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FACTORS THAT INFLUENCE PATIENT HOSPITALS CHOICES: EVIDENCE FROM TAIWAN

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ABSTRACT

This study conducted an in-depth discussion on factors that influence patient hospitals choices in Taiwan. The paper conducted an electronic questionnaire survey based on the perspective of those who have been to hospitals or who care for patients to assess satisfaction with past medical treatment. Some 250 questionnaires were sent out and we effectively collected 211 questionnaires. Descriptive statists shows that the recommendation of relatives and friends have the greatest influence on decision-making factors of people's medical treatment, accounting at 56%, followed by the distance to medical treatment accounting at 15%. Chi-square analysis revealed that age, marriage and occupation were significant in whether they were willing to recommend relatives and friends to hospital. The study found that unmarried men aged 18-24 years and students were least likely to recommend relatives and friends to seek medical treatment in a hospital. Regression analysis revealed the presence of famous doctors and perfect referral services had a significant effect on people's medical treatment decision-making. People are willing to choose hospital for medical treatment when there are famous doctors stationed in hospitals and perfect referral services.

JEL: I18, L52

KEYWORDS: Hospital, Famous Doctor, Referral Services

INTRODUCTION

Taiwan National health insurance, since 1995, gives people rights to seek medical treatment. In recent years these rights have been better protected. The demand for nearby medical treatment increases daily. The demand for higher service quality is increasingly obvious, in recent years. In the face of customer demand and the increasingly fierce competitive market, the hospital management team began to discuss the two aspects of public satisfaction and hospital marketing strategy. These two aspects are continuously become more important. The factors considered by the public when choosing hospitals include medical distance. Through questionnaire surveys, we analyze the correlation of these factors to better understand the formation of people's medical decisions. A better understanding of these issues will help hospital managers formulate business strategies and measures to improve the quality and efficiency of medical services in hospitals.

The classification of hospitals in Taiwan refers to the evaluation level approved by the Ministry of Health and Welfare. Classification includes factors such as the quality of diagnosis and treatment, the number of hospital beds, medical devices, and the number of specialists. At present, Taiwan's hospitals are divided into three levels. The first level is a local hospital, which provides basic medical services such as general diseases, obstetrics and gynecology, and pediatrics. The second level is hospitals, which have more complete diagnostic and treatment equipment and technology; and provide more complex diagnosis and treatment services. The third level is the medical center, the largest medical institution in the country, providing the highest level of specialized medical and teaching and research functions. In

addition, there are many private hospitals and clinics that offer a range of medical services. At present, there are 293 hospitals in Taiwan, including 29 medical centers, 76 hospitals and 188 hospitals.

This study examines secondary medium-sized hospitals, rather than a broad discussion of large tertiary medical centers or small primary hospitals. Taking a small range as a factor to observe people's medical decision-making is closer to most people's localized medical behavior and ideas. We examine medium-sized hospitals, to understand the real cross-disciplinary needs of people. On the other hand, hospitals often have fewer departments, the number of doctors is relatively insufficient, and the hardware equipment and innovative technology of hospitals is relatively insufficient.

The objective of this study is to achieve the following two objectives through questionnaire surveys, including: 1. Clarify factors that people consider when choosing hospitals and the differences in importance. 2. Providing research results allowing hospital organizations to systematically assess the needs of consumers. We examine marketing strategies and identify better services to meet the needs of the medical population, promote graded medical care, properly allocate valuable medical resources, and identify those conditions for patients. Patients should be willing to go to the nearest small and medium-sized hospital for medical treatment, rather than rushing to the medical center to register for medical treatment, resulting in overcrowding of medical centers hospitals.

This study hopes to encourage the public to support graded medical care and make prudent use of limited medical resources. By doing so, acute and severe patients can enjoy the best care of medical centers. Hospitals can do emergency and long-term medical care, and hospitals can take care of people's health for minor diseases such as rehabilitation and long-term prescription medication.

LITERATURE REVIEW AND BACKGROUND

This section examines domestic and foreign literature on the factors of people's choice of hospital and graded medical care.

This section begins by examining foreign research. Researchers Yoram Wind & Lawrence (1976) argue that important factors affecting people's choice of medical treatment are the distance between the hospital and the patient's home, the reputation of the attending physician, the physical appearance of the hospital, and daily medical costs. The combined approach of the hospital, familiarity with the attending physician, and care of the nursing staff should be considered. Scholar Robert et.al (1983) pointed out that the important factors affecting people's choice of medical treatment are continuity, relative relationship, continuity or integrity, availability, convenience, cost, expertise and compassion. Rajshekhar et.al (1983) describes the distance/convenience of the hospital from home, the presence of specialized doctors, the reputation of the hospital, modern equipment/technology, a polite attitude of medical staff, cost of care, doctor's recommendation, recommendation of relatives and friends, and the shape of the hospital.

