

Treatment Patterns and Healthcare Expenditures in Patients with Migraine: Results from China Health Insurance Research Association (CHIRA) Database

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BACKGROUND

- According to Global Burden of Diseases, Injuries, and Risk Factors (GBD) studies, migraine was the sixth most prevalent disease (1.04 billion) in 2016 [1]. In China, the 1-year prevalence of migraine was 9.3% [2].
- The previous studies showed that most migraine patients remain undertreated and migraine brought a huge economic burden to China [2,3].
- There have been no studies on the treatment patterns and healthcare costs based on a large claims database in China.

OBJECTIVES

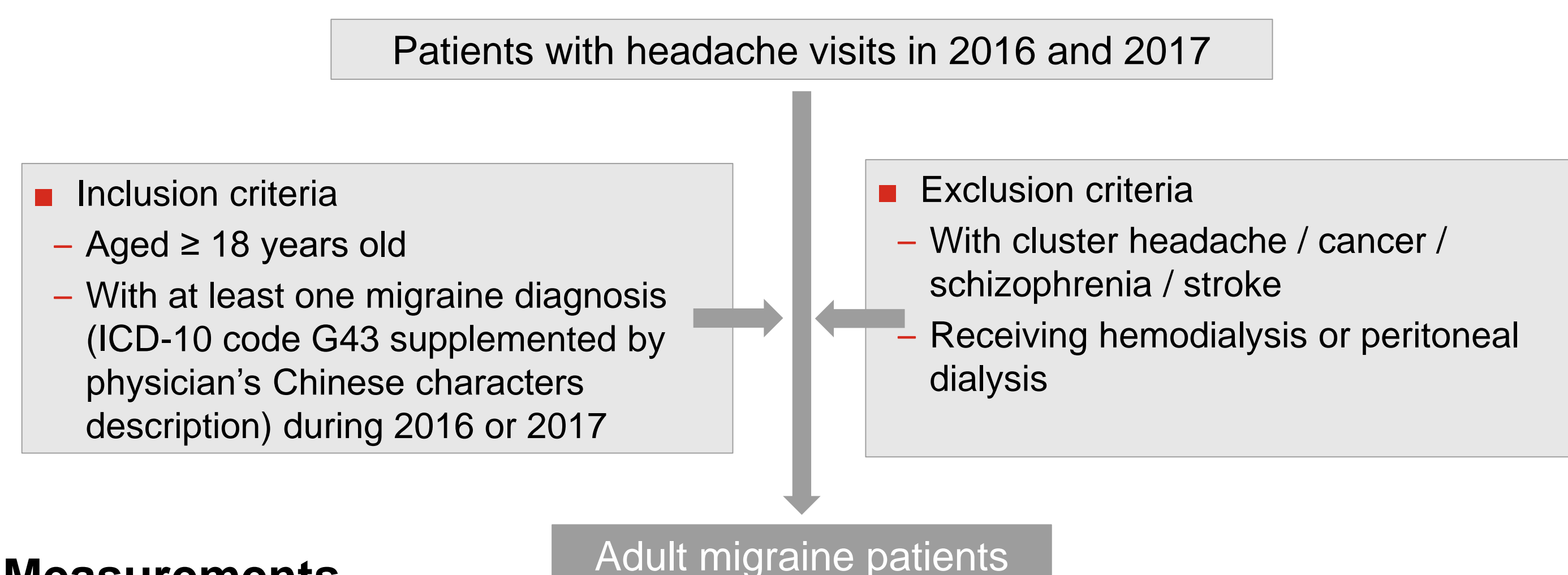
- To understand the current patterns of diagnosis and treatment of migraine in China.
- To understand the direct medical costs and healthcare resource utilization of patients with migraine in China.

METHODS

Data source

- This was a retrospective study based on outpatient claims data from China Health Insurance Research Association (CHIRA) database, which was collected from 87 sampling cities and over 19 million insured patients in the calendar years of 2016 and 2017.

