



The changes in prescription patterns after providing therapeutic duplication DUR information in outpatient veterans at VHS medical center

HSD20

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BACKGROUND AND PURPOSE

Therapeutic duplication (TD) information is active ingredients which need attention to use. Because when they are used in same mechanism of action or similar therapeutic group, we cannot expect any additional medical effect and the risk of adverse effects could be increased. Therefore, we figure out the changes in TD prescribing patterns through DUR (drug utilization review) in VHS medical center.

MATERIALS AND METHODS

We used electronic medical record (EMR) database from March to August 2020 and 2021. Study subjects were the patients who were prescribed at the outpatient pharmacy in the hospital by government expense. Study drugs were selected 20 analgesic drugs, 8 dyslipidemia drugs, 39 anti-hypertension drugs, 4 sedative hypnotic drugs, 4 opioid drugs, 39 psychiatric drugs, 26 respiratory drugs in TD information list selected by referring reimbursement drugs list of HIRA (health insurance review and assessment service). We calculated frequency of TD prescription by variable such as specialty and efficacy. By utilizing evaluation indexes, we checked change patterns during study period and conducted paired t-test.

RESULTS

Result 1) Overall TD rate

Year	2020			2021			Index	
Month	Total number of case	Number of TD	Rate (%)	Total number of case	Number of TD	Rate (%)	Absolute rate of change (%)	Relative rate of change (%)
3	101,084	698	0.69	102,460	1,088	1.06	0.37	53.78
4	93,273	725	0.78	94,844	1,102	1.16	0.38	49.48
5	90,811	747	0.82	84,103	875	1.04	0.22	26.48
6	101,405	1,068	1.05	101,473	947	0.93	-0.12	-11.39
7	101,583	1,161	1.14	95,767	930	0.97	-0.17	-15.03
8	89,645	939	1.05	91,328	1,025	1.12	0.07	7.15
sum	577,801	5,338	0.92	569,975	5,967	1.05	0.12	13.32
mean±sd (%)	0.92 ± 0.18			1.05 ± 0.09			0.13 ± 0.24	18.41± 29.71
Median [IQR](%)	0.94[0.79;1.05]			1.05[0.99;1.11]			0.15 [-0.07;0.33]	16.81 [-6.76;43.73]
p-value							0.25	

The TD rate in 2020 is 0.92% and the TD rate in 2021 is 1.05%. The absolute rate of change is 0.12, indicating that the TD rate in 2021 increased compared to 2020. But the p-value was 0.25, which was not statistically significant.

Result 2) TD rate by specialty

Year	2020			2021			Index		
specialty	Total number of case	Number of TD	Rate(%)	Total number of case	Number of TD	Rate (%)	Absolute rate of change (%)	Relative rate of change (%)	P-value
AD	9,554	762	7.98	9,177	945	10.30	2.32▲	29.11	0.18
CS	10,997	56	0.51	11,840	47	0.40	-0.11▼	-22.05	0.29
DE	15,403	1,165	7.56	14,969	1,319	8.81	1.25▲	16.50	0.02
DT	14,382	168	1.17	15,581	178	1.14	-0.03▼	-2.20	0.79
EN	10,688	89	0.83	11,732	86	0.73	-0.10▼	-11.97	0.43
FM	21,407	270	1.26	21,128	419	1.98	0.72▲	57.23	0.01
IMC	132,504	595	0.45	123,407	657	0.53	0.08▲	18.56	0.13
IME	56,331	71	0.13	57,205	45	0.08	-0.05▼	-37.59	0.27
IMG	34,573	32	0.09	30,779	17	0.06	-0.04▼	-40.33	0.06
IMN	28,976	93	0.32	28,957	100	0.35	0.02▲	7.60	0.79
IMO	11,982	153	1.28	12,006	135	1.12	-0.15▼	-11.94	0.91
IMP	15,955	443	2.78	16,577	550	3.32	0.54▲	19.50	0.24
NE	72,989	448	0.61	75,641	444	0.59	-0.03▼	-4.37	0.67
NP	31,073	276	0.89	30,647	185	0.60	-0.28▼	-32.04	0.06
NS	15,577	188	1.21	14,836	198	1.33	0.13▲	10.58	0.57
OS	17,941	341	1.90	19,463	452	2.32	0.42▲	22.19	0.23
RM	21,451	110	0.51	20,956	127	0.61	0.09▲	18.18	0.30
UR	40,449	41	0.10	39,312	28	0.07	-0.03▼	-29.73	0.14