Berkowitz & Flexner (1981) identified four decision-making factors for people to choose hospitals: quality of care, cleanliness of facilities, attitude of staff, and reputation of hospitals. Boscarino & Steiber (1982) ranked factors considered by the public as convenience, physician, professionalism, and equipment. WoLinsky & Kutz (1984) proposed the order of consideration factors for public medical treatment was prior medical experience, novel equipment, word of mouth, and convenience of medical treatment. The National Research Corporation (NRC) found 14 considerations in 1984-1986 including personnel quality, emergency medical quality, and quality of care.

Joynt and Jha, (2013) explore characteristics of hospitals receiving reduced penalties in hospital grading systems and how these measures affect the quality of care in hospitals. Zhang and Baicker (2014).

Correlation between hospital grading and Medicare coverage was assessed, and how Medicare influenced patients' medical choices and outcomes. Werner and Konetzka (2009) examined the effects of hospital quality and care on medical outcomes, particularly when hospital quality incentive programs are implemented in health insurance programs.

The discussion turns to domestic research. Yanliang (1983) argued that distance from the hospital, the scale of the hospital's equipment, the atmosphere and environment of the hospital, the hospital's charging level, the convenience of the hospital's medical hours, the hospital's service and the hospital's history will affect people's choice of medical treatment. Scholar Zhang Wenying (1987) found that factors affecting people's choice of medical treatment include doctors' medical ethics, doctors' reputation, hospital convenience, doctors' service attitude, the completeness and modernization of hospital equipment, the length of registration waiting time, the number of full-time doctors in the hospital, the existence of designated physician system, and the existence of appointment registration system. Also relevant are the level of charges, the joint methods of the hospital, the length of the outpatient time, the length of the drug collection time, the internal environment of the hospital and the exterior building of the hospital. Zeng Lirong (1988) believes that medical insurance, reputation, convenient transportation, recommendation by relatives and friends, good equipment, excellent medical skills, good habits, good service attitude and good quality of medicines are all important factors affecting people's choice of hospitals.

In addition, the research of Robbert (1983) et al. pointed out the priority of factors that people pay attention to medical treatment varies with the geographical region, disease and user characteristics of the people. For example, patients with acute and severe diseases pay more attention to the relative relationship of physicians and professional skills of physicians. Patients with chronic diseases pay more attention to continuity. Patients under the age of 30 pay more attention to the relative relationship, and older patients pay more attention to the continuity and prolongation of medical treatment.

The development and operation of hospitals is not a simple matter. This study uses a questionnaire survey with scientific systematic and meaningful statistical analysis, to understand the real needs of local people for medical treatment. We examine the development of characteristic medical treatment for the region, in addition to solving the problems of the local people. Competition in the medical market can be simultaneously improved, along with the hospital reputation to achieve the goal of sustainable operations.

After the implementation of universal health insurance by the government, the domestic medical environment has changed drastically, and the people's medical choices have shown freedom and diversification. Medical institutions have begun implementing the concept of operation and management, the establishment of brand image, the purpose of attracting more medical customers, so that the medical cause can survive. Is also an important topic for medical institution managers to explore.

This study explores differences in the basic characteristics of medical patients, the choice of medical treatment and the perception of the brand image of medical institutions. The differences in people's medical behaviors, their medical choices, and perceptions of the brand image of medical institutions. Finally, we examine whether factors of people's choice of medical treatment are related to factors that constitute the brand image of medical institutions.

DATA AND METHODOLOGY

Our data considers central Taiwan where there are 15 hospitals. A total of 250 questionnaires were sent out electronically and 211 valid questionnaires were collected. To ensure the authenticity and representativeness of the questionnaire, we surveyed people living in Taiwan over the age of 17 as the

population. Sample questionnaire subjects were relatives who personally went to a hospital or relatives and friends who had sought medical treatment in a hospital. The questionnaires addressed general outpatient clinics (internal, external, obstetrics and gynecology) in hospitals. The questionnaire was distributed and collected from March to August 2023. The questionnaire was electronic, the voices of the elderly or those who were not good at using electronic tools such as mobile phones or computers could not be collected.

RESULTS

The results begin with some descriptive statistics. Table 1 describes the sample descriptive statistics.