Study population



Measurements

- Baseline characteristics
- The proportion of migraine patients prescriptions
 - Migraine patients were prescribed at least one drug on the predefined medication list in that calendar year were analyzed.
- Annual direct medical costs and number of visits per patient
 - Patients with migraine who visited outpatient department between 1-31 January of each year, with at least 11 months follow-up were analyzed.

Data analysis

- Mean, standard deviation (SD) and median were reported for quantitative data. Count and percentage were reported for qualitative data.
- Data were analyzed using Stata/SE 14.0.

KEY RESULTS

- Of 90,948 patients with headache diagnoses, 10,652 (11.7%) patients had migraine diagnosis.
- The mean (SD) age was 51.4 (15.8) years and 55.4% were female.
- The most common comorbidities were major depressive disorder (4.1%) and insomnia (3.8%).
- Among migraine patients, 2,813 (26.4%) patients had at least one prescription for acute medications, while 1,602 (15.0%) patients received preventive medications, and 2,611 (24.5%) patients received Chinese traditional medications.
- Of patients received acute medications, the majority of them had a prescription for NSAIDs (75.5%), 7.1% had an opioid prescription and 6.1% had an ergot derivative prescription. Only 3.3% patients were prescribed with triptans.
- Of patients received preventive medications, flunarizine was the most commonly used (87.6%) prescription.
- The average annual outpatient costs per patient were USD 46.5±80.8 (SD) with 1.8±2.0 (SD) visits.

