INPATIENT DISEASE PATTERNS AT PHAM NGOC THACH TRADITIONAL MEDICINE HOSPITAL LAM DONG

Pham Van Tuan Anh[(1)], Chu Thi Ngoc Diep[(2)], Dang Quoc Trieu[(3)]

(1) Pham Ngoc Thach Traditional Medicine Hospital, Lam Dong; (2) Trai Mat Primary School, Lam Dong
(3) Centre For Applications of Nuclear Technique in Industry, Lamdong
Corresponding author: drphamanh1984@gmail.com

Article Info

Abstract

The article presents the disease pattern of inpatients at Pham Ngoc Thach Traditional Medicine Hospital in Lam Dong from 2021 to 2023. The study was conducted using a cross-sectional, retrospective descriptive method, utilizing data from the hospital's medical records system and statistical reports from 2021 stored in the hospital's archives. Information was collected from patient records following predefined selection criteria, encompassing all adequately documented cases during the inpatient treatment period from January 1st, 2021 to August 31st, 2023. The research findings revealed that the group of diseases related to musculoskeletal and connective tissue accounted for the highest proportion at 57.79%, followed by circulatory diseases at 24.18%, and nervous system diseases at 7.75%. Other groups of diseases such as digestive, trauma, and respiratory systems also appeared, albeit with lower proportions. Particularly, rare disease groups like ear and mastoid bone diseases, and skin and subcutaneous tissue diseases were noted. These results provide a comprehensive overview of the disease distribution, supporting decision-making and the development of effective treatment strategies for inpatients in the upcoming period.

1. Introduction

The health status and factors influencing the health of the population serve as the primary foundation for determining the direction and objectives of healthcare system development. The disease model plays a crucial role, particularly in developed countries and large hospitals. Regular research on disease models is conducted to guide healthcare plans with the aim of focusing on disease prevention, reducing mortality rates, and enhancing community healthcare.

Traditional Vietnamese medicine plays a significant role in the healthcare system, contributing to the preservation of cultural values and the development of the nation's identity. The development of traditional medicine contributes to the conservation and promotion of cultural values which reflects the spirit of national independence and self-reliance (Government of Vietnam, 2019). According to statistical figures of 2020, the disease structure in Vietnam is changing, with a continuous increase in non-communicable diseases (Ministry of Health and Health partners, 2021). The disease model in Lam Dong province has also adjusted to national trends, facing numerous challenges in providing high-quality healthcare. Pham Ngoc Thach Traditional Medicine Hospital in Lam Dong, as a leading unit in traditional medicine, has achieved remarkable success in healthcare. However, with the

increasing demand for healthcare, this healthcare facility still faces many challenges, especially the need to improve the quality of medical examinations.

Research on the disease model among inpatients at this hospital helps improve organizational and professional management, guiding the direction of healthcare for the community. Previous studies have laid the groundwork for understanding the disease structure and the hospital's operations but require the latest updates. With over 10 years since the project "Research on the disease structure of inpatients and the activities of Pham Ngoc Thach Traditional Medicine Hospital from 2006 to 2012" (Dang Dinh Hoa, 2014) and the impact of the Covid-19 pandemic, the current research project will provide a better understanding of the disease structure and the pandemic's impact on healthcare activities (Eurohealth Journal, 2020).

2. Research Methodology

2.1. Location and Duration of the Study

The study was conducted at the Traditional Medicine Hospital Pham Ngoc Thach Lam Dong, from January 1st 2021 to August 31st 2023.

2.2. Study Subjects and Criteria

The research took place at the Traditional Medicine Hospital Pham Ngoc Thach Lam Dong from March 2023 to September 2023. Patient records were collected from inpatients during the period from January 1st 2021 to August 31st 2023, following selection criteria, including inpatients, admission between January 1st, 2021, and August 31st, 2023, and complete medical records. During the study, cases of patients who died before admission and those who voluntarily left the hospital were excluded.