Table 1: Sample Descriptive Statistics

Characteristic	Number	%
Gender		
Women	105	49.8
Men	106	50.2
Age		
Under 18 Years of Age	2	0.9
18-24 Years Old	48	22.7
25-34 Years Old	18	8.5
35-44 Years Old	33	15.6
45-54 Years Old	68	32.2
55-64 Years Old	36	17.1
Over 65 Years Old	6	2.8
Marital Status		
Unmarried	77	36.5
Married	134	63.5
Highest Education		
Elementary School	1	0.5
High School	28	13.3
College or University	148	70.1
Doctor or Master	34	16.1
Occupation		
Work	16	7.6
Business	45	21.3
Service	75	35.5
Military Public Education	18	8.5
Housekeeping	7	3.3
Student	41	19.4
Agriculture, Animal Husbandry	2	0.9
Retire	7	3.3

Table 1: Sample Descriptive Statistics (continued)

Characteristic	Number	%
Through What Channels Did I Know About Hospital?		
Referral	5	2.4
Recommended by Friends and Relatives	118	55.9
Flyer	7	3.3
Participanted in Hospital Activities	12	5.7
Web Search	25	11.8
Stay Nearby	32	15.2
Other	12	5.7
Would You Like to Visit Hospital Again?		
Not	18	8.5
Be	193	91.5
Would You Like to Recommend Relatives and Friends to Hospital?		
Not	55	26.1
Be	156	73.9

Table 1 shows descriptive statistics for our sample. Male and female respondents are equally distributed.

Based on the analysis of the sample surveyed, we concluded that gender distribution of respondents is even, which helps to ensure gender equality is considered in future health services. Middle-aged people (45-54 years old) are the majority of the sample, but the participation of young people (18-24 years old) is also considerable, providing potential opportunities for a long-term patient base. Education is skewed towards higher education, which may reflect a higher demand for medical information. Married people make up about 65 percent of the sample. Married individuals may need to consider the needs of family members in their medical decisions. Service industry workers make up 35 percent of the sample, and occupations can affect the demand for and availability of healthcare. Some 55 percent of respondents learned about the hospital through recommendations from relatives and friends. They were relatively loyal and satisfied with the hospital, showing trust and support for the hospital.

Recall an objective of this study is clarify the factors that people consider when choosing regional hospitals and the differences in importance between these factors. Based on data in Table 2, the study found no significant difference between gender and the factors considered by people in choosing regional hospitals. There was no significant difference between men and women in the rate of referral to relatives and friends. Age has an important impact on people's health care considerations. In particular, 18-24-year-olds seem to be less willing to recommend friends and relatives to the hospital, while 45-49-year-olds show a higher willingness to do so. This reveals significant differences in considerations used by patients in different age groups when choosing a regional hospital. Marital status has an important impact on people's health considerations. Unmarried people were less willing to recommend friends and relatives to the hospital, while married people are more likely to do so. This may reflect the relevance of married people who are more focused on family health and medical decisions. The highest level of education has no significant impact on people's medical considerations. However, we observed the highest proportion of respondents with a college or university degree, while a lower proportion of respondents with a high school vocational education or below.

Occupation has an important impact on people's health considerations. In particular, service workers are

most willing to recommend relatives and friends to this hospital, while students are less willing to recommend it. This suggests that different occupational backgrounds may influence patients' perception of hospital choices. Hospital access has no significant impact on people's medical considerations. These differences reveal different considerations when recommending hospitals. Therefore, understanding the impact of respondents' age, marital status, and occupation on their healthcare decisions is critical for hospitals and institutions. They can use this information to clarify the important factors and differences among people's choice of regional hospitals. This helps healthcare organizations better meet the needs of different populations and provide more targeted services.

Table 2: Chi-Square Analysis

Characteristic		**Would You Like to Recommend Relatives and Friends to Hospital?**		**Sum**	**Pearson Chi-Square**
		Not	**Be**		
Gender	Women	24	81	105	0.291
	Men	31	75	106	
Age	Under 18 Years of Age	1	1	2	0.000***
	18-24 Years Old	28	20	48	
	25-34 Years Old	8	10	18	
	35-44 Years Old	3	30	33	
	45-54 Years Old	9	59	68	
	55-64 Years Old	6	30	36	
	Over 65 Years Old	0	6	6	
Marital Status	Unmarried	35	42	77	0.000***
	Married	20	114	134	
Highest Education	Elementary School	0	1	1	0.124
	High School Vocation	3	25	28	
	College or University	45	103	148	
	Dr. Master	7	27	34	
Occupation	Work	2	14	16	0.000***
	Business	11	34	45	
	Services	12	63	75	
	Military Public Education	4	14	18	
	Housekeeping	1	6	7	
	Student	24	17	41	
	Agriculture, Fishery, Animal Husbandry and Mining	0	2	2	
	Retire	1	6	7	
Through What Channels Did I Know About Hospital?	Referral	1	4	5	0.355
	Recommended by Friends and Relatives	29	89	118	
	Flyer	3	4	7	
	Participated in Hospital Activities	3	9	12	
	Web Search	4	21	25	
	Stay Nearby	13	19	32	
	Other	2	10	12	
Subtotal		55	156	211	