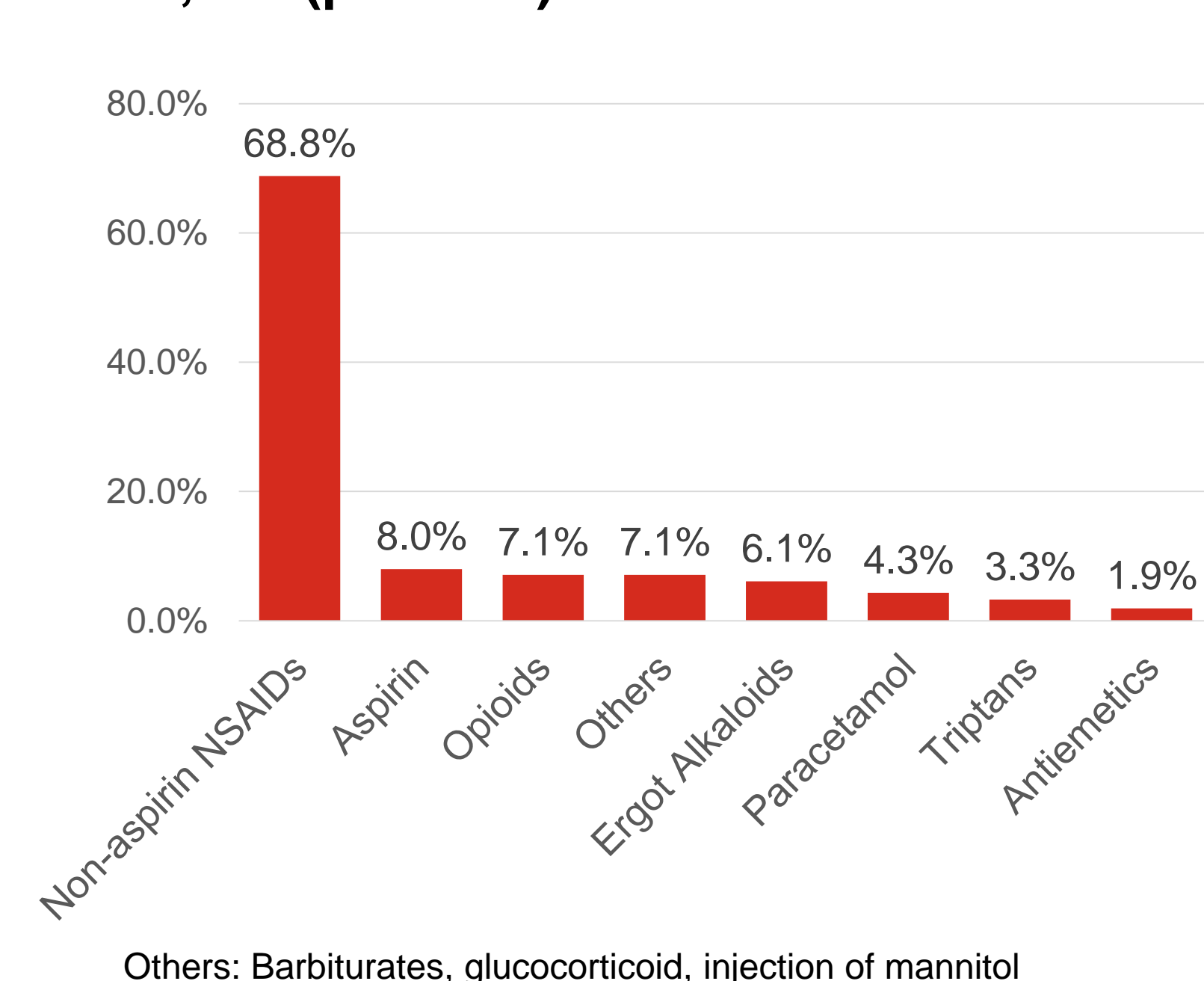
Baseline Characteristics

N=10,652 (patients)

Variables	N	%
Age Categories		
18-29	958	9.0%
30-39	1,736	16.3%
40-49	2,222	20.9%
50-59	2,243	21.1%
≥60	3,493	32.8%
Female	5,902	55.4%
Insurance Type		
UEBMI	7,675	72.1%
URBMI	2,977	27.9%
Comorbidities		
MDD	442	4.1%
Insomnia	402	3.8%
Anxiety	248	2.3%
Epilepsy	46	0.4%
Fremitus	17	0.2%
Hospital Level		
Tertiary Hospital	1,912	19.2%
Secondary Hospital	1,384	13.9%
Primary Hospital	6,686	67.0%
Department in Tertiary Hospitals		
Neurology Department	402	41.1%
TCM Department	130	13.3%
Internal Medicine Department	128	13.1%
ER Department	68	6.9%
Others	251	25.6%