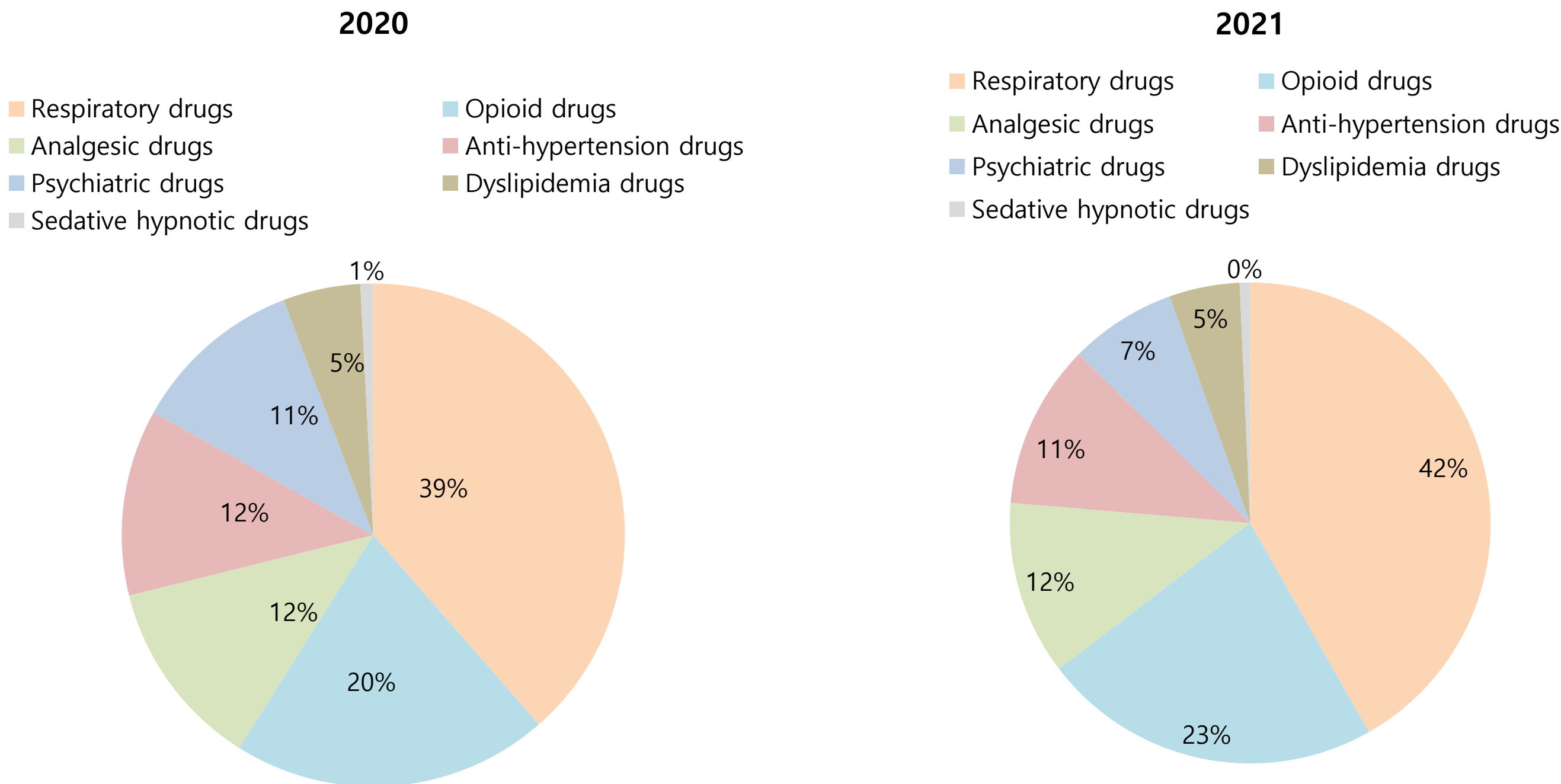
The specialties with decrease in TD rate in 2021 were neuropsychiatry, hemato-oncology, cardiothoracic surgery, otolaryngology, endocrinology, gastroenterology, urology, neurology, dental clinic. However, the p-value was greater than 0.05, indicating that it was not statistically significant.

Result 3) TD rate by efficacy 1

Year	2020			2021			Index		
Classification	Total number of case	Number of TD	Rate(%)	Total number of case	Number of TD	Rate(%)	Absolute rate of change (%)	Relative rate of change (%)	p-value
Opioid drugs	10,575	1,088	10.29	10,212	1,363	13.35	3.06▲	29.73	0.20
Psychiatric drugs	33,626	592	1.76	32,819	429	1.31	-0.45▼	-25.75	0.01
Dyslipidemia drugs	36,617	266	0.73	36,581	282	0.77	0.04▲	6.12	0.72
Sedative hypnotic drugs	4,328	44	1.02	4,247	42	0.99	-0.03▼	-2.72	0.86
Analgesic drugs	43,582	651	1.49	42,554	699	1.64	0.15▲	9.97	0.48
Anti-hypertension drugs	68,096	639	0.94	64,270	659	1.03	0.09▲	9.27	0.51
Respiratory drugs	34,994	2,059	5.88	35,891	2,493	6.95	1.06▲	18.05	0.04

Also, the efficacy group with the decrease in TD rate in 2021 was sedative hypnotic drugs and psychiatric drugs. Among them, the p-value of the psychiatric drugs was 0.01 and it decreased statistically significantly.

Result 4) TD rate by efficacy 2



CONCLUSIONS

To enhance the influence of TD information effectively, it is necessary to strengthen prescription monitoring for frequently TD agents and to simplify the conditions for providing alert on DUR system.

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