Results in Table 2 show no significant difference between gender and the factors considered by people in choosing regional hospitals. Also, there was no significant difference between men and women in the rate of referral to relatives and friends. Age has an important impact on people's health care considerations. Occupation has an important impact on people's health considerations. In particular, service workers are most willing to recommend relatives and friends to this hospital, while students are less willing to recommend it, **, And *** Indicate Statistical Significance Levels Of 10%, 5%, And 1%, Respectively.*

Table 3: Factors That Influence Patient Choice Hospital

Factors	T-Statistic	Salience
Physician Professionalism (Constant)	2.432	0.016
There Are Famous Doctors Stationed	5.626	0.000***
Service Attitude of Medical Staff	1.811	0.072
The Equipment Is Novel	1.297	0.196
Innovative Medical Technology	1.756	0.081
Complete Outpatient Department	-1.353	0.178
There Is Cross-Disciplinary Integrated Treatment	0.499	0.654
Perfect Referral Service	-2.917	0.004***
The Number of Beds in The Ward Is Sufficient	1.944	0.053
Convenient Transportation and Transportation Service	-0.114	0.909
Convenient Medical Treatment and Nearby Care	1.352	0.178
Free Health Check-Up Service Is Available	0.76	0.448
Health-Related Events Are Held	1.356	0.177
Reasonable Charges	0.092	0.927
The Hospital Environment Is Clean	-0.12	0.905

*Table 3 shows that the existence of famous doctors has a significant impact on people's medical choices. *, **, and *** Indicate statistical significance levels of 10%, 5%, and 1%, respectively*

Table 3 reports regression results. According to the research data in Table 3, the existence of famous doctors has a significant impact on people's medical choices. Famous doctors have popularity, expertise and rich experience, attracting a large number of patients. Therefore, hospital organizations should actively attract and promote the joining of famous doctors. A positive T value indicates that more famous doctors join which will help enhance the professionalism of doctors. Well-developed referral services also have a significant impact on people's choice of care.

When a hospital provides efficient and high-quality referral services, patients are more inclined to choose that hospital because they know that if further treatment or professional diagnosis is required, they can be smoothly referred to other specialist hospitals. This provides an additional sense of security for patients to feel that their health is being properly taken care of in all circumstances. The T value of a perfect referral service is shown as a negative number indicating the higher the degree of professionalism of the physician, the lower the demand for a perfect referral service. Key factors in the results are related to the second research objective, which will help hospital organizations better understand patient needs, develop targeted marketing strategies, and provide better services to meet patient needs, while achieving more rational medical resource allocation and promoting the goal of graded care. This will provide regional hospitals with more competitive and efficient medical services, helping to enhance the healthcare experience and cater to communities with different needs.

Because age has a significant impact on people's attitudes toward referrals, hospitals can develop more targeted advocacy strategies for different age groups to reach a wider audience. Given the high rate of unmarried people being reluctant to recommend, hospitals can provide more personalized services and advocacy to meet the needs of this group.

Since career has a significant impact on the attitude of medical recommendations, hospitals can develop corresponding communication strategies according to the needs of different occupational groups to attract more patients. The professionalism of doctors, the presence of famous doctors and the improvement of referral services have a significant impact on people's medical choices. Hospitals should

continue to emphasize these aspects to enhance their professionalism and service quality.

CONCLUDING COMMENTS

This study provides insight into the multifaceted factors influencing people's attitudes towards medical recommendations. These results will help healthcare organizations develop more targeted advocacy and service strategies to ensure more people have access to high-quality care, while also highlighting the indispensability of elite physicians and referral services to enhance a hospital's reputation and professionalism.

This study, which is limited to people in central Taiwan, should be expanded to examine factors of medical choice for people in the north and south. In addition, the sample size was only 211 valid questionnaires. If more people are interviewed, the results of the analysis should be more representative. Also, the survey covers a single point in time. A longer sample period might be more revealing.

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