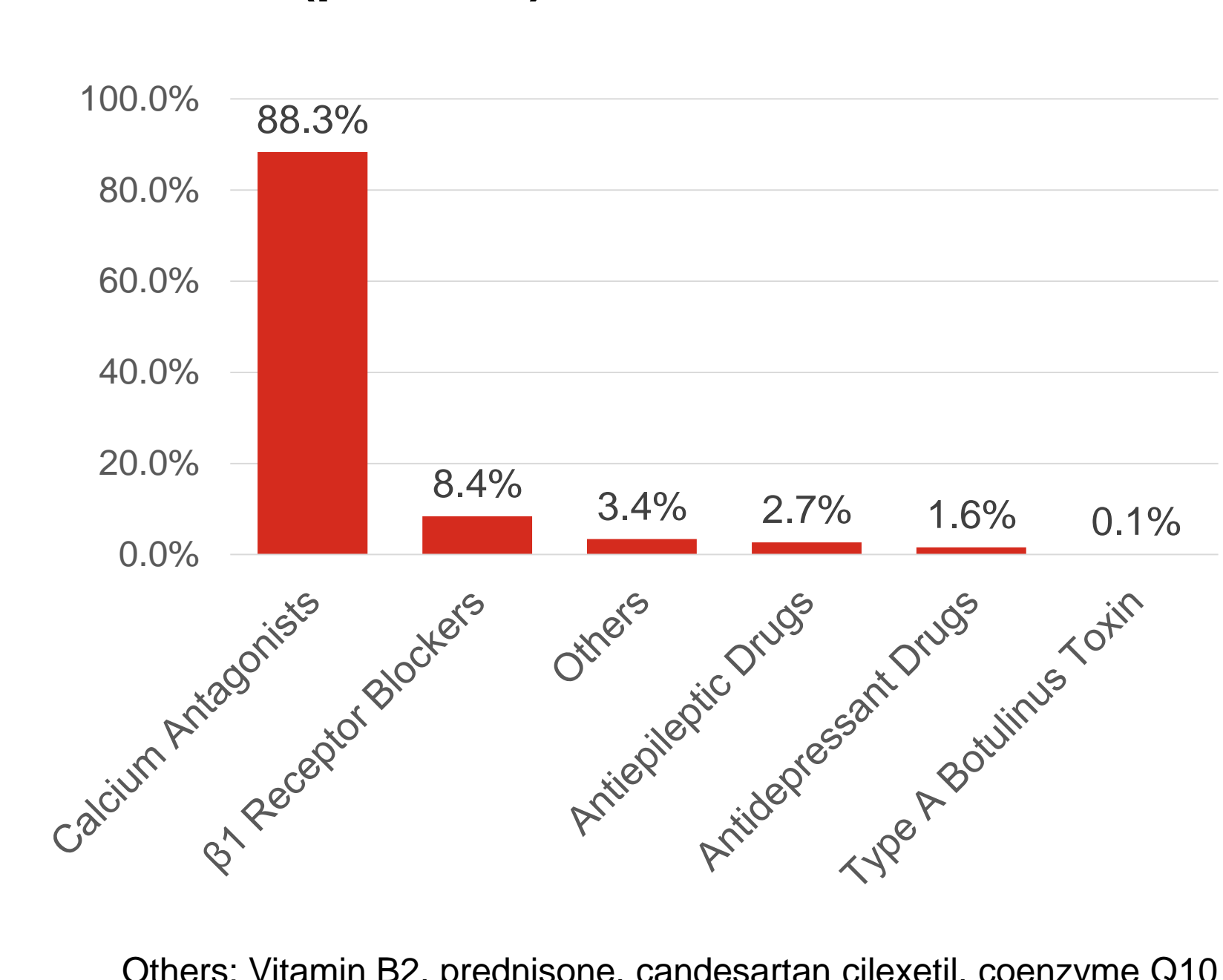
Acute Medication Prescription

N=2,813 (patients)



Preventive Medication Prescription

N=1,602 (patients)



- MDD: Major Depressive Disorder; UEBMI: Urban Employee Basic Medical Insurance; URBMI: Urban Residents Basic Medical Insurance; TCM: Traditional Chinese Medicine; ER: Emergency Room
- Hospital level: The hospital level of the patients first visit with migraine diagnosis in the calendar years of 2016/2017 in CHIRA database
- The proportion of hospital level and department were calculated after eliminating the missing information

Annual Outpatient Costs and Number of Visits Per Patient

N=824 (patient visits between 1-31 Jan)

Variables	Mean	SD	Median
Total Costs (USD)	46.5	80.8	20.6
Medication Costs	36.0	73.7	15.9
Costs of western medicine	13.5	23.4	6.5
Costs of Chinese traditional medicine	22.4	43.3	7.6
Diagnosis and Non-medication Costs	10.5	30.7	0.9
Number of Visits	1.8	2.0	1.0

CONCLUSIONS

- Non-aspirin NSAIDs were commonly used as acute migraine medications, while the use of triptans and preventive medications were insufficient in China. In addition to western medications, Chinese traditional medications were generally prescribed in clinical practices.
- The costs of Chinese traditional medications made up a dominant proportion in the total costs. Considering the high prevalence, the economic burden of diagnosis and treatment for migraine was significant.

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