

Calculation of the Variable Costs of Traditional Medical Treatment for the Example of Hypergastric Disease

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Abstract

The lack of clinical reports and statistical data in the field of traditional medicine, the lack of information on the types of treatment services, diagnosis structures, clinical guidelines, and conclusions about the clinical advantages and disadvantages of traditional medicine are the basis of our research. happened.

Objective: to calculate the variable cost of treatment on the example of the disease (TMA.02.16) treated in the field of traditional medicine. According to Resolution No. 08 of the National Health Insurance Council dated June 28, 2023, traditional medical inpatient care services will be grouped into 13 groups and financed at 365,000-529,000 MNT. In the category of traditional medical care, gas, and blood rising disease is being financed by the Health Insurance Fund for 529,000 MNT under-diagnosis group TMA with code 41370011.

Materials and methods: The study was conducted using a case study method using a retrospective research method, and data was collected from medical histories of clients who were hospitalized in the hospital of UAUTH and Amin-Erdene Hospital between 2017 and 2020. Collected information was studied and summarized by fact research methods and probability list methods, and the results were processed using SPSS-19 software. **Results:** 65.7 percent of the respondents were women, 34.3 percent were men, and the average age was 62.05 years. 86.6 percent of all doctors surveyed, or 8 out of 10 doctors, have health insurance financed by the government, or insurance such as pension and disability accounts for the main share. According to the researched diagnoses, when comparing the time spent by the employees in the bed of the inpatient patient with the salary, the average cost was 81,692 MNT in UAUTHK Hospital and 86,300 MNT in Amin-Erdene Traditional Hospital, while the average cost of medicine was 20,950 MNT in UAUTHK Hospital and 26,000 MNT in Amin-Erdene Hospital. **Conclusion:** In the case of gas ascension (TMA.02.16), the doctor of the hospital providing care and services pays 10-28% of the treatment cost, and the cost of the patient's one-time hospitalization differs from the actual cost of financing by the Health Insurance Fund.

Keywords

Traditional medicine; Ascent by blood gas; Variable costs

1. Introduction

The development of the clinical field of Mongolian traditional medicine has been developing rapidly since the 1990s.

Mongolians have a heritage of traditional medicine, which is believed to be 5000 years old [1, 2].

In recent years, government policy documents have been approved for the development of traditional medicine research [3, 4]. For example, in 1999, Mongolia adopted the "Government Policy for the Development of Traditional Medicine in Mongolia" in the National Assembly. It has 2 chapters and 19 articles, which are the main directions of the state policy for the development of science, and it is a very important historical document that made our country one of the 25 countries out of 192 WHO member countries with a state policy on UAU and a country with a unified system of UAU [5-7].

In the traditional medicine government policy, the areas of action to be followed until 2015 are defined, and the level achieved during that time, the material base created, and the supply of human resources, along with the evaluation, will be followed by the government in order to provide accessible, high-quality and reliable traditional medical care and services throughout the country. directions are defined [4].

WHO continues to give specific recommendations to its member countries on how to further develop traditional medicine in harmony with modern medicine, based on a clear study and analysis of how medical care services are developing in countries around the world, and the position of medical care in the health protection system [8].

An assessment of the legal framework of traditional medicine in Mongolia, the direction and approach of care services, and the "Traditional Medicine Strategy of the Asia-Pacific countries" (2011-2020) was conducted in 2012, but there are few researches that narrowly examine the clinical care services [6].

In Mongolia, as of 2021, there are 1,142 traditional doctors, accounting for 44% of traditional bed usage, and 38,677.5 people are hospitalized annually [9].

The Institute of Traditional Medicine and Technology's Guidelines for the Diagnosis and Treatment of Common Diseases is a primary guide for practitioners covering the diagnosis and treatment of nearly 100 diseases [10].

The lack of clinical reports and statistical data in the field of traditional medicine is the lack of information on the types of treatment services, diagnostic structure, clinical guidelines, and conclusions about the clinical advantages and disadvantages of traditional medicine.

2. Materials and Methods

2.1 Research design

The health information system of hospitals providing health care services in the field of traditional medicine in Mongolia was studied by descriptive research method.

The diagnostic structure and adherence to standard guidelines for diseases treated in traditional medicine were determined using a snapshot method.

2.2 Research framework and sample

In the study, using the medical history of the clients who served at the Clinical Hospital of the Institute of Traditional Medicine and Technology and Amin-Erdene Hospital between 2017 and 2020, the medical history of 500 clients (n=500) who received care from the traditional medicine hospital for the diagnosis of gas and blood rising disease was collected by a simple random sampling method. sampled and fully covered.

