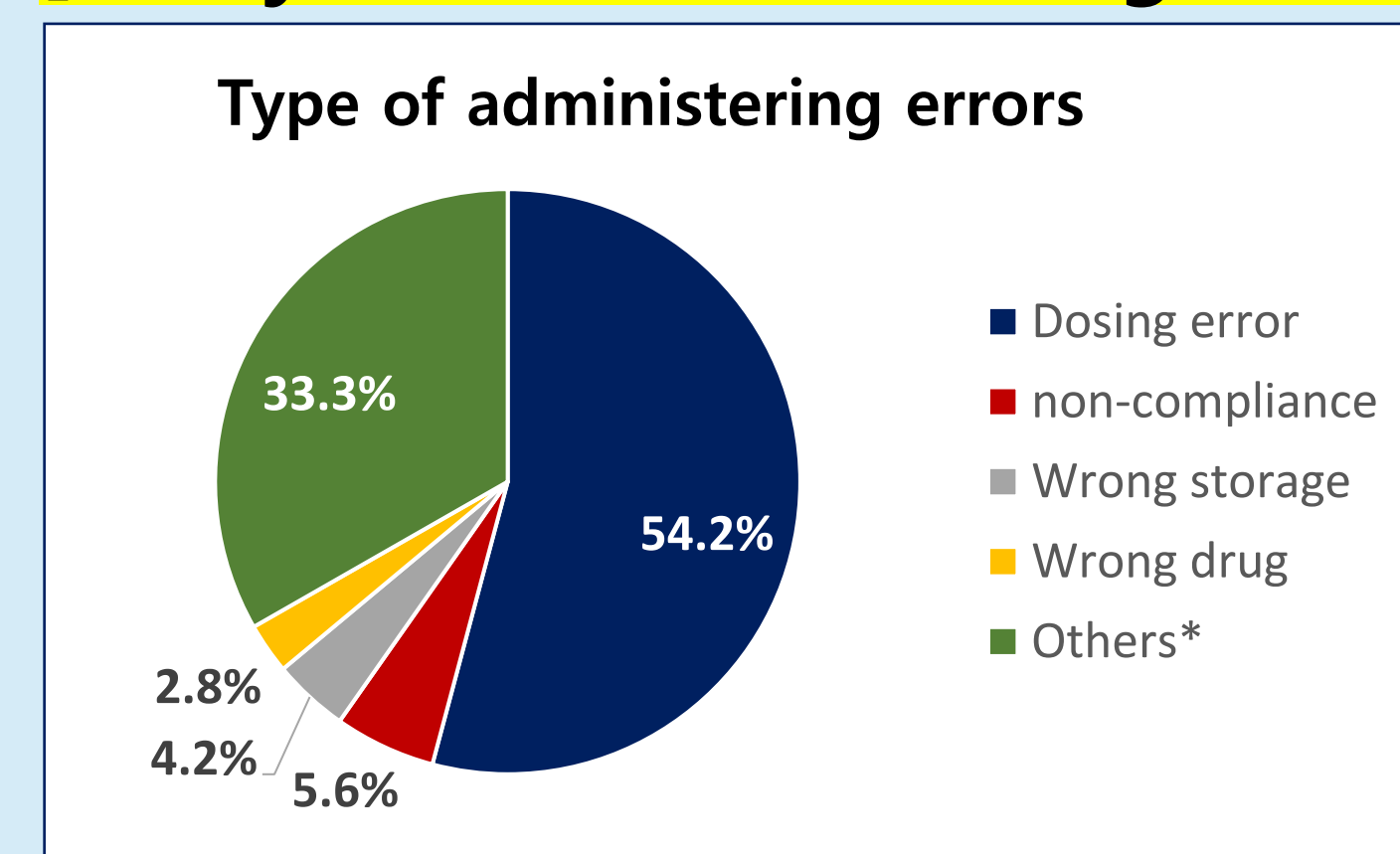


Figure 2. Type of administering errors

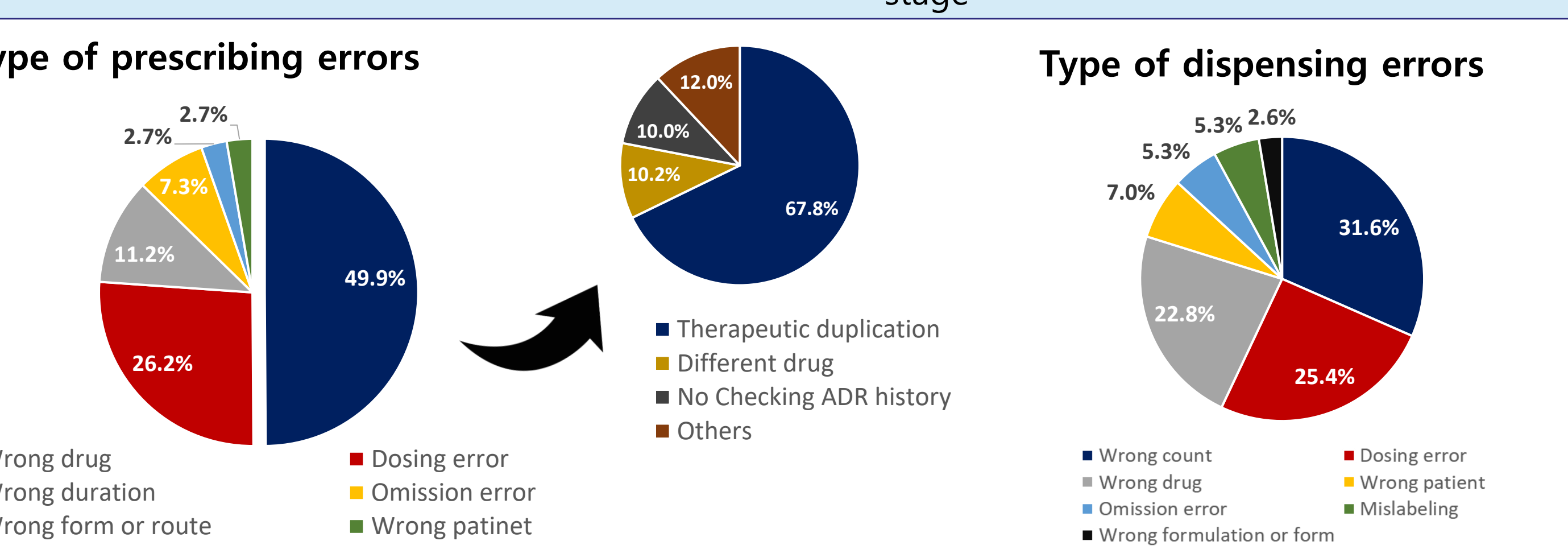


Figure 1. Type of prescribing and dispensing errors

No.	Type	Cases	Ratio (%)
1	Dosing error	39	54.2
2	non-compliance	4	5.6
3	Wrong storage	3	4.2
4	Wrong drug	2	2.8
5	Others	24	33.3
total		72	100

Table 8. Type of administering errors, Others included careless handling of high-risk drugs such as anti-tumor drugs, immunosuppressants, etc.

CONCLUSIONS

The prescribing errors were the highest proportion of the MEs reported. **In MEs of the prescribing phase, 'wrong drug' was the most frequently reported.** And **therapeutic duplication** in 'wrong drugs' cases of the prescribing phase was the most reported. Community pharmacists' actions to the prescribing errors were **consult prescriber to change the prescription and patient education.** There were few severe harms reported. **In MEs of the dispensing phase, 'wrong count', 'wrong dose' and 'wrong drug' were frequently reported.** To improve medication safety of prescribing process, **the pharmacist consultation** to prescribers needs to be strengthened. For dispensing errors prevention, community pharmacy needs to have **intra-double-checking system.** However, there were few reports of dispensing errors compared to the prescribing errors, so there was a limit to obtaining accurate results. It is our future task to activate dispensing error reporting of community pharmacists.

REFERENCES

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