2.3. Research Method

Study Design: Descriptive cross-sectional, retrospective.

2.4. Data Collection Method

Data from medical records and the hospital's 2021 statistical reports. Information was collected according to standards and entered into Excel 2016.

2.5. Sampling Method

Selecting all records with sufficient information from January 1st, 2021 to August 31st, 2023.

2.6. Research Objectives

The study pursued two main objectives:

Objective 1: Analyzing and determining the distribution of disease rates based on factors such as gender, age, place of residence, ethnicity, occupation, and treatment month.

Objective 2: Conducting an analysis of the prevalence of 10 types of diseases and 10 symptoms, while assessing the rate of using different treatment methods in the research community. Software Excel 2016 was used for descriptive statistics of qualitative variables.

2.7. Error Control Technique

Incomplete or non-compliant records were removed, and a check was conducted to ensure the accuracy of the data by comparing with reports. The data collection team was thoroughly trained and closely supervised.

2.8. Research Ethics

This is a non-interventional study that does not interfere with patient treatment. Personal information is kept secure which ensures the honesty and reliability of the collected data (Public Health Department, 2006). The approval of the ethics committee at the facility was obtained.

3. Results and Discussion

3.1. Anthropometric Characteristics

TABLE 1. Anthropometric characteristics in inpatients

	Factors	Frequency (n = 10747)	Percentag (%)
Gender	Male	4736	44,07
	Female	6011	55,93
Age	< 18	70	0,65
	18 – 39	1010	9,40
	40 – 60	4020	37,41
	> 60	5647	52,54
Residence	Urban	4717	43,89
	Rural	6030	56,11
Ethnicity	Kinh	9669	89,97
	Other	1078	10,03
Occupation	Worker, farmer	2902	27,01
	State employees	485	4,51
	Trader, freelancer	1078	10,03
	Retired	115	1,07
	Other	6167	57,38

Observation:

In terms of gender, 55.93% of patients were female, while 44.07% were male. The number of female patients was higher than male patients.

The most common age group for inpatient treatment was > 60 years old, accounting for 52.54%, followed by the age group of 40-60 years old at 37.41%, the age group of 18-39 years old at 9.40%, and the age group under 18 years old at the lowest rate of 0.65%.

The rural resident group accounted for 56.11%, while the urban resident group accounted for 43.89%.

Regarding ethnicity, the Kinh majority was 89.97%, and the ethnic minority accounted for 10.03%.

In terms of occupation, the retired group accounted for 1.07%, state employees accounted for 4.51%, freelancers accounted for 10.03%, workers and farmers accounted for 27.01%, and other groups accounted for 57.38%.
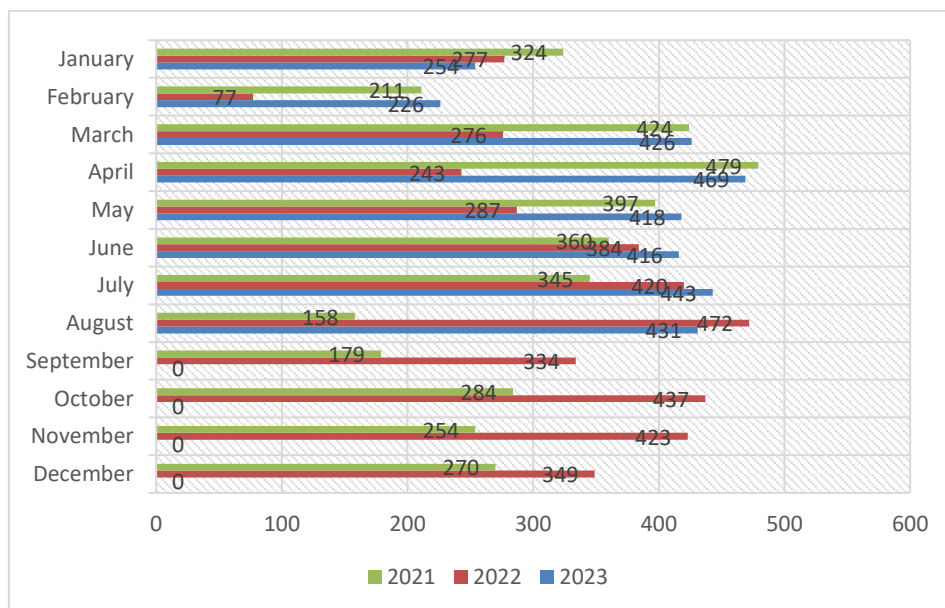