When calculating the sample size, the compliance rate of the medical history guidelines of physicians treated with the diagnosis of gas-blood-ascending disease was considered as 50.0±5 percent, and 95 percent true probability (Z=1.96) and margin of error (p=0.05) principles were followed for each type of disease, 500 from each hospital. A medical history was calculated.

Sample size calculation formula:

$$n = \frac{N \times p \times (100 - p) \times Z_{\alpha/2}^2}{(N - 1) \times e^2 + p \times (100 - p) \times Z_{\alpha/2}^2} = \frac{1405 \times 5 \times (100 - 5) \times 1.96^2}{(1405 - 1) \times 2^2 + 5 \times (100 - 5) \times 1.96^2} = 345$$

N - the size of the original population

p - distribution of the studied phenomenon

Z $\alpha/2$ - level of statistical significance

e - margin of error

2.3 Methodology for calculating variable costs

When calculating the variable costs of the diagnosis group, salary costs and drug costs were taken as the main

parameters. Drug costs include the price of drugs used by the patient during hospitalization. When calculating salary costs, the monthly average salary of all doctors and nurses was calculated and compared with the frequency of examination and treatment of the patient. The duration of one doctor's visit is 15 minutes and 10 minutes for a nurse. In terms of surgical treatment, the frequency was calculated by averaging the duration of the surgery.

3. Results of the Research Work

The cost of treatment for clients admitted to Amin-Erdene Hospital and the Clinical Hospital of the Institute of Traditional Medicine and Technology, provided by UAU, with the diagnosis of gas and blood rising disease (TMA.02.16) was calculated.

65.7 percent of the respondents were women, 34.3 percent were men, and the average age was 62.05 years. 86.6 percent of all doctors surveyed, or 8 out of 10 doctors, have health insurance financed by the government, or insurance such as pension and disability accounts for the main share.

Table 1. Gender, age, and type of insured persons of inpatients by diagnosis included in the study

No	Indicator	Real numbers	Percentage (%)
Sex			
1	Male	95	34.3
2	Women	182	65.7
Age group			
1	26-34	4	1.6
2	35-44	5	2
3	45-54	34	13.7
4	55-64	96	39.3
5	65-74	74	30.2
6	75-89	32	12.8
Type of Insured			
1	Official	13	4.7
2	Voluntary	24	8.7
3	A student	0	0
4	Pension	223	80.5
5	Inability to work	17	6.1
6	Baby is free	0	0
Total		277	100

Costs of medical care and services: In calculating the costs, salary costs, medicine, treatment, diagnosis, and examination costs were taken as the main parameters.

Medicines and treatment costs include the price of medicines and treatments used by the patient during hospitalization.

When calculating salary costs, the monthly average salary of all doctors and nurses was calculated and compared to the number of times the patient was examined and treated. The duration of one doctor's visit is 15 minutes and 10 minutes for a nurse. In the case of traditional treatment, the time required to perform the repairs was calculated, including the tools used, medical workers' wages, electricity, hot and cold water, and wear and tear of the area to be used. The types of costs of medical care and services incurred for hospitalization with the diagnosis of "Gas Ascension" (TMA.02.16) in public and private hospitals are expressed as follows. It includes:

3.1 Direct cost information was obtained from medical records

- Medicine costs
- Surgical expenses
- Cost of treatment aids
- Inpatient diagnostic and testing costs
- Cost of therapeutic meals
- Salaries of doctors and medical workers

3.2 Indirect costs

Table 2. Cost of treatment in the surveyed hospitals

УАУТХК hospital					
Type Cost	Doctor/minute/	Nurse/minute/	Caretaker/minute/	of 1 day, MNT	of 7 days cost, MNT
Examination and treatment	15	10	0	3.140	21.980
Needle-point	20	0	0	3.120	21.840
Leech	7	0	0	1.092	1.092
A comb	15	0	0	2.340	2.340
Shivur	15	0	0	2.340	2.340
Bumba	15	0	0	2.340	11.700
Catch it	0	0	30	2.460	12.300
Laboratory	15	30	0	4.050	4.050
ECHO	15	0	0	2.340	2.340
ZCB	15	0	0	1.710	1.710
Total					81.692
“Амин-Эрдэнэ” hospital					
Type Cost	Doctor /minute/	Nurse /minute/	Caretaker /minute/	of 1 day, MNT	of 10 days cost, MNT
Examination and treatment	15	10	0	1.995	19.950
Needle-point	30	0	0	2.850	28.500
Leech	10	0	0	950	950
A comb	15	0	0	1.425	1.425
Shivur	15	0	0	1.425	1.425
Bumba	15	0	0	1.425	14.250
Catch it	0	0	30	1.980	19.800
Total					86.300

According to the researched diagnoses, when comparing the time spent by the employees on the bed of the client being treated with the salary, the average cost is 81,692 MNT in UAUTHK Hospital and 86,300 MNT in Amin-Erdene Traditional Hospital.

Table 3. The average cost of drugs for inpatients with the diagnosis of "Gas rise through blood" (TMA.02.16)

УАУТХК hospital				
tools	Unit of measue	Quantity	Unit price, MNT	Total price, MNT
Зүү	ш	7	1.000	7.000
Агар-35	ш	1	2.450	2.450
Сампилноров	ш	1	3.000	3.000
Сэндэн-4	ш	1	1.600	1.600
Бойгор-10	ш	1	2.000	2.000
Сүгмэл-3	ш	1	1.700	1.700
Нейровалин	ш	1	3.200	3.200
Нийт				20.950
Амин-Эрдэнэ hospital				
tools	Unit of measue	Quantity	Unit price, MNT	Total price, MNT
Зүү	ш	10	1.000	10.000
Сүгмэл-10	ш	1	4.000	4.000
Их хар-12	ш	1	4.000	4.000
Шижид-6	ш	1	4.000	4.000
Эрдэнэ үрэл	ш	1	4.000	4.000
Total				26.000

The average cost of medicine for inpatients with the diagnosis of "Gas Ascension" (TMA.02.16) was 20,950 MNT at UAUTHK Hospital and 26,000 MNT at Amin-Erdene Traditional Hospital.

4. Terms

In Mongolia, there is a great demand and need for citizens for UAU care and services, UAU treatment is effective, and customer satisfaction is high, but the costs and budget for UAU care and services are low. It is very necessary to take into account the actual cost of providing health care services and to finance hospitals based on this, to protect citizens from taking financial risks by paying for health care services themselves. Therefore, it is evident that it is necessary to evaluate the implementation and use of the current traditional medical guidelines for the diagnosis and treatment of hypergasemia, to improve the quality of diagnosis and treatment, and to calculate the variable costs of treatment.

By Order No. A/55 of the Minister of Health of Mongolia dated January 28, 2022, traditional medicine disease groups, diagnosis categories, and codes were newly approved [11].

In this order, qi diseases are classified into 36 subgroups, and in the Central Hospital of the Institute of Traditional Medicine and Technology, there were more doctors diagnosed with the diseases of the above categories, such as rising of Qi by blood, Qi waves, and one-way curvature of the face. [10]

Researcher B. Enkhjargal et al. has studied the categories of diseases that mainly occur in clients treated at the Institute of Traditional Medicine and Technology between 2011 and 2015. The results show that 8.03% of the patients diagnosed with gas rose in 2011, 5.91% in 2012, and 9.0% in 2013, it accounted for 7.19% in 2014 and 5.38% in 2015 [12].

In the case of gas ascension disease (TMA.02.16), the doctor of the hospital providing care and services of UAU pays 10-28% of the treatment cost, and the cost of one-time hospitalization of the patient differs from the actual cost of financing by the Health Insurance Fund.

On the other hand, 76% of the doctors of Hülönbuir Mongolian Medical Hospital know about the standard content of treatment for gas-related ascension disease, but only 48% of the doctors use the standard treatment guidelines. In the case of complete adherence to the guidelines, the cure rate was 5.7%, the improvement rate was 46.3%, the improvement rate was 45.5%, the overall outcome was 97.5%, and the safety ratio was 82.9%. 50% of modern medical diagnosis and classification, drug treatment, and other treatment methods are included in the standard of treatment for gas-blood ascension disease at Hulonbuir Mongolian Medical Hospital.

It is very necessary to take into account the actual cost of providing health care services, and to fund hospitals based on that, to protect citizens from taking financial risks by paying their own fees for health services. Therefore, it is evident that it is necessary to evaluate the implementation and use of the current traditional medical guidelines for diagnosis and treatment of gas-blood-raising diseases, to improve the quality of further diagnosis and treatment, and to calculate the variable costs of treatment.

5. Conclusion

In the case of gas ascension (TMA.02.16), the doctor of the hospital providing care and services of UAU pays 10-28% of the cost of treatment, and the cost of one-time hospitalization of the patient differs from the actual cost of financing by the Health Insurance Fund.

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