Chart 1. Inpatient Admissions by Month

Observation:

The number of inpatient admissions shows an increase from March to August, with the lowest figures in January and February. Notably, April 2021 recorded the highest number with 479 inpatients, while February 2022 had only 77.

3.2. Characteristics of Disease Patterns

TABLE 2. Distribution of disease structure according to ICD – 10 (Ministry of Health, 2000)

Group of diseases	n	%	Group of diseases	n	%
I. Infectious and parasitic diseases	27	0,25	XII. Diseases of the skin and subcutaneous tissue	35	0,33
II. Neoplasms	29	0,27	XIII. Diseases of the musculoskeletal system and connective tissue	6172	57,43
III. Diseases of the blood, blood-forming organs, and immune system	07	0,07	XIV. Diseases of the genitourinary system	69	0,64
IV. Endocrine, nutritional, and metabolic diseases	74	0,69	XV. Pregnancy, childbirth, and the puerperium	12	0,11
V. Mental and behavioral disorders	09	0,08	XVI. Certain conditions originating in the perinatal period	00	0,00
VI. Diseases of the nervous system	833	7,75	XVII. Congenital malformations, deformations, and chromosomal abnormalities	01	0,01
VII. Diseases of the eye and adnexa	21	0,20	XVIII. Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified	56	0,52
VIII. Diseases of the ear and mastoid process	40	0,37	XIX. Injury, poisoning, and certain other consequences of external causes	91	0,85
IX. Diseases of the circulatory system	2599	24,18	XX. External causes of morbidity and mortality	00	0,00
X. Diseases of the respiratory system	81	0,75	XXI. Factors influencing health status and contact with health services	03	0,03
XI. Diseases of the digestive system.	588	5,47			

Observations:

• The proportion of the top 3 disease groups most commonly encountered in decreasing order are as follows:

+ Group XIII. Diseases of the musculoskeletal system and connective tissue (57.79%).
+ Group IX. Diseases of the circulatory system (24.18%).
+ Group VII. Diseases of the nervous system (7.75%).

• Other commonly encountered disease groups include:

+ Group XI. Diseases of the digestive system (5.47%).
+ Group XIX. Injury, poisoning, and certain other consequences of external causes (0.85%).
+ Group X. Diseases of the respiratory system (0.75%).
+ Group IV. Endocrine, nutritional, and metabolic diseases (0.69%).
+ Group XIV. Diseases of the genitourinary system (0.64%).
+ Group XVIII. Symptoms, signs, and abnormal clinical and laboratory findings, not elsewhere classified (0.52%).

• Rarely encountered disease groups among inpatients are:

+ Group VIII. Diseases of the ear and mastoid process (0.37%).
+ Group XII. Diseases of the skin and subcutaneous tissue (0.33%).
+ Group II. Neoplasms (0.27%).
+ Group I. Infectious and parasitic diseases (0.25%).

+ Group VII. Diseases of the eye and adnexa (0.20%).
+ Group XV. Pregnancy, childbirth, and the puerperium (0.11%).
+ Group V. Mental and behavioral disorders (0.08%).
+ Group III. Diseases of the blood, blood-forming organs, and immune system (0.07%).
+ Group XXI. Factors influencing health status and contact with health services (0.03%).
+ Group XVII. Congenital malformations, deformations, and chromosomal abnormalities (0.01%).

• The groups with no inpatients at the hospital are Group XVI (certain conditions originating in the perinatal period) and Group XX (external causes of morbidity and mortality).

• Among the top 3 disease groups, patients in the non-communicable disease group account for a high percentage (>90%) of hospital admissions at YHCT Hospital, while the other two groups, including trauma, accidents, poisoning, and infectious diseases, have a very low percentage.

TABLE 3. Distribution of the Top 10 Most Common Disease Groups in Inpatients

Top 10 most common disease groups in inpatients	n	%	ICD-10 code
1. Other diseases of the spine	5450	50,71	M40 – M49, M53, M54
2. Other cerebrovascular diseases	1359	12,65	I65 – I69
3. Cerebral infarction	831	7,73	I63
4. Other diseases of the small intestine and peritoneum	527	4,90	K52 – K55, K58 – K67
5. Cerebral palsy, other paralytic syndromes	367	3,41	G80 – G83
6. Nerve, root, and plexus disorders	340	3,16	G50 – G59
7. Degenerative joint disease	296	2,75	M15 – M19
8. Low back pain and other joint inflammation	202	1,88	M05 – M14
9. Cerebral hemorrhage	172	1,60	I60, I61, I62
10. Dislocation of cervical spine and other vertebrae	124	1,15	M50, M51

Observations:

The three groups of diseases with the highest prevalence other diseases of the spine (50.71%); Other cerebrovascular diseases (12.65%); and Cerebral infarction (7.73%). The next seven groups of diseases with high prevalence consist of other diseases of the small intestine and peritoneum (4.90%); Cerebral palsy and other paralytic syndromes (3.41%); Nerve, root, and plexus disorders (3.16%); Degenerative joint disease (2.75%); Low back pain and other joint inflammation (1.88%); Cerebral hemorrhage (1.60%); and Dislocation of cervical spine and other vertebrae (1.15%).
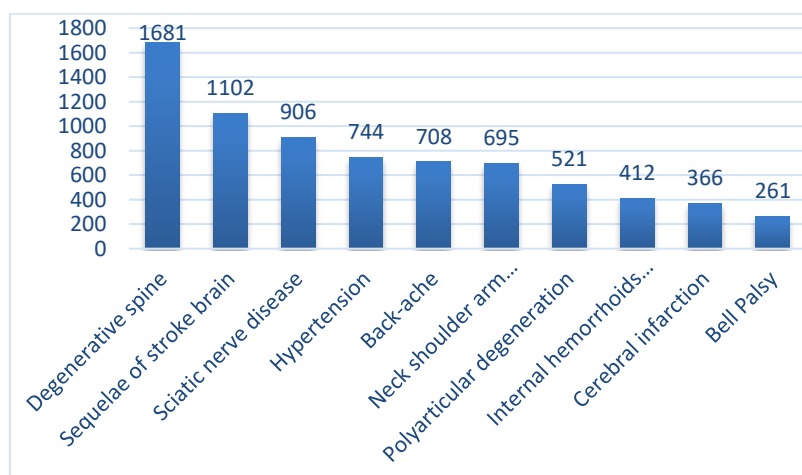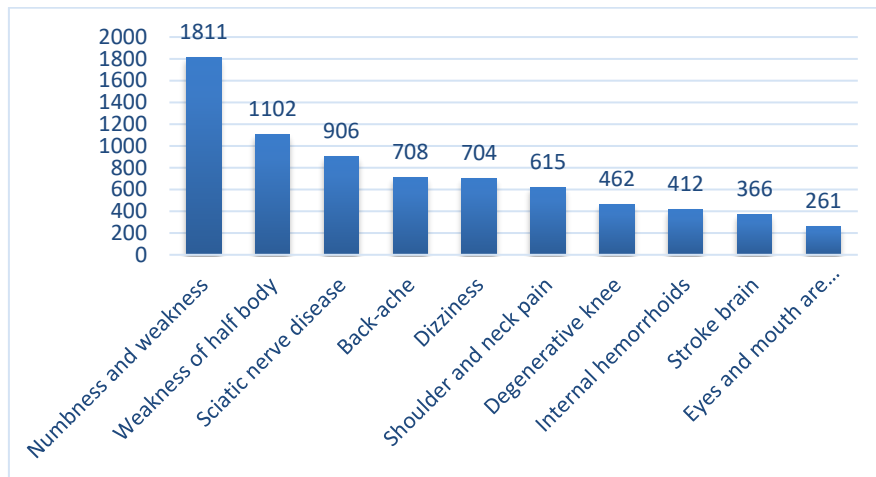

Chart 2. Distribution of 10 diseases according to ICD commonly diagnosed

Observations:

The three diseases with the highest prevalence include Degenerative spine disease (15.64%); Sequelae of cerebral infarction (10.25%); and Sciatica (8.43%). The next seven diseases with high prevalence are in the following order: Lower back pain (6.59%); Hypertensive disorders (6.92%);

Brachial plexus disorders (6.47%); Osteoarthritis (4.85%); Hemorrhoids grade III (3.83%); Cerebral infarction (3.41%); and Bell's palsy (2.43%).


Chart 3. Distribution of 10 common diseases according to Traditional Medicine on inpatients

Observation:

The top three diseases with the highest prevalence include Facial paralysis (15.64%); Hemiplegia (10.25%), and Sciatica (8.43%). The next seven diseases with high prevalence are ranked as follows: Lumbago (6.59%); Hypertension (6.55%); Stroke (5.72%); Osteoarthritis (4.30%); Hemorrhoids (3.83%); Bell's palsy (3.41%), and Conjunctivitis (2.43%).

3.3. Inpatient Treatment at Pham Ngoc Thach Traditional Medicine Hospital
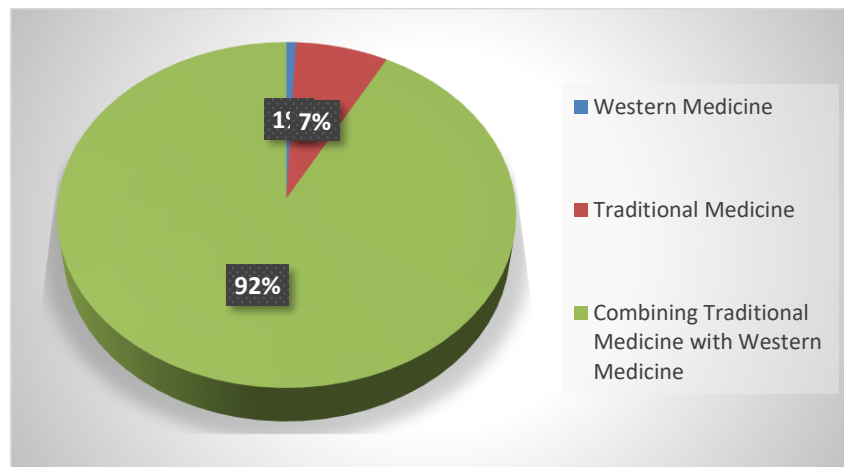
Chart 4. Percentage of Treatment Methods in the Inpatient Group

Observation:

In terms of treatment methods, patients receiving combined treatment of Traditional Medicine and Western Medicine accounted for the highest percentage, with 9,899 individuals (92.11%). Patients treated solely with Traditional Medicine were 769 (7.16%), while 79 patients (0.73%) received only Western Medicine without the use of Traditional Medicine.

TABLE 4. Percentage of combined treatment methods of Traditional Medicine and Western Medicine

Combined Treatment Methods	n = 10.747	%
Electroacupuncture + Infrared Therapy	10209	94.99
Acupressure Massage	3314	30.83
Physical Therapy Exercises	3053	28.41
Electric Stimulation	1310	12.19
Shortwave Therapy	999	9.30

Ultrasound Therapy	802	7.46
Hydrotherapy	551	5.13
Spinal Traction	488	4.54
Magnet Therapy	411	3.82
Acupuncture Therapy	376	3.50
Microwaves Therapy	93	0.87
Laser Therapy	53	0.49
Traction Therapy	29	0.27
Compression Therapy	19	0.18

Observation:

Non-pharmacological treatment methods had high usage rates, with Electrical Acupuncture and Infrared Therapy being the most prevalent (94.99%). Other commonly utilized methods included Acupressure Massage (30.83%), Physical Therapy Exercises (28.41%), and Electrical Stimulation (12.19%).

Less frequently used methods, in decreasing order, were Shortwave Therapy (9.30%), Ultrasound Therapy (7.46%), Cupping Therapy (5.13%), Spinal Traction (4.54%), Magnet Therapy (3.82%), and Acupuncture (3.50%).

Methods with usage rates below 1% included Microwave Therapy (0.87%), Laser Therapy (0.49%), Traction Therapy (0.27%), and Compression Therapy (0.18%).

TABLE 5. Treatment Outcomes

Treatment Outcome Rates	n	%
Cured	488	4.54
Improved	9982	92.88
Unchanged	147	1.37
Deteriorated	130	1.21

Observation: The patients' conditions showed a high rate of recovery, improvement, or alleviation (97.42%), with only 1.37% experiencing no change, and 1.21% having a worsened condition.

4. Conclusion

Based on the survey of 10,747 inpatient medical records at Pham Ngoc Thach Traditional Medicine Hospital in Lam Dong province from January 1st, 2021, to August 31st, 2023, certain patient characteristics were observed. Patients over 60 years old represented a high percentage at 52.54%, with 55.93% being female and 44.07% male. The residence distribution showed 43.89% in urban areas and 56.11% in rural areas. The majority ethnicity was Kinh (89.97%), with 10.03% belonging to other ethnic groups. Patient admissions peaked from March to August each year.

The study's conclusion synthesized crucial information about inpatient disease patterns at Pham Ngoc Thach Traditional Medicine Hospital in Lam Dong from 2021 to 2023. Analysis revealed a clear distribution of diseases, with musculoskeletal and connective tissue-related diseases comprising the highest proportion at 57.79%, followed by cardiovascular diseases at 24.18%, and neurological diseases at 7.75%. Treatment methods were diverse, but there was a tendency to favor non-pharmacological approaches, with Acupuncture and Infrared therapy being the most preferred. This information provides a crucial foundation for improving healthcare strategies for inpatients and contributes to a clearer understanding of disease characteristics in the community.

References

Dang Dinh Hoa (2014). Research on the disease structure of inpatients and the activities of Pham Ngoc Thach Traditional Medicine Hospital in Lam Dong from 2006 to 2012, Doctoral Thesis, Hanoi University of Medicine.

Government of Vietnam (2019). Decision No. 1893/QD-TTg dated December 25, 2019. issuing the Traditional Medicine Development Program. combining traditional medicine with modern medicine until 2030.

Ministry of Health (2000). International Classification of Diseases Vietnamese - English 10th Edition ICD-10.

Ministry of Health and health Health partners (2021). Statistical Yearbook 2020. Medical Publishing House. Hanoi.

Public Health Department - Hanoi Medical University (2006). Research methods in medicine and community health. Medical Publishing House.

Webb, E., Hernandez-Quevedo, C., Scarpetti, G., Edwards, N., Reed, S., Gandré, C., Or, Z., Cascini, F., Winkelmann, J., Kroneman, M., Jong, J. de, Bernal-Delgado, E., Angulo-Pueyo, E., Estupiñán-Romero, F., Rajan, S., Chandran, S (2020). Restarting more routine hospital activities during covid-19: approaches from six countries. *Eurohealth Journal*, *26*(2), p. 